

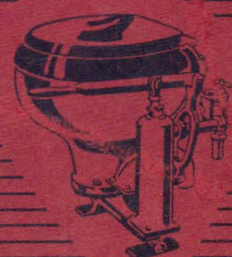
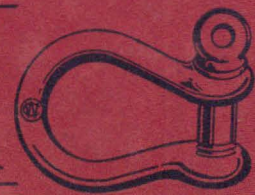
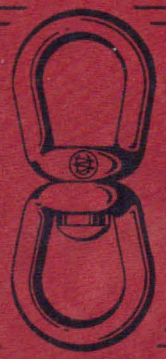
*1949 Catalog*

**BOAT EQUIPMENT  
HEAVY AND SHELF  
HARDWARE**

**WILCOX  
CRITTENDEN**

MIDDLETOWN, CONN., U. S. A.

"A CENTURY OF DEPENDABILITY"





TRADE MARK

# Wilcox, Crittenden & Co., Inc.

ESTABLISHED 1847

MIDDLETOWN, CONNECTICUT, U. S. A.

Manufacturers of



## Boat Equipment

MARINE HARDWARE

MARINE LIGHTS

MARINE PLUMBING

HEAVY AND SHELF HARDWARE

DROP FORGINGS, GRAY IRON AND BRASS CASTINGS

HOT-DIP GALVANIZING



### 1949 CATALOG

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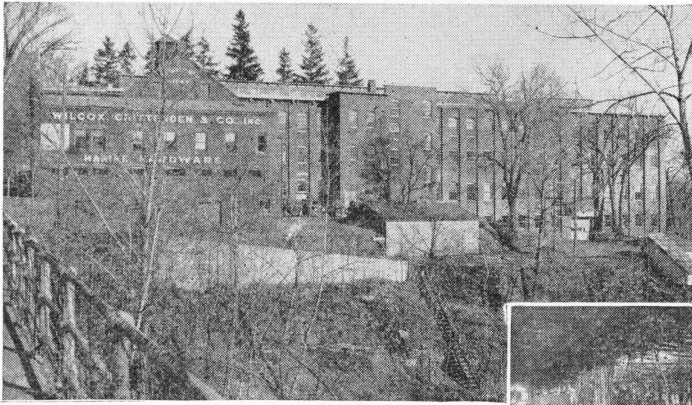
MARINE



PLUMBING

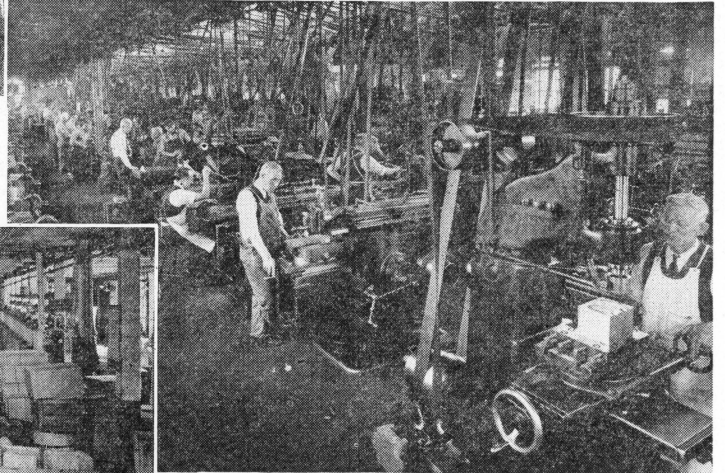
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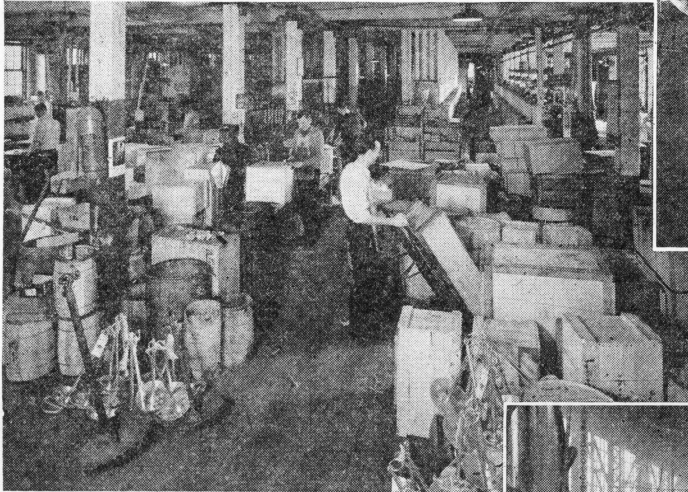


Above: Finishing and assembling buildings are on the site of the original plant, which was erected in 1847.

# Largest Boat Equipment Manufacturing Plant in the World



Above: Section of the extensive machining department, which is over a city block long.

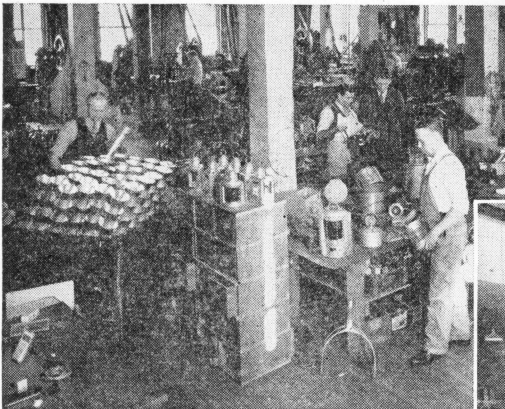


Above: A view of the packing department and main stock room. This section contains over 8,000 bins from which orders are filled promptly.

Below: One of the drop forging aisles.

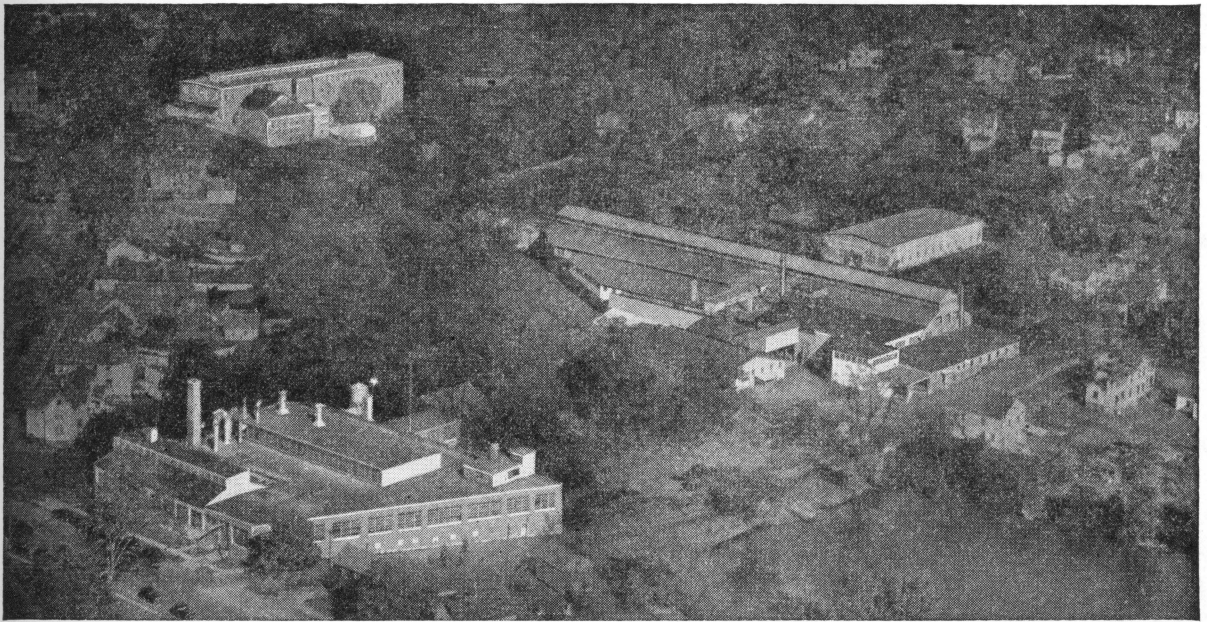


Below: Partial view of the pouring floor in the Wilcox, Crittenden & Co. foundry—a thoroughly modern department.



Above: A section of the lamp division where W-C "Hurricane Tested" marine lights are manufactured.





## Where Dependable Materials Make "Dependable" Fittings

One hundred and two years of experience in designing, testing and manufacturing Wilcox-Crittenden "Sea-Seasoned" Marine Equipment and Boat Hardware is your guarantee that only dependable materials go into Wilcox-Crittenden "Dependable" Fittings.

Many different kinds of metals and finishes are used in Wilcox-Crittenden products. The proper formula is selected for the service that is required; with proper regard to whether strength, corrosion-resistance, appearance, etc., are the primary requirements.

**DROP FORGINGS.** For jobs where real strength is demanded, Drop Forgings are generally superior to anything else. Drop Forged articles are hot-formed (of steel or bronze) in accurately cut dies, under heavy hammers which shape and treat the metal at the same time. Drop Forged articles are uniform, as the dies hold them within very close limits, and there is no opportunity for hidden defects to occur as is occasionally unavoidable in sand castings. Forgings make the strongest turnbuckles, hooks, anchors, and articles where tensile strength and resistance to shocks and distortion are required.

**CAST GRAY IRON FITTINGS** are made from molten pig iron, in sand moulds, and while they are excellent where weight and resistance to compression are desirable, such as in mushroom anchor bowls, windlass bases, etc., they are more or less unyielding, and cannot be bent or (in thin sections) subjected to heavy shocks. For many purposes, however, they are very suitable, and it is possible to produce fittings at the lowest cost in cast gray iron.

**MALLEABLE IRON** is iron formed by casting in a manner somewhat similar to gray iron, with further treatment, principally annealing, which makes the metal ductile. Malleable iron is much stronger than gray iron, and can be bent and subjected to heavy shocks without fracture. It makes good oarlocks, cleats, belaying pins, boat hooks, and certain types of blocks.

**BRASS AND BRONZE.** Naturally, the bronzes are extensively used in the Wilcox-Crittenden line (forgings, castings, wrought metal work, etc.) because they offer, for many articles, the ideal combination of appearance, corrosion-resistance, and strength. Brass is a copper and zinc alloy, fundamentally, and bronze is essentially an alloy of copper and tin. However, there are scores of formulae in use, and there is no definite dividing line between brass and bronze. In bronze castings, as many as seven different compositions of yellow metal are poured in a day, in order to have just the right mixture for the article being manufactured.

It is a fallacy that one can tell everything about the composition and physical qualities of the brasses and bronzes by the color. Nothing could be further from the truth than "bronze is red and brass is yellow," for many brass mixtures are extremely reddish, and some of the toughest bronzes known are bright yellow.

The buyer should bear in mind that in the case of many sand cast copper-base alloys, the physical properties will vary more owing to changes in casting and cooling conditions, rather than to wide changes in composition. That's where experience comes in! You can rely on W-C "Dependable" brass and bronze fittings.

**HOT DIP GALVANIZING**—sure protection! Galvanizing is a process by means of which iron and steel fittings are coated with a layer of zinc. This layer of zinc effectively seals iron or steel from corrosion, and the galvanized coating is effective in direct proportion to its thickness. Nothing else counts! Wilcox-Crittenden "Dependable" galvanized fittings are all treated by the Hot Dip process, in our own huge zinc baths—assuring the heaviest possible coating of pure molten zinc. Complete immersion of fittings produces an absolutely unbroken coat.

**CHROMIUM PLATING.** Chromium is a hard, white metal, which is non-tarnishing, and is used for plating many W-C deck fittings. Chromium is excellent protection, but its qualities are immensely improved if it is kept bright and polished occasionally. Chrome plating is best viewed as a porous plating. It must be kept shiny to preserve its unbroken surface, and an occasional touch of light oil will make it last infinitely longer.

**ALUMINUM.** Special aluminum alloys, not subject to salt water corrosion, are used in making various boat fittings where light weight and strength are particularly desirable, such as in halliard sheaves, blower casings, etc.

**PLAIN VS. POLISHED ARTICLES.** Polished fittings are highly desirable for appearance, and where contact with ropes is expected. But, some plain finished articles are stronger than polished. In polishing, some metal is removed, and thin parts are often appreciably affected. However, polished metals, no matter what kind, all resist corrosion longer.

**WILCOX-CRITTENDEN TESTED FITTINGS.** The extensive equipment of the Wilcox-Crittenden plant includes a compound lever tension-compression testing machine, having a capacity of 100,000 pounds. With this equipment, we are in a position to know that W-C "Dependable" fittings are trustworthy, and develop the full strength claimed for them.

## Important

**Tell Us when you order:**

1st — Quantity

2nd — Figure Number

3rd — Size

4th — Finish or Metal (for example, plain or polished brass, galvanized, self-colored, etc.).

If you order clearly and fully, we will be able to ship promptly and intelligently.

**Prices:** Our quotations are F.O.B. Middletown, Connecticut, transportation charges to be paid by the purchaser.

All prices are subject to change without notice.

The prices shown in this catalog are "list prices" only, and are not to be considered as an offer by us to sell anyone the goods illustrated at these prices.

These "list prices" are not to be considered as delivered resale prices.

**Terms:** 2% cash discount for payment as follows: Invoices dated 1st to 15th, if paid by 25th of same month.

Invoices dated 16th to E.O.M., if paid by 10th of following month.

Period of free credit, 30 days from cash discount date.

**Credit:** Gladly extended to responsible organizations. Unless satisfactory references are submitted, shipments will be C.O.D.

**Guarantee:** Every item we manufacture is guaranteed to be free from defects at time of shipment. If by chance defect should be found, we must be immediately notified and instructions in regard to replacement, whole or part, will be given. We cannot be responsible for repairs made by other than our own factory experts — nor can we be responsible for labor charges incurred by the replacement of a defective item.

**Specifications and Designs:** Are subject to change due to our continual improvement of W-C merchandise. We strive to furnish only the best — in materials, design, finish and workmanship.

**Weights and Dimensions:** Are actual — subject to variation within reasonable tolerances.

**Boxes and Labels:** Have been carefully designed for shelf use and sales help. Many of our small items are packed in these practical boxes and the quantity in a box is indicated in this catalog so you will know how many to order. Please order in standard-package quantities. We cannot ship broken lots. Colored labels help you identify the finish of all boxed goods at a glance. The code is: a Yellow label for Brass goods, Green for Galvanized, Blue for Self-colored. Properly boxed merchandise stores better, keeps cleaner, sells quicker, and displays itself. You will like W-C boxed merchandise!

**Packing:** Is done securely and properly, as determined by our experience — due consideration being given to the type of article and means of transportation. We use every precaution to assure our goods reaching you in perfect condition.

**Routing:** Unless specified by you, routing will be determined by us. The most economical route will be selected.

**Damage in Transit:** In the event any should occur, it should be noted on the freight bill and the claim properly filed with transportation company.

**Returned Goods:** Cannot be credited unless authority for such return has first been secured. A handling charge and a refinishing charge on polished or plated items will be made.

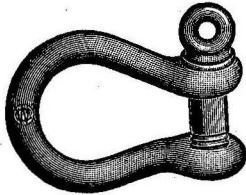
**We Ship Promptly from our Huge Stock of Finished Cataloged Items**

**SCREW PIN ANCHOR SHACKLES**

**ROUND PIN ANCHOR SHACKLES**

Weldless Drop Forged Steel

Weldless Drop Forged Steel



FOR DROP FORGED  
BRONZE SHACKLES  
SEE PAGE 6.

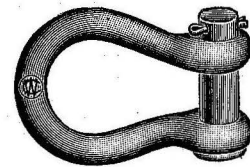


Fig. 290

Fig. 294

Dimensions apply to both Figs. 290 and 294

Size Inches	Fig. 290 Complete		Pins Only		Weight Per 100 in Lbs.	Dimensions			Fig. 294 Complete		Pins Only		Weight Per 100 in Lbs.
	Galv. Each	Self- Colored Each	Galv. Each	Self- Colored Each		Length Inside Inches	Between Eyes Inches	Diam. Pin Inches	Galv. Each	Self- Colored Each	Galv. Each	Self- Colored Each	
3/16	\$0.40	....	\$0.13	....	7	7/8	7/16	1/4	....	....	....	....	....
1/4	.40	\$0.38	.13	\$0.12	11 7/8	1 1/16	7/16	5/16	\$0.40	\$0.38	\$0.13	\$0.12	11 1/4
5/16	.47	.44	.15	.14	20	1 1/4	9/16	3/8	.47	.44	.15	.14	18 3/4
3/8	.52	.50	.17	.16	31 1/4	1 1/2	5/8	7/16	.52	.50	.17	.16	35
7/16	.67	.60	.23	.20	47 1/2	1 3/4	3/4	1/2	.67	.60	.23	.20	50
1/2	.80	.74	.26	.24	68 3/4	1 13/16	7/8	5/8	.80	.74	.26	.24	75
5/8	1.20	1.08	.40	.36	137	2 1/2	1 1/8	3/4	1.20	1.08	.40	.36	138
3/4	1.72	1.60	.60	.52	219	2 7/8	1 3/16	7/8	1.72	1.60	.60	.52	225
7/8	2.26	2.00	.72	.66	319	3 1/4	1 1/2	1	2.26	2.00	.72	.66	331
1	3.20	2.80	.93	.88	500	3 1/2	1 5/8	1 1/8	3.20	2.80	.93	.88	468
1 1/8	4.64	4.06	1.32	1.20	681	4 1/8	1 7/8	1 1/4	4.64	4.06	1.32	1.20	731
1 1/4	5.80	5.10	1.72	1.52	950	4 1/4	2	1 3/8	5.80	5.10	1.72	1.52	912
1 3/8	7.26	6.42	2.20	1.92	1218	5 1/4	2 1/8	1 1/2	7.26	6.42	2.20	1.92	1295
1 1/2	9.44	8.40	2.85	2.50	1625	6	2 1/2	1 5/8	9.44	8.40	2.85	2.50	1575
1 3/4	13.30	11.60	4.35	3.90	2706	7	2 3/4	2	13.30	11.60	4.35	3.90	2800
2	20.00	17.30	6.60	5.70	3725	8	3 3/8	2 1/4	20.00	17.30	6.60	5.70	3800

Threads of screw pin shackles are galvanized.

STRENGTHS ARE IN ACCORDANCE WITH REQUIRE-  
MENTS OF NAVY SPECIFICATION 42C19 (INT.).

**SCREW PIN CHAIN SHACKLES**

**ROUND PIN CHAIN SHACKLES**

Weldless Drop Forged Steel

Weldless Drop Forged Steel

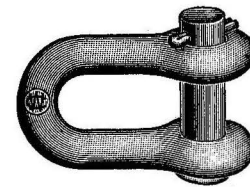
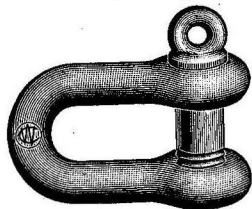


Fig. 291

Fig. 295

Prices and Dimensions apply to both Figs. 291 and 295

Size Inches	Complete		Pins Only		Length Inside Inches	Dimensions		Weight Per 100	
	Galv. Each	Self- Colored Each	Galv. Each	Self- Colored Each		Between Eyes Inches	Diam. Pin Inches	Fig. 291 Lbs.	Fig. 295 Lbs.
1/4	\$0.40	\$0.38	\$0.13	\$0.12	1 13/16	7/16	5/16	10	10 5/8
5/16	.47	.44	.15	.14	1	9/16	3/8	17 1/2	18 3/4
3/8	.52	.50	.17	.16	1 1/4	5/8	7/16	28 3/4	28 3/4
7/16	.67	.60	.23	.20	1 3/8	3/4	1/2	41	44
1/2	.80	.74	.26	.24	1 5/8	7/8	5/8	63	70
5/8	1.20	1.08	.40	.36	2	1 1/8	3/4	124	128
3/4	1.72	1.60	.60	.52	2 3/8	1 1/4	7/8	200	212
7/8	2.26	2.00	.72	.66	2 7/8	1 3/4	1	288	294
1	3.20	2.80	.93	.88	3 1/4	1 5/8	1 1/8	425	462
1 1/8	4.64	4.06	1.32	1.20	3 3/8	1 7/8	1 1/4	625	606
1 1/4	5.80	5.10	1.72	1.52	3 3/8	2	1 3/8	800	825
1 3/8	7.26	6.42	2.20	1.92	4	2 1/4	1 1/2	1112	1140
1 1/2	9.44	8.40	2.85	2.50	5 1/2	2 1/2	1 5/8	1469	1481
1 3/4	13.30	11.60	4.35	3.90	6	2 3/4	2	2300	2337
2	20.00	17.30	6.60	5.70	7	3 3/8	2 1/4	3200	3200

Threads of screw pin shackles are galvanized.

**BRONZE**  
**SCREW PIN ANCHOR SHACKLES**

Drop Forged Bronze

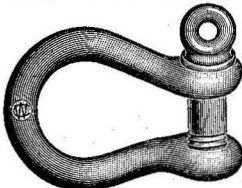


Fig. 2902

Dimensions for Drop Forged Bronze Shackles are the same as Fig. 290

Size Inches	Plain Bronze Each	Pins Only Each
3/16	\$0.70	\$0.15
1/4	.70	.15
5/16	1.00	.20
3/8	1.50	.25
7/16	1.80	.45
1/2	2.60	.55

**SCREW PIN TRAWLER SHACKLES**

Self-Colored Weldless Drop Forged Steel

With thin square head bolt

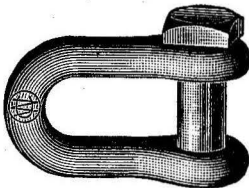


Fig. 2910, Chain Type

Dimensions same as Fig. 291

Size Inches	Self-Colored Each	Size Inches	Self-Colored Each
1/2	\$1.20	7/8	\$2.25
5/8	1.43	1	2.90
3/4	1.70	1 1/4	5.28

**Average Tensile Strength of Drop Forged Steel Shackles \***

Recommended Safe Working Load is 20% of Figure Given

Size Inches	Figs. 290, 291 Lbs.	Figs. 294, 295, 2912, 2913 Lbs.
1/4	4005	4725
5/16	6165	7290
3/8	7920	9360
7/16	11925	14112
1/2	15570	18360
5/8	26100	30870
3/4	35280	41670
7/8	47700	56340
1	58140	68850
1 1/8	68400	81000
1 1/4	85500	100800
1 3/8	104400	123300
1 1/2	124200	146700
1 3/4	190800	225000
2	230400	272700

\*Strengths are in accordance with requirements of Navy Specification 42C19 (INT).

**SAFETY SHACKLES**

Weldless Drop Forged Steel

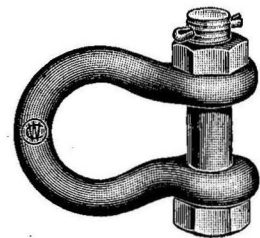


Fig. 2912, Anchor Type

With thin hexagon head bolts, nuts and brass cotters. Full pin bearing.

Dimensions same as Fig. 290

Size Inches	Galv. Each	Self-Colored Each
3/4	\$3.52	\$3.20
7/8	4.90	4.55
1	5.50	4.95
1 1/8	7.00	6.45
1 1/4	7.35	6.60
1 3/8	7.85	6.80
1 1/2	11.00	9.80
1 3/4	16.50	14.65
2	25.45	22.50

**SAFETY SHACKLES**

Weldless Drop Forged Steel

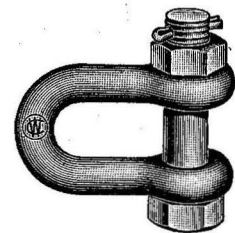


Fig. 2913, Chain Type

With thin hexagon head bolts, nuts and brass cotters. Full pin bearing.

Dimensions same as Fig. 291

Size Inches	Galv. Each	Self-Colored Each
3/4	\$3.52	\$3.20
7/8	4.90	4.55
1	5.50	4.95
1 1/8	7.00	6.45
1 1/4	7.35	6.60
1 3/8	7.85	6.80
1 1/2	11.00	9.80
1 3/4	16.50	14.65
2	25.45	22.50

**NUT EYE BOLTS**

Weldless Drop Forged Steel

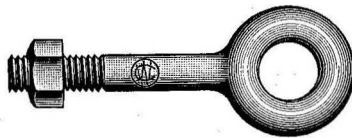


Fig. 220

ALL W-C GALVANIZED  
EYE BOLTS HAVE HOT DIP  
GALVANIZED THREADS.

**NUT EYE BOLTS**

Weldless Drop Forged Steel

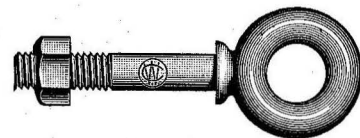


Fig. 221

Diameter and Length of Shank Inches	Galv. Each	Packed Doz. Per Box	I. D. Eye Inches	Thread Length Inches	Average Weight Per 100 in Lbs.
1/4 x 2	\$0.24	1	1/2	3/4	7
4	.33	1	1/2	2 1/2	10
5/16 x 2 1/4	.26	1	5/8	3/4	13
4 1/4	.40	1	5/8	2 1/2	17
3/8 x 2 1/2	.30	1	3/4	1 1/8	21
4 1/2	.45	1	3/4	2 1/2	27
6	.52	1	3/4	2 1/2	32
1/2 x 3 1/4	.46	1	1	1 1/2	45
6	.66	1	1	3	65
8	.76	1/2	1	3	75
10	.82	1/2	1	3	85
5/8 x 4	.76	1	1 1/4	2	85
6	.94	1/2	1 1/4	3	110
8	1.04	1/2	1 1/4	3	135
10	1.20	..	1 1/4	3	160
12	1.32	..	1 1/4	3	185
3/4 x 4 1/2	1.20	..	1 1/2	2	132
6	1.50	..	1 1/2	3	160
8	1.62	..	1 1/2	3	184
10	1.74	..	1 1/2	3	208
12	1.88	..	1 1/2	3	232
15	2.16	..	1 1/2	3	268
7/8 x 5	1.68	..	1 3/4	2 1/2	215
8	2.13	..	1 3/4	4	265
12	2.45	..	1 3/4	4	339
18	2.92	..	1 3/4	6	403
1 x 6	2.36	..	2	3	340
9	2.99	..	2	4	400
12	3.26	..	2	4	463
18	3.83	..	2	6	586

**Ample Threaded Length**

All regular longer eye bolts have enough thread on them so that they can be cut down to the next shorter listed length and still take the nut fully.

Special lengths of shanks and special threading available if ordered in manufacturing quantities. Prices upon application.

Diameter and Length of Shank Inches	Galv. Each	Packed Doz. Per Box	I. D. Eye Inches	Thread Length Inches	Average Weight Per 100 in Lbs.
1/4 x 2	\$0.24	1	1/2	3/4	7
4	.33	1	1/2	2 1/2	10
5/16 x 2 1/4	.26	1	5/8	3/4	12
4 1/4	.40	1	5/8	2 1/2	17
3/8 x 2 1/2	.30	1	3/4	1 1/8	22
4 1/2	.45	1	3/4	2 1/2	33
1/2 x 3 1/4	.46	1	1	1 1/2	50
6	.66	1	1	3	75
5/8 x 4	.76	1	1 1/4	2	90
6	.94	1/2	1 1/4	3	112
3/4 x 4 1/2	1.20	..	1 1/2	2	140
6	1.50	..	1 1/2	3	175
7/8 x 5	1.68	..	1 3/4	2 1/2	225
8	2.13	..	1 3/4	4	275
1 x 6	2.36	..	2	3	375
9	2.99	..	2	4	430

**BRONZE NUT EYE BOLTS**

Drop Forged Bronze

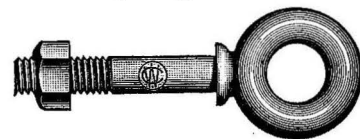


Fig. 2220

Diameter and Length of Shank Inches	Plain Bronze Each	I. D. Eye Inches	Thread Length Inches	Average Weight Per 100 in Lbs.
1/4 x 2	\$0.60	1/2	3/4	7
4	.80	1/2	2 1/2	10
5/16 x 2 1/4	.75	5/8	3/4	12
4 1/4	1.10	5/8	2 1/2	17
3/8 x 2 1/2	.95	3/4	1 1/8	22
4 1/2	1.20	3/4	2 1/2	33
1/2 x 3 1/4	1.75	1	1 1/2	50
6	2.50	1	3	75

**Approximate Tensile Strengths of Threaded Steel Eye Bolts**

Diam. Inches	Strength Lbs.	Diam. Inches	Strength Lbs.
1/4	1560	5/8	12100
3/16	2700	3/4	18100
3/8	4100	7/8	25100
1/2	7550	1	33000

Prices for Self-Colored Eye Bolts on application.

**NUT RING BOLTS**

Drop Forged Steel

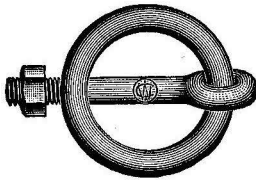


Fig. 212

ALL W-C GALVANIZED BOLTS HAVE HOT DIP GALVANIZED THREADS.

**NUT RING BOLTS**

Drop Forged Steel

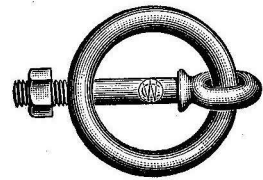


Fig. 213

Diameter and Length of Shank Inches	Galv. Each	I. D. Ring Inches	Thread Length Inches	Average Weight Per 100 in Lbs.
1/4 x 2	\$0.55	1 3/4	3/4	16
4	.64	1 3/4	2 1/2	19
5/16 x 2 1/4	.64	2	3/4	28
4 1/4	.72	2	2 1/2	33
3/8 x 2 1/2	.72	2	1 1/8	42
4 1/2	.90	2	2 1/2	48
6	.98	2	2 1/2	52
1/2 x 3 1/4	1.00	2 1/2	1 1/2	94
6	1.27	2 1/2	3	115
8	1.33	2 1/2	3	131
10	1.41	2 1/2	3	147
5/8 x 4	1.54	2 3/4	2	175
6	1.81	2 3/4	3	190
8	1.92	2 3/4	3	205
10	2.03	2 3/4	3	220
12	2.12	2 3/4	3	235
3/4 x 4 1/2	2.45	3	2	275
6	2.90	3	3	300
8	3.04	3	3	334
10	3.18	3	3	368
12	3.32	3	3	402
7/8 x 5	3.63	3 1/4	2 1/2	415
8	4.25	3 1/4	4	465
12	4.62	3 1/4	4	531
1 x 6	5.25	3 3/4	3	630
9	5.98	3 3/4	4	710
12	6.30	3 3/4	4	790

**Ample Threaded Length**

All regular longer ring bolts have enough thread on them so that they can be cut down to the next shorter listed length and still take the nut fully.

Special lengths of shanks and special threading available if ordered in manufacturing quantities. Prices upon application.

Prices for Self-Colored Bolts on application.

Diameter and Length of Shank Inches	Galv. Each	I. D. Ring Inches	Thread Length Inches	Average Weight Per 100 in Lbs.
1/4 x 2	\$0.55	1 3/4	3/4	17
5/16 x 2 1/4	.64	2	3/4	30
3/8 x 2 1/2	.72	2	1 1/8	44
1/2 x 3 1/4	1.00	2 1/2	1 1/2	96
5/8 x 4	1.54	2 3/4	2	178
3/4 x 4 1/2	2.45	3	2	278

**BRONZE NUT RING BOLTS**

Plain Cast Bronze

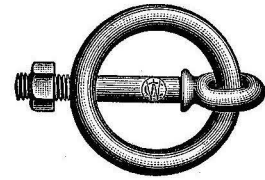


Fig. 2130

Diameter and Length of Shank Inches	Each	I. D. Ring Inches	Thread Length Inches	Average Weight Per 100 in Lbs.
1/4 x 2	\$1.10	1 3/4	3/4	17
5/16 x 2 1/4	1.25	2	3/4	30
3/8 x 2 1/2	1.65	2	1 1/8	44

**RIVET RING BOLTS**

Drop Forged Steel

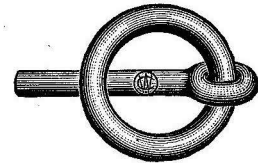


Fig. 210

Diameter and Length of Shank Inches	Galv. Each	I. D. Ring Inches	Average Weight Per 100 in Lbs.
1/4 x 4	\$0.55	1 3/4	19
5/16 x 4 1/4	.64	2	32
3/8 x 4 1/2	.72	2	46
1/2 x 6	1.00	2 1/2	113
5/8 x 6	1.54	2 3/4	190
3/4 x 6	2.45	3	285

**SCREW EYE BOLTS**

Weldless Drop Forged Steel

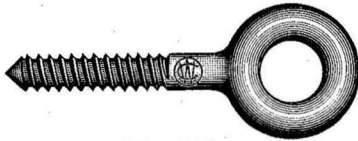


Fig. 214

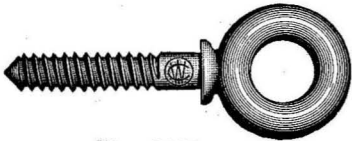


Fig. 2181

Diameter and Length of Shank Inches	Galvanized Each	Packed Doz. Per Box	I. D. Eye Inches	Average Weight Per 100 in Lbs.
1/4 x 2	\$0.19	1	1/2	6
5/16 x 2 1/4	.23	1	5/8	9
3/8 x 2 1/2	.26	1	3/4	16
1/2 x 3 1/4	.38	1	1	35
5/8 x 4	.67	1	1 1/4	67
3/4 x 4 1/2	1.14	1/2	1 1/2	106

**RIVET EYE BOLTS**

Weldless Drop Forged Steel

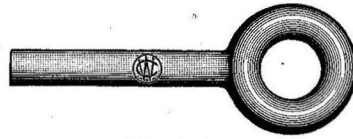


Fig. 216

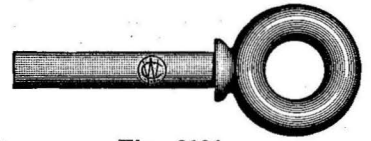


Fig. 2191

Diameter and Length of Shank Inches	Galvanized Each	I. D. Eye Inches	Approx. Tensile Strength Pounds	Average Weight Per 100 in Lbs.
1/4 x 4	\$0.24	1/2	2950	10
5/16 x 4 1/4	.29	5/8	4600	16
3/8 x 4 1/2	.31	3/4	6600	24
1/2 x 6	.44	1	11750	61
5/8 x 6	.78	1 1/4	18400	95
3/4 x 6	1.21	1 1/2	26500	150
7/8 x 8	1.57	1 3/4	36000	240
1 x 9	2.36	2	47000	350

**SCREW RING BOLTS**

Drop Forged Steel

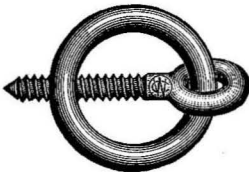


Fig. 208

Diameter and Length of Shank Inches	Galvanized Each	I. D. Ring Inches	Average Weight Per 100 in Lbs.
1/4 x 2	\$0.45	1 3/4	15
5/16 x 2 1/4	.50	2	25
3/8 x 2 1/2	.64	2	38
1/2 x 3 1/4	.90	2 1/2	85
5/8 x 4	1.40	2 3/4	160
3/4 x 4 1/2	2.23	3	245

**BRONZE SCREW EYE BOLTS**

Drop Forged Bronze

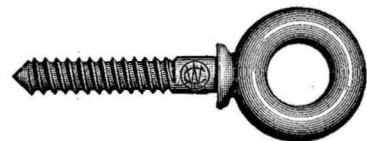


Fig. 2180

Diameter and Length of Shank Inches	Plain Bronze Each	I. D. Eye Inches	Average Weight Per 100 in Lbs.
1/4 x 2	\$0.50	1/2	6
5/16 x 2 1/4	.65	5/8	9
3/8 x 2 1/2	.85	3/4	16
1/2 x 3 1/4	1.60	1	35

**SCREW HOOKS**

Galvanized Steel

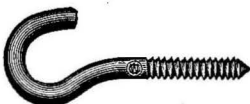


Fig. 266

Size Inches	Per Dozen	Packed Dozen Per Box	Extreme Length Inches	Width of Opening Inches	Weight Dozen in Lbs.
1/4	\$2.00	2	4	1 1/16	7/8
5/16	2.40	2	4	3/4	1 3/8
3/8	2.70	1	4	13/16	2 1/8
1/2	4.80	1	5 1/2	1	4 3/8

**"S" HOOKS**

Galvanized Steel

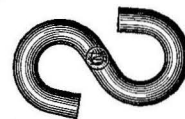


Fig. 267

Size Inches	Per Dozen	Packed Dozen Per Box	Length Overall Inches	Weight Per Box in Lbs.
3/16	\$0.65	3	1 3/4	1
1/4	.90	3	2 1/4	2 1/2
5/16	1.65	2	3	3 1/2
3/8	2.00	2	3	4 1/2
1/2	4.70	1	4	6

# Wire Rope Sockets

Weldless Drop Forged Steel

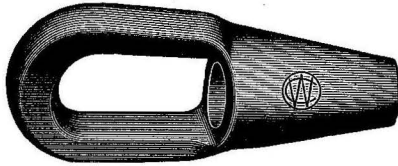


Fig. 340, Closed Type

STRENGTH IN EXCESS OF ANY WIRE ROPE WHICH CAN BE FITTED.

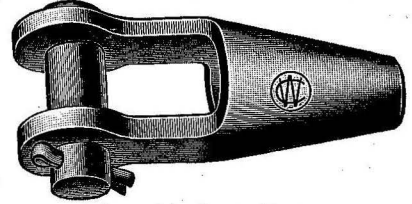


Fig. 341, Open Type

For Diam. Rope Inches	Self-Colored Each	Galv. Each	Length Inches	Length of Basket Inches	Inside Width of Bail Inches	Weight Each in Lbs.
1/4	\$1.03	\$1.08	3 3/4	1 3/4	7/8	1/2
5/16	1.08	1.13	3 3/4	1 3/4	7/8	1/2
3/8	1.16	1.28	5	2 3/8	1	1 1/8
1/2	1.38	1.55	5 1/2	2 5/8	1 1/8	1 1/2
5/8	1.95	2.20	6 1/4	3	1 3/8	2 5/8
3/4	2.58	3.00	7 7/8	3 1/2	1 3/4	4 3/16
7/8	3.83	4.60	9	4 1/8	1 7/8	7 3/8
1	5.33	6.45	10 1/4	4 5/8	2 1/16	11 1/8

For Diam. of Rope Inches	Self-Colored Each	Galv. Each	Length Inches	Length of Basket Inches	Diam. of Pin Inches	Width Between Jaws Inches	Weight Each in Lbs.
1/4	\$1.45	\$1.50	3 1/2	1 3/4	1/2	1 1/16	5/8
5/16	1.65	1.70	3 1/2	1 3/4	1/2	1 1/16	5/8
3/8	1.75	1.85	4 3/4	2 3/8	5/8	1 1/16	1 3/16
1/2	2.25	2.45	5 1/2	2 5/8	7/8	1 1/16	2
5/8	2.90	3.25	6 5/16	3	1	1 1/4	3 1/8
3/4	3.75	4.25	7 1/2	3 1/2	1 1/8	1 1/2	5 1/16
7/8	5.10	6.00	9	4 1/4	1 1/4	1 5/8	8 5/8
1	7.00	8.25	9 3/4	4 3/8	1 5/8	1 7/8	12 3/4

## THIMBLE RODS OR ELEVATOR SOCKET BOLTS

Self-Colored

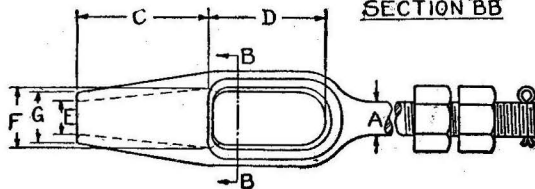
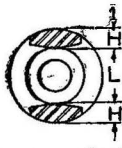
Weldless Drop Forged Steel

Fig. 3425

Any length to order. Standard lengths in stock listed below. All socket bolts are threaded half the length of shank.

For Diam. Rope Inches	Length of Shank		For Each Additional Inch or Fraction Add to List Each
	12 Inches Each	18 Inches Each	
1/2	\$3.65	\$4.10	\$0.09
5/8	4.50	5.00	.10
3/4	6.35	7.00	.13
1	....	16.85	.16

For Diam. Rope Inches	Weight Each in Lbs.	
	12 Inches	18 Inches
1/2	3	3 1/2
5/8	4 1/4	5 1/4
3/4	7 1/2	9
1	...	21 1/2



DIA. ROPE	A	C	D	E	F	G	H	L
1/2	3/4	2 1/16	2 5/16	19/32	1 1/4	15/16	3/8	1 1/16
5/8	7/8	3	2 1/16	23/32	1 1/2	1 1/8	7/16	1 3/8
3/4	1 1/8	4	3 1/2	27/32	1 7/8	1 1/2	15/32	1 9/16
1	1 3/8	6	5	1 1/32	2 3/8	2	1 1/16	2 1/4

## BRONZE WIRE ROPE SOCKETS

Cast Manganese Bronze

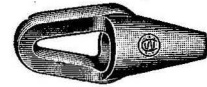


Fig. 949, Closed Type

For Diam. of Rope Inches	Plain Bronze Each	Overall Length Inches	For Diam. Pin Inches	Bolt Thickness Inches	Weight Each in Lbs.
1/16	\$0.50	2	5/16	1/4	1/8
3/32	.50	2	5/16	1/4	1/8
1/8	.50	2	5/16	1/4	1/8
3/16	.60	2 3/4	3/8	5/16	3/16
1/4	.80	3 3/8	1/2	3/8	5/16
5/16	1.40	3 7/8	5/8	19/32	1/2
3/8	1.50	4 7/16	5/8	19/32	7/8



Fig. 950, Open Type

For Diam. Rope Inches	Plain Bronze Each	Pins With Cotters Per Doz.	Diam. Pin Inches	Width Between Jaws Inches	Overall Length Inches	Weight Each in Lbs.
1/16	\$0.85	\$1.44	1/4	1/4	2 1/4	3/16
3/32	.85	1.44	1/4	1/4	2 1/4	3/16
1/8	.85	1.44	1/4	1/4	2 1/4	3/16
3/16	.95	2.64	3/8	3/8	3	5/16
1/4	1.25	4.32	1/2	1/2	3 3/4	1/2
5/16	1.60	6.24	3/4	3/4	4 5/8	3/4
3/8	2.40	7.92	1/2	1/2	4 5/8	1

**EYE NUTS**

Weldless Drop Forged Steel

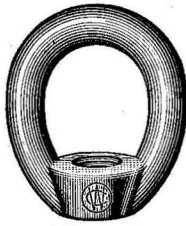


Fig. 679

Threaded for Bolt Inches	Galv. Each	Inside Dim. Inches	Diam. of Stock Inches	Weight Per 100 in Lbs.
1/4	\$0.70	3/4 x 7/8	1/4	19
5/16	.70	3/4 x 7/8	1/4	19
3/8	.88	1 1/4 x 1 1/2	5/16	25
7/16	.88	1 1/4 x 1 1/2	3/8	38
1/2	1.10	1 1/4 x 1 1/2	3/8	38

**BOLT EYES**

Weldless Drop Forged Steel Galvanized

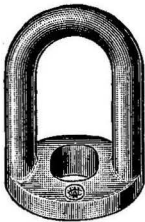


Fig. 6790

\$0.70 Each

For Diam. Bolt Inches	Inside Dim. Inches	Diam. Stock Inches	Overall Length Inches	Diam. Base Inches	Weight Per 100 in Lbs.
5/8	1 1/4 x 2 3/8	1/2	3 7/16	2 1/4	87 1/2

**LAP LINKS**

Galvanized Steel

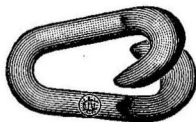


Fig. 660

Size Inches	Galv. Per Dozen	Packed Dozens Per Box	Length Inside Inches	Width Inside Inches	Weight Per Box in Lbs.
3/16	\$0.65	2	1 3/16	1/2	1 1/2
1/4	.75	2	1 3/16	9/16	2
5/16	1.50	2	1 9/16	7/8	3 1/2
3/8	2.15	1	1 3/4	7/8	2 1/2
1/2	3.30	1	2 5/8	1	6

**CONNECTING LINKS**

Drop Forged Steel With Interlocking Lugs

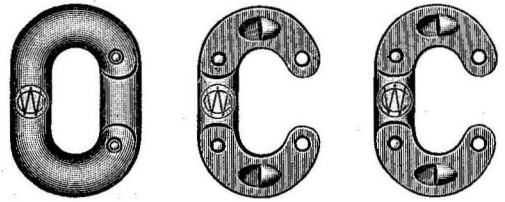


Fig. 661

Size Inches	Galv. Per Dozen	Self-Colored Per Dozen	Packed Dozens in Box	Outside Dimensions Inches	Wt. Per Dozen in Lbs.
3/16	\$2.36	\$1.81	1	1 1/4 x 3/4	1/2
1/4	2.36	1.81	1	1 1/2 x 1	1
5/16	2.61	1.88	1	1 3/4 x 1 1/4	1 3/8
3/8	3.47	2.60	1	2 x 1 3/8	2 1/4
7/16	4.16	3.14	1	2 3/8 x 1 1/2	3 1/4
1/2	5.04	3.47	1	2 5/8 x 1 3/4	4 1/2
5/8	7.86	5.58	1	3 1/4 x 2 1/8	9 1/4
3/4	10.45	7.84	1	3 7/8 x 2 1/2	14 1/2
7/8	14.63	10.69	1/2	4 1/2 x 3	22 1/8
1	22.14	17.42	1/2	4 7/8 x 3 3/8	31 1/2
1 1/8	26.12	21.39	...	5 1/2 x 3 3/4	45 3/4
1 1/4	34.05	27.72	...	6 x 4 1/4	61 1/2
1 3/8	42.79	38.83	...	6 5/8 x 4 5/8	84

The pins when riveted down securely lock the lugs together, making the Link as strong as proof chain.

3/16, 1/4 and 5/16 inch sizes have rivets only — no interlocking lugs.

1 1/8 inch size and larger are not boxed.

**SWING LINKS**

Drop Forged Steel

With Interlocking Lugs and Bronze Rivets

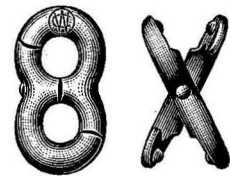


Fig. 662

Size Inches	Galv. Per Dozen	Self-Colored Per Dozen	Packed Dozens in Box	Width Inches	Length Inches	I. D. Eye Inches	Weight Per Dozen in Lbs.
1/4	\$4.24	\$3.86	1	1 9/16	1 29/32	5/8	3 1/2
5/16	5.10	4.26	1	1 11/32	2 1/8	5/8	1 1/2
3/8	5.94	4.70	1	1 11/32	2 17/32	9/16	2 1/4
7/16	8.04	6.12	1	1 1/2	2 29/32	1 1/8	3 1/4
1/2	10.08	7.56	1	1 21/32	3 3/16	5/8	5 1/4
5/8	17.04	14.04	1	2 1/16	4 3/16	13/16	11
3/4	22.68	19.20	1/2	2 19/32	4 7/8	1 3/32	19 1/4
7/8	35.76	29.76	...	2 19/16	5 3/4	1 1/8	30 1/2
1	42.96	35.76	...	3 5/16	6 7/16	1 1/4	43 1/2

5/8 and 1 inch sizes are not boxed.

**SAIL THIMBLES**

Galvanized Malleable Iron



LIGHT  
Fig. 780

HEAVY  
Fig. 781

Order by size in first column, which is: "Extreme Diameter across Hole."

Size Inches	Per Dozen Fig. 780	Standard Package Per Doz. Fig. 781	For Diam. Rope Inches	I. D. Hole Inches Fig. 780	I. D. Hole Inches Fig. 781	Approx. Weight Per Doz. in Lbs.
3/4	\$0.85	....	2 1/4	1/2	...	1/8
1	1.00	....	2 5/16	5/16	...	1/4
1 1/4	1.35	....	2 3/8	3/16	...	3/8
1 1/2	1.70	....	1 7/16	1 1/8	...	1/2
1 3/4	2.15	\$3.10	1 1/2	1 3/8	1 1/16	1
2	2.55	4.00	1 5/8	1 1/2	1 1/16	1 3/8
2 1/2	...	7.00	1 3/4	...	1 3/4	3 1/8
3	...	7.85	1 7/8	...	2 1/8	5 1/4
3 1/2	...	9.65	1 1/2	...	2 1/2	8 1/4
4	...	17.25	1 1/2	1 1/8	...	8 1/8
4 1/2	...	21.00	1 1/2	1 1/4	...	16 1/2
5	...	33.00	1 1/2	1 1/2	...	24 1/2

Sizes 3/4 to 2, Fig. 780, are stamped steel.

**SPUN BRASS SAIL THIMBLES**

Fig. 785

Size Inches	Per Dozen	Standard Package Dozen	For Diam. Rope Inches	I. D. Hole Inches	Weight Per Doz. in Lbs.
1/2	\$0.60	3	1/8	1/4	1/32
5/8	.80	3	3/16	3/8	1/16
3/4	.95	3	1/4	7/16	1/8
7/8	1.30	2	1/4	9/16	3/16
1	1.45	2	3/8	5/8	1/4
1 1/8	1.60	2	3/8	1 1/16	3/8
1 1/4	2.65	1	7/16	3/4	1/2
1 3/8	3.10	1	7/16	13/16	5/8
1 1/2	3.85	1	7/16	1 1/16	1
1 3/4	4.40	1	1 1/2	1 1/16	1 1/8
2	4.95	1/2	5/8	1 1/4	1 5/8

**MANILA ROPE THIMBLES**

Galvanized Drop Forged Steel

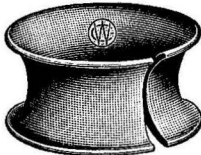


Fig. 322

For Diam. Rope Inches	Per 100 Pcs.	Standard Package Pieces	I. D. Hole Inches	O. D. Edge to Edge Inches	Weight Per 100 in Lbs.
3/16	\$9.00	100	3/8	3/4	1 1/2
3/8	9.00	100	1/2	7/8	2
7/16	11.15	100	5/8	1	3
1/2	11.50	100	3/4	1 1/4	5 1/2
5/8	13.90	50	7/8	1 1/2	9
3/4	16.30	50	1	1 3/4	17
7/8	21.75	50	1 1/16	2	25 1/2
1	26.60	50	1 3/8	2 1/4	34
1 1/8	29.00	...	1 7/16	2 1/2	38
1 1/4	43.50	...	1 1/2	2 3/4	48
1 3/8	58.50	...	2	3	70
1 1/2	72.50	...	2 3/8	3 1/2	108
1 3/4	181.00	...	2 3/8	4	150
2	330.00	...	2 3/4	5	375

**WIRE ROPE THIMBLES**

Galvanized Drop Forged Steel

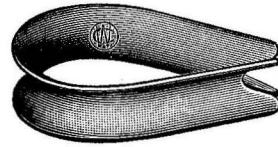


Fig. 323

Best for both wire and manila rope.

The Regular Standard Thimble — best for snug splices.

For Diam. Rope Inches	Per 100 Pcs.	Standard Package Pieces	Width Inside Inches	Length Overall Inches	Weight Per 100 in Lbs.
1/8	\$5.85	100	5/8	1 3/4	2 5/8
3/16	5.85	100	1 1/16	1 3/4	2 5/8
1/4	5.85	100	3/4	2	4 3/8
5/16	7.25	100	13/16	2 1/8	5 1/2
3/8	8.70	100	1 1/16	2 3/8	10 5/8
1/2	11.60	100	1 7/8	2 11/16	15 1/2
5/8	17.60	50	1 11/16	3 3/8	27 1/2
3/4	20.75	50	1 1/2	3 3/8	40 1/2
7/8*	43.50	50	1 7/8	5 1/8	84
1*	58.00	50	2 1/4	6 1/4	106
1 1/8*	79.50	...	2 1/2	5 1/16	125
1 1/4*	121.00	...	2 3/4	7	138
1 1/2*	200.00	...	3	7 1/2	250
1 3/4*	402.50	...	3 1/2	10	512
2*	402.50	...	3 1/2	10	604

\*7/8 inch and larger sizes are extra heavy to withstand collapsing strains of large loads.

**WIRE ROPE THIMBLES**

Galvanized Drop Forged Steel

Left Open



Fig. 326

For Diam. Rope Inches	Per 100 Pcs.	Standard Package Pieces	Width Inside Inches	Width Opening Inches	Length Overall Inches	Weight Per 100 in Lbs.
1/4	\$5.85	100	3/4	5/16	2	4 3/8
5/16	7.25	100	13/16	3/8	2 1/8	5 1/2
3/8	8.70	100	15/16	7/16	2 3/8	10 5/8
1/2	11.60	100	1 1/8	9/16	2 11/16	15 1/2
5/8	17.60	50	1 7/16	1 1/16	3 3/8	27 1/2

**BRONZE OR STAINLESS STEEL THIMBLES**

Drop Forged Bronze  
Fig. 3230



Stainless Steel  
Fig. 3231

For Diam. Rope Inches	Bronze Per Doz.	Stainless Steel Per Doz.	Packed Dozen Per Box	Width Inside Inches	Length Overall Inches	Weight Per 100 in Lbs.
1/8	\$1.35	\$1.80	1	5/8	1 1/16	2 5/8
3/16	1.35	1.80	1	1 1/16	1 3/4	2 5/8
1/4	1.60	2.00	1	3/4	2	4 3/8
5/16	2.15	2.50	1	13/16	2 1/8	5 1/2
3/8	3.50	3.90	1	1 1/16	2 3/8	10 5/8
1/2	5.40	...	..	1 1/8	2 11/16	15 1/2
5/8	7.80	...	..	1 7/16	3 3/8	27 1/2
3/4	10.20	...	..	1 1/2	3 3/8	40 1/2

**HOOKS WITH THIMBLES**



Weldless Drop Forged Steel

Arrow indicates point of measurement on hooks.

Fig. 229

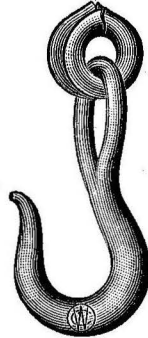
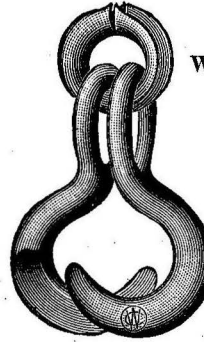


Fig. 227

Size Inches	Galvanized Each	Fig. 229 Takes Diam. Rope Inches	Fig. 227 Takes Diam. Rope Inches	Hook Length Inches	Throat Opening of Hook Inches	Approx. Weight Per 100 in Lbs.
3/8	\$0.71	5/16	7/16	2 7/8	1/2	23
1/2	.77	3/8	5/8	3 3/8	5/8	57
5/8	1.26	7/16	3/4	5 1/8	7/8	103
3/4	1.37	1/2	7/8	5 1/2	1	141
7/8	1.92	5/8	1	6 1/2	1 1/8	195
1	2.36	3/4	1 1/8	6 7/8	1 7/16	317

**MATCH HOOKS WITH THIMBLES**



Weldless Drop Forged Steel

Arrow indicates point of measurement on hooks.

Fig. 228

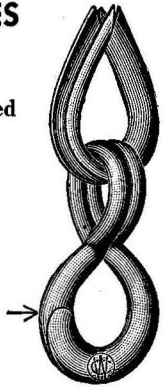
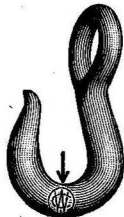


Fig. 230

Size Inches	Galvanized Each	Fig. 228 Takes Diam. Rope Inches	Fig. 230 Takes Diam. Rope Inches	Hook Length Inches	I. D. of Closed Hooks Inches	Approx. Weight Per 100 in Lbs.
3/8	\$1.26	1/2	5/16	3 1/8	13/16	35
1/2	1.37	5/8	3/8	4	1	72
5/8	2.25	3/4	1/2	4 5/8	1 1/4	108
3/4	2.69	7/8	5/8	5 1/2	1 1/2	179
7/8	3.52	1	3/4	6	1 5/8	239
1	4.30	1 1/4	7/8	6 5/8	1 3/4	364

**LARGE EYE SINGLE HOOKS**

Weldless Drop Forged Steel



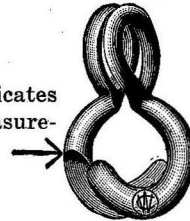
Arrow indicates point of measurement.

Fig. 2310

Size Inches	Galvanized Each	Hook Length Inches	I. D. of Hook Inches	Throat Opening of Hook Inches	Approx. Strength Lbs.	Approx. Weight Per 100 in Lbs.
3/8	\$0.33	2 7/8	3/4	1/2	1230	12
1/2	.38	3 3/8	7/8	5/8	2620	30
5/8	.60	5 1/8	1 1/4	7/8	3810	62 1/2
3/4	.77	5 1/2	1 1/2	1	5710	87 1/2
7/8	1.04	6 1/2	1 5/8	1 1/8	9100	135
1	1.37	6 7/8	1 7/8	1 7/16	9700	212

**LARGE EYE MATCH HOOKS**

Weldless Drop Forged Steel



Arrow indicates point of measurement.

Fig. 2320

Size Inches	Galvanized Each	Hook Length Inches	I. D. of Hook Inches	I. D. of Closed Hooks Inches	Approx. Strength Lbs.	Approx. Weight Per 100 in Lbs.
3/8	\$0.82	3 1/8	7/8	13/16	2030	20
1/2	.93	4	1 1/8	1	3800	45
5/8	1.59	4 5/8	1 3/8	1 1/4	7100	68
3/4	2.09	5 1/2	1 1/2	1 1/2	8020	125
7/8	2.58	6	1 5/8	1 5/8	8920	170
1	3.30	6 5/8	2	1 3/4	11100	393

**BARREL HOOKS**

Drop Forged Steel



Fig. 283

Length Inches	Galvanized Pair	Self-Colored Pair	Inside Diameter of Eye Inches	Weight Pair in Lbs.
6	\$2.60	\$2.35	1 1/2	4

**PELICAN HOOKS**

Galvanized "Z" Metal

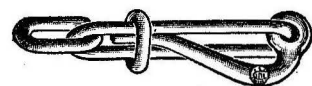


Fig. 9780

Dia. Stock Body Link Inches	Each	Dia. Pin In End Link Inches	Which Fits In Hook Inches	Overall Length Closed Inches	Weight Each in Lbs.
1/2	\$2.75	1	1	11 7/16	2 3/4
5/8	4.40	1	1 1/4	13 7/16	4 5/8

Manufactured from "Z" Metal with tensile strength fully equal to drop forged steel.

**EYE HOIST HOOKS**

Weldless Drop Forged Steel

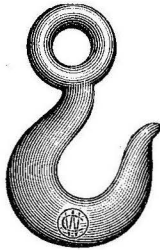


Fig. 2381

Size No.	Self-Colored Each	Inside Diam. Eye Inches	Throat Opening Inches	Length Overall Inches	Approx. Strength Pounds	Weight Each in Lbs.
22	\$0.43	3/4	1	4 3/8	3800	1/2
23	.52	7/8	1 1/16	4 7/8	4600	3/4
24	.64	1	1 1/8	5 5/8	6000	1
25	.88	1 1/8	1 1/4	6 1/8	11400	1 1/2
26	1.26	1 1/4	1 3/16	6 3/4	15000	2 1/8
27	1.80	1 3/8	1 7/16	7 1/2	17000	3 1/8
28	2.52	1 1/2	1 3/4	8 1/2	20000	4 1/8
29	3.42	1 5/8	2	9 3/8	26000	5 1/2
30	4.44	1 3/4	2 1/16	10 1/8	34000	6 5/8

Recommended safe working load is 20% of strength shown.

**SUGGESTED CHAIN AND WIRE ROPE SIZES**

Size No.	Suitable for Plow Steel Wire Rope Diam. Inches	Suitable for Chain Size Inches	Size No.	Suitable for Plow Steel Wire Rope Diam. Inches	Suitable for Chain Size Inches
22	..	3/16	27	1/2	1/2
23	1/4	1/4	28	5/16	5/16
24	3/16	3/16	29	5/8	5/8
25	3/8	3/8	30	..	3/4
26	1/2	1/2			

**WIRE ROPE SLING HOOKS**

Drop Forged Chrome Nickel Steel  
Heat Treated — Weldless



Fig. 2401

Size No.	Self-Colored Each	Length Inches	Width Inches	I. D. Eye Inches	Throat Opening Inches	Weight Each in Lbs.
90	\$1.65	5 1/2	3 1/4	3/4	1 3/16	2 9/16

These Hooks are given a special heat treatment after being Drop Forged from a solid piece of Chrome Nickel Tool Steel without welds.

Strength and toughness are increased, so that this Hook has the longest possible working life, resisting the hardest wear.

**SLIP HOOKS**

Weldless Drop Forged Steel

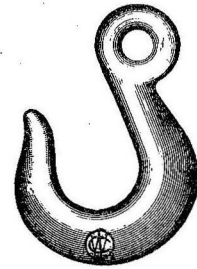


Fig. 240

For Size Chain Inches	Self-Colored Per 100 Pieces	Inside Diam. of Eye Inches	Weight Per 100 in Lbs.
1/4	\$19.25	1 3/32	36
5/16	23.10	9/16	57 3/4
3/8	28.60	1 1/32	81 1/4
7/16	38.50	1 1/16	126 1/2
1/2	52.80	1 1/16	159 1/2

**GRAB HOOKS**

Weldless Drop Forged Steel

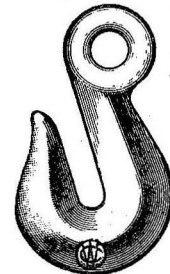


Fig. 2400

For Size Chain Inches	Self-Colored Per 100 Pieces	Inside Diam. of Eye Inches	Weight Per 100 in Lbs.
1/4	\$19.25	1 3/32	31 1/4
5/16	23.10	1 7/32	40 1/2
3/8	28.60	1 1/32	65 1/2
7/16	38.50	5/8	111
1/2	52.80	1 1/16	147

**CLINCH RINGS**

Galvanized Drop Forged Steel  
Countersunk Hole

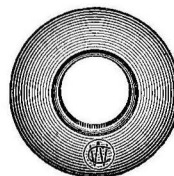


Fig. 836

I. D. Hole Inches	Per 100 Pieces	Packed Pieces Per Box	O. D. Inches	Thickness Inches	Weight Per 100 in Lbs.
3/8 *	\$3.90	100	7/8	3/32	1 3/8
1/2	4.50	100	1 1/8	5/32	3 1/2
5/8	5.50	100	1 3/8	3/16	5 5/8
3/4	6.00	100	1 1/2	3/16	6 1/2
7/8	6.80	50	1 7/8	7/32	10

Drop Forged Clinch Rings offer maximum strength and toughness. Don't confuse them with brittle cast rings!

\*The 3/8-inch Clinch Rings are malleable iron.

**STUB END TURNBUCKLES**  
Self-Colored Weldless Drop Forged Steel

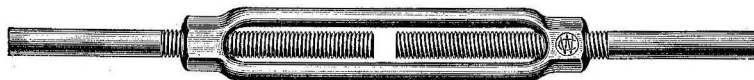


Fig. 307

Unless otherwise specified 6" take-up will always be supplied except in 1/4" and 5/16" sizes.

Diam. and Take-up Inches	Self-Colored Each	Approx. Weight Each Lbs.	Diam. and Take-up Inches	Self-Colored Each	Approx. Weight Each Lbs.
1/4 x 4	\$0.64	1/4	7/8 x 6	\$1.80	4 3/8
5/16 x 4 1/2	.69	3/8	12	3.14	8
3/8 x 6	.81	3/4	18	4.45	11
1/2 x 6	.90	1 3/8	1 x 6	2.25	6 1/4
9	1.47	2	12	3.82	7 1/4
12	1.92	3	18	5.45	13
5/8 x 6	1.08	2 1/8	24	7.64	14 1/2
9	1.78	3	1 1/4 x 6	3.60	10 1/4
12	2.07	4	12	6.30	15
3/4 x 6	1.53	3 1/8	18	8.40	22 1/2
9	2.24	4	24	11.80	28
12	2.60	4 3/4	1 1/2 x 6	5.76	16 3/8
18	3.72	9	12	9.00	22
			18	12.38	28 3/4
			24	17.32	36 3/4
			1 3/4 x 6	7.92	23 3/8
			2 x 6	12.38	30 1/8

**TURNBUCKLE BODIES**

Self-Colored Weldless Drop Forged Steel



Fig. 3071

Unless otherwise specified 6" take-up will always be supplied except in 1/4" and 5/16" sizes.

Tapped right and left.

Diam. and Take-up Inches	Self-Colored Each	Approx. Weight Each Lbs.
1/4 x 4	\$0.43	1/8
5/16 x 4 1/2	.46	1/4
3/8 x 6	.54	3/8
1/2 x 6	.60	5/8
9	.98	1
12	1.28	1 1/2
5/8 x 6	.72	1
9	1.18	1 1/2
12	1.38	2
3/4 x 6	1.02	1 1/2
9	1.48	2
12	1.72	2 1/2
18	2.48	4 1/2
7/8 x 6	1.20	2 1/8
12	2.08	4
18	2.98	5 3/4
1 x 6	1.50	2 3/4
12	2.55	3 3/4
18	3.64	6 1/2
24	5.08	7 1/4
1 1/4 x 6	2.40	4 3/8
12	4.20	7 1/2
18	5.60	11 1/4
24	7.86	14
1 1/2 x 6	3.84	6 1/2
12	6.00	8 3/8
18	8.25	14 3/8
24	11.55	18
1 3/4 x 6	5.28	9 1/4
2 x 6	8.25	12 1/4

**PIPE TURNBUCKLES**

Galvanized Weldless Drop Forged Steel

Furnished with Check Nuts

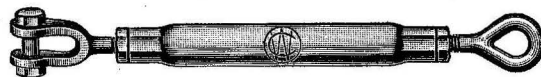


Fig. 310

Diam. and Take-up Inches	Galvanized Each	Closed Length★	Approx. Weight Each in Lbs.
1/4 x 4 1/2	\$1.66	8 1/2	1/2
5/16 x 4 1/2	1.93	9 1/4	5/8
3/8 x 6	2.23	11 1/4	1
1/2 x 6	3.10	12 3/8	1 3/4
5/8 x 9	4.39	16 3/4	3 1/2
3/4 x 9	5.98	19	5
7/8 x 12	8.31	22 1/4	7 3/4
1 x 12	10.47	24 1/4	10 5/8
1 1/4 x 12	16.76	26 1/2	15 1/2
1 1/2 x 15	30.17	34 1/4	26

★Center to center of bolt and eye.



Fig. 311

Diam. and Take-up Inches	Galvanized Each	Closed Length★	Approx. Weight Each in Lbs.
1/4 x 4 1/2	\$1.86	8 1/2	1/2
5/16 x 4 1/2	2.17	9 1/4	5/8
3/8 x 6	2.39	11 1/4	1
1/2 x 6	3.46	12 3/8	1 3/4
5/8 x 9	4.79	16 3/4	3 1/2
3/4 x 9	6.38	19	5
7/8 x 12	9.21	22 1/4	7 3/4
1 x 12	11.73	24 1/4	10 5/8
1 1/4 x 12	18.43	26 1/2	19 1/2
1 1/2 x 15	33.53	34 1/4	26

★Center to center of jaw bolts.

Jaw and Eye fittings are same as those used in Figs. 304 and 305. See page 17 for dimensional data and strengths. All threads are galvanized.

# Open Turnbuckles

Weldless Drop Forged Steel

All Galvanized Turnbuckles have Galvanized Threads

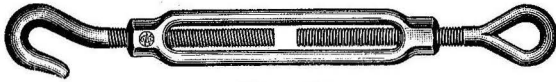


Fig. 301  
Hook and Eye

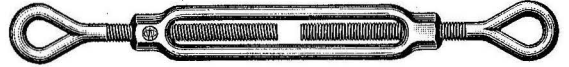


Fig. 303  
Eye and Eye

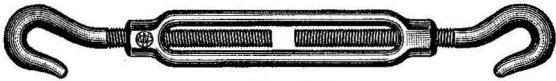


Fig. 302  
Hook and Hook

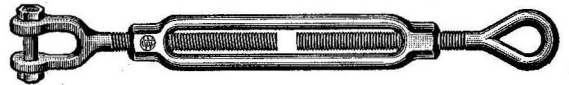


Fig. 304  
Jaw and Eye

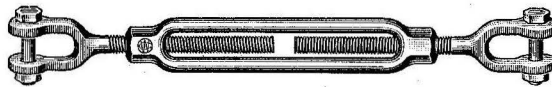


Fig. 305  
Jaw and Jaw

**Figs. 301 and 302**

Diam. and Take-up Inches	Galvanized Each	Self-Colored Each
1/4 x 4	\$0.72	...
5/16 x 4 1/2	.84	...
3/8 x 6	1.08	...
1/2 x 6	1.56	...
9	2.22	...
12	2.70	...
5/8 x 6	1.92	\$1.62
9	2.62	2.17
12	3.15	2.55
3/4 x 6	2.70	2.34
9	3.45	2.85
12	4.05	3.30
7/8 x 12	5.40	4.56
1 x 12	6.05	5.04

**Fig. 303**

Diam. and Take-up Inches	Galvanized Each	Self-Colored Each
1/4 x 4	\$0.72	...
5/16 x 4 1/2	.84	...
3/8 x 6	1.08	...
1/2 x 6	1.56	...
9	2.22	...
12	2.70	...
5/8 x 6	1.92	\$1.62
9	2.62	2.17
12	3.15	2.55
18	4.20	3.60
3/4 x 6	2.70	2.34
9	3.45	2.85
12	4.05	3.30
18	5.40	4.50
7/8 x 12	5.40	4.56
18	6.19	5.18
1 x 6	5.45	4.54
12	6.05	5.04
18	7.92	6.48
24	9.72	7.92
1 1/4 x 12	10.44	8.64
18	12.96	10.80
24	16.56	13.68
1 1/2 x 12	15.84	12.96
18	19.44	15.84
24	24.48	20.16

**Fig. 304**

Diam. and Take-up Inches	Galvanized Each
1/4 x 4	\$0.90
5/16 x 4 1/2	1.03
3/8 x 6	1.38
1/2 x 6	1.80
9	2.64
12	3.18
5/8 x 6	2.28
9	3.18
12	3.60
18	4.98
3/4 x 6	3.36
9	4.05
12	4.65
18	6.30
7/8 x 12	6.00
18	7.20
1 x 6	6.20
12	6.90
18	9.36
24	11.52
1 1/4 x 12	12.96
18	15.84
24	18.72
1 1/2 x 12	18.72
18	22.68
24	28.80

**Fig. 305**

Diam. and Take-up Inches	Galvanized Each
1/4 x 4	\$1.08
5/16 x 4 1/2	1.23
3/8 x 6	1.58
1/2 x 6	2.16
9	2.94
12	3.60
5/8 x 6	2.58
9	3.66
12	4.05
18	5.58
3/4 x 6	3.78
9	4.50
12	5.25
18	7.05
7/8 x 12	7.20
18	8.28
1 x 6	7.12
12	7.92
18	10.44
24	12.60
1 1/4 x 12	15.84
18	18.72
24	21.60
1 1/2 x 12	21.60
18	25.92
24	33.12

Sizes shown in heavy face type indicate our regular lengths. These will be shipped if no length is specified.

Extra for check-nuts: Add 5% to list for one; 10% to list for two. When one check nut is ordered, right-hand thread will be furnished unless otherwise specified.

In all turnbuckles of 3/4 inch diameter and larger, pin and cotter may be employed in place of jaw bolt and nut.

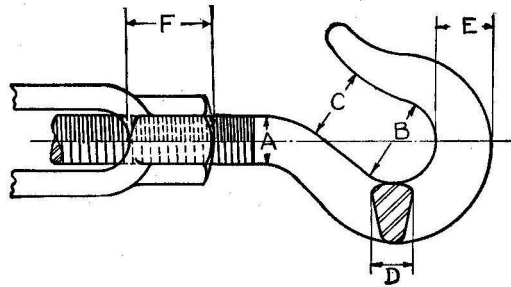
For tensile strengths see data on opposite page.

**Dimensions and Weights**

Diam. and Take-up Inches	Overall Length Closed Inches	Approx. Weight Per 100 in Lbs.	Approx. Weight Per 100 for each 6 inches of Body Take-up† in Lbs.	Diam. and Take-up Inches	Overall Length Closed Inches	Approx. Weight Per 100 in Lbs.	Approx. Weight Per 100 for each 6 inches of Body Take-up† in Lbs.
1/4 x 4	8	38	.....	3/4 x 9	18 1/2	425	170
5/16 x 4 1/2	9 1/4	50	.....	7/8 x 12	23 3/4	775	225
3/8 x 6	11 3/4	75	.....	1 x 12	25	1120	250
1/2 x 6	13	150	90	1 1/4 x 12	30	1765	500
5/8 x 6	14	300	140	1 1/2 x 18	38	3500	625

†These weights can be used to estimate approximate weight of longer or shorter listed lengths.

## Dimensions of Turnbuckle Fittings



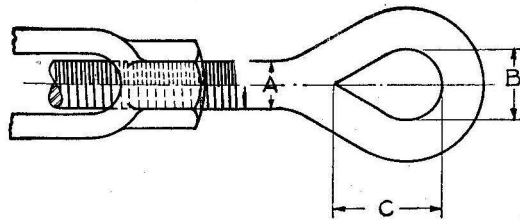
Figs. 301, 302  
Approx.  
Tensile  
Strength  
Pounds

Figs. 301, 302  
Approx.  
Tensile  
Strength  
Pounds

A Inches	B Inches	C Inches	D Inches	E Inches	Approx. Tensile Strength Pounds	A Inches	B Inches	C Inches	D Inches	E Inches	Approx. Tensile Strength Pounds
1/4	7/16	3/8	3/16	5/16	1050	5/8	15/16	13/16	9/16	11/16	5400
5/16	9/16	1/2	1/4	3/8	1650	3/4	1 1/8	15/16	11/16	13/16	7500
3/8	5/8	9/16	5/16	7/16	2300	7/8	1 3/16	1 1/16	1 3/16	1 5/16	10000
1/2	3/4	1 1/16	7/16	9/16	3700	1	1 3/16	1 3/16	7/8	1 1/8	12800

Dimension "F" is approximately 1 1/2 times the size of dimension "A."

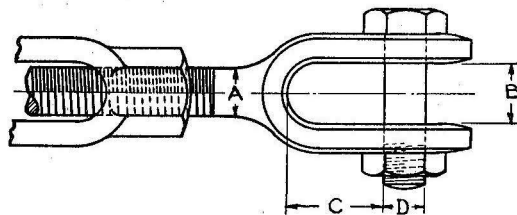
Recommended safe working load of Turnbuckles, fitted with Hooks, is 20% of listed Tensile Strengths. Other styles, 25%



Figs. 303,  
304, 310  
Approx.  
Tensile  
Strength  
Pounds

Figs. 303,  
304, 310  
Approx.  
Tensile  
Strength  
Pounds

A Inches	B Inches	C Inches	Approx. Tensile Strength Pounds	A Inches	B Inches	C Inches	Approx. Tensile Strength Pounds
1/4	1/2	5/8	1560	3/4	1 1/8	1 1/2	18100
5/16	1/2	1 1/16	2700	7/8	1 5/16	2	25100
3/8	3/4	1	4100	1	1 7/16	2	33000
1/2	3/4	1 1/8	7550	1 1/4	1 13/16	2 5/8	53600
5/8	1	1 3/8	12100	1 1/2	1 13/16	2 3/8	77700



Figs. 304,  
305, 311  
Approx.  
Tensile  
Strength  
Pounds

Figs. 304,  
305, 311  
Approx.  
Tensile  
Strength  
Pounds

A Inches	B Inches	C Inches	D Inches	Approx. Tensile Strength Pounds	A Inches	B Inches	C Inches	D Inches	Approx. Tensile Strength Pounds
1/4	5/16	5/8	1/4	1560	3/4	7/8	1 1/2	5/8	18100
5/16	1/2	3/4	1/4	2700	7/8	1 1/8	1 3/4	3/4	25100
3/8	1/2	13/16	5/16	4100	1	1 1/4	2	7/8	33000
1/2	5/8	1	7/16	7550	1 1/4	1 3/8	2	1 1/8	53600
5/8	13/16	1 3/8	1/2	12100	1 1/2	2	2 3/8	1 3/8	77700

**RIGGING TURNBUCKLES**

Drop Forged Bronze



Fig. 3162 with Two Wide Jaws  
End Fittings Have S.A.E. Threads

Size Inches	Plain Bronze Each	Pins with Cotters Per Doz.	Add per Turnbuckle for 2 Check Nuts	Use Toggle and Thimble No.	Weight Each in Lbs.
1/4*	\$2.25	\$1.80	\$0.25	0	3/8
5/16	3.50	1.80	.25	1	1/2
3/8	5.25	1.92	.30	2	3/4
7/16	6.60	2.16	.35	3	1
1/2	7.50	4.20	.45	4	1 1/2
5/8	9.50	5.04	.45	5	2 5/8

Size Inches	Diam. Jaw Pins Inches	Length Center to Center Jaw Pins Inches		Jaw Opening Inches	Approx. Strength Lbs.
		Closed	Extended		
1/4*	1/4	6 1/8	8 3/8	1/4	2300
5/16	5/16	7 1/4	10 3/8	5/16	4200
3/8	3/8	8 1/2	12 1/4	3/8	6900
7/16	7/16	9 1/2	13 1/2	7/16	8500
1/2	1/2	10 1/4	14 1/2	1/2	11000
5/8	5/8	12	17	5/8	18000

These weldless drop forged bronze turnbuckles are the strongest and most dependable yacht turnbuckles available. Shanks and bodies are one-piece forgings and there is no chance for hidden defects. Superior to any sand cast turnbuckle.

\*1/4-inch Rigging Turnbuckles are Cast Manganese Bronze.

**Recommended sizes of bronze turnbuckles to use with stainless steel wire.**

With 1 x 19 Construction

For Wire Diam.	Use Turnbuckle
3/32 or 1/8	1/4
1/8 or 5/32	5/16
3/16	3/8
7/32	7/16
1/4 or 9/32	1/2
5/16 or 3/8	5/8

**For Standing Rigging:** We suggest 1 x 19 strand, or as a second choice for easy splicing, 6 x 7 strand.

**For Running Rigging:** We suggest 7 x 7 strand in sizes 1/16" and 3/32" diameter; 7 x 19 strand in 1/8" and larger diameters.

**Data On Breaking Strength In Pounds Of Stainless Steel Wire Rope**

Dia. Inches	1 x 19	6 x 7	7 x 7	7 x 19
1/16	500	385	480	...
3/32	1200	800	920	...
1/8	2100	1400	1700	1900
5/32	3300	2100	2600	2600
3/16	4700	3000	3700	3900
7/32	6300	4000	4800	5200
1/4	8200	5200	6100	6600
9/32	10300	6600	7600	8000
5/16	12500	8000	9100	8200
3/8	17600	11500	12600	12000

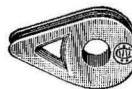
**RIGGING TOGGLES**

Cast Manganese Bronze



Fig. 3211

Size No.	Each	Pins with Cotters Per Doz.	For 3162 Turnbuckles Inches	Width Between Jaws	Length C. to C. Pin Holes	Weight Each in Lbs.
0	\$0.90	\$2.40	1/4	1/4	1 1/6	3/32
1	1.00	2.88	5/16	3/32	1 3/8	5/32
2	1.20	3.36	3/8	3/16	1 3/4	3/16
3	1.45	3.84	7/16	1/32	1 7/8	5/16
4	1.75	5.76	1/2	3/8	2 1/8	15/32
5	2.25	7.92	5/8	1/32	2 1/6	3/4



**SOLID RIGGING THIMBLES**

Cast Bronze

Fig. 3210

Size No.	Each	For 3162 Turnbuckles Inches	For Diam. Wire Rope	Length Inches	Weight Each in Lbs.
0	\$0.50	1/4	3/32-1/8	1 3/8	1/32
1	.60	5/16	3/8-5/32	1 3/4	1/16
2	.70	3/8	3/16	2	3/32
3	.75	7/16	7/32	2 1/4	1/8
4	1.00	1/2	1/4-3/32	2 5/8	3/16
5	1.20	5/8	3/16-3/8	3 1/8	3/8

**PETITE TURNBUCKLES**

Cast Bronze

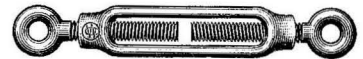


Fig. 320

Size No.	Per Dozen	Packed Dozen Per Box	Diam. of Ends Inches	Length Extended Inches	Take-up Inches	Weight Per 100 in Lbs.
1	\$3.10	2	1/8	3	3/4	3
2	3.75	2	5/32	4	1 1/8	6 1/4
3	5.75	1	3/16	5	1 1/2	11 1/2
4	6.30	1	1/4	5 3/4	1 7/8	15
5	8.00	1	5/16	6 7/8	2 1/4	24 1/2

Sizes Nos. 1, 2 and 3 are furnished with wire eyes. Nos. 4 and 5 have cast solid eyes. All have S. A. E. threads.

**HARDWARE TURNBUCKLES**

Cadmium Plated

Aluminum Bodies — Steel Eyes and Hooks



Fig. 3051

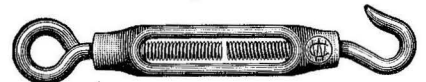


Fig. 3052

Size No.	Fig. 3051 Dozen	Fig. 3052 Dozen	Packed Dozen Per Box	Diam. Screws Inches	Length Overall Closed Inches	Approx. Weight Dozen in Lbs.
25	\$1.50	\$1.50	3	3/32	2 7/8	1/4
35	1.55	1.55	3	3/16	3 1/2	3/8
45	1.80	1.80	2	1/32	4	1/2
55	2.20	2.20	2	1/4	5	7/8
65	3.10	3.10	1	3/16	6	1 1/2
75	4.40	4.40	1	3/8	7	2 1/2

**JAW AND JAW SWIVELS**

Weldless Drop Forged Steel

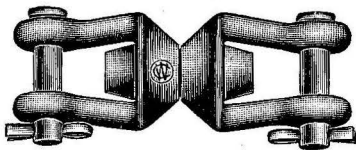


Fig. 6780

Size Inches	Galv. Each	Overall Length Inches	Diam. Pin Inches	Inside Width and Length of Jaws Inches	Approx. Weight Each in Lbs.
3/8	\$2.40	4 3/4	7/16	1 1/16 x 5/8	1
1/2	3.90	6 1/8	5/8	7/8 x 3/4	1 3/4
5/8	5.22	7 1/2	3/4	1 1/16 x 1	3
3/4	7.38	8 3/8	7/8	1 3/32 x 1 3/8	5

A fully dependable drop forged jaw and jaw swivel, excellent for connecting two pieces of chain without need for further fittings. The pins are large and are secured with extra-heavy cotters.

**EYE AND EYE SWIVELS**

Weldless Drop Forged Steel

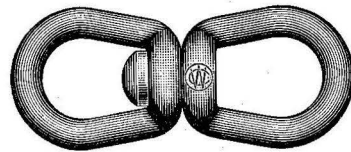


Fig. 676

Size Inches	Galv. Each	Length Inches	Width Inside Inches	Weight Each in Lbs.
1/4	\$1.26	3 3/8	3/4	1/4
5/16	1.59	3 3/4	7/8	3/8
3/8	1.70	5 1/4	1 3/8	3/4
1/2	2.58	6	1 1/2	1 1/4
5/8	4.34	7 1/4	1 3/4	2 1/4
3/4	6.16	8 1/2	2	3 1/2
7/8	7.86	10 1/4	2 1/8	6 1/2

**JAW AND EYE SWIVELS**

Weldless Drop Forged Steel

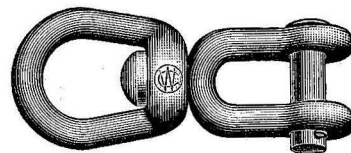


Fig. 6760

Size Inches	Galv. Each	Length Inches	Width Between Jaws Inches	Inside of Bail Inches	Weight Each in Lbs.
1/4	\$1.70	4	1/2	1 1/8 x 1 1/4	3/8
5/16	1.98	4 1/8	1/2	1 1/4 x 1 3/8	1/2
3/8	2.20	5	5/8	1 1/4 x 1 3/8	3/4
1/2	3.52	6	3/4	1 3/8 x 1 1/2	1 3/8
5/8	4.89	7 3/8	1 1/8	1 1/2 x 1 3/4	2 5/8
3/4	6.82	8 1/2	1 3/8	1 3/4 x 2	4 1/4
7/8	8.69	9	1 3/8	2 x 2 3/8	7 3/4

Both these types of Swivels, Figs. 676 and 6760, have been developed with extra large eyes to make the attaching of large diameter mooring lines practical. Unusually free swivel prevents fouled or kinked lines. Safe! These Swivels will more than withstand the breaking strain of a 1 1/2 inch manila rope.

**FLAG SWIVELS**

Cast Bronze



Fig. 6770

Plain Bronze Per Doz. Sets	Packed Doz. Sets Per Box	I. D. Eye Inches	Weight Doz. Sets in Lbs.
\$6.60	1	3/16	1 1/2

Handy for very small spinnaker halliards.

Ideal for code flag hoists or flag halliards in general. Quick and cannot unhook until brought to right angles. One hook swivels — other has fast eye.

**SWIVELS**

Plain Brass



Fig. 6771

Size No.	Per Doz.	Packed Doz. Per Box	Length Inches	Diam. Eye Inches	Weight Box in Lbs.
0	\$2.00	6	1 1/2	1/4	2 1/4
1	2.90	6	1 3/4	5/16	2 3/4
2	3.60	6	2 1/4	1/2	3 1/2

**PLATE RINGS**

Galvanized Drop Forged Steel

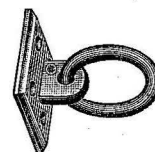


Fig. 273

Each	Size Ring Inches	Size Plate Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$0.85	5/8 x 2	2 x 2 x 3/8	14	1/2

**FAST EYE PULLEYS**

Galvanized Gray Iron

Single

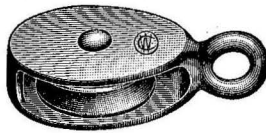


Fig. 0174

Diam. Sheave Inches	Per Dozen	Packed Dozen Per Box	For Diam. Rope or Cord Inches	Weight Dozen in Lbs.
1/2	\$1.60	1	5/32	5/8
3/4	2.00	1	1/4	1 1/2
1	2.40	1	9/32	2 1/4
1 1/4	3.10	1	5/16	2 3/4
1 1/2	3.50	1	5/16-3/8	4
1 3/4	4.75	1	3/8	7 1/4
2	6.25	1	7/16	11 3/4
2 1/2	12.50	1/2	5/8	23

**FAST EYE PULLEYS**

Galvanized Gray Iron

Double

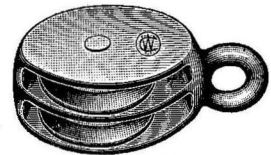


Fig. 0176

Diam. Sheaves Inches	Per Dozen	Packed Dozen Per Box	For Diam. Rope or Cord Inches	Weight Dozen in Lbs.
3/4	\$2.90	1	1/4	2 1/2
1	3.75	1	5/16	3 3/4
1 1/2	6.20	1	3/8	7 3/8
2	10.50	1/2	1/2	17 1/2
2 1/2	25.00	1/3	5/8	34 3/4

**BLOCKS**

Galvanized Malleable Iron or Brass

Fast Eye — Single

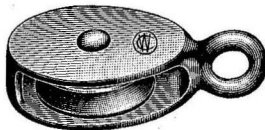


Fig. 368

Size No.	Galv. Per Doz.	Plain Brass Per Doz.	Pol. Brass Per Doz.	Length of Shell Inches	For Diam. Rope Inches	Size Sheave Inches	Weight Per 100 in Lbs.
1	\$3.36	\$4.80	\$8.40	1 1/4	3/16	3/4 x 1/4	8
3	4.32	5.52	10.80	1 5/8	1/4	1 x 3/8	15
5	6.60	9.60	15.60	2	5/16	1 3/8 x 7/16	30
7	8.40	10.80	18.00	2 1/4	3/8	1 1/2 x 1/2	34
9	10.80	....	....	2 3/4	7/16	1 3/4 x 1/2	47
11	15.60	....	....	3	1/2	2 x 5/8	85
13	25.20	....	....	3 3/4	5/8	2 1/2 x 3/4	138
15	37.80	....	....	4 3/8	3/4	3 x 7/8	216

Galvanized Blocks, sizes 1, 3 and 5, are Gray Iron. Brass packed one dozen per box.

Galvanized Malleable Iron or Brass

Fast Eye — Double

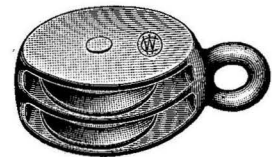


Fig. 369

Size No.	Galv. Per Doz.	Plain Brass Per Doz.	Length of Shell Inches	For Diam. Rope Inches	Size Sheaves Inches	Weight Per 100 in Lbs.
2	\$4.32	\$7.20	1 3/8	3/16	3/4 x 1/4	14
4	6.60	10.20	1 5/8	1/4	1 x 3/8	24
6	10.20	15.60	2 1/8	5/16	1 3/8 x 3/8	47
8	12.00	19.20	2 1/4	3/8	1 1/2 x 1/2	65
10	16.80	....	2 3/4	7/16	1 3/4 x 1/2	80
12	22.20	....	3 1/8	1/2	2 x 5/8	127
14	34.80	....	4	5/8	2 1/2 x 3/4	245

Galvanized Blocks, sizes 2 and 4, are Gray Iron. Brass packed one dozen per box.

Fast Eye — Single, Becket

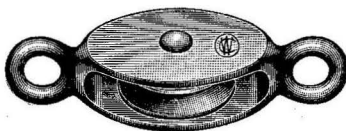


Fig. 370

Size No.	Galv. Each	Length of Shell Inches	For Diam. Rope Inches	Size Sheave Inches	Weight Per 100 in Lbs.
1 1/2	\$0.30	1 1/4	3/16	3/4 x 1/4	8 3/4
3 1/2	.40	1 5/8	1/4	1 x 3/8	16 1/2
5 1/2	.60	2	5/16	1 3/8 x 7/16	27 1/2
7 1/2	.75	2 1/4	3/8	1 1/2 x 1/2	37
9 1/2	.95	2 3/4	7/16	1 3/4 x 1/2	51
11 1/2	1.40	3	1/2	2 x 5/8	81

**SWIVEL EYE BLOCKS**

Galvanized Malleable Iron

Single



Fig. 366

Size No.	Per Doz.	Packed Dozen Per Box	For Diam. Rope Inches	Size Sheave Inches	Weight Per 100 in Lbs.
0	\$4.20	1	3/16	1/2 x 5/16	4 3/8
1	5.40	1	3/16	3/4 x 5/16	8 3/8
3	7.20	1	1/4	1 x 3/8	13 3/8
5	9.60	1	5/16	1 3/8 x 7/16	30
7	11.40	1	3/8	1 1/2 x 1/2	41 1/4

**WIRE ROPE BLOCKS**

Galvanized Gray Iron

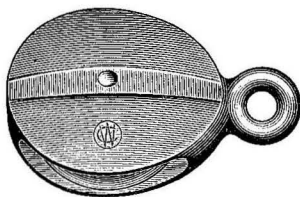


Fig. 391

Each	Length Shell Inches	For Diam. Rope Inches	Size Sheave Inches	I. D. Eye Inches	Weight Each in Lbs.
\$2.50	5	5/8	4 x 1/2	3/4	3 1/4

**RUBBER OAR STOPS**

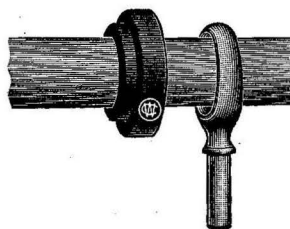


Fig. 426

\$9.60 Per Dozen Pair

Designed for use with any oarlock, W-C Rubber Oar Stops prevent oars from slipping — make rowing safer for children. These Stops and W-C Round Oarlocks offer a perfect combination for the boat. Easy to put on. Wet oar and oar stop thoroughly. With flat face of oar stop towards oar blade, push stop to desired position with a spiral twist. W-C Rubber Oar Stops will not slip into the oarlock and be "chewed up". There is no ring of nails to weaken the oars. Packed 6 pair per box. Weight, 2 1/4 lbs. per 6 pair.

**INEEDA FLAG STAFF BRACKETS**

Galvanized Gray Iron

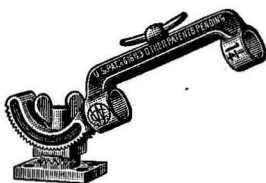


Fig. 766

For Diam. Pole Inches	Each	Drilled for Wood Screw No.	Weight Each in Lbs.
1 1/4	\$3.50	16	4 3/4
1 1/2	3.75	16	5

**"SEA-CURITY" OAR HOLDERS**

Galvanized Gray Iron



Fig. 4340

Per Doz.	Packed Dozen Per Box	Length Inches	Width Inches	Weight Per Doz. in Lbs.
\$8.40	1	5 3/8	1 1/16	12

A handy oar holder or clamp that guarantees oars being on hand when wanted. Handy to use when "tying up"; ideal when storing oars in outboards and day-sailers, and when towing, or going across country with boat on trailer.

**AXE BRACKETS**

Polished Wrought Brass

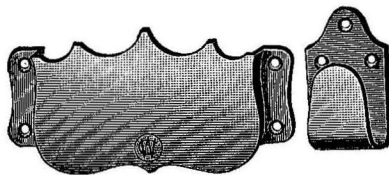
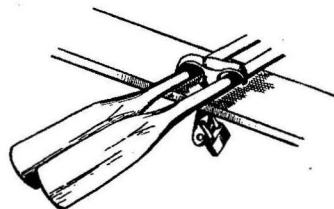


Fig. 619

Size No.	Complete Dozen	Hooks Only Dozen	Size Pocket Inches	Drilled for R. H. Screw No.	Weight Dozen Complete in Lbs.
3	\$16.50	\$5.10	6	10	5 1/4

Packed 1 dozen per box.



Stem drops through 3/4-inch hole bored in seat. Four 3/8-inch holes in stem provide for padlocking from underside, regardless of oar size or seat thickness.

**DROP FORGED STEEL OARLOCKS**

Hot Dip Galvanized

Oarlocks that do not straighten out, bend or break are presented on this page. Pull as you will, these sturdy Weldless Drop Forged Steel Horns will take all you can give, and come back for more. The Malleable Iron Sockets are correspondingly rugged — offering a perfect combination for the man who wants the best.

**STANDARD OARLOCKS**



Fig. 4210

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$1.00	\$0.75	\$0.35
Size No.	Drilled for Wood Screw No.	Opening Inches	Weight Pair in Lbs.
1	10	2	1 1/4

**SIDE PLATE OARLOCKS**

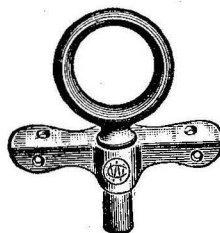


Fig. 4460

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$1.75	\$0.90	\$1.00
Size No.	Drilled for Wood Screw No.	I. D. of Ring Inches	Weight Pair in Lbs.
1	10	2 1/4	2

**ROUND OARLOCKS**



Fig. 4250

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$1.05	\$0.90	\$0.35
Size No.	Drilled for Wood Screw No.	I. D. of Ring Inches	Weight Pair in Lbs.
1	12	2 1/4	1 3/8

**NORTH RIVER OARLOCKS**

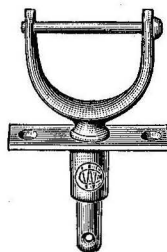


Fig. 4230

Regular Socket			
Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$1.35	\$1.10	\$0.35
Size No.	Drilled for Wood Screw No.	Opening Inches	Weight Pair in Lbs.
1	10	2 3/8	1 1/4

**SIDE PLATE OARLOCKS**

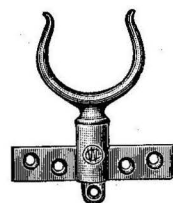


Fig. 4270

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$1.35	\$0.75	\$0.70
Size No.	Drilled for Wood Screw No.	Opening Inches	Weight Pair in Lbs.
1	10	2	1 3/8

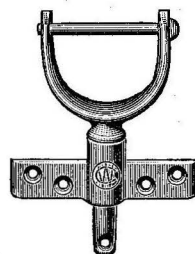


Fig. 4240

Side Plate Socket			
Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$1.65	\$1.10	\$0.70
Size No.	Drilled for Wood Screw No.	Opening Inches	Weight Pair in Lbs.
1	10	2 1/8	1 3/8

**SIDE PLATE OARLOCKS**

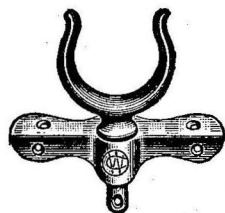


Fig. 4440

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$1.70	\$0.75	\$1.00
Size No.	Drilled for Wood Screw No.	Opening Inches	Weight Pair in Lbs.
1	10	2	1 3/8

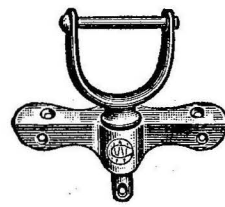


Fig. 4450

Side Plate Socket			
Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$2.00	\$1.10	\$1.00
Size No.	Drilled for Wood Screw No.	Opening Inches	Weight Pair in Lbs.
1	10	2 3/8	1 3/8

**MOLINE SOCKET OARLOCKS**

Galvanized Drop Forged Steel

W-C Moline Socket Oarlocks are designed to withstand maximum strain. The sturdy iron Sockets are thoroughly dependable, and the Weldless Drop Forged Steel Horns will not straighten out, bend or break when you're in a tight spot.

**STANDARD HORN TYPE**

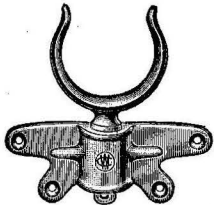


Fig. 444

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$1.65	\$0.75	\$1.00
Size No.	Drilled for Wood Screw No.	Opening Inches	Weight Pair in Lbs.
1	10	2	2½

**NORTH RIVER HORN TYPE**

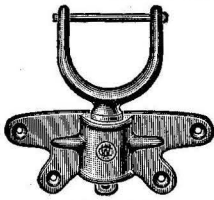


Fig. 445

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$1.95	\$1.10	\$1.00
Size No.	Drilled for Wood Screw No.	Opening Inches	Weight Pair in Lbs.
1	10	2½	2¾

**ROUND HORN TYPE**

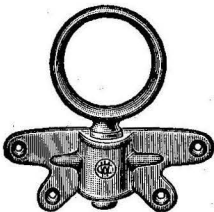


Fig. 446

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair
1	\$1.75	\$0.90	\$1.00
Size No.	Drilled for Wood Screw No.	I. D. of Ring Inches	Weight Pair in Lbs.
1	10	2¼	2½

**NORTH RIVER OARLOCKS**

Bronze

Regular Socket

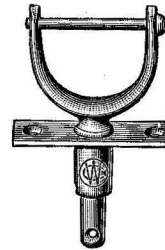


Fig. 423

Side Plate Socket

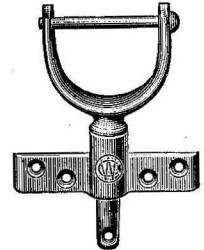


Fig. 424

**Plain Bronze, Fig. 423**

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$2.10	\$1.55	\$0.65	2½	1¼

**Polished Bronze, Fig. 423**

1	\$3.95	\$2.85	\$1.20	2½	1¾
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**Plain Bronze, Fig. 424**

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$2.60	\$1.55	\$1.20	2½	1¾

**Polished Bronze, Fig. 424**

1	\$4.40	\$2.85	\$1.70	2½	1¾
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Sockets drilled for No. 10 Wood Screws.

**SWIVEL OARLOCKS**

Galvanized Malleable Iron or Bronze

Horns are removable.

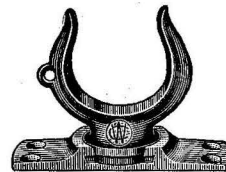


Fig. 439

**Galvanized Malleable Iron**

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$3.30	\$1.75	\$1.65	2	2¾

**Plain Bronze**

1	\$4.95	\$2.65	\$2.55	2	2¾
---	--------	--------	--------	---	----

**Polished Bronze**

1	\$7.75	\$4.10	\$3.95	2	2¾
---	--------	--------	--------	---	----

Sockets drilled for No. 10 Wood Screws.

**OUR OARLOCKS AND SOCKETS ARE INTERCHANGEABLE**

Interchangeability is an important feature of our galvanized oarlocks. Every jobber and dealer will recognize the convenience and value of this.

Sockets and Horns of all the following figure numbers and sizes in galvanized will positively interchange, because in every case the diameter of shank and size of hole in socket is the same.

Figure	Sizes
421	0-1-1½
4210	1
425	1
4250	1
4230	1
4240	1
4270	1
4440	1
4450	1
4460	1

Also, in bronze, Figs. 428, 429, 431, and 432 horns and sockets are interchangeable among themselves.

**STANDARD OARLOCKS**

Galvanized Malleable Iron



Fig. 421

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
0	\$1.00	\$0.75	\$0.35	1 3/4	1 1/8
1	1.00	.75	.35	2	1 1/4
1 1/2	1.25	1.05	.35	2 1/8	1 1/2
2	1.60	1.25	.50	2 1/4	2
3	2.45	1.90	.70	2 1/2	2 5/8
4	2.75	2.20	.70	3	3 3/8

Sockets Drilled For Wood Screws No. No. 0, 1 & 1 1/2 2, 3 & 4  
10 14

**RIBBED OARLOCKS**

Galvanized Iron



Fig. 422

Galvanized Gray Iron

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$0.70	\$0.50	\$0.30	2	1
2	1.00	.70	.45	2 1/4	1 5/8
3	1.30	.95	.50	2 5/8	2 5/8

Galvanized Malleable Iron

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$1.00	\$0.75	\$0.35	2	3/4
2	1.35	.95	.50	2 1/4	1 5/8

Sockets Drilled For Wood Screws No. 1 2 3  
10 12 14

**ROUND OARLOCKS**

Galvanized Iron or Bronze



Fig. 425

Galvanized Malleable Iron

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	I. D. of Ring Inches	Weight Pair in Lbs.
1	\$1.05	\$0.90	\$0.35	2 1/4	1 3/8

Galvanized Gray Iron

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$0.75	\$0.55	\$0.30	2 1/4	1 1/2

Plain Bronze

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
0	\$1.90	\$1.45	\$0.60	2	1
1	2.15	1.60	.65	2 1/4	1 3/8

Polished Bronze

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
0	\$3.30	\$2.30	\$1.20	2	1
1	3.75	2.75	1.20	2 1/4	1 3/8

No. 1 Socket drilled for No. 12 Wood Screws.

No. 0 drilled for No. 10 Screws.

This Oarlock is passed over the loom of the oar, and is prevented from falling off by a leather shoulder tacked on to the oar, or use Fig. 426 Rubber Oar Stops.

**DAVIS OARLOCKS**

Galvanized Malleable Iron or Bronze

In Position

Out of Position

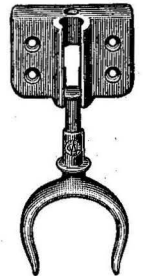
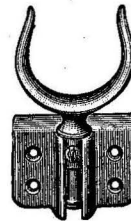


Fig. 440

An Oarlock which cannot be lost

Simply raise the Horn in the Socket. The slot on the side of the Socket allows the Horn to be turned down—and it then hangs secure and out of the way. Horns cannot be removed without unscrewing the plate completely from the boat.

Galvanized Malleable Iron

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$2.00	\$1.00	\$1.20	2	2
2	3.00	1.50	1.70	2 1/4	2 5/8

Plain Bronze

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$3.00	\$1.30	\$1.85	2	2 1/2

Polished Bronze

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$5.30	\$2.30	\$3.25	2	2 1/2

Sockets drilled for No. 12 Wood Screws.

**BOSTON OARLOCKS**

Galvanized Malleable Iron or Bronze

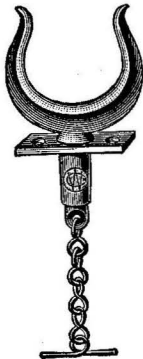


Fig. 428

Galvanized Malleable Iron

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$1.35	\$1.10	\$0.35	2	1 1/16
Plain Bronze					
1	\$2.30	\$1.75	\$0.65	2	1 1/16
Polished Bronze					
1*	\$3.75	\$2.75	\$1.20	2	1 1/16

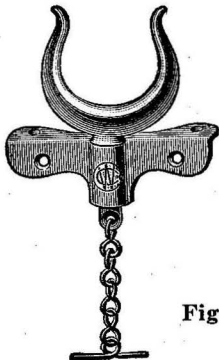


Fig. 431

Galvanized Malleable Iron

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$2.00	\$1.10	\$1.00	2	1 5/16
Plain Bronze					
1	\$3.00	\$1.75	\$1.30	2	1 1/2
Polished Bronze					
1*	\$4.75	\$2.75	\$2.40	2	1 1/2

With Safety Chains, Horns can be unshipped quickly with no danger of losing them overboard.

TO GIVE A PERFECT FIT, THE SHANKS OF HORNS AND HOLES IN SOCKETS IN BRONZE OARLOCKS, FIGS. 428, 429, 431 AND 432 ARE MACHINED.

**BOSTON OARLOCKS**

Galvanized Malleable Iron or Bronze



Fig. 429

Galvanized Malleable Iron

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$1.00	\$0.85	\$0.35	2	1
Plain Bronze					
1	\$2.00	\$1.55	\$0.65	2	1
Polished Bronze					
1*	\$3.40	\$2.40	\$1.20	2	1

\*All Polished Boston oarlocks packed 1 pair to a box. All sockets drilled for No. 10 Wood Screws

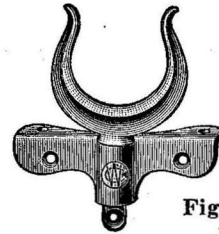


Fig. 432

Galvanized Malleable Iron

Size No.	Complete Pair	Horns Only Pair	Sockets Only Pair	Opening Inches	Weight Pair in Lbs.
1	\$1.70	\$0.85	\$1.00	2	1 5/16
Plain Bronze					
1	\$2.70	\$1.55	\$1.30	2	1 5/16
Polished Bronze					
1*	\$4.40	\$2.40	\$2.40	2	1 5/16

**OARLOCK SAFETY CHAINS**

Galvanized Iron or Brass

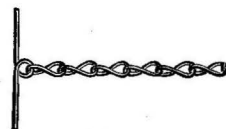


Fig. 435

Galvanized	.....	\$0.25 Pair
Brass	.....	.30 Pair

These safety chains and toggles will fit all iron or brass W-C oarlocks in sizes 0, 1, 1 1/2 and 2.

**"YACHTSMAN'S" ANCHORS**

Galvanized Drop Forged Steel

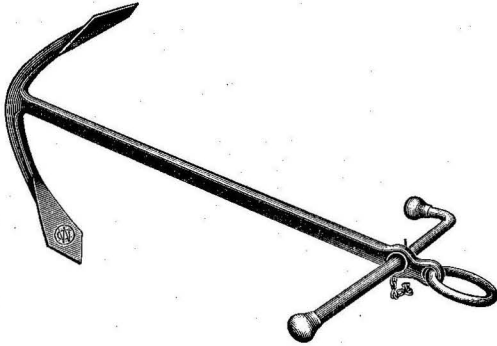


Fig. 2002

A refinement of the tried and true kedge type anchor. An anchor that can be trusted.

Has much greater holding power than ordinary kedge anchors. Non-fouling flukes — no shoulder for lines to catch on and trip anchor when yawing. Don't confuse this spidery, efficient piece of ground tackle with the old blunt-palm kedge!

Size Lbs.	Galv. Each	Length Overall Inches	Width Across Flukes Inches
5	\$8.25	21	13
10	10.75	26	15 3/4
15	12.00	29	18
20	14.25	31 3/4	19
25	16.50	36	20
30	19.75	36	20
35	21.00	40	22
42	25.30	39 1/2	22
50	30.25	43	24 1/2
60	35.75	44 1/2	27 1/2
75	42.35	46 1/2	29
100	59.40	50	32
125	73.70	52 1/2	32 1/2
150	83.60	59	34 1/2
200	121.00	65	34 1/2
250	165.00	62 1/2	43 1/2

The "Yachtsman's" Anchor is drop forged—welded under heavy drop hammers—assuring maximum strength.

The sharp flukes of the "Yachtsman's" are reinforced down the back from the arms, without welds; each arm and fluke being forged from a single bar. The reinforced ribs prevent the flukes from bending or breaking. The area of the broad palm gives maximum resistance and holding power after the anchor bites—which it does instantly! Buries quickly. The sharp point of the bill, and the cutting edge of the flukes, bite at the slightest pull.

Many owners carry a 15-pound "Yachtsman's" to throw over for those short daytime anchorings when lunch or a swim are in order. They have found the

holding power of this easily-handled light anchor is more than sufficient for such work—and, it comes up clean! This is the cleanest type of anchor of all to handle.

The key is chained to a loose ring sliding on the stock of all "Yachtsman's" up to and including 150 pounds. Thus, the key is always "right side up, can't be lost," and easily inserted in an instant. In addition, all "Yachtsman's" are provided with a boat snap in the far end of the key to hold it in the anchor when in use.

**Suggested weights of "Yachtsman's" Anchors for use on small yachts and commercial boats**

Overall Boat Length Feet	1st Anchor Lbs.	2nd Anchor Lbs.	Stern Anchor Lbs.
25	25	50	15
30	35	60	15
40	42	75	25
50	50	100	25

**IMPROVED**

**"SEA-CLAW" ANCHORS**

Galvanized Gray Iron Head  
Steel Shank and Stock

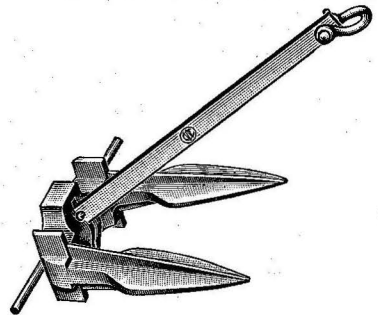


Fig. 2013

Size Lbs.	Galv. Each	Length Overall Inches
5	\$4.25	14
10	6.00	15
25	13.50	27 3/4
30	15.00	29 3/4
40	20.00	32
50	24.00	34 1/4

A compact, flat stowing Anchor of modern design, giving excellent holding power with moderate weight. Stock inserted in shank behind head prevents rolling over, and provides great dragging resistance. This combined with scientific fluke shape and angle makes for quick digging in. Will not clog up between flukes.

**SOME COMMON SENSE ON ANCHORS:** Light anchors develop amazing holding power per pound of weight, but no one anchor can be designed to hold, irrespective of weight, in all kinds of bottom, or with all types and sizes of boats. And, no anchor is so effective that one can carelessly throw it over and forget about it.

Although properly designed light anchors hold better (in proportion) than common heavy ones, they generally need more scope to dig them in. Once set, the scope can often be shortened up.

Characteristics of boats which affect holding power of anchors are: first, windage; second, total weight; and, finally, shape of hull (whether shallow or deep, etc.). Generally speaking, anchors should be selected by bulk of boat, rather than length overall.

**MUSHROOM ANCHORS**

Gray Iron Bowl — Steel Shank

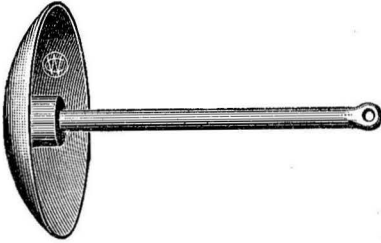


Fig. 207

A shank cast into the bowl of a Mushroom Anchor may pull out.

The tapered countersunk hole in this bowl, plus the flared-ended shank, securely riveted, eliminates all possibility of the shank pulling out. A "Dependable" mooring anchor.

Mushroom Anchors in 5, 8, 10 and 15 pounds are furnished with mud holes.

Size Pounds	Self-Colored Each	Galv. Each	Eye Takes Shackle Inches	Size Pounds	Self-Colored Each	Eye Takes Shackle Inches
5	\$2.10	\$2.40	..	125	\$31.00	3/4
8	3.00	3.40	..	150	37.50	3/4
10	3.30	3.85	..	200	50.00	7/8
15	4.40	5.25	..	250	58.00	7/8
20	5.30	...	..	300	68.00	1
25	6.10	...	..	400	90.00	1 1/8
50	12.00	...	1/2	500	110.00	1 1/4
75	16.50	...	1/2			
100	22.00	...	3/4			

Mushroom Anchors up to 25 lbs. inclusive are equipped with rings. 50 lbs. and larger have eye in shank for a shackle as listed. Shackle not included.

Suggested Weights of Mushroom Anchors for permanent moorings in an average depth of water of 30 feet.

Length Overall Feet	Weight Anchor in Lbs.		
	For Motorboats	For Racing Sailboats	For Cruising Sailboats
25	250	125	200
35	300	200	250
45	400	300	400
55	500	400	600

The most satisfactory mooring equipment constitutes a heavy length of chain shackled to the mushroom, coupled with a length of lighter chain shackled to the end of the heavy chain, terminating in a stout manila or stainless steel rode for a pennant. As a rough rule, the heavy chain, light chain and pennant each compose a third of the total length. The larger the boat, however, the longer the heavy chain should be.

**CHAIN AND SHACKLE DATA**

Size Chain Inches	Takes Shackle Inches	Pin Diam. Inches	Size Chain Inches	Takes Shackle Inches	Pin Diam. Inches
3/16	5/16	3/8	5/8	3/4	7/8
1/4	3/8	7/16	3/4	7/8	1
5/16	3/8	7/16	7/8	1 1/8	1 1/4
3/8	1/2	5/8	1	1 1/4	1 3/8
1/2	5/8	3/4			

**NAVY ANCHORS**

Galvanized Gray Iron Head Drop Forged Steel Shank

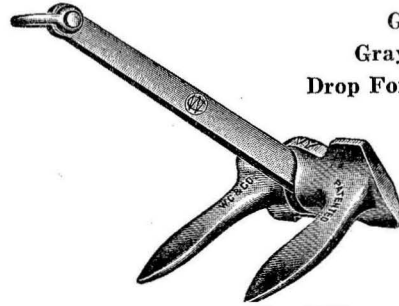


Fig. 2050

Size Lbs.	Each	Length Overall Inches	Size Lbs.	Each	Length Overall Inches
5	\$3.00	12	50	\$21.25	25
10	4.85	13	60	24.75	27
15	6.60	16	80	36.25	28
20	8.20	18	100	48.00	30
25	10.60	19	125	58.00	32
30	13.25	21	150	67.00	35
35	15.00	21	200	87.00	40
40	17.00	22			

**FISHERMAN'S ANCHORS**

Gray Iron

Size Pounds	Galv. Each	Self-Colored Each
8	\$2.75	\$2.00
12	3.85	2.75
16	4.85	3.60

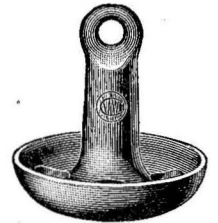


Fig. 2071

This anchor is made especially for use on small open boats.

**GRAPNELS**

Galvanized Drop Forged Steel

Size Lbs.	Each	Height Inches	Spread of Prongs Inches
4	\$5.00	14 1/2	10 1/2
7	6.00	20 1/2	13 1/2
10	6.60	24 1/2	15 1/2
15	8.50	25	16
20	13.25	29 1/2	18

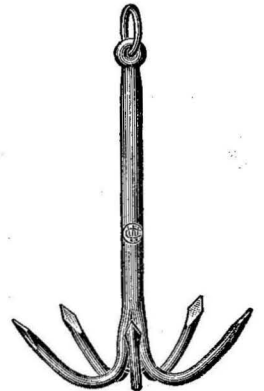


Fig. 206

**GRAPPLING IRONS**

Galvanized Drop Forged Steel

Weight Lbs.	Height Inches	Each
1 1/2	7	\$4.10

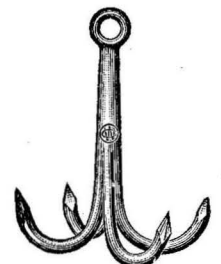


Fig. 2060

**ANCHOR TRIP HOOKS**

Plain Bronze

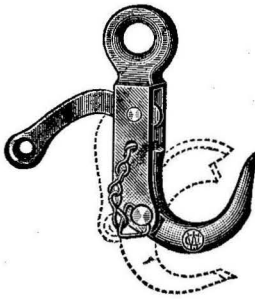


Fig. 265

No.	For Size Block Inches	Each	Weight Each in Lbs.
1	3½	\$6.00	7/8
2	4	7.00	1¼

**ANCHOR KEYS**

Galvanized Drop Forged Steel



Fig. 2000

Size No.	Each	Dimensions Inches	For Anchors Lbs.
1	\$0.20	1 5/8 x 7/16 x 3/32	5
2	.25	2 1/2 x 5/8 x 1/8	10 to 15
3	.30	3 1/2 x 7/8 x 1/8	20 to 42
4	.40	4 3/8 x 1 1/8 x 3/16	50 to 150
5	1.25	8 x 2 1/8 x 1/4	200 and up

Boat Snaps can be used with these Keys to eliminate messy lashings. Also, sizes 3, 4 and 5 will take 3/8-inch Shackle, Fig. 290, if desired.

**ANCHOR BALANCING BANDS**

Galvanized Steel



Fig. 2004

Use with Anchor Trip Hook, Fig. 265.

Size No.	Each	For Anchors Lbs.	I. D. Ring Inches	Weight Each in Lbs.
0	\$2.70	35 to 60	2	7/8
1	3.85	75 to 125	2	1
2	5.30	150 to 200	2½	1½
3	6.50	250	2¾	2½

For use on Anchor Shank at center of gravity to aid in handling. Particularly suited to Fig. 2002.

**MOORING BITTS**

Galvanized Gray Iron or Cast Bronze

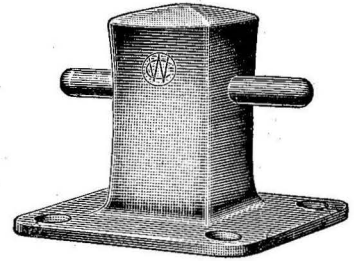


Fig. 4190

Size No.	Galv. Each	Pol. Bronze Each	Chrom. Plated Each
0	\$1.65	\$4.00	\$5.75
1	2.65	5.50	7.25
2	5.50	11.00	14.00
3	7.25	17.00	20.00

Size No.	Height Inches	Size Base Inches	Drilled for Diam. Bolt Inches	Weight Each in Lbs.
0	2½	3 x 3	3/16	¾
1	3½	4¼ x 4¼	¼	2
2	5½	6 x 6	5/16	5¾
3	6½	7 x 7	¾	8¾

**RIDING BITTS**

Galvanized Gray Iron or Cast Bronze



Fig. 419

Size No.	Galv. Each	Pol. Bronze Each	Chrom. Plated Each
1	\$5.10	\$12.50	\$17.50
1½	9.30	17.50	22.50
2	12.75	28.50	35.00

Size No.	Height Inches	Overall Width Inches	Size Base Inches	Drilled for Diam. Bolt Inches	Weight Each in Lbs.
1	7	6½	4½ x 6	3/8	9
1½	8¾	8½	5 x 6	½	13
2	10	10	6¾ x 8¾	5/8	25

**ANCHOR LIFT LEADERS**

Galvanized Malleable Iron or Brass



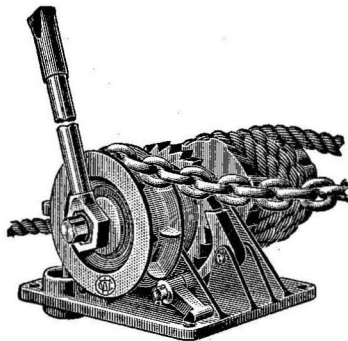
Fig. 2011

Galv. Each	For Plain Brass Each	Diam. Rope Inches	Size Sheave Inches	Length Bracket Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$1.35	\$1.35	¾	2 x ½	4½	14	1¼

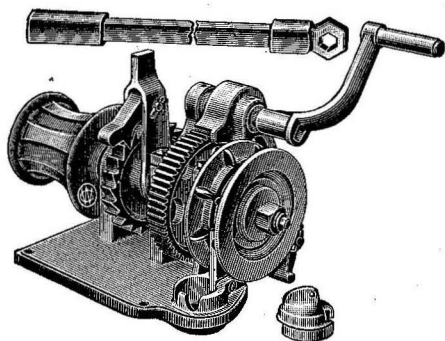
Very convenient when fishing in small open boats, for raising and dropping anchor without going forward. Just the thing for a Fig. 2071 8-lb. anchor.

**"LITTLE GIANT" WINDLASSES**

Galvanized Iron



"Regular"  
Fig. 5741



"Two-Speed"  
Fig. 5742

BBB Chain must be used.

Fig.	Each	Height Inches	Width Inches	Base Inches	Drilled for Diam. Bolts Inches	Length of Lever Inches	Weight Each in Lbs.
5741	\$75.00	7	12½	10½ x 8½	¾	27	46
5742	130.00	9	15½	11¼ x 10½	¾	27	67

Chain Wildcats can be furnished for ¼, ⅓, or ½ in. diameter BBB Chain. Be sure to specify.

"Little Giant" Windlasses are lightweight—simple—compact—practical! Require minimum installation space. They are recommended for all anchors up to 150 pound size, as they will readily lift a 250 pound load.

Ample width drum for rope and wildcat for BBB chain. Long husky lever makes breaking out and heaving easy. A brake on the wildcat controls the outrun. This same brake, operated by the heaving lever, also locks wildcat to shaft when you want to heave in. A locking dog prevents wildcat running free while rope drum is working. A chain deck pipe, cast integral with the base, is supplied with proper cover. A guide tongue in chain pipe insures chain leaving wildcat freely.

Drum can be worked independently of wildcat. The improved "Two-Speed" "Little Giant," designed by yacht designer John G. Hanna, has the additional geared hand crank feature. Hauls in chain quickly and easily—gear ratio 3 to 1. It's the welcome answer to the windlass problem!

Guards (not shown) are fitted over the gear in the "Two-Speed" "Little Giant."

**"NAVY" WINDLASSES**

Galvanized Iron

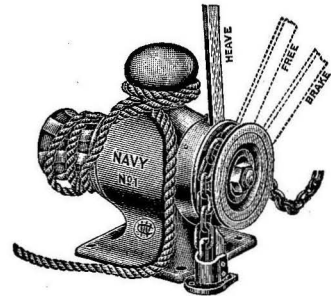


Fig. 5740

BBB Chain must be used. SPECIFY SIZE OF CHAIN.

Size No.	Each	Height Inches	Width Inches	Base Inches	Length of Lever Inches	Drilled for Diam. Bolts Inches	Weight Each in Lbs.
0	\$120.00	13	14 ⅝	8 ½ x 7 ⅝	27	½	80
1	140.00	16	18	10 ⅝ x 9 ¾	33	⅝	129

No. 0 Chain Wildcats can be furnished for ¼, ⅓, or ⅝ inch diameter BBB Chain.

No. 1 Chain Wildcats can be furnished for ⅓, ⅝, ⅞, or 1 inch diameter BBB Chain.

No. 0 is suitable for Anchors up to 100 pounds.

No. 1 is suitable for Anchors up to 200 pounds.

**CHAIN DECK PIPES**

Galvanized Gray Iron

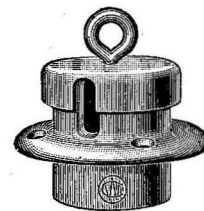


Fig. 671

Inside Diam. Inches	Covers Only		For Chain Inches	Diam. of Flange Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
	Galv. Each	Galv. Each				
2	\$3.25	\$2.90	¼	4 ¼	14	2 ¾
2 ½	4.85	3.65	⅜	4 ¾	16	4 ¼
3	5.70	4.40	½	5 ⅞	20	6

**ROPE DECK PIPES**

Galvanized Gray Iron or Brass

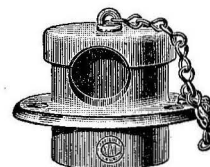


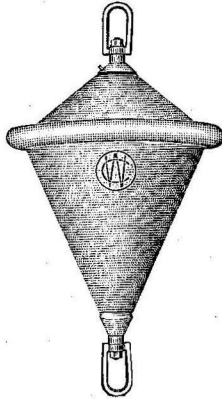
Fig. 672

Inside Diam. Inches	Galv. Each	Plain Brass Each	Pol. Brass Each	Chrom. Plated Each	For Rope Inches	Diam. Flange Inches	Weight Each in Lbs.
2	\$3.25	\$6.50	\$8.45	\$10.00	1	4 ¼	2 ¾
2 ½	4.85	8.10	10.40	12.00	1 ¼	4 ¾	4 ¼

2 inch size drilled for No. 14 Wood Screw; 2 ½ inch size for No. 16 Wood Screw.

**"EVER-FLOAT" MOORING BUOYS**

Galvanized Sheet Iron



With Shock-Absorbing Non-Scuffing Fender

Fig. 8580

Length Overall Inches	Each	Length Can Inches	Diam. Can Inches	Weight Each in Lbs.
39	\$42.00	28	18	19½

Equipped with full swivels at each end. Also handy drain plug.

For longer life and greater dependability we Hot Dip Galvanize these buoys inside and outside AFTER FABRICATION. This insures a double, extra-heavy Galvanized Finish to withstand the ravages of rust.

The ends of the "Ever-Float" Buoy are made of Heavy Cone Shaped Castings. In assembling, a 5/8-inch Buoy Rod is screwed completely through these End Castings. The halves of the Buoy are brought tightly together and then Double Seamed around the circumference and carefully soldered.

The Buoy Rod has large Swivel Bails which work easily, and prevent the Cable Chain from kinking. The Buoy is provided with an ample fender. A Drain Plug in the Cone Casting permits draining if condensation occurs, and drying out when taken up in the fall.

The "Ever-Float" has sufficient buoyancy to float at the level of the fender, when supporting 47 pounds of Mooring Chain clear off bottom.

**BUOY RODS**

Galvanized Drop Forged Steel



Fig. 862

Made with Fast Eye at one end and Swivel Loop at the other, and furnished with Top and Bottom Washers.

Length Under Eye Inches	Each	Diameter Inches	Weight Each in Lbs.
18	\$3.85	½	2¾
20	4.25	½	2¾
24	4.85	5/8	5¼
30	5.10	5/8	5¾

**PICK-UP BUOYS**

Galvanized Sheet Iron — Cone Top

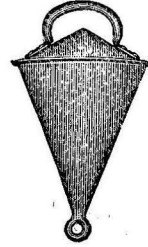


Fig. 861

Size No.	Each	*See Footnote Lbs.	Dimensions Height Inches	Can Diam. Inches	Weight Each in Lbs.
10	\$7.80	23	22	13	5
20	9.60	41	24	16	6½

\*Buoy will support this number of pounds when floating at normal level.

**SWORDFISH DARTS**

Plain Bronze

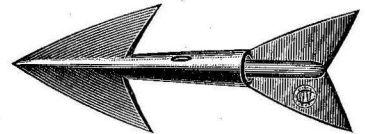


Fig. 681

\$6.60 Per Doz.

Length 5 inches. Packed 1 doz. per box. Weight per doz. pieces, 3¾ lbs. For use in connection with Dart Shanks, Fig. 682.

**FISH GAFFS**

Stainless Steel



Fig. 691

Overall Length Inches	Each	Diam. Stock Inches	Weight Each in Lbs.
15½	\$3.50	¾	7/8

**DART SHANKS**

Steel and Bronze



Fig. 682

\$2.25 Each

With Steel Shanks and Bronze Sockets. Length overall, 24 inches. Weight each, 1½ lbs.

**NON-FOULING JIB SNAPS**

Plain Bronze  
"Into" Pattern

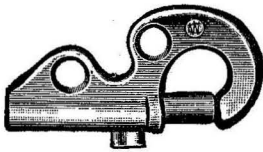


Fig. 253

Size No.	Each	Packed Dozen Per Box	For Diam. Stays Inches	Wt. Per Doz. in Lbs.
0	\$0.65	2	1/8	3/4
1	.80	2	3/16 or 1/4	1 1/8
2	1.00	1	5/16	1 1/2
3	1.35	1	7/16	2 1/4

These Jib Snaps are positive and will work quickly. Practically impossible to foul. No. 0 size is made with end pull; all other sizes with side pull, as illustrated.

**BOAT SNAPS**

Galvanized Malleable Iron or Bronze  
Fast Eye Swivel Eye

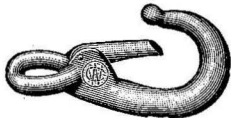


Fig. 249



Fig. 251

Dimensions are: 1st, Inside diameter of eye; 2nd, Extreme length; 3rd, Diameter of rope, wire, ring, etc., which hook can swallow.

Fast Eye — Fig. 249

Size No.	Galv. Each	Plain Bronze Each	Pol. Bronze Each	Packed Dozen Per Box	Dimensions Inches	Weight Per 100 in Lbs.
0	\$0.45	\$0.50	\$0.85	1	3/8 x 2 x 1/4	5
1	.55	.60	.95	1	5/8 x 2 3/4 x 5/16	10
2	.60	.70	1.20	1	3/4 x 3 1/4 x 3/8	18 1/8
3	.70	.95	1.50	1	3/4 x 3 7/8 x 1/2	26 1/4
4	.90	...	...	1	1 x 4 1/8 x 5/8	27 1/2
5	1.20	...	...	1	1 1/8 x 4 7/8 x 3/4	43 3/4

Swivel Eye — Fig. 251

Size No.	Plain Bronze Each	Pol. Bronze Each	Packed Dozen Per Box	Dimensions Inches	Weight Per 100 in Lbs.
1	\$0.80	\$1.20	1	5/16 x 3 1/4 x 5/16	11 1/4
2	.95	1.35	1	1/16 x 3 3/4 x 3/8	16 3/4
3	1.20	1.90	1	3/4 x 4 1/2 x 1/2	32 1/2
4	1.45	...	1	1 1/8 x 4 7/8 x 5/8	37 1/2
5	1.75	...	1	1 1/16 x 5 3/4 x 3/4	60

**OLD STYLE JIB SNAPS**

Plain Bronze

Dimensions: 1st — Extreme Length. 2nd — Diameter Stay.



Fig. 250

Size No.	Each	Dimensions Inches	Weight Per 100 in Lbs.
0	\$0.45	1 5/8 x 1/4	6
1	.50	2 x 5/16	10
2	.65	2 3/8 x 3/8	12 1/2
3	.70	2 3/4 x 1/2	21

**MAST TRACK AND SAIL SLIDES**

Nickel Silver or Brass



Slide  
Fig. 1202

Track  
Fig. 120

Size for Track Inches	Slides		Track			
	Nickel Silver Each	Weight Per 100 in Lbs.	Size Width Inches	Nickel Silver Per Ft.	Brass Per Foot	Weight 100 Feet in Lbs.
5/8	\$0.07	2 1/4	5/8	\$0.25	\$0.18	14 1/2
7/8	.12	2 3/4	7/8	.38	...	23

Standard stock length of track is 10 ft.

**ADJUSTABLE SAIL TRACK STOPS**

Plain Cast Bronze



Fig. 8241

Each	Length Inches	Weight Each in Lbs.
\$0.80*	1 3/4	1/8

For 5/8-inch Sail Track. Just the thing to have at the bottom of the track to keep slides on. Quickly slipped on or off.

\*Track not furnished.

**"BADGER" SAIL SLIDE CLIPS**

Nickel Silver

Provide a neat and quick means of attaching sail slides to a sail. Clip goes through the eye strap of slide; the bolt-rope is laid in the clip. A hammer blow, or heavy squeeze with pliers, closes clip securely on the bolt-rope. "Badger" Clips will not tear a roped sail.



Fig. 1203

Packed 50 pieces per box.

\$0.10 Each

**"BADGER" JIB SLIDES**

Nickel Silver

Fig. 1204

\$0.25 Each



For Wire Stays of 3/2 and 1/8 inch diameter. Wt. 1 1/2 lbs. per 100 pcs. Packed 50 pcs. per box.

Jib may be carried closer to the stay with these slides than with any other method of attachment.

We recommend attaching these Slides to the sail with "Badger" Clips, Fig. 1203, although they may be sewed on if desired. No springs — no snaps — no catches. A twist of the wrist and the "Badger" Slide is on, or off. May be used with complete confidence.

**RATCHET WINCHES**

Polished Bronze  
Top Action — For Rope or Wire

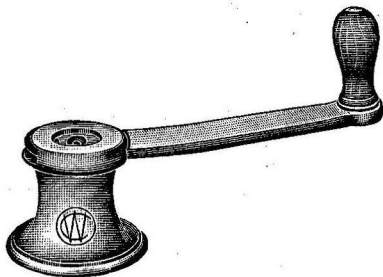


Fig. 884

Size No.	Complete Each	Handles Only Each	For Diam. Rope Inches	Weight Each in Lbs.
1	\$22.00	\$4.95	3/8	3
2	30.80	6.05	1/2	6
3	49.50	9.35	5/8	12

Size No.	Smallest Diam. Drum Inches	Height Inches	Diam. Base Inches	Size Screws	Radius Handle Inches
1	1 3/4	2 3/4	3 1/2	12	7 3/4
2	2 1/4	3	4 1/4	14	10
3	3	4 1/2	5 3/4	18	12 1/2

New improved ratchet action. Makes closer set possible. Quiet. Double ratchet makes short stroke pump-action of handle practical. Power ratio 8 to 1. Snap action ratchet holds handle securely, but permits quick, easy removal.

Top action type, Fig. 884, is for general use, and particularly well suited for halliards and sheets.

Bottom action type, Fig. 885, is recommended for backstays and jib sheets. Lines may be thrown on and off drum without fouling handle.

Bottom Action — For Rope or Wire

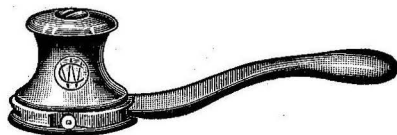


Fig. 885

Size No.	Complete Each	Handles Only Each	For Diam. Rope Inches	Weight Each in Lbs.
1	\$29.70	\$4.95	3/8	4 1/2
2	38.50	6.05	1/2	7 1/2
3	61.60	9.35	5/8	15

Size No.	Smallest Diam. Drum Inches	Height Inches	Diam. Base Inches	Size Screws	Radius Handle Inches
1	1 3/4	3 1/2	3 3/4	12	8 1/2
2	2 1/4	4	4 1/2	16	11 1/2
3	3	5	6	18	14

**SHEET SNUBBING WINCHES**

Polished Bronze  
One Way Action — Improved Drum



Fig. 886

Pol. Bronze Each	Chrom. Plated Each	For Diam. Rope Inches	Height Inches	Diam. Base Inches	Drilled For Wood Screw No.	Weight Each in Lbs.
\$6.00	\$9.00	up to 3/8	2 1/8	2 1/8	10	1

Makes sheet handling easy. Marvelous for jib sheets on all popular small racing boats. Just take a turn or two around the new improved drum, designed to prevent over-riding turns. Pull in as you wish, the drum winds freely with you — but will not run back. Sheets are easily, securely snubbed. Slack off, and out she goes. Install on deck, centerboard trunk, or wherever you will.

**"WINDER" WINCHES**

Bronze  
One Way Action

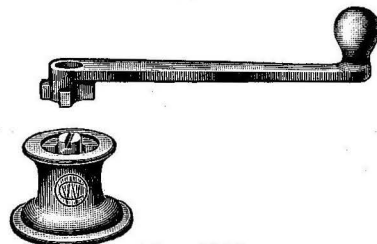


Fig. 8861

Size No.	Satin Finish Each	Diam. Base Inches	Diam. Drum Inches	Length Lever Inches	Weight Each in Lbs.
0	\$8.50	2 1/8	1 1/4	7 1/2	1 3/4
1	9.25	3 3/8	1 1/4	7 1/2	2 3/8

Drilled for No. 10 wood screws.

An inexpensive, handy and practical winch for small sail boats. The one-way action lever heaves strongly to get halliards and sheets taut. Without the lever, you have a capable snubbing winch.

**WINCH BRACKETS**

Plain Bronze

\$2.75 Each

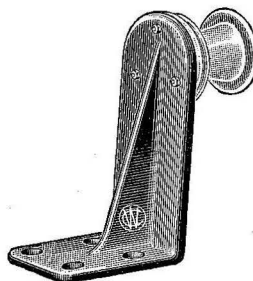


Fig. 8862

Size Base Inches	Overall Height Inches	Overall Width Inches	Wgt. Each in Lbs.
3 1/4 x 2 3/8	3 3/8	2 3/8	1

Base drilled for four 1/4-inch bolts. Three holes in top for attaching Snubbing Winch, Fig. 886, and "Winder" Winch, Fig. 8861, No. 0. Permits vertical or horizontal installation of your winch in the most convenient place.

**MASTHEAD SHEAVES**

Galvanized Iron or Plain Bronze

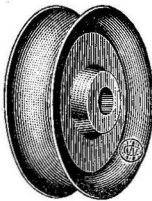


Fig. 849

Max. Diam. Rope Inches	Galv. Each	Plain Bronze Each	Overall Dimen. Inches	Diam. Bolt Hole Inches	Weight Each in Lbs.
3/8	\$0.35	\$0.65	2 x 1/2	3/8	1/6

**HALLIARD FAIRLEADERS**

Satin Finish Bronze

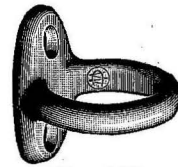


Fig. 995

Per Doz.	Packed Dozen Per Box	I. D. Eye Inches	Dim. Base Inches	Drilled for Wood Screw No.	Weight Per Doz. in Lbs.
\$8.40	1	1	7/8 x 1 1/8	10	1 1/2

A small fitting that can prevent much trouble. The eye is large enough to take a rope-to-wire splice in 5/8-inch rope! For use when hoops are not used. One or more of these Fairleaders on each halliard will prevent fouling aloft. Fairleader will prevent halliard from going aloft in a coil. Designed to hold halliards in toward mast, and yet prevent chafing on tangs.

**MASTHEAD SHEAVES**

Aluminum

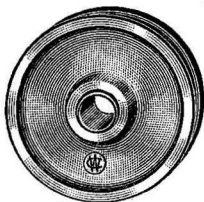


Fig. 8460

Maximum Diam. Rope Inches	Aluminum Each	Overall Dimen. Inches	Diam. Bolt Hole Inches	Weight Each in Oz.
3/8	\$0.95	1 3/4 x 7/8	1/4	1

Aluminum Sheaves have Oilless Bronze Bearings.

**THRU-DECK FAIRLEADERS**

Plain Bronze



Fig. 993

Size No.	Per Doz.	Packed Dozen Per Box	I. D. Hole Inches	Weight Per Doz. in Lbs.
1	\$4.80	1	3/8	3/8
2	6.00	1	1/2	3/4

Both sizes drilled for No. 6 F. H. Wood Screws. To be used in finishing hole when halliards are led below deck.

**HALLIARD MAST FAIRLEADERS**

Satin Finish Bronze



Fig. 9880

Each	Length Base Inches	Width Base Inches	I. D. Opening Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$0.75	2 1/8	3/4	1/2	10	1/8

This is a very popular fitting among small sail boat owners — for leading halliards from mast to deck cleats and as a deck fitting in place of a snatch block for spinnaker guys. Smooth Satin Finish — rounded surfaces — will not chafe rope. Also good hook for light wire halliards. Takes 3/16-inch stainless steel Wire Rope Thimble, Fig. 3231.

**MASTHEAD SHEAVES**

Cast Bronze

For Wire Halliards

Machined Score

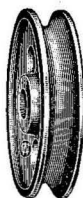
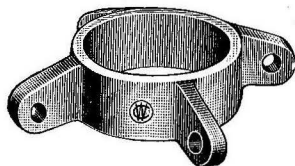


Fig. 845

For Diam. Rope Inches	Each	Overall Dimen. Inches	Diam. Bolt Hole Inches	Weight Each in Lbs.
1/8	\$1.35	2 3/8 x 1 1/2	3/8	1/8

**EYE BANDS**

Cast Manganese Bronze



4-Eye Fig. 6350

Inside Diam. Inches	Plain Bronze Each	Drilled Holes Inches	Approx. Weight Each in Lbs.
2	\$2.00	3/8	3/4
2 1/2	2.25	3/8	7/8
3	3.25	7/16	1 1/4
3 1/2	4.50	7/16	1 3/8
4	5.00	1/2	2 1/2

Holes are drilled, not cast.

**STEMHEAD PLATES**

Cast Manganese Bronze

With Stem Strap at 75° Angle

Ideal for small Sail Boats. Has towing eye and holes for both Jibstay and Headstay. Stem strap relieves deck beams of much strain. No. 1 takes 1/4-inch bronze Turnbuckle, No. 2 takes 3/8 or 1/2-inch bronze Turnbuckle.



Fig. 9893

Size No.	Plain Bronze Each	Pol. Bronze Each	Chrom. Plated Each	Dim. Deck Plate Inches		Dim. Stem Strap Inches		Drilled for Wood Screw No.	Weight Each in Lbs.
				L.	W.	L.	W.		
1	\$1.65	\$2.50	\$3.85	4	1 3/8	3 3/4	3/4	10	1/2
2	1.90	3.30	5.25	4 3/4	1 3/4	4	1 1/8	12	3/8

**HEADSTAY AND JIBSTAY PLATES**

Cast Bronze



Fig. 989

These Plates provide several settings for Jibstay, Tack Block, etc. Fit 1/4-inch and 3/8-inch bronze Turnbuckles.

Size No.	Plain Bronze Each	Length Base Inches	Width Base Inches	Diameter Adjusting Holes Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1	\$1.65	4 1/2	1 1/2	3/8	12	1/2

**FOOT ROPE PLATES**

Galvanized Drop Forged Steel



Fig. 631

Length Under Eye Inches	Each	Dim. Plate Inches	Diam. Stock in Eye Inches	I. D. for Eye Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
3	\$0.55	3/4 x 1/4	1/4	1/2	12	3/16
4	.65	3/4 x 1/4	1/4	3/8	12	1/4
5	.75	7/8 x 3/16	3/16	3/4	14	3/8
6	.95	1 x 3/16	3/8	7/8	14	5/8
8	1.25	1 1/4 x 3/16	3/8	1	16	1
10	1.85	1 1/2 x 3/8	7/16	1 1/8	16	1 1/2

**CHAIN PLATES**

Galvanized Drop Forged Steel



Fig. 628

Length Under Eye Inches	Each	Dim. Plate Inches	Diam. Stock in Eye Inches	I. D. for Eye Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
4	\$0.45	7/8 x 3/16	1/4	3/8	12	1/4
6	.55	1 x 1/4	1/4	3/4	12	1/2
8	.70	1 1/8 x 1/4	3/8	13/16	14	3/4
10	1.50	1 1/4 x 1/4	3/8	15/16	16	1
12	1.65	1 1/4 x 1/4	3/8	15/16	18	1 1/8
14	2.00	1 1/2 x 3/16	1/2	1	24	2
18	2.90	1 3/8 x 3/16	1/2	1 1/4	24	3

**CHAIN PLATES**

Cast Manganese Bronze

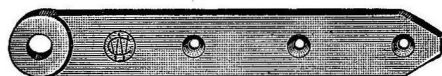


Fig. 629

Length Under Eye Inches	Plain Bronze Each	For Turnbuckle Inches	Dim. Plate Inches	For Pin Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
4	\$0.50	1/4	3/4 x 1/8	3/16	10	1/8
5	.60	3/8	1 x 1/8	3/16	10	1/4
6	.70	3/8 & 1/16	1 x 3/8	3/16	10	3/8
8	1.20	1/2	1 1/4 x 3/8	1/2	12	3/4
10	1.90	5/8	1 1/2 x 1/4	5/8	14	1 3/8

Recommended for use with Drop Forged Bronze Rigging Turnbuckles, Fig. 3162.

**CHAIN PLATES**

Rolled Bronze



Fig. 630

Overall Length Inches	Each	Dim. Plate Inches	Diam. Pin Hole Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
7	\$0.55	1 x 3/8	3/16	10	1/4
10 1/2	.85	1 x 3/8	3/16	10	3/8

**FINISHING PLATES**

Bronze

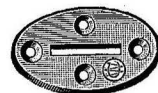


Fig. 6301

Plain Bronze — \$0.40 Each  
Pol. Bronze — .55 Each

To be used where Chain Plates are led through deck. Prevent wear and give neat finish. Will fit Chain Plates, Figs. 629 and 630, up to 1 inch wide.

Dimensions, 1 1/8 x 2 1/8 inches. Weight, 1/8 lb. each. Drilled for No. 8 Wood Screws.

**FIXED SPREADER FITTINGS**

Cast Bronze

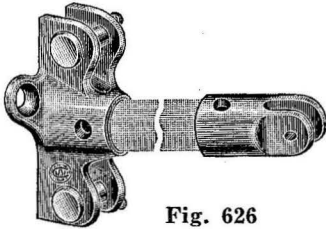


Fig. 626

Set	Mast Plate Each	Spreader Tip Each	Width Tang Inches	Diam. Jaw Pin Inches	Weight Set In Lbs.
\$2.50	\$2.00	\$0.60	3/8	1/4	1/2

An ideal lightweight fitting for diamond rigs or jumper-strut-lower-side-stay combinations for "Lightnings" and similar boats. Spreader lift is 5°. Set consists of one mast plate and one spreader tip to fit outside of 5/8-inch diameter tubing, not furnished. Mast plate drilled for 1/4-inch diameter thru-mast bolt, and two No. 10 F.H. Wood Screws.

**VEE STRUT FITTINGS**

Plain Manganese Bronze

For "Lightning" and similar Class Boats

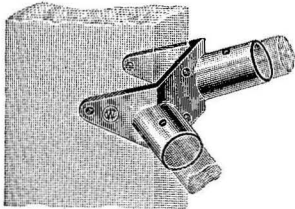


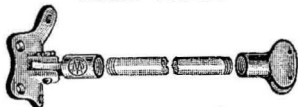
Fig. 627

Size No.	Each	For Width Mast Inches	Drilled for R. H. Screw No.	Weight Each in Lbs.
1	\$3.00	1 3/4	12	7/8

The proper fitting (as shown in Lightning Class plans) for double jumper strut. 76 degree spread of arms. Sockets drilled for 3/16-inch rivets, and take 5/8-inch O. D. tubing (not supplied). Side straps are 2 1/4-inch inside length.

**SPREADER FITTINGS**

Plain Bronze



With Curved Mast Plate Fig. 623      With Flat Mast Plate Fig. 624

Fig. No.	Set	Length Plate Inches	Width Plate Inches	For Diam. Mast Inches	Drilled for Wood Screw No.	Weight Set in Lbs.
623	\$2.25	2 1/8	1 7/8	2-2 1/4	8	1 1/2
624	2.25	2 1/4	1 3/4	....	8	1 1/2

A set consists of 1 Mast Plate with Socket and 1 Tip.

With this set any length spreader or strut may be quickly made. 1/4-inch brass pipe is cut the desired length—sockets on fittings are threaded to secure it. Jaw Tips are wide enough for 3/16-inch stays. Offset Tang (15° angle) acts as shoulder cleat or fastening for secondary stays.

**MAST TANGS**

Cast Manganese Bronze



Fig. 9896

Size No.	Plain Bronze Each	Length Inches	Width Inches	Diam. Eye Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
0	\$0.75	3 3/8	3/4	1/4	8	1/8

For light upper rigging, diamond stays, etc. 3/32-inch tang. Drilled for 1/4-inch mast rivet, as well as No. 8 Wood Screws.

**MAST TANGS**

Cast Manganese Bronze



Fig. 9892

Size No.	Plain Bronze Each	For Diam. Wire Rope Inches	Length Inches	Width Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
0	\$0.80	1/8	3 1/2	3/4	8	1/8
1	1.00	3/32	4 1/4	1 1/4	10	1/4
2	1.50	3/16	5	1 3/8	12	1/2

Lower hole drilled for 1/4-inch diameter thru-bolt in sizes Nos. 0 and 1. No. 2 size takes 3/8-inch bolt. For small sailboats. These tangs afford the neatest and most simple method of attaching shrouds and stays to the mast.

**BACKSTAY LEVERS**

Plain Cast Bronze

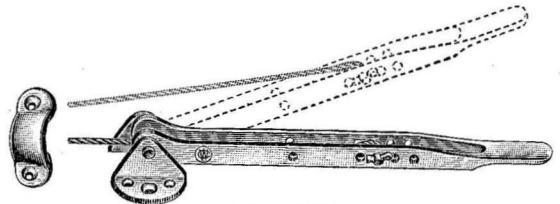


Fig. 9891

Size No.	Complete Pair	Levers Each	Angle Plates Each	Leaders Each	Pin With Cotter Each
1	\$10.00	\$3.00	\$0.65	\$0.40	\$0.30

Size No.	Length Inches	For Diam. Wire Rope Inches	Drilled for Wood Screw Nos.	Weight Pair in Lbs.
1	12 1/2	1/8	6 & 14	2 3/4

Designed to make the release or setting up of runner backstays quick and simple on small boats. Maximum throw, 13 inches.

A set consists of one pair of fittings with two special fairleaders as illustrated, for single part backstay.

**CENTERBOARD OR THRU-DECK  
BLOCKS**

Bronze

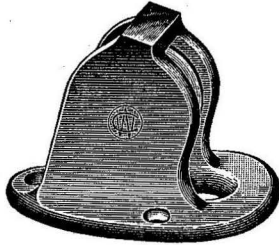


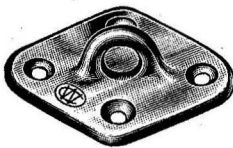
Fig. 991

Size No.	Plain Bronze Each	Satin Finish Each	For Diam. Rope Inches	Size Sheave Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1	\$1.50	\$2.00	5/16	1 1/4 x 7/16	8	1/2

The rope hole in the base permits this block to be set on the centerboard trunk, and gives a direct lead to the board. Also practical when halliards are led below the deck. Install this block under the deck and lead halliard through the hole in base. Use Thru-Deck Fairleaders, Fig. 993, for finishing top side of deck hole.

**PAD EYES**

Manganese Bronze  
Plain Finish Only



Single — Fig. 901

Size No.	Each	Plate Size Inches	Diam. Stock in Eye Inches	I. D. Hole Inches	Drilled for Diam. Bolts Inches	Weight Each Ounces
1	\$0.90	3 1/4 x 2 1/4	1 1/32	9/16	1/4	5
2	1.50	4 x 2 1/2	3/8	15/16	1/4	9

No. 1 Single will take 1/4-inch Bronze Screw Shackles, or other similar fitting.

No. 2 Single takes up to No. 3 Fig. 289 Snap Shackle.



Double — Fig. 902

Size No.	Each	Plate Size Inches	Diam. Stock in Eye Inches	I. D. Hole Inches	Drilled for Diam. Bolts Inches	Weight Each Ounces
1	\$1.10	3 1/2 x 2 1/4	3/8	1/2 x 7/8	1/4	6
2	2.00	5 x 3 1/8	7/16	7/8 x 1 1/2	3/8	16

No. 1 Double takes up to No. 2 Fig. 289 Snap Shackle.

No. 2 Double takes all heavy Fast and Swivel Snap Shackles.

**CENTERBOARD BLOCKS**

Galvanized Gray Iron or Brass

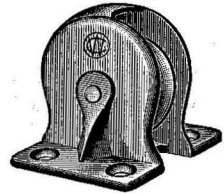


Fig. 390

Size No.	Galv. Each	Plain Brass Each	For Diam. Rope Inches	Size Sheave Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1	\$1.00	\$1.80	3/8	1 1/2 x 1/2	12	3/4
2	1.80	....	1/2	2 x 5/8	12	1 1/4

**SHEET TRAVELERS**

Plain Brass

For "Snipe" or other Sailboats

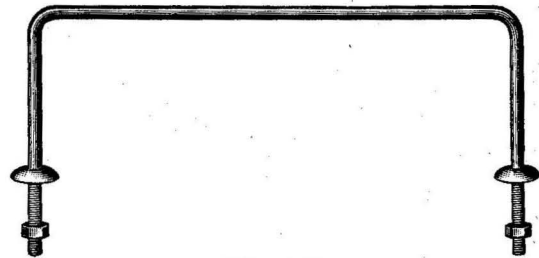


Fig. 647

Size Inches	Each	Weight Each in Lbs.
3/8 x 18	\$2.50	1 1/2

Height above deck 6 inches.

**YACHT BELAYING PINS**

Galvanized Malleable Iron



Fig. 521

Diam. of Shank Inches	Galv. Each	Length of Head Inches	Overall Length Inches	Weight Each in Lbs.
3/8	\$0.75	3 1/8	8	3/8
1/2	1.20	3 5/8	9 1/2	3/4
5/8	1.50	3 3/8	10	1 1/8
3/4	1.80	4 5/8	11 1/2	1 3/8

**CENTERBOARD  
HOISTING STRAPS**

Galvanized Steel



Fig. 467

Each	Diam. Hole Inches	Overall Length Inches	Width Straps Inches	Between Straps Inches	Weight Each in Lbs.
\$0.45	3/8	2 1/2	5/8	3/8	1/8

**"FITS-ALL" GOOSENECKS**

Cast Manganese Bronze

Sliding Adjustable Type

Fixed Type

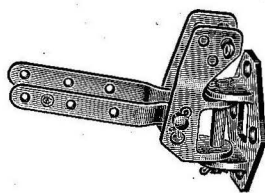
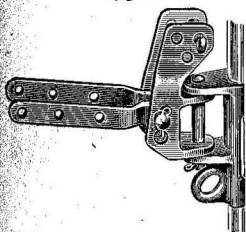


Fig. 6483

Fig. 6484

**The Universal Small Boat Gooseneck**

Fig. No.	Complete Each	Complete Mast Track Each	For Mast Track Inches	For Boom Thickness Inches	Length Inside Straps	Weight Each in Lbs.
6483	\$4.25	.....	5/8	3/4 or 7/8	4 3/4	3/4
6484	.....	\$3.50	..	3/4 or 7/8	4 3/4	3/4

A fully adjustable, properly designed gooseneck for all small class boats. Boom straps adjustable for from 5/8 inch to 1 1/4 inch (at minimum taper) booms. Three tack positions—two boom positions—to fit any sail. Eye for downhaul cast on sliding type. Fixed type uses 1 3/4 inch x 3 3/4 inch Mast Plate drilled for four No. 10 wood screws.

**LIGHTWEIGHT GOOSENECKS**

Plain Bronze

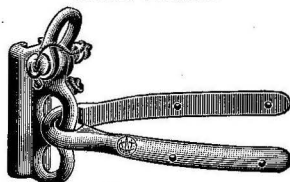


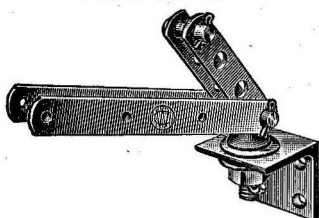
Fig. 6481

Plain Bronze Each	For Mast Track Inches	For Boom Max. Diam. Inches	Length Inside Boom Straps Inches	Weight Each in Lbs.
\$3.00	5/8	1 1/2	3 1/2	1/2

Sliding type. Straps can be adjusted to booms smaller than 1 1/2 inch diameter. Furnished without track. Strong, light and neat.

**"SNIPE" TYPE GOOSENECKS**

Plain Bronze



Flat Mast Plate

Fig. 6430

Plain Bronze Each	Width Between Boom Straps Inches	Weight Each in Lbs.
\$3.00	3/4	7/8

This gooseneck was originally designed for "Snipe" Class Sailboats. Is a good rugged type of fixed fitting for any small boat. Straps not adjustable.

**STANDARD SLIDING GOOSENECKS**

Plain Cast Bronze

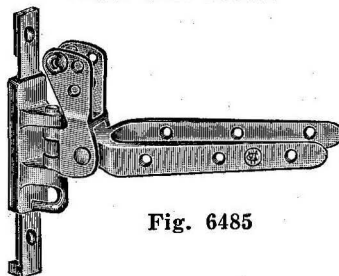


Fig. 6485

Each	Width Between Boom Straps Inches	Length Inside Boom Straps Inches	Weight Each in Lbs.
\$12.00	1 1/2	6	3 1/2

For mainsails up to 250 square feet. Slides on 18 inches of heavy cast bronze 5/8-inch track, furnished with stop. Suitable for round or rectangular masts. Three tack pin settings. Boom Straps can be spread to larger boom, depending upon taper. Track drilled for No. 12 F. H. Wood Screws.

**"NATIONAL ONE DESIGN" GOOSENECKS**

Plain Bronze

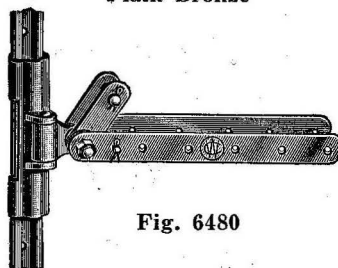


Fig. 6480

Size No.	Each	For Mast Track Inches	Width Between Boom Straps Inches	Length Inside Boom Straps Inches	Weight Each in Lbs.
1	\$4.00	5/8	3/4	6	3/4

This Gooseneck conforms to drawings of National One Design Class. Has pin for downhaul. No sail track furnished.

**BOOM TRAVELERS OR BAILS**

Plain Manganese Bronze

For T Booms

For Rectangular Booms



Fig. 6390 — No. 0



Fig. 6390 — No. 1

Size No.	Each	For Boom Size Inches	Weight Each in Lbs.
0	\$0.55	3/4-1	1/8
1	.65	1 3/4-2	3/8

Size No. 0, drilled for four No. 6 Wood Screws (will take 1/8" rivet stock). Size No. 1, drilled for one 3/8-inch diameter rivet and two No. 8 Wood Screws.

**SPINNAKER POLE FITTINGS**

Manganese Bronze

**"LIGHTNING" SET**

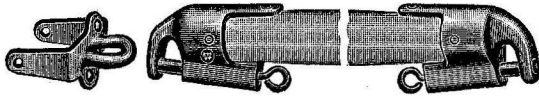


Fig. 6542

Complete Set	Pole Sockets Each	"Lightning" Mast Plate Each	Weight Set In Lbs.
\$6.75	\$2.75	\$1.75	1 1/8

The "Lightning" Set has been designed to provide a practical set of fittings which will permit fast action spinnaker control under racing conditions. The pole socket takes the regulation 1 1/8-inch diameter pole, and the one-piece mast plate is shaped for easy out secure attachment to the 2-inch wide "Lightning" mast.

**SPINNAKER POLE FITTINGS**

Manganese Bronze

**UNIVERSAL SET**

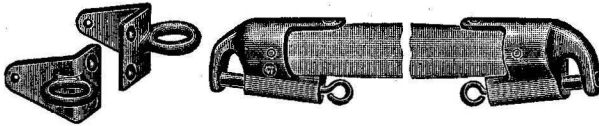


Fig. 6543

Complete Set	Pole Sockets Each	Universal Mast Plate 2 Pieces	Weight Set In Lbs.
\$7.75	\$2.75	\$2.50	1 1/8

The Universal Set is identical to Fig. 6542, except that the mast plate is in two pieces so it can be mounted on any width rectangular mast, making the set usable on all classes of small boats.

**IMPROVED "SEA-COOK" STOVES!**

The cleanest, hottest, quietest, most efficient cooker that ever you saw in a boat. See it on page 99.

**SPINNAKER POLE FITTINGS**

Manganese Bronze

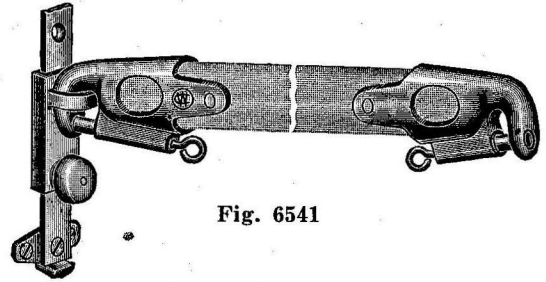


Fig. 6541

Complete Set	Pole Sockets Each	Eye Slide Each	30" Track With Pads and Stops	Weight Set in Lbs.
\$15.00	\$3.50	\$3.75	\$4.50	3

Double-ended, adjustable fittings for larger boats. The best set of pole fittings for handling and jibing parachute spinnakers. Designed for use with either rectangular or round masts. Slide adjustable with spring pin stops. Used with rings in clews of sail to take pole and guys. Set consists of two pole sockets, one eye slide, track with two end stops and one mast pad, plus track spacers. Pole socket is 1 1/4 inch inside diameter at mouth. Spring pin has eye so lanyard may be used (connecting both sockets if desired). 30 inches of mast track supplied — drilled for No. 10 Wood Screws.

**WHISKER POLE FITTINGS**

Bronze



Fig. 654

Size No.	Per Set	Weight Set in Lbs.
0	\$3.50	5/8

Light and quick to handle; for poling out jibs when running down wind. Set consists of 1 1/4 inch x 1 1/2 inch eye plate on mast, "pig-tail" socket for mast end of pole, and straight prong type socket which goes through clew grommet of jib. Hooks in fast, but can't come out by itself. Sockets fit 1-inch pole, or 1 1/8-inch pole if let in flush. Plate drilled for No. 8 wood screws.

**SNAP SHACKLES**

Cast Bronze  
Headboard Type

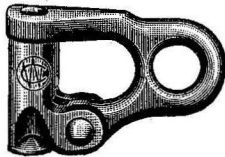


Fig. 287

Size No.	Plain Bronze Each	I. D. Eye Inches	Length Inside Inches	Width Inside Inches	Diam. Hinged Pin Housing Inches	Weight Each in Oz.
1	\$3.25	1/2	7/8	5/8	1/2	3
2	4.00	3/4	1	13/16	5/8	6

Fast Eye Type



Fig. 289

Size No.	Plain Bronze Each	For Diam. Rope Inches	I. D. Eye Inches	Length Inside Inches	Width Inside Inches	Weight Each in Oz.
0	\$2.75	1/4	3/8	1/2	5/8	2
1	3.00	5/16-3/8	1/2	3/4	11/16	4
2	3.75	7/16-1/2	5/8	13/16	13/16	7

Swivel Eye Type



Fig. 288

For Spinnaker Halliards

Size No.	Plain Bronze Each	For Diam. Rope Inches	I. D. Eye Inches	Length Inside Inches	Width Inside Inches	Weight Each in Oz.
0	\$4.25	1/4	3/16	11/16	3/8	3
1	5.00	5/16-3/8	5/8	3/4	11/16	6
2	5.75	7/16-1/2	13/16	1 1/4	1	8

**HALLIARD SHACKLES**

Cast Manganese Bronze

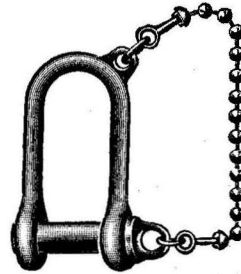


Fig. 2870

Plain Each	Pin Diam. Inches	Length Inside Inches	Weight Each in Lbs.
\$1.50	5/16	1 5/8	1/4

Strong, light halliard shackle — space inside for any headboard that is suitable. "No-lose" pin with light chain that can't tangle. Most practical design you can find anywhere!

**SNAP LEADERS**

Cast Manganese Bronze  
For Sheets and Halliards

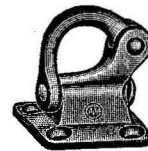


Fig. 284

Size No.	Plain Each	Dimensions Base Inches	Overall Height Inches	Weight Each in Lbs.
0	\$3.25	1 1/2 x 1 1/2	1 1/2	1/2

This Snap Shackle on Plate is useful for jib sheet leaders, light spinnaker after guys, for small removable blocks, or anywhere a latched fairlead is wanted. Takes 3/8-inch rope. Base drilled for four No. 8 Wood Screws.

**COLEMAN HOOKS**

Cast Manganese Bronze



Fig. 2560

Size Inches	Each	Thimble For Diam. Rope Inches	Weight Each in Lbs.
1/4	\$0.95	1/4	1/4
5/16	1.05	5/16	3/8
3/8	1.40	3/8	1/2
7/16	1.55	1/2	1/2
1/2	1.95	5/8	7/8
5/8	3.90	3/4	1 1/2

Diameters given are for manila rope. Wire rope style thimble provided as it allows neatest, most snug splice.

One of the best for sheets and halliards. Almost as fast as a snap but cannot shake loose.

**JIB RINGS**

Galvanized Forged Steel



Fig. 492

Dimensions: 1st — Diameter Stock. 2nd — Inside Diameter.

Size Inches	Per Dozen	Packed Dozen Per Box	Weight Per 100 in Lbs.
1/2 x 3	\$6.00	1	70
1/2 x 4	7.75	1	80
1/2 x 5	8.50	1	102
5/8 x 4	12.75	1/2	134
5/8 x 5	14.50	1/2	163

**CLEW OUTHAULS**

Plain Cast Bronze  
Snap Action Type

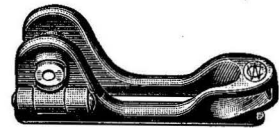


Fig. 980

Size No.	Each	Suitable Sail Area Square Feet	Fits Track Size Inches	Use Block Fig. 5800 Size No.	Weight Each in Lbs.
0	\$3.75	75	5/8	1 or 2	1/4
1	4.50	125	5/8	1 or 2	1/2
2	9.50	300	3/4	2	3/4

With Nos. 0 and 1, no track is included, but can be furnished at additional price. See Mast Track, Fig. 120. No. 2 supplied with 17 3/4 inches of heavy cast bronze track. Snap action bolt for clew of sail affords quick shifting — no loose pins to fuss with.

**GROMMET RINGS**

Galvanized Steel



Fig. 779

Inside Diam. Inches	Diam. Stock Inches	Per Gross	No. Gross Packed Per Box	Used with Eyelet Grommet Number	Weight Gross in Lbs.
1/2	1/8	\$2.75	1	2	1 1/4
5/8	1/8	4.85	1	3-4	1 1/2
3/4	5/32	5.40	1	5	3 1/8
7/8	5/32	6.00	1	...	3
1	3/16	8.50	1	6	4 1/8
1 1/8	3/16	9.35	1	7	5 1/2
1 1/4	7/32	10.00	1	8-9	7 3/4
1 1/2	1/4	12.00	1	10	12 1/8
1 3/4	5/32	16.50	1/2	...	17 3/4
2*	1/4	18.75	1/2	...	15 3/4
2*	5/16	20.00	1/2	11	24 1/4
2 1/4	5/16	23.75	1/2	15	26 1/2
2 1/2	3/8	30.00	1/4	15	42
3	3/8	35.00	1/4	...	50

\*Specify diameter stock when ordering.

**CLEW OUTHAULS**

Plain Cast Bronze

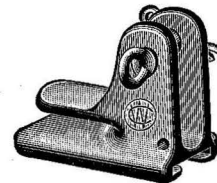


Fig. 9800

Size No.	Each	Suitable Sail Area Square Feet	Fits Track Size Inches	Use Block Fig. 5800 Size No.	Weight Each in Lbs.
0	\$1.75	75	5/8	1 or 2	1/4
1	3.25	175	5/8	1 or 2	5/8

These outhauls are suitable for all classes of small sailboats.

**LACING EYES**

Plain Brass



Fig. 585

Size No.	Per Doz.	Packed Dozen Per Box	Inside Diam. of Eye Inches	Length Under Shoulder Inches	Weight Per 100 in Lbs.
5	\$0.90	1	5/16	1	3 1/2
6	1.15	1	7/16	1	3 3/4
7	1.55	1	1/2	1	4 3/8
8	2.00	1	5/8	1 3/4	11

**OUTHHAUL CHEEK BLOCKS**

Plain Cast Bronze

For Rope

For Wire

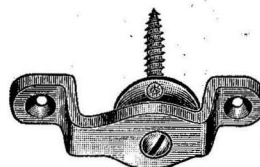


Fig. 5800 — No. 1

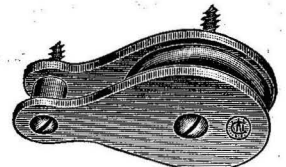


Fig. 5800 — No. 2

Size No.	Each	Size Sheave Inches	For Rope Type and Size	Weight Each in Lbs.
1	\$0.55	3/4 x 5/16	To 1/4" rope	1/4
2	.95	1 1/4 x 3/2	1/8" wire	1/8

See also Fig. 579.

For Outhaul Cleats See Fig. 408 Spar Cleats.

**YACHT BLOCK SHACKLES**

Cast Manganese Bronze

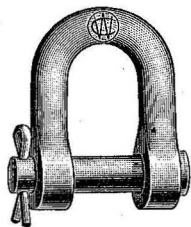


Fig. 985

Size Inches	Each	Plain Bronze Pins with Cotters Each	Weight Each in Lbs.
3/16	\$0.60	\$0.25	1/16
1/4	.70	.25	1/8
5/16	.80	.35	3/16
3/8	1.30	.40	1/4

Size Inches	Diam. Pin Inches	Length Pin Under Head Inches	Length Inside Inches	Width Inside Inches
3/16	3/16	1 1/16	5/8	3/8
1/4	1/4	1 3/16	13/16	1/2
5/16	5/16	1 7/16	7/8	5/8
3/8	3/8	1 7/8	1 1/4	3/4

**OPEN SHELL BLOCKS**

Plain Bronze  
For Manila Rope

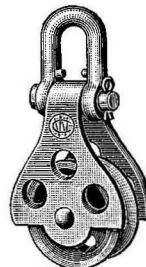


Fig. 952

Size No.	Each	For Diam. Rope Inches	Size Sheave Inches	Weight Each in Lbs.
0	\$1.75	1/4 - 5/16	1 1/8 x 7/16	3/16
1	2.50	3/8	1 3/8 x 1/2	5/16

With Becket  
For Manila Rope

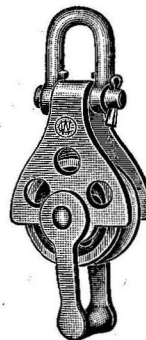


Fig. 952

Size No.	Each	For Diam. Rope Inches	Size Sheave Inches	Weight Each in Lbs.
0	\$2.50	1/4 - 5/16	1 1/8 x 7/16	1/4
1	3.25	3/8	1 3/8 x 1/2	3/8

**JIB HALLIARD BLOCKS**

Plain Cast Bronze

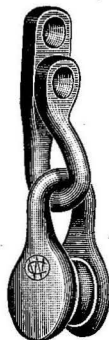


Fig. 954

Size No.	Each	For Diam. Rope Inches
0	\$1.60	1/4
1	2.00	5/16 - 3/8

Size No.	Size Sheave Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
0	3/4 x 7/16	10	1/4
1	7/8 x 7/16	10	3/16

**LIGHTWEIGHT OPEN SHELL BLOCKS**

Aluminum  
With Brass Bushed Bearings  
For Manila Rope

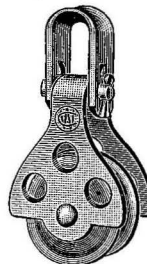


Fig. 9521

Size No.	Each	Shackles Only Each	For Diam. Rope Inches	Size Sheave Inches	Weight Each in Ozs.
0	\$1.50	\$0.35	1/4 - 5/16	1 1/8 x 7/16	1 1/4
1	2.25	.35	3/8	1 3/8 x 1/2	1 1/2

**BULLET BLOCKS**

Cast Bronze



Fig. 973

Size No.	Plain Bronze Each	Pol. Bronze Each	Packed Doz. per Box	For Diam. of Rope Inches
0	\$1.10	\$1.35	1	1/4
1	1.20	1.65	1	5/16 - 3/8
2	1.55	2.00	1	3/8 - 7/16
3	2.00	2.50	1	7/16 - 1/2

Size No.	Size Sheave Inches	Length Inside Inches	Width Inside Inches	Weight Each in Lbs.
0	3/4 x 3/8	5/8	3/8	1/8
1	7/8 x 7/16	7/8	1/2	1/8
2	1 1/32 x 1/2	1	5/16	1/8
3	1 1/4 x 5/8	1 1/8	3/4	1/2

**BULLET BLOCKS ON PLATE**

Cast Bronze

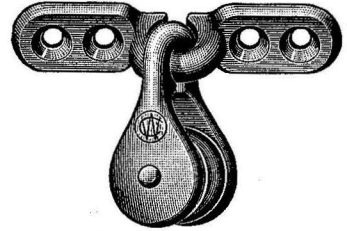


Fig. 974

Size No.	Pol. Bronze Each	Packed Doz. per Box	Bullet Block is Size No.
0	\$2.25	1/2	0
1	2.75	1/2	1

Size No.	Length Strap Inches	Width Strap Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
0	2 1/8	1/2	10	1/4
1	3 1/4	5/8	12	1/3

**BULLET BLOCKS ON SHACKLE**

Cast Bronze

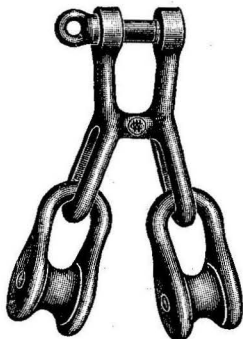


Fig. 968

Size No.	Each	Bullet Blocks are Size No.	Length Overall Inches	Weight Each in Lbs.
0	\$4.00	0	3 3/4	7/16

Size No.	Shackle Dimensions		Diam. Pin Inches
	Length Inside Inches	Between Eyes Inches	
0	1 1/16	3/8	1/4

For Jib Sheets. Compact, quickly attached, non-fouling. Shackle is Cast Manganese Bronze.

**SWIVEL EYE BULLET BLOCKS**

Plain Brass



Fig. 9872

Size No.	Each	For Diam. Rope Inches	Size Sheave Inches	Weight Each in Ozs.
0	\$0.90	5/16	7/8 x 1 1/32	2

Free swivel — full scored sheave. A practical, lightweight swivel block.

**SWIVEL EYE BULLET BLOCKS ON PLATE**

Plain Brass



Fig. 9873

Size No.	Each	For Diam. Rope Inches	Length Plate Inches	Width Plate Inches	Weight Each in Ozs.
0	\$1.75	5/16	2 1/4	3/4	3

**CAM-ACTION CLEATS**

Polished Cast Bronze

For Mainsheets, Single Jib Sheets, or Centerboards

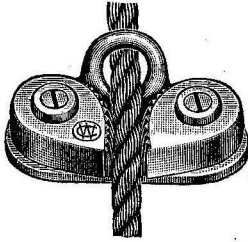


Fig. 9820

Size No.	Each	For Diam. Rope Inches
0	\$6.00	to 3/8

Size No.	Length Base Inches	Width Base Inches	Weight Each in Lbs.
0	3 3/8	1 5/8	5/8

Quick, neat and modern. Can be operated from a distance. Slight pull back grips rope instantly and securely. Lift up and it runs free.

**FAIRLEADERS**

Plain Brass

With Spun Brass Thimble



Fig. 9950

Size No.	Each	Size of Base Inches	Drilled for Wood Screw No.	Weight Each in Ozs.
1	\$0.55	2 3/16 x 1	10	1 1/4

This new type fairleader has a smooth brass thimble which reduces friction on the rope, eliminating wear. A useful, practical fairleader for sheets, etc., up to 3/8-inch diameter.

**HAVE YOU MET THE "SKIPPER"?**

It's an entirely new marine toilet — proven and tested — truly dependable! Its price and many unusual features will surprise you. See it on page 108.

**ADJUSTABLE JIB SHEET LEADERS**

Plain Cast Bronze

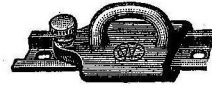


Fig. 9860

Size No.	Without Track Each	Dim. Hole Eye Plate Inches	Weight Each in Ozs.
0	\$1.25	3/4 x 3/8	3

24-inch lengths of 3/8-inch Nickel Silver Track can be supplied at \$0.50 each.

A good fitting for a small track traveler for main sheets.

**ADJUSTABLE JIB SHEET LEADERS**

Plain Cast Bronze



Fig. 986

Size No.	Without Track Each	I. D. Hole Fairleader Inches	Weight Each in Ozs.
0	\$1.75	7/16	4

24-inch lengths of 3/8-inch Nickel Silver Track can be supplied at \$0.50 each.

**ADJUSTABLE JIB SHEET LEADERS**

Plain Cast Bronze

With Swivel Eye Block

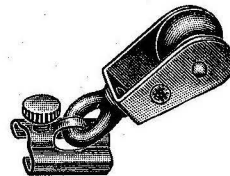


Fig. 9874

Size No.	Without Track Each	For Diam. Rope Inches	Weight Each in Ozs.
0	\$2.00	5/8	2 1/2

24-inch lengths of 3/8-inch Nickel Silver Track can be supplied at \$0.50 each.

These Adjustable Jib Sheet Leaders are suitable for all small Sailboats. Afford easy change of position to meet varying conditions. If double part lead is wanted use Fig. 9860 for the standing end of the sheet.

**HALLIARD LEADER BLOCKS**

Polished Bronze

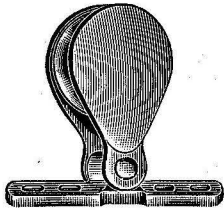


Fig. 969

Size No.	Each	For Diam. Rope Inches	Dim. Sheave Inches	Weight Each Ounces
0	\$3.30	$\frac{5}{16}$	$1\frac{1}{4} \times \frac{7}{16}$	4
1	3.95	$\frac{3}{8}$	$1\frac{1}{16} \times \frac{1}{2}$	7

**LINK DECK LEADER BLOCKS**

Polished Bronze

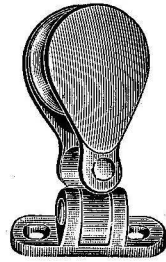


Fig. 964

Size No.	Each	For Diam. Rope Inches	Dim. Sheave Inches	Weight Each Ounces
0	\$3.60	$\frac{5}{16}$	$1\frac{1}{4} \times \frac{7}{16}$	4
1	4.60	$\frac{3}{8}$	$1\frac{1}{16} \times \frac{1}{2}$	7

**OPEN LEAD BLOCKS**

Polished Cast Bronze



Fig. 975

Size No.	Each	For Diam. Rope Inches	Dim. Sheave Inches	Length Base Inches	Width Base Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
2	\$6.00	$\frac{7}{16}$	$1\frac{1}{4} \times \frac{5}{8}$	$4\frac{1}{8}$	$1\frac{3}{8}$	14	$\frac{3}{4}$

Set well outboard for Genoa jibs. Also good for Spinnaker sheets and guys.

**SWIVEL SNATCH BLOCKS**

Cast Bronze

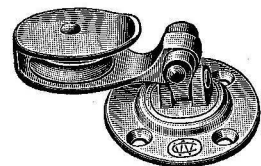


Fig. 976

Size No.	Satin Finish Each	For Diam. Rope Inches	Dim. Sheave Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
0	\$6.00	$\frac{5}{16}$	$1\frac{1}{8} \times \frac{7}{16}$	12	$\frac{7}{8}$
1	7.25	$\frac{3}{8}$	$1\frac{3}{8} \times \frac{1}{2}$	12	1

Cannot hit the deck.

**SNATCH BLOCKS**

Cast Bronze



Fig. 976

Size No.	Satin Finish Each	For Diam. Rope Inches	Size Sheave Inches	Weight Each in Lbs.
0	\$3.95	$\frac{5}{16}$	$1\frac{1}{8} \times \frac{7}{16}$	$\frac{3}{8}$
1	4.60	$\frac{3}{8}$	$1\frac{3}{8} \times \frac{1}{2}$	$\frac{1}{2}$

Good for an auxiliary block in the main sheet hook-up; for jigs, etc.

**SNATCH BLOCKS**

Cast Bronze

Self-Locking Type



Fig. 977

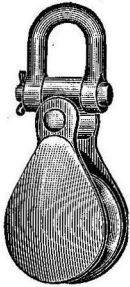
Size No.	Satin Finish Each	For Diam. Rope Inches	Size Sheave Inches	Weight Each in Lbs.
1	\$9.90	$\frac{3}{8}$	$1\frac{3}{8} \times \frac{1}{2}$	$\frac{5}{8}$
2	12.00	$\frac{7}{16}$	$1\frac{7}{8} \times \frac{5}{8}$	1

Used principally for Genoa jib sheets on smaller sailboats.

YACHT BLOCKS

Polished Bronze  
Oval Shells — Plain Bore Turned Sheaves

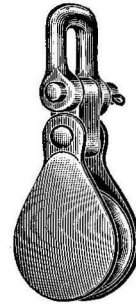
With Front Shackle



Single  
Fig. 951

Size No.	Polished Bronze		For Diam. Rope Inches	Size Sheave Inches	Wt. Each Oz.	
	Single Each	Double Each			Figure 951	Figure 9510
0	\$3.60	\$4.95	$\frac{5}{16}$	$1\frac{1}{4} \times \frac{7}{16}$	5	9
1	4.50	6.35	$\frac{3}{8}$	$1\frac{1}{16} \times \frac{1}{2}$	7	11

With Side Shackle

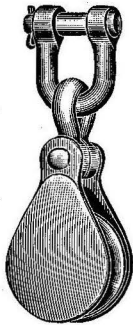


Single  
Fig. 953

Size No.	Polished Bronze		For Diam. Rope Inches	Size Sheave Inches	Wt. Each Oz.	
	Single Each	Double Each			Figure 953	Figure 9530
0	\$3.60	\$4.95	$\frac{5}{16}$	$1\frac{1}{4} \times \frac{7}{16}$	5	9
1	4.50	6.35	$\frac{3}{8}$	$1\frac{1}{16} \times \frac{1}{2}$	7	11

Double  
Fig. 9530

With Upset Front Shackle



Single  
Fig. 955

Size No.	Polished Bronze		For Diam. Rope Inches	Size Sheave Inches	Wt. Each Oz.	
	Single Each	Double Each			Figure 955	Figure 9550
0	\$3.60	\$4.95	$\frac{5}{16}$	$1\frac{1}{4} \times \frac{7}{16}$	4	9
1	4.50	6.35	$\frac{3}{8}$	$1\frac{1}{16} \times \frac{1}{2}$	7	11

Double  
Fig. 9550

With Upset Side Shackle



Single  
Fig. 957

Size No.	Polished Bronze		For Diam. Rope Inches	Size Sheave Inches	Wt. Each Oz.	
	Single Each	Double Each			Figure 957	Figure 9570
0	\$3.60	\$4.95	$\frac{5}{16}$	$1\frac{1}{4} \times \frac{7}{16}$	4	8
1	4.50	6.35	$\frac{3}{8}$	$1\frac{1}{16} \times \frac{1}{2}$	8	14

Double  
Fig. 9570

Swivel Deck Leader

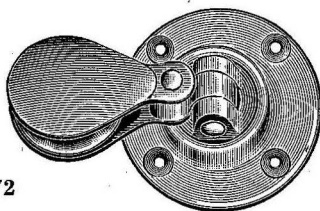


Fig. 972

Size No.	Polished Bronze Each	For Diam. Rope Inches	Size Sheave Inches	Weight Each Ounces
0	\$6.90	$\frac{5}{16}$	$1\frac{1}{4} \times \frac{7}{16}$	8
1	8.00	$\frac{3}{8}$	$1\frac{1}{16} \times \frac{1}{2}$	12

Cannot hit the deck.

With Side Snap Shackle

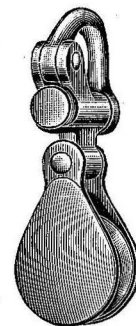


Fig. 967

Size No.	Polished Bronze Each	For Diam. Rope Inches	Size Sheave Inches	Weight Each Ounces
0	\$5.50	$\frac{5}{16}$	$1\frac{1}{4} \times \frac{7}{16}$	5
1	6.60	$\frac{3}{8}$	$1\frac{1}{16} \times \frac{1}{2}$	8

Single Only

**DECK BLOCKS**

Galvanized with Steel Shell

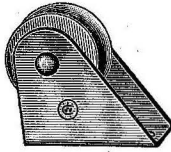


Fig. 3840

\$2.75 per dozen

Replaces discontinued No. 000 size, Fig. 384. Size sheave, 1" x 3/8". Designed to take 1/4" manila rope. Drilled for No. 8 R. H. Wood Screws. Wt. per doz., 1 1/4 lbs.

**DECK BLOCKS**

Galvanized Iron or Brass

For Manila Rope

Single

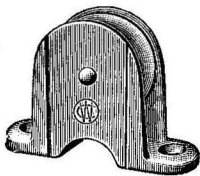


Fig. 386

Double

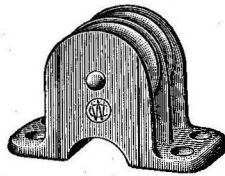


Fig. 387

Single — Fig. 386

Size No.	Galv. Gray Iron Each	Plain Brass Each	Diam. Rope Inches	Size Sheave Inches	Drilled for Wood Screw No.	Weight Per 100 in Lbs.
0	\$0.40	\$0.90	5/16	1 1/4 x 3/8	10	23
1	.45	1.10	3/8	1 1/2 x 1/2	12	38
3	.70	1.80	1/2	2 x 5/8	14	90
5	1.30	...	5/8	2 1/2 x 3/4	16	168
7	2.15	...	3/4	3 x 7/8	24	261

Double — Fig. 387

2	\$0.80	\$1.75	3/8	1 1/2 x 1/2	10	57
4	1.55	3.65	1/2	2 x 5/8	14	160
8	3.95	...	3/4	3 x 7/8	24	425

Single

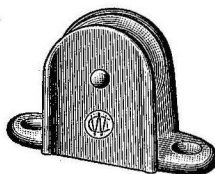


Fig. 384

Size No.	Galv. Malleable Iron Each	For Diam. of Rope Inches	Size Sheave Inches	Drilled for Wood Screw No.	Weight Per 100 in Lbs.
0	\$0.50	5/16	1 1/4 x 3/8	10	24
1	.70	3/8	1 1/2 x 1/2	12	43
3	1.20	1/2	2 x 5/8	14	98
5	2.00	5/8	2 1/2 x 3/4	18	190
7	3.00	3/4	3 x 7/8	21	306

**DECK BLOCKS**

Galvanized Iron or Brass

For Wire Rope

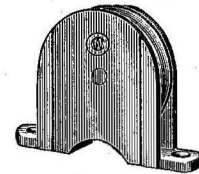


Fig. 3800

Size No.	Galv. Malleable Iron Each	Plain Brass Each	For Diam. Rope Inches	Size Sheave Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1	\$1.05	\$1.65	1/4 - 3/16	1 7/8 x 7/16	12	1/2
2	1.85	3.00	3/8	3 x 3/16	14	1 1/2
3	4.30	5.25	7/16	4 x 5/8	14	3
3 1/2	5.20	...	1/2	4 1/2 x 7/8	18	4 1/4
4	6.00	...	5/8	5 x 7/8	20	5 1/4
5	8.75	...	3/4	6 x 1	24	8 3/8

**CHEEK BLOCKS**

Galvanized Iron or Brass

For Wire Rope

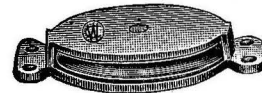


Fig. 380

Size No.	Galv. Gray Iron Each	Plain Brass Each	For Diam. Rope Inches	Size Sheave Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1	\$0.95	\$1.70	1/4 - 3/16	1 7/8 x 7/16	12	1/2
2	1.50	3.10	3/8	3 x 3/16	14	1 3/8
3	2.70	5.50	7/16	4 x 5/8	14	2 3/4
3 1/2	3.50	...	1/2	4 1/2 x 7/8	18	4 1/4
4	4.20	...	5/8	5 x 7/8	18	5 1/4
5	7.50	...	3/4	6 x 1	18	10 5/8

For Manila Rope



Fig. 382

Size No.	Galv. Gray Iron Each	Plain Brass Each	For Diam. Rope Inches	Size Sheave Inches	Drilled for Wood Screw No.	Weight Per 100 in Lbs.
0	\$0.55	\$0.85	1/4	1 1/8 x 3/8	10	27
1	.70	1.05	5/16	1 1/4 x 7/16	10	31
2	.80	1.20	3/8	1 1/2 x 1/2	10	60
3	1.50	1.90	1/2	2 x 5/8	14	118
4	1.85	...	5/8	2 1/2 x 3/4	14	203
5	3.00	...	3/4	3 x 7/8	16	312
6	5.20	...	7/8	3 1/2 x 1	17	525

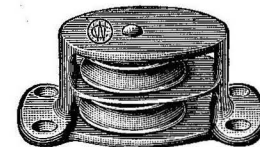


Fig. 383

Size No.	Galv. Malleable Iron Each	Plain Brass Each	For Diam. Rope Inches	Size Sheave Inches	Drilled for Wood Screw No.	Weight Per 100 in Lbs.
11	\$1.50	\$2.00	5/16	1 1/4 x 7/16	7	56
12	1.90	3.00	3/8	1 1/2 x 1/2	10	87
13	2.95	4.50	1/2	2 x 5/8	13	175

**JAM CLEATS**

Cast Bronze  
Roller Type

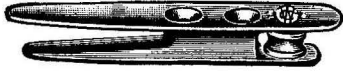


Fig. 4050

Length Inches	Satin Finish Each	For Diam. Rope Inches	Width Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
4	\$2.25	1/8-5/16	5/8	12	1/4
5 1/4	3.00	1/4-3/8	3/4	14	7/16

4 inch length is an excellent boom downhaul cleat for small boats, when used with sheave down and mounted vertically below gooseneck.

**"SEA-GRIP" CLEATS**

Galvanized Gray Iron or Cast Bronze

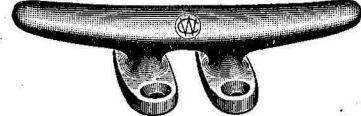


Fig. 4051

Length Inches	Galv. Each	Pol. Bronze Each	Chrom. Plated Each	For Diam. Rope Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
4	\$0.40	\$1.50	\$2.25	1/4-5/16	10	3/8
5	.65	1.75	2.50	3/8	12	3/4
6	.90	2.50	3.25	7/16	12	1
8	1.95	4.75	5.75	1/2-3/4	16	1 3/4

Width of cleats, center to center of fastenings, is as follows: 5 inch 1 1/4; 6 inch 1 3/4; 8 inch 1 7/8.

4 inch has but two fastenings.

**"Sea-Grip"**



Fig. 4055

Length Inches	Satin Finish Each	For Diam. Rope Inches	Size Base Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
3	\$0.65	1/4	2 3/16 x 7/8	10	3/16
4	1.15	3/16	2 3/4 x 1	12	1/4
5	1.80	3/8	3 3/8 x 1 1/8	14	1/2

**"SEA-GRIP" SPAR CLEATS**

Cast Bronze



Fig. 408

Length Inches	Plain Bronze Each	Pol. Bronze Each	Chrom. Plated Each	Size Base Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
2 5/8	\$0.50	\$0.80	\$1.40	1 1/2 x 1/2	8	1/8
3 1/4	.60	1.10	1.80	1 3/4 x 5/8	8	3/16
3 7/8	.80	1.40	2.20	1 1/2 x 3/8	10	1/4

For 1/4, 5/16 and 3/8 inch rope respectively.

**With Base**



Fig. 405

Length Inches	Satin Finish Each	For Diam. Rope Inches	Width Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
3	\$0.85	1/8-3/16	1/2	6	1/8
4	1.00	1/4-5/16	5/16	8	1/4
5	1.25	3/8-7/16	5/16	8	3/8

**EYE CLEATS**

Galvanized Gray Iron or Cast Manganese Bronze

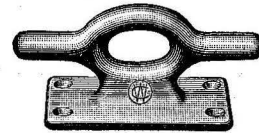


Fig. 4012

Length Inches	Galv. Each	Satin Finish Bronze Each	For Diam. Rope Inches	Size Base Inches	Weight Each in Lbs.
6	\$1.25	\$3.50	1/2- 5/8	4 1/2 x 2 1/2	1 7/8
8	2.00	6.00	5/8-1	5 3/8 x 3	3 1/4

Handy and practical. A toggle stick on the dinghy painter through the eye, and the dinghy is secure, yet no time is lost when you must pull it quickly or foul a wheel.

For securing dock and spring lines, just push a bight of the line through the eye, over the cleat, and run the two ends where you will.

The 6 inch is drilled for 1/4" Bolts and the 8 inch for 5/16" Bolts.

**Osborne Racing**

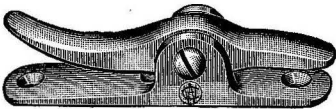


Fig. 406

Length Inches	Satin Finish Each	For Diam. Rope Inches	Width Base Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
4	\$3.50	5/16-3/8	1 1/16	8	3/16

**FENDER CLEATS**

Cast Bronze



Fig. 4000

Length Inches	Pol. Bronze Each	Chrom. Plated Each	Packed per Box Doz.	Dimension Base Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
2	\$0.55	\$1.05	1	1 1/2 x 1	6	1/8

Takes 1/8 inch rope or an eye in up to 3/8 inch rope.

**OPEN BASE CLEATS**

Galvanized Iron or Cast Bronze



Fig. 401

Length Inches	Galv. Gray Iron Each	Galv. Mall. Iron Each	Pol. Bronze Each	Chrom. Plated Each	Packed Doz. Per Box	Weight Gray Iron Each in Lbs.
3½*	\$0.20	....	\$0.70	\$1.10	1	¾
4*	.22	....	.85	1.25	1	1¼
5*	.33	....	.95	1.45	1	¾
6	.40	\$0.65	1.30	1.85	1	1½
8	.77	1.25	1.95	2.65	½	1¼
10	1.55	2.00	2.85	4.15	..	2¼
12	2.15	2.75	4.20	5.50	..	3¾
14	2.75	....	....	....	..	6¼
18	4.75	....	....	....	..	11½

\*3½, 4 and 5-inch sizes in polished bronze and chrome, have solid base.

Fastenings: 3½ & 4 in. No. 8 Screws; 5 & 6 in. No. 10 Screws; 8 in. No. 14 Screws; 10 in. No. 16 Screws; 12 & 14 in. ¾ Bolts; 18 in. ⅝ Bolts.

**HOLLOW CLEATS**

Cast Bronze



Fig. 4020

Length Inches	Pol. Bronze Each	Chrom. Plated Each	Packed Doz. Per Box	Drilled for Fastenings	Weight Each in Lbs.
5½	\$1.95	\$2.45	½	No. 12 Screw	½
6½	2.10	2.65	½	No. 14 Screw	¾
8	2.75	3.60	½	No. 18 Screw	1
10	5.00	6.00	..	5/16" diam. Bolt	1 ⅞
12	6.75	8.25	..	¾" diam. Bolt	3 ½

**SQUARE BASE CLEATS**

Galvanized Iron or Cast Bronze



Fig. 400

Length Inches	Galv. Each	Pol. Bronze Each	Chrom. Plated Each	Packed Doz. Per Box	Size Base Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
2	\$0.18	\$0.55	\$1.05	1	1 ⅞ x 1	6	⅛
3	.20	.75	1.25	1	1 ⅞ x 1 ⅞	6	⅜
4	.25	1.05	1.55	1	2 ¼ x 1 ⅞	8	⅝
5	.48	1.50	2.25	1	2 ½ x 1 ½	10	1 ½
6	.60	1.75	2.55	1	2 ¾ x 1 ½	10	5 ⅞

**SOLID BASE CLEATS**

Cast Bronze

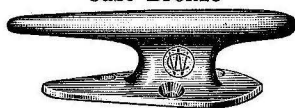


Fig. 4011

Length Inches	Pol. Bronze Each	Chrom. Plated Each	Packed Doz. Per Box	Size Base Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
2	\$0.85	\$1.50	1	2 x 1	6	⅜
3½	1.25	2.10	½	2 ⅞ x 1 ¼	6	¾
4½	1.95	2.75	½	3 ¼ x 1 ½	8	5 ⅞

A good cleat to take the bight of a dock line.

**STREAMLINED LIFTING EYE CLEATS**

Cast Manganese Bronze

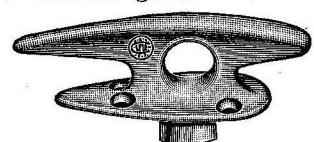


Fig. 4014

Length Inches	Pol. Bronze Each	Chrome Plated Each	I. D. Eye Inches	Stock Eye of Eye Inches	Base Inches	Threaded For Rod Dia. Inches	Weight Each in Lbs.
4¾	\$4.50	\$5.50	¾	½	1 ⅞ x 3 ⅞	⅝	1

A tie rod is required to connect Eye and Keel Plate, Fig. 404.

An attractive lifting eye for smaller boats. Takes up to ¾-inch diameter line. Base drilled for No. 10 Flat Head Wood Screws. Threaded boss is 1-inch diameter by ⅝-inch deep. Cleat is 1 ¼ inches off deck.

**LIFTING EYE CLEATS**

Cast Manganese Bronze



Fig. 4013

Length Inches	Satin Finish Each	Pol. Bronze Each	Chrome Plated Each	I. D. Eye Inches	Stock Eye of Eye Inches	Base Inches	Threaded For Rod Dia. Inches	Weight Each in Lbs.
8	\$7.75	\$9.00	\$12.75	1 ⅞	¾	3x5 ⅞	¾	4 ½

Plate is bolted to keel, providing a firm base for Lifting Eye Cleat. A tie rod is required to connect Eye and Keel Plate, Fig. 404.

Drilled and countersunk for four ⅝-inch diameter bolts. NOTE: This Cleat makes an excellent "non-dragging" deck cleat because of its 1 ¼ diameter x 1 ¼-inch boss even when no tie rod is employed.

**KEEL PLATES**

Cast Manganese Bronze

Length Inches	Weight Each in Lbs.	Threaded for Rod Diam. Inches		Width Base Inches	Weight Each in Lbs.
		Plain Bronze Each	Plain Bronze Each		
Fig. 404	5 ⅞	¾	\$1.40	1 ⅞	5 ⅞
		¾	1.40		
Fig. 404	5 ⅞	¾	3	1 ⅞	5 ⅞
		¾	3		

Drilled for ⅝-inch diameter bolts.

**SHIP CLEATS**

Galvanized Gray Iron



Fig. 409

Length Inches	Each	Size Base Inches	Drilled for Diam. Bolt Inches	Weight Each in Lbs.
8	\$1.40	4 x 2 ¼	¾	3
10	2.30	4 ⅞ x 2 ½	1 ½	5 ⅞
12	3.75	6 ⅞ x 3	⅞	10
15	5.20	7 ¼ x 3 ½	¾	14
18	7.50	7 ½ x 4	¾	21
24	18.75	13 x 4 ½	⅞	35
30	29.25	20 x 5	1	74
36	48.00	25 x 5 ½	1 ¼	117

**BULWARK BOW CHOCKS**

Cast Bronze

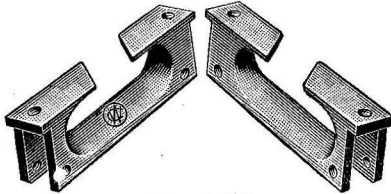


Fig. 4128

Lgth. Ins.	Pol. Bronze Pair	Chrom. Plated Pair	Thick-ness of Rail Inches	Height Inches	Weight Pair in Lbs.
11 1/4	\$22.00	\$27.50	1 1/4	3	9 1/2

Drilled for 5/16 inch bolts. For rope up to 1 1/2 inch diameter.

**BOW CHOCKS**

Galvanized Gray Iron or Polished Bronze

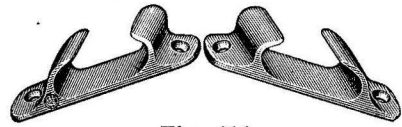


Fig. 414

Length Inches	Galv. Pair	Pol. Bronze Pair	Chrom. Plated Pair	Packed Pairs Per Box	For Rope Diam. Inches	Width Inches	Weight Pair in Lbs.
3	\$0.50	\$1.85	\$2.85	6	3/8	5/8	3/8
4	.55	2.15	3.60	6	1/2	3/4	1/2
5	.70	2.85	4.90	6	5/8 - 3/4	7/8	1
6	1.45	4.50	7.00	6	7/8	1 1/8	1 7/8
8	2.25	6.50	9.25	..	1	1 1/4	2 3/4
10	3.40	11.00	15.50	..	1 1/4	1 3/4	5 3/8

**BULWARK STERN CHOCKS**

Cast Bronze

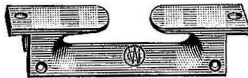


Fig. 4129

Lgth. Ins.	Pol. Bronze Each	Chrom. Plated Each	Thick-ness of Rail Inches	Height Inches	Weight Each in Lbs.
11 3/4	\$11.00	\$13.75	1 1/4	3	5 1/8

Drilled for 5/16 inch bolt. For rope up to 2 inch diameter.

**STRAIGHT CHOCKS**

Galvanized Gray Iron or Polished Bronze

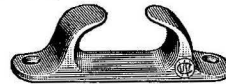


Fig. 411

Length Inches	Galv. Each	Pol. Bronze Each	Chrom. Plated Each	Packed Doz. Per Box	Width Inches	For Rope Diam. Inches	Weight Each in Lbs.
4	\$0.28	\$1.20	\$1.90	1/2	7/8	1/2	3/8
5	.45	1.60	2.60	1/2	1	5/8	1/2
6	.70	2.30	3.50	1/2	1 1/4	3/4	7/8
8	1.45	3.60	5.00	..	1 3/8	1	1 5/8
10	1.70	5.75	7.80	..	1 7/8	1 1/4	3
12	3.60	..	..	..	2 5/8	1 1/2	9 1/2
15	8.00	..	..	..	3 3/8	1 3/4	20
18	11.00	..	..	..	3 3/8	2	26

Larger sizes on application.

**SKENE BULWARK BOW CHOCKS**

Cast Bronze

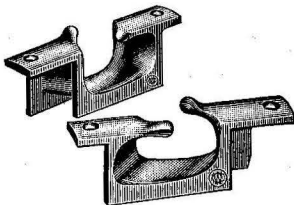


Fig. 4122

Lgth. Ins.	Pol. Bronze Pair	Chrom. Plated Pair	For Rope Diam. Up to Inches	Thick-ness of Rail Inches	Height Inches	Weight Pair in Lbs.
6	\$7.65	\$11.25	1	1 1/4	2 1/8	2 3/4
7	11.00	14.25	1 1/4	1 1/2	2 1/2	4 1/4

Drilled for Wood Screws—6 in., No. 18; 7 in., No. 20

**DOUBLE HEAD CHOCKS**

Galvanized Iron With Solid Posts

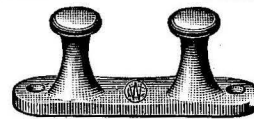


Fig. 417

Length Inches	Each	Width Inches	Opening Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
4 1/2	\$0.50	1 1/8	1 1/8	10	5/8
6	1.10	1 1/2	1 1/2	10	1 3/4
7 1/2	1.50	2	2	12	3 1/8
9	2.25	2 1/4	2 1/2	15	4 1/2

**SKENE BULWARK STERN CHOCKS**

Cast Bronze

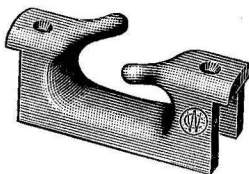


Fig. 4112

Lgth. Ins.	Pol. Bronze Each	Chrom. Plated Each	For Rope Diam. Up to Inches	Thick-ness of Rail Inches	Height Inches	Weight Each in Lbs.
6	\$6.25	\$8.50	1 1/4	1 1/2	3	2

Drilled for 5/16 inch bolt.

**HEAVY BOW CHOCKS**

Galvanized Gray Iron



Fig. 4130

Length Inches	Pair	Width Inches	Opening Inches	Depth Inside Clear Inches	Weight Pair in Lbs.
12	\$7.50	2 3/4	2 1/4	1 7/8	21
15	14.50	3 1/4	2 7/8	2 3/8	44
18	22.00	3 5/8	3 1/2	2 3/4	58
20	28.00	3 3/4	4 1/2	3 1/8	72

**SKENE BOW CHOCKS**

Cast Bronze

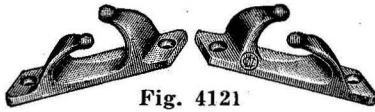


Fig. 4121

Length Inches	Plain Bronze Pair	Pol. Bronze Pair	Chrom. Plated Pair	Width Inches	For Diam. Rope Inches	Weight Pair in Lbs.
4	\$1.40	\$2.15	\$3.45	3/4	1/2	3/8
4 1/2	2.15	2.85	4.40	7/8	5/8	3/4
5 1/2	2.85	4.30	6.05	1 1/4	3/4	1 3/8
7 3/4	5.70	7.15	9.10	1 1/2	1	3 1/2
8 1/2	7.15	10.05	12.35	1 5/8	1 1/4	4 7/8

Rope cannot jump a Skene Bow Chock.

**SKENE STERN CHOCKS**

Cast Bronze



Fig. 4120

Length Inches	Plain Bronze Each	Pol. Bronze Each	Chrom. Plated Each	Width Inches	For Diam. Rope Inches	Weight Each in Lbs.
4	\$0.90	\$1.30	\$1.95	7/8	1/2	3/8
5 1/2	1.60	2.15	3.25	1 3/8	3/4	3/4
7	3.25	4.55	5.85	1 3/4	1-1 1/4	1 3/4

Rope cannot jump a Skene Stern Chock.

**BOW RINGS**

Cast Manganese Bronze

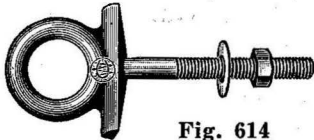


Fig. 614

Size No.	Plain Bronze Each	Pol. Bronze Each	Chrome Plated Each	I. D. Eye Inches	Length Shank Inches	Diam. Shank Inches	Weight Each in Lbs.
1	\$0.85	\$1.40	\$1.75	1	3	3/8	5/16

A secure towing or mooring eye for small boats and skiffs. Fin under shoulder prevents eye from twisting or turning.

**RINGS WITH STRAPS**

Brass

Heavy Pattern

Light Pattern

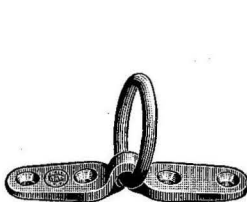


Fig. 274



Fig. 6210

Size No.	Plain Brass Each	Pol. Brass Each	Size Ring Inches	Size Strap Inches	Weight Each in Lbs.
1	\$0.80	\$1.35	1/4 x 1 1/2	4 1/4 x 7/8	1/4
2	.95	1.45	3/16 x 1 3/4	4 1/4 x 7/8	3/8

Drilled for No. 10 Wood Screws

Fig. 6210

Size No.	Plain Brass Each	Pol. Brass Each	Size Ring Inches	Size Strap Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1	\$0.55	\$0.90	1/4 x 1 1/2	2 x 1/2	10	3/16

**LATCH MOORING CHOCKS**

Cast Bronze

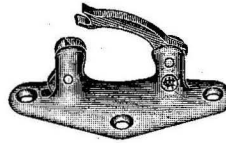


Fig. 4180

Size No.	Plain Bronze Each	Pol. Bronze Each	Drilled for Bolt Inches
1	\$3.75	\$5.50	1/4

Line securely held by bar which snaps down. Latch opens instantly by pressing trigger set in post.

**MOORING RINGS**

Bronze

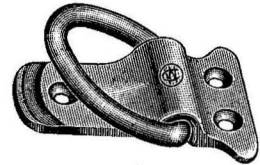


Fig. 4181

Plain Each	Dim. Plate Inches	I. D. Ring Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$2.00	4 5/8 x 3	2 3/8 x 1 7/8	18	1 1/4

5/16-inch diameter stock around eye.

A safe, convenient means for securing a mooring fastening. Lies flat. Will not foul jib sheets or spinakers. Cannot mar deck. Large eye — will even take 1 1/2-inch diameter manila rope.

**BOW EYES**

Manganese Bronze



Fig. 6220

Size No.	Plain Each	Pol. Each	Chrome Plated Each	Length Straps Inches	Length Overall Inches	Drilled For Rivet Inches	Weight Each in Lbs.
1	\$0.65	\$1.10	\$1.60	1 7/8	3 1/4	3/16	3/16
2	.85	1.40	2.00	2 3/4	4	1/4	3/8

3/8-inch diameter stock around eye, both sizes; two holes in each strap.

**BOW HANDLES**

Cast Brass

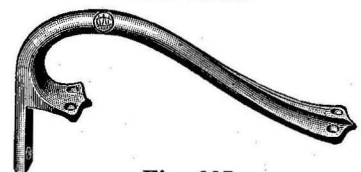


Fig. 997

Length Inches	Pol. Brass Each	Chrom. Plated Each	Width Inches	Weight Each in Lbs.
7	\$2.40	\$3.25	1 1/2	3/4

Drilled for No. 10 Wood Screws.

A practical, dressy Bow Handle for small boats. Gives a good full hand grip, even when mooring line is spliced in.

**BOW PLATES**

Cast Bronze

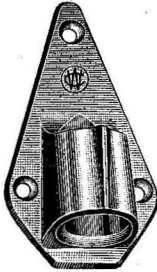


Fig. 4125

Size No.	Pol. Bronze Each	Chrom. Plated Each	Weight Each in Lbs.
1	\$2.35	\$3.25	5/8

Size No.	Length Inches	Width Inches	Inside Diam. Hole Inches	Drilled for Wood Screw No.
1	4 1/4	2 1/4	1	8

**PELICAN RELEASE HOOKS**

Cast Manganese Bronze

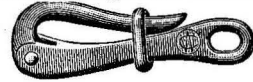


Fig. 978

Size No.	Plain Bronze Each	Pol. Bronze Each	Length Inches	Inside Width Hook Inches	Dim. Eye Inches	Weight Each in Lbs.
1	\$2.20	\$3.30	4	1/2	1/2 x 3/8	3/16
2	2.40	3.75	5 1/4	5/8	5/8 x 3/8	3/8
3	3.00	4.75	6 1/2	3/4	1 x 5/8	1

Ideal for Life Lines, Boat Gripes, or removable Backstays.

**LIFTING OR HATCH HANDLES**

Cast Bronze



Fig. 620

Plain Bronze Each	Pol. Bronze Each	Chrom. Plated Each	Length Overall Inches	Size Opening Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$0.75	\$1.50	\$2.10	6 1/2	3 1/2 x 1 3/8	8	1/6

**EYE STRAPS**

Cast Bronze



Fig. 275

Size No.	Plain Bronze Each	Pol. Bronze Each	Length Inches	I. D. Eye Inches	Diam. Stock in Eye Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
0	\$0.25	\$0.50	2	5/16	3/16	10	1/32
1	.30	.60	2 1/4	3/8	1/4	10	1/16
2	.40	.80	2 3/4	1/2	5/16	12	1/8
3	.55	1.00	3 1/8	7/8	7/16	14	3/16

**ROUND LIFTING HANDLES**

Bronze



Fig. 6200

Plain Bronze Each	Pol. Bronze Each	Chrom. Plated Each	Length Overall Inches	Size Opening Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$0.90	\$1.90	\$2.50	6 7/8	3 3/4 x 1 3/8	8	1 1/16

The large round grip will not cut your hand when handle is set on edge, as old style handles do. This Lifting Handle is specially designed for attaching to outboards or rowboat transoms.

**DECK STRAPS**

Cast Bronze



Fig. 276

Size No.	Plain Bronze Each	Pol. Bronze Each	Length Inches	I. D. Eye Inches	Diam. Stock in Eye Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
0	\$0.35	\$0.65	2 1/8	3/8	1/4	10	1/16
1	.50	.90	3 1/4	3/8	5/16	12	1/8
2	.80	1.25	3 3/4	1/2	3/8	14	3/16
3	1.00	1.60	4 5/8	1/2	7/16	18	3/8

No. 0 has two screw holes. Balance of sizes have four screw holes.

**FLANGE EYES**

Cast Brass



Fig. 5810

Size No.	Plain Brass Each	Pol. Brass Each	Size of Opening Inches	Size of Base Inches	Drilled for Wood Screw No.	Weight Per 100 in Lbs.
1	\$0.30	\$0.60	5/8	1 1/16 x 2 1/8	7	6 1/4
2	.50	.80	3/4	1 3/16 x 2 5/8	8	11 1/4

**LIP SHEET LEADERS**

Plain Cast Brass



Fig. 5811

Size No.	Each	Size Small Opening Inches	Size of Base Inches	Drilled for Wood Screw No.	Weight Per 100 in Lbs.
1	\$0.30	1/2	7/8 x 1 1/8	7	7 1/4
2	.40	5/8	1 1/16 x 2 1/4	8	17

**FENDER HOOKS**

Cast Brass

Plain Brass Each	Pol. Brass Each	Chrom. Plated Each
\$0.30	\$0.50	\$0.90

Size Plate Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1 3/4 x 1 1/4	7	3/8

Takes loop of 3/8" diameter rope.

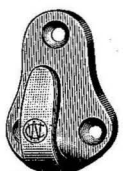


Fig. 254

**SEAT OR TRANSOM BRACES**

Cast Bronze



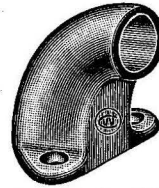
Fig. 9170

Plain Bronze Each	Pol. Bronze Each	Length Overall Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$0.80	\$1.40	4 7/8	10	1/2

A convenient brace to stiffen gunwales and seats, or the stern transom. Eliminates the shimmy when an outboard motor is attached to a rowboat.

**RAIL STANCHIONS**

Polished Cast Bronze



End — Fig. 5480



Middle — Fig. 548

Fig.	Pol. Bronze Each	Chrome Plated Each	Size Base Inches	Ht. to Center of Rail Inches	Bored for Pipe Inches	Weight Each in Lbs.
5480	\$2.25	\$3.25	2 1/4 x 1 11/16	1 7/8	3/4	5/8
548	2.25	3.25	3 3/8 x 1	1 7/8	3/4	5/8

Drilled for No. 12 Wood Screw.

**FLOOR FLANGES**

Cast Bronze

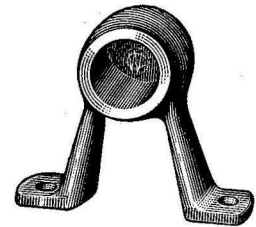


Fig. 560

Tapped for Pipe Inches	Plain Bronze Each	O. D. Flange Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1/2	\$0.55	3	10	3/8
3/4	.65	3	10	7/16
1	.90	3 1/4	12	1/2

**WOOD HAND RAIL STANCHIONS**

Polished Cast Bronze



End — Fig. 5451  
Middle — Fig. 5452

Fig.	Pol. Bronze Each	Chrom. Plated Each	Length Base Inches	Height to Center of Rail Inches	Diam. Hole Inches	Weight Each in Lbs.
5451	\$2.10	\$3.25	3 1/4	2	1	1/2
5452	2.10	3.25	3 1/4	2	1	7/16

Double Leg Base gives added strength and allows for fitting crown of deck. Designed to give ample hand room when gripping rail. Drilled for No. 10 Screws.

**BOAT COVER LASHING HOOKS**

Galvanized Gray Iron or Cast Manganese Bronze

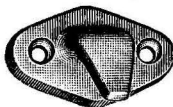


Fig. 255

Length Base Inches	Galv. Iron Each	Plain Bronze Each	Drilled for Wood Screw No.	Weight Each in Lbs.
2 1/8	\$0.20	\$0.30	8	1/4

A sturdy hook for boat covers, or fenders.

**RING BUOY BRACKETS**

Cast Bronze



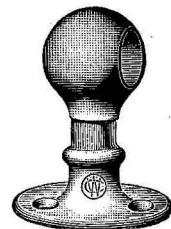
Fig. 616

Plain Bronze Each	Pol. Bronze Each	Chrom. Plated Each	I. D. Hooks Inches	Width Plates Inches	Drilled for Wood Screw No.	Weight Pair in Lbs.
\$1.25	\$2.25	\$2.75	3	3	12	1 1/8

Installed on side of deck house, secures Ring Buoy in shipshape manner — ready for instant use when needed.

**STANCHION POSTS**

Galvanized Gray Iron or Polished Brass



End — Fig. 545  
Center — Fig. 5450

Size No.	Galv. Each	Pol. Brass Each	Overall Height Inches	Bored for Rod Inches	Bored for Pipe Inches	Average Weight Each in Lbs.
1	\$0.60	\$1.25	2	5/8	..	1/8
1 1/2	.60	1.25	2	..	1/4	1/8
2	.75	1.50	2 1/2	5/8	..	1/4
2 1/2	.75	1.50	2 1/2	..	1/4	1/4
3	.90	1.70	3	5/8	..	3/8
3 1/2	.90	1.70	3	..	3/8	3/8

Sizes No. 1 and 1 1/2 drilled for No. 10 Wood Screws. Other sizes for No. 12 Wood Screws.

**FLAG POLE SOCKETS**

Galvanized Gray Iron or Polished Bronze  
Flush



Fig. 557, Stern

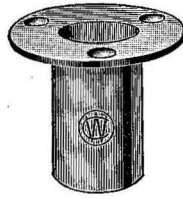


Fig. 556, Bow

Inside Diam. Inches	Polished Bronze Each	Chrome Plated Each	Depth Inches	Diam. Flange Inches	Approx. Wt. Each in Lbs.
3/4	\$1.10	\$1.65	1 5/8	2	1/4
1	1.25	1.85	1 7/8	2 1/4	3/8
1 1/4	1.65	2.20	1 7/8	2 1/2	1/2
1 1/2	2.25	2.95	2 3/8	3 1/8	7/8
1 3/4	2.95	3.75	3	3 3/8	1 1/8
2	4.25	5.25	3 3/4	3 7/8	1 7/8

Upright

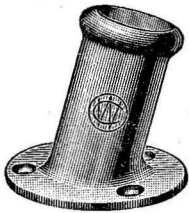


Fig. 550, Stern

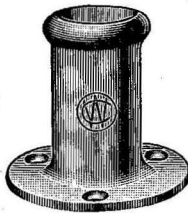


Fig. 549, Bow

Inside Diam. Inches	Galv. Gray Iron Each	Polished Bronze Each	Chrome Plated Each	Diam. Base Inches	Height Inches	Approx. Wt. Each in Lbs.
3/4	\$0.60	\$1.50	\$2.10	2 1/8	1 3/4	5/16
1	.80	2.10	2.70	2 1/2	2 1/4	3/8
1 1/4	1.25	2.60	3.20	2 3/4	2 3/4	3/4
1 1/2	1.75	3.50	4.20	3 1/8	3 1/2	1 1/4
1 3/4	...	5.00	5.90	3 3/4	4 5/8	1 5/8
2	...	5.90	6.90	4 1/2	5	1 7/8

**COAMING TYPE PIPE SOCKETS**

Galvanized Gray Iron or Brass

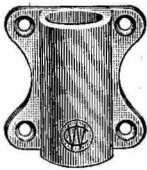


Fig. 559

For Pipe Inches	Galv. Each	Plain Brass Each	Pol. Brass Each	Size Plate Inches	Weight Each in Lbs.
3/8	\$0.40	\$0.70	\$1.20	2 1/8 x 2	3/8
1/2	.45	.75	1.30	2 1/8 x 2 1/8	3/8
3/4	.60	1.00	1.65	2 1/8 x 2 5/8	1/2
1	.75	1.65	2.50	2 3/8 x 3 3/8	1

**LADDER HOOKS**

Cast Bronze

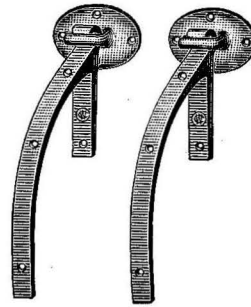


Fig. 5980

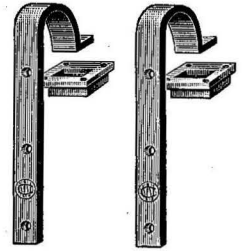


Fig. 5981

Fig.	Complete Pair		Pol. Deck Sockets Pair	Chrome Deck Sockets Pair
	Plain Bronze	Pol. Bronze		
5980	\$8.00	\$11.50	.....	.....
5981	4.50	7.00	\$2.50	\$3.75

Fig.	Pol. Eye Plates Pair	Chrome Eye Plates Pair	Pol. Deck Sockets Pair	Chrome Deck Sockets Pair
5980	\$3.50	\$5.00	.....	.....
5981	.....	.....	\$2.50	\$3.75

With plain bronze sets, the hooks only are supplied unpolished. Eye plates and flush type deck sockets are always furnished highly polished.

Fig.	Dim. Plates Inches	Inside Length of Braces Inches	Overall Length Hooks Inches	Width Hooks Inches	Drilled for Screws Pl.	No. Hks.	Wt. Set in Lbs.
5980	3 3/8 x 2 3/8	7 1/2	4	3/4	12	14	4
5981	1 3/4 x 1 3/4	.....	7 1/2	3/4	8	10	1 1/2

These Ladder Fittings fill every requirement of strength, fine finish and safety. Ladder cannot come loose until swung outward and upward through a safety angle which prevents ladder being carried away by wash from passing boats. Eye Plates of Fig. 5980 mount on side of hull. Flush sockets of Fig. 5981 set into deck. Hooks are made to fasten to back of ladder. Clearance inside curve of hooks, when installed, is 1 1/8 inches wide at the bottom; 3/4 inch high.

**LADDER LOCKS**

Cast Brass

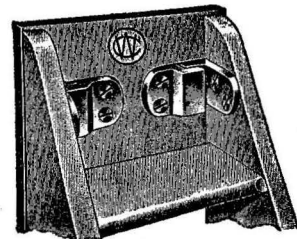


Fig. 598

Removable, yet a secure fastening for Companion-way Ladders.

Plain Brass Set	Pol. Brass Set	Chrom. Plated Set	Weight Set in Lbs.
\$2.50	\$4.00	\$6.00	3/4

Each set consists of four pieces. Drilled for Wood Screw No. 10.

**WINDSHIELD BRACKETS**

Polished Bronze  
30-Degree Angle

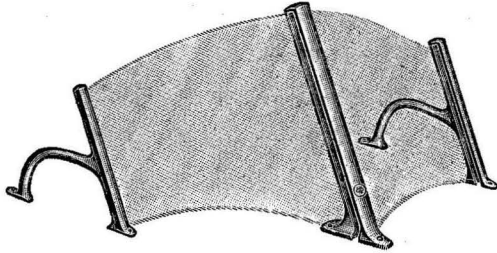


Fig. 4823

Pol. Bronze Per Set	Chrom. Plated Per Set	Height Center Bracket Inches	Height End Brackets Inches	Length Side Base Inches	Drilled for Wood Screw No.	Weight Per Set in Lbs.
\$17.50	\$22.50	11	6 3/4	10	10	5

Brackets are grooved to take 1/4-inch glass, and are furnished complete with 40 inches of rubber insulation. Glass not supplied.

**WINDSHIELD ADJUSTERS**

Polished Brass  
Extra Heavy

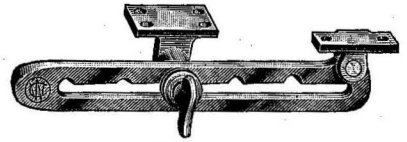


Fig. 4821

Cut shown is for left hand side.

Size No.	Pol. Brass Pair	Chrom. Plated Pair	Overall Length Inches	Length of Adjustment Inches	Weight Pair in Lbs.
2	\$10.00	\$12.75	9	7	1 3/4
3	14.30	17.50	12	9 1/2	2 3/4

Drilled for Wood Screw No. 8.

Be sure to specify right- or left-hand side when ordering.

**SKYLIGHT OR HATCH LOCKS**

Polished Brass

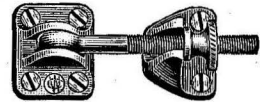


Fig. 4846

**SKYLIGHT QUADRANTS**

Polished Brass

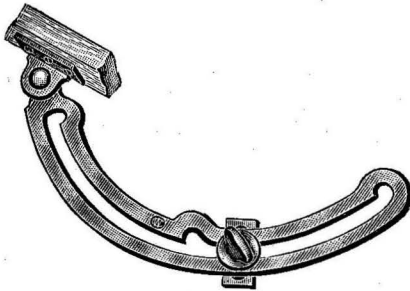


Fig. 481

Cut shows quadrant for left hand side looking forward.

Length Inches	Pol. Brass Pair	Chrome Plated Pair	Drilled for Wood Screw No.	Weight Pair in Lbs.
5	\$8.75	\$11.00	10	3/4
8	10.50	13.00	10	1 1/8
10	12.65	15.50	10	2 3/8
12	13.75	17.00	10	2 3/4

Usual type of "two-leaf" skylight will require two pair of quadrants.

Be sure to specify right- or left-hand side when ordering.

Base Plate Size Inches	Pol. Brass Each	Chrom. Plated Each	Keeper Size Inches	Diam. Bolt Inches	Length Bolt Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1 1/4 x 1 5/8	\$3.50	\$4.50	1 1/4 x 1 1/8	5/16	4	8	1/2

Easily locked by means of the knurled nut. No tools required. Special spring locking device securely holds the bolt flat against hatch cover when open. This eliminates the annoyance of the bolt swinging and rattling, and digging the deck when hatch is off.

**SASH HOLDERS**

Polished Brass

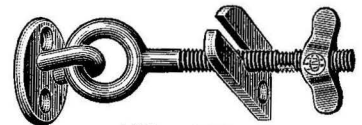


Fig. 4840

\$3.00 Each

Base Plate, 1 1/2 x 7/8 inch; Keeper Plate, 1 5/8 x 1 inch; Bolt, 2 1/2 inches long from center of eye to end of shank. Weight, 1/4 pound each. Drilled for Wood Screw No. 10.

Holds the window securely when open. Base Plate is narrow, so readily fits on a carling. Oval End Keeper Plate is not conspicuous, even on small sashes.

**YACHT STYLE  
LETTERS AND FIGURES**

Plain Cast Bronze

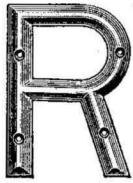


Fig. 593



Fig. 5930

Size Inches	Letters or Numerals Each	Hyphens Each	Approx. Weight Per 100 in Lbs.
3	\$0.50	\$0.20	36

Unlike flat letters where the screw heads are the most prominent feature, these are fastened with escutcheon pins. Made only in plain bronze, to permit painting in contrasting color to your boat's transom. Will outlast the boat and save many dollars usually spent on gold leaf.

**LETTERS AND FIGURES**

Cast Yellow Brass  
Regular



Fig. 591



Fig. 592

Size Inches	Plain Each	Drilled for Wood Screw No.	Average Wt. Per 100 Pcs. Pounds
3	\$0.40	8	26

Gothic



Fig. 5910 Fig. 5920

Size Inches	Plain Each	Drilled for Wood Screw No.	Average Wt. Per 100 Pcs. Pounds
3	\$0.40	8	17

**SLIDING HATCH HASPS**

Polished Brass

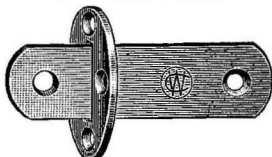


Fig. 4741 — Per Set, \$1.20

Tongue and finish plate for sliding companion and drop slide. Hole in tongue will take all small padlocks. Drilled for No. 14 wood screw. Finish plate drilled for No. 8 screws. Tongue 4½ inches long.

**TRANSOM BOARDING STEPS**

Cast Bronze

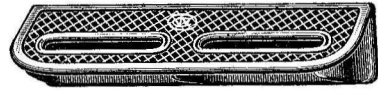


Fig. 599

Size No.	Each	Number of Hand Holes	Length Inches	Depth Inches	Drilled for R. H. Screw No.	Weight Each in Lbs.
1	\$3.00	1	6	4½	12	2¼
2	3.50	2	11	4½	12	4

This Step, with non-skid tread and large hand holes, will be welcomed by swimmers or those unfortunate who must get out and get under to clear a fouled propeller. Invaluable when attached to the transoms of motor boats.

**FLUSH HATCH LIFTING HANDLES**

Cast Bronze  
Heavy Coast Guard Type

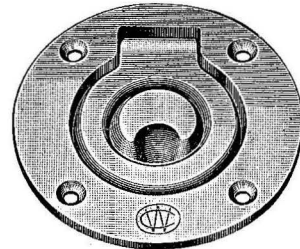


Fig. 615

Plain Bronze Each	Satin Finish Each	Chrom. Plated Each	Diam. Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$2.75	\$3.60	\$4.85	4½	12	1½

A water-tight, strong flush type Lifting Ring for heavy hatches. No recesses for chair legs to fall into! Designed to eliminate jamming with dirt. Extra large lifting ring with oversize hinge pin.

**FLUSH HATCH LIFTING HANDLES**

Cast Bronze  
Regular Type

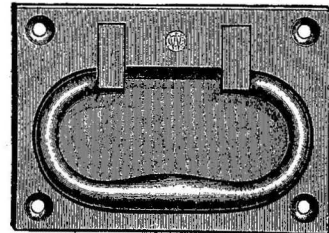


Fig. 603

Pol. Bronze Each	Chrom. Plated Each	Dim. Plate Inches
\$2.50	\$3.85	2¾ x 3¾

The Government requires that motor boat registration numbers shall be not less in size than three inches, and displayed in such manner and color as to be distinctly visible and legible. Two sets are required—one for each side of the bow.

**STRAP HINGES**

Cast Brass

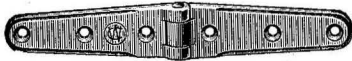


Fig. 471

Length Open Inches	Plain Brass Pair	Pol. Brass Pair	Drilled for Wood Screw No.	Weight Pair in Lbs.
4	\$1.75	\$3.50	10	1/4
6	2.00	3.75	10	3/16
8	2.50	4.25	10	3/8

**CUDDY DOOR HINGES**

Heavy Cast Brass

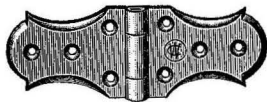


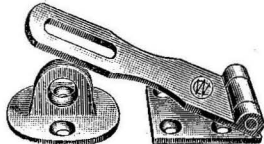
Fig. 472

Length Open Inches	Plain Brass Pair	Pol. Brass Pair	Drilled for Wood Screw No.	Weight Pair in Lbs.
3	\$1.50	\$2.10	8	1/4
3 1/2	1.85	2.60	8	3/16
4	2.25	3.00	10	1/2

**SECURITY HASPS**

Brass

Polished Cast Brass  
Fig. 4740



Polished Cast Brass, Fig. 4740

Length Closed Inches	Each	Width Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
3	\$1.50	1	5	1/8
3 3/4	2.00	1 1/8	5	1/4

Wrought Brass, Fig. 4742

Length Closed Inches	Per Doz.	Width Inches	Drilled for Wood Screw No.	Weight Per Doz. in Lbs.
2	\$3.00	3/4	5	3/8
3 1/8	4.25	1	6	1 1/8

**SKYLIGHT HINGES**

Brass



Fig. 480

Length Center Strap Inches	Plain Brass Pair	Polished Brass Pair	Drilled for Wood Screw No.	Length of Strap Inches	Weight Pair in Lbs.
2	\$4.25	\$6.00	10	4 1/2	1 1/4
3	5.25	7.00	10	4 1/2	1 3/8
4	6.00	8.00	10	4 1/2	1 3/8

**PORT HINGES**

Plain Cast Brass

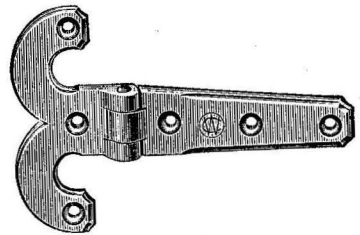


Fig. 470

Length Inches	Plain Brass Pair	Drilled for Wood Screw No.	Weight Pair in Lbs.
4	\$2.25	12	1/2
6	3.00	12	3/4
8	4.75	12	1 1/2
10	6.00	14	2 3/4

Measure length when opened.

**COMBINATION SASH HINGES**

Polished Brass

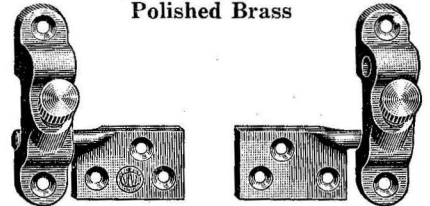


Fig. 484

Size Hinge Plates Inches	Polished Brass Set	Chrom. Plated Set	Drilled for Wood Screw No.	Size Bracket Base Inches	Weight Set in Lbs.
1 1/4 x 7/8	\$3.00	\$4.50	7	2 3/8 x 5/8	3/8

These Sash Hinges lock windows securely and prevent rattling. Extra large-headed Set Screws turn easily.

Sockets for 1/4-inch diameter Curtain Rod are contained in Brackets. A set consists of one pair of Brackets and one pair of Hinge Plates.

**TABLE LEG FASTENERS**

Polished Brass

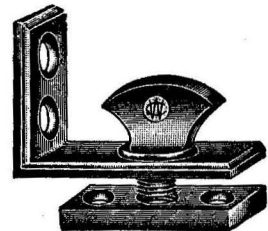


Fig. 915

Size No.	Pol. Brass Each	Chrom. Plated Each	Weight Each in Lbs.
1	\$1.75	\$2.75	1/4

This fastener will not let the table slide or topple over. The wing nut screws into the floor plate, making all secure. Yet, a twist of the fingers, and it's unfastened.

**TILLER ROPE CLAMPS**

Galvanized Gray Iron or Brass



Fig. 327

The neatest and quickest fastening for the ends of tiller lines. Easily adjusted with a screw driver.

For Diam. Rope Inches	Galvanized Each	Plain Brass Each	Length Inches	Width Inches	Weight Per 100 Pieces in Lbs.
1/8	\$0.20	\$0.27	1 5/8	3/4	11 1/4
3/16	.22	.28	1 3/4	3/4	13
1/4	.28	.37	1 3/4	1	17 1/2
5/16	.37	.50	2	1	22 1/2
3/8	.45	.70	2 1/2	1 1/8	44

3/8-inch size is heavy type with three screws and has special integral wire grips in the grooves which provide added holding power.

**TILLER ROPE GUIDES**

Galvanized Gray Iron or Brass

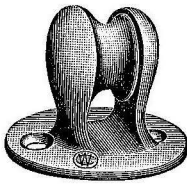


Fig. 575

Size No.	Galv. Each	Plain Brass Each	Pol. Brass Each	For Diam. Rope Inches	Diam. of Base Inches	Weight Per 100 in Lbs.
1	\$0.25	\$0.50	\$0.85	1/4	1 3/8	11
2	.35	.60	.95	3/16	1 5/8	19
3	.50	.70	1.25	3/8	1 3/4	27

No. 3 has four Screw Holes.

Drilled for Wood Screws: No. 1, 6; No. 2, 7; No. 3, 8.

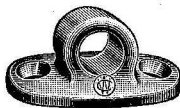


Fig. 576

Size No.	Galv. Each	Plain Brass Each	Pol. Brass Each	Size of Hole Inches	Size of Base Inches	Weight Per 100 in Lbs.
0	\$0.18	\$0.30	\$0.55	3/8	1 5/16 x 1 1/2	6 1/4

Drilled for No. 8 Wood Screws.



Fig. 5770

Size No.	Galv. Each	Plain Brass Each	Pol. Brass Each	Size of Hole Inches	Size of Base Inches	Weight Per 100 in Lbs.
0	\$0.18	\$0.30	\$0.55	3/8	1 5/16 x 1 1/2	6 1/4
1	.20	.35	.60	1/2	1 1/4 x 1 3/4	11 1/4
2	.25	.40	.65	5/8	1 1/4 x 1 7/8	13

Drilled for Wood Screws: No. 0, 8; No. 1, 10; No. 2, 10.

**SNAP SWIVEL TILLER ROPE BLOCKS**

Brass

With Hard Rubber Sheave



Fig. 5783

Size No.	Each	Packed Doz. Per Box	For Diam. Rope Inches	Size Sheave Inches	Length Overall Inches	Weight Each in Ozs.
1	\$1.75	1/2	5/16	1 7/8 x 7/16	4	4

Designed especially for quick, easy attaching or detaching of tiller rope to outboard motor. Practical wherever a strong, light, easily installed block is needed. Special design of swivel snap offers free swivel, plus unusual strength. Hard rubber sheave with brass collar bearing gives long life and easy turning — reduces wear on rope to a minimum. Suitable for wire as well as woven rope.

**SWIVEL EYE TILLER ROPE BLOCKS**

Brass

With Hard Rubber Sheave

Without Strap

With Strap



Fig. 5784  
\$1.50 Each

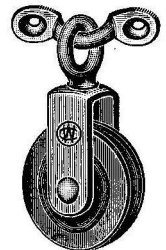


Fig. 5785  
\$1.75 Each

For Diam. Rope Inches	Packed Doz. Per Box	Size Sheave Inches	Length Overall Inches	Approx. Weight Each in Ozs.
5/16	1	1 7/8 x 7/16	3 1/4	3 1/2

Base on Fig. 5785 measures 2 x 1/2 inches, drilled for No. 10 Wood Screw.

The perfect Tiller Rope Block — available with or without strap. Free turning — free swiveling. The hard rubber sheave with brass bushing turns freely and minimizes rope wear. Suitable for wire as well as woven rope.

**SELF ALIGNING  
WIRE ROPE BLOCKS ON PLATE**

Plain Bronze Housing and Plate  
Galvanized Sheave  
For Tiller Ropes, Etc.

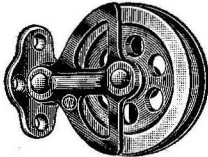


Fig. 5780

Length Overall Inches	Each	Drilled for Wood Screw No.	For Rope Diam. Inches	Diam. Sheave Inches	Weight Each in Lbs.
5½	\$4.00	14	¾ and smaller	4	2

This is a very sturdy block on plate with sheave suitable for wire rope. The heavy Eye Plate is designed to allow free swing of sheave in all directions for straight alignment with rope. This saves wear on rope and sheave and eliminates binding. A good quarter block for steering ropes.

**SWIVEL BLOCKS ON PLATE**

Galvanized Malleable Iron

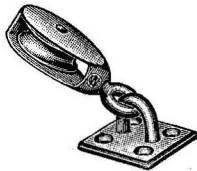


Fig. 381

Size No.	Each	For Diam. Rope Inches	Size Plate Inches	Drilled for Wood Screw No.	Weight Per 100 in Lbs.
3	\$1.05	¼	1¾ x 1¾	10	20
5	1.20	⅝	1¾ x 1¾	10	35
7	1.70	¾	1¾ x 1¾	10	66

**WIRE ROPE SHEAVES**

Galvanized Gray Iron or Brass

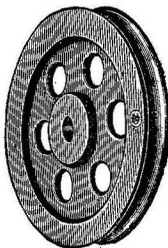


Fig. 8490

Size Inches	Galv. Each	Plain Brass Each	For Diam. Pin Inches	For Diam. Rope Inches	Approx. Weight Each in Lbs.
1⅞ x ⅞	\$0.50	\$0.60	⅝	⅝	⅛
3 x ⅞	.65	1.00	¾	¾	⅜
3¼ x 1½	.75	1.40	¾	¾	½
4 x ⅝	.95	2.30	¾	¾	¾
4½ x ¾	1.05	3.10	¾	¾	1⅜
4½ x ⅞	1.15	3.25	¾	¾	1½
5 x ⅞	1.60	3.75	¾	¾	2
6 x 1	2.50	5.50	¾	¾	3¼

**STEERING ROPE PULLEYS  
FOR WIRE ROPE**

Galvanized Malleable Iron or Brass

Side



Fig. 3801

Single

Size No.	Galv. Each	Plain Brass Each	Drilled for Wood Screw No.	For Diam. Rope Inches	Size Sheave Inches	Weight Each in Lbs.
2	\$2.00	\$3.00	10	¼	3¼ x ½	1¼
3	3.30	5.25	13	⅝-¾	4½ x ¾	2½

Double

Size No.	Galv. Each	Plain Brass Each	Drilled for Wood Screw No.	For Diam. Rope Inches	Size Sheave Inches	Weight Each in Lbs.
12	\$3.00	\$4.50	10	¼	3¼ x ½	1⅞
13	5.50	7.25	13	⅝-¾	4½ x ¾	4⅝

Nos. 3 and 13 Brass Sheaves are 4½ x ⅝ inch.

Upright

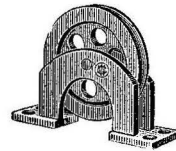


Fig. 3802

Single

Size No.	Galv. Each	Plain Brass Each	Drilled for Wood Screw No.	For Diam. Rope Inches	Size Sheave Inches	Weight Each in Lbs.
20	\$2.00	\$3.00	12	¼	3¼ x ½	1¼
30	3.30	5.25	14	⅝-¾	4½ x ¾	3

Double

Size No.	Galv. Each	Plain Brass Each	Drilled for Wood Screw No.	For Diam. Rope Inches	Size Sheave Inches	Weight Each in Lbs.
120	\$3.00	\$4.50	10	¼	3¼ x ½	2
130	5.50	7.25	14	⅝-¾	4½ x ¾	4½

Nos. 30 and 130 Brass Sheaves are 4½ x ⅝ inch.

**SIDE PULLEYS**

Galvanized Gray Iron or Brass



Fig. 579

Size No.	Galv. Each	Pol. Brass Each	For Diam. Rope Inches	Size Sheave Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1	\$0.30	\$0.80	¼	¾ x ¾	7	11
2	.45	.90	⅝	1⅞ x ⅞	7	17
3	.55	1.15	¾	1 x ½	7	25

### OUTBOARD MOTOR TRANSOM PLATES

Plain Bronze

With Leather Cushion Pads

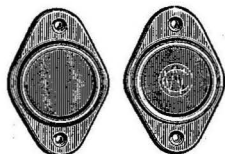


Fig. 6221

No.	Pair	For Size Motor	Diam. Pads Inches	Length Inches	Width Inches	Weight Pair in Lbs.
1	\$0.75	Small	1 1/16	3	1 3/4	1/8
2	1.10	Medium	1 3/8	3 1/2	2 1/4	3/8
3	1.85	Large	2 1/4	4 3/4	3	3/4

Drilled for No. 10 Wood Screws.

These Plates attached to the transom, provide a positive grip for the outboard motor screw clamps. The metal rim extending beyond the pad prevents motor from slipping if clamps become loose. The leather cushion pads absorb vibration and shock, and keep the boat from being chewed up.

### AUTOMATIC OUTBOARD BOAT BAILERS

Plain Bronze

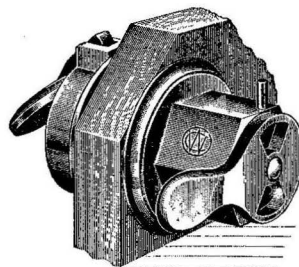


Fig. 5940

No.	Description	Each	Weight Each in Lbs.
1	Complete with shut-off	\$4.00	5/8
2	With cap and locknut	3.20	5/8
3	With locknut only	2.75	1/2

For wood thickness up to 1 1/2 inches.  
Diameter flange, 1 1/2 inches.

Here is a small inboard or outboard self-bailer, designed for installation in stern transom or step in horizontal position, at or slightly below waterline. Simply bore a 1-inch hole at the bottom of transom or step riser. Insert the shank so hinge of flap is on top. No. 1 style has shutter valve shut-off, as illustrated. No. 2 bailer is furnished with locknut and bronze cap. No. 3 has locknut only — a cork may be used for further shut-off if desired. In all cases, the shutter-valve shut-off or the locknut should be turned up tight to prevent bailer from turning. When boat is not underway, keep bailer closed. When underway, open bailer and water will be siphoned out. No more sponges or tin cans. This boat bailer will keep your boat dry!

### STEERING ROPE TIGHTENERS

Cadmium Plated Steel



Fig. 5813

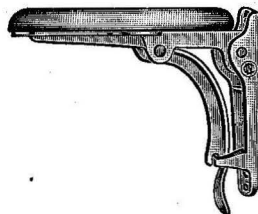
Size No.	Each	Normal Length Inches	Max. Length Compressed Inches	Weight Each in Lbs.
1	\$0.75	7 3/8	9 1/2	1/4

A strong compression spring for keeping steering ropes tight on outboard engines and small inboard powered boats. The steering rope must be tight enough to compress this spring under normal conditions. Then, the tendency of the spring to contract keeps proper tension on the tiller rope at all times.

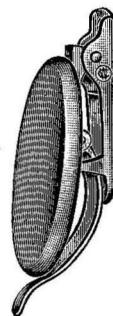
When used with outboard motors, attach spring to the motor and the tiller rope to the spring. Tilt motor forward slightly and have rope tight. Lower motor into running position, thus compressing spring tightener. On inboard engines a small turnbuckle attached to the tightener spring will provide proper compression. Remember — these spring tighteners must be compressed under operating conditions.

### HELMSMAN'S FOLDING SEATS

Cast Manganese Bronze



Locked in Position



Folded

Fig. 568

Size No.	Each	Brackets Only Each	Diam. Seat Inches	Type Seat	Projection Back to Front Inches	Weight Each in Lbs.
1	\$11.00	\$8.00	10	Wood	10 3/8	5
2	12.50	9.00	12	Aluminum	12 3/4	6 1/2

This sturdy Helmsman's (or galley) Seat has been designed for strength and convenience. The bracket is made of cast manganese bronze for strength. Release Lock permits seat to be folded flush with bulkhead when not in use. Can't fold accidentally and doesn't rattle when down. Brackets only may also be used for drop side tables. Drilled for three No. 12 F. H. Wood Screws.

W-C Outboard Steerers are modern in every detail, yet they carry the experience of years in manufacturing dependable marine steerers. This means they will give long, satisfactory service. They are strong enough to take the severe strains to which outboard steerers are subjected. Large bearings, accurately machined; no rattles — no jamming. You will be proud of the dressy appearance of your W-C Steerer, and will be delighted with the long, dependable service it will give. Be safe — insist on Wilcox-Crittenden Steerers and you will avoid trouble. They are made by men who know what is safe in a steerer under any conditions!

**"MASON" STEERERS**

Aluminum Alloy

Reinforced Light Grey Rubber Wheel

Without Throttle Lever

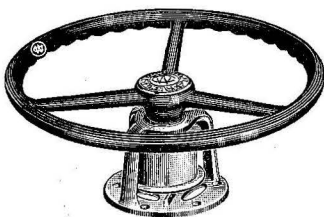


Fig. 905

Diam. of Wheel Inches	Plain Aluminum Each	Overall Height Inches	Diam. Base Inches	Drum Dim. Inches	No. of Bolt Holes	Weight Each in Lbs.
15	\$15.50	6 3/8	5 7/8	3 x 2 7/8	5	5 3/4

Drilled for No. 14 Wood Screws.

Mason Steerers are guaranteed to be dependable, and are called "No Break" by experienced users. Although particularly designed for outboard racing, they are equally practical for use on runabout cruisers and other types of boats. Large bearings at both upper and lower end, rigidly braced by side brackets to prevent bending or distortion.

The wheels are three-spoked, grey hard rubber, with steel core, and are fastened securely to the steerer posts. The balance of the parts are salt water resisting aluminum alloy — light, but very strong.

This steerer has smooth drum with large flange that prevents rope running off or jamming.

**RUNABOUT STEERERS**

Polished Aluminum, with Light Grey Wheel  
Without Throttle Lever

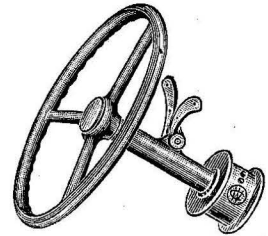


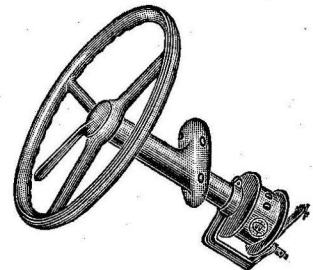
Fig. 8871

Diam. Wheel Inches	Each	Length Overall Inches	Length Dash to Wheel Inches	Diam. Drum Inches	Approx. Weight Each in Lbs.
15	\$19.50	11 1/2	5	3 1/2	7

A modern design steerer for dash mounting, permitting the desired positive angle of mounting. Dash bracket may be installed under the dash if desired. For fastening, use 3/4-inch diameter bolts or No. 14 Wood Screws. Large 3 1/2-inch drum gives quick steering action. All non-corrosive, special aluminum alloy; not even affected by salt water. Large, brass to aluminum bearing, with convenient oil holes, eliminating possibility of jamming.

**RUNABOUT STEERERS**

Polished Aluminum, with Light Grey Wheel



Without Throttle Control  
Fig. 9090

With Throttle Control  
Fig. 909

Fig.	Each	Diam. Wheel Inches	Overall Length Inches	Length Dash to Wheel Inches	Diam. Drum Inches	Weight Each in Lbs.
9090	\$20.25	15	14 1/2	6	3 1/2	7 1/2
909	24.95	15	15	6	3 1/2	11 1/4

Handsome, sturdy, modern streamlined runabout steerer. Polished corrosion-proof aluminum housing and drum, oilless bronze shaft bearings. Bronze bracket. Dash bracket face 30 degrees from vertical. Matching bolts furnished for mounting.

Fig. 909 has Chrome Plated Throttle Lever, with friction adjustment. 10 feet of Bowden Wire furnished with this steerer.

Fig. 9090 is the same fine steerer as Fig. 909, without throttle bracket and control.

**WHEELS ONLY**

Polished Bronze

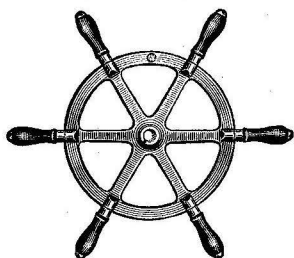


Fig. 570

Diam. Inches	Pol. Bronze Each	Chrome Plated Each	Key-way Inches	Diam. Hole in Hub Inches	Length of Hub Inches	Weight Each in Lbs.
16	\$12.00	\$16.00	3/16	1 3/16	1	3
20	16.50	22.00	1/4	7/8	1	5 1/2
25	29.50	35.00	1/4	1	1 1/4	10 1/2

Diameter is measured from tip to tip of handles.

These wheels are generally used with Chain Steerers, Figs. 5713 and 5714. The grips are stained mahogany finish.

**WHEELS ONLY**

Polished Bronze

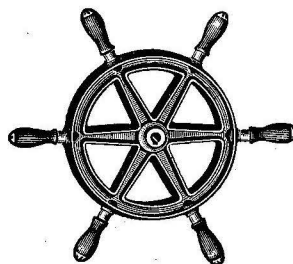


Fig. 569

Diam. Inches	Each	Key-way Inches	Diam. Hole in Hub Inches	Length of Hub Inches	Weight Each in Lbs.
20	\$16.50	1/4	7/8	1	8 3/4

Diameter is measured from tip to tip of handles.

This style of wheel is generally used with Chain Steerers, Figs. 5713 and 5714. Channel design of the rim and spokes gives extra strength against bending. Only the "high spots" of wheel are polished — the rest foundry finish — presenting a very pleasing effect. The grips are stained mahogany finish.

**WHEELS ONLY**

Galvanized Gray Iron

Steel Spokes

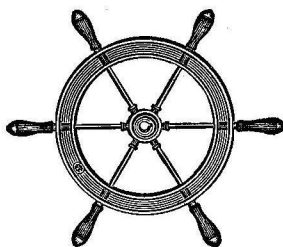


Fig. 571

Diam. Inches	Each	Keyway Inches	No. of Spokes	Diam. Hole in Hub Inches	Length of Hub Inches	Weight Each in Lbs.
25	\$26.40	5/16	6	1	2	14 1/2
30	33.00	3/8	8	1 1/4	2 3/8	31

Diameter is measured from tip to tip of handles. Has hardwood grips.

**WHEELS ONLY**

Polished Bronze

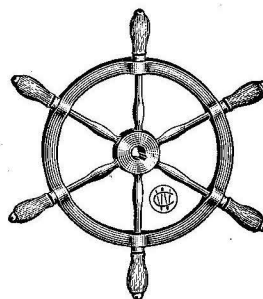


Fig. 5721

Diam. Inches	Each	Keyway Inches	No. of Spokes	Diam. Hole in Hub Inches	Length of Hub Inches	Weight Each in Lbs.
20	\$40.00	1/4	6	7/8	1	9 1/2
24	50.00	1/4	6	1	1	15

Diameter is measured from tip to tip of handles.

This wheel has a heavy hub with separate spokes, securely threaded together. Each spoke runs from hub to outer tip of wooden grip through machined holes in rim — thus, no separate handle bolts. The hardwood grips are fixed to prevent them from turning or loosening.

**STEERING WHEELS**

Standard Type — Polished Brass

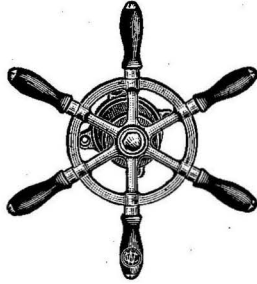


Fig. 563

Stained Mahogany Grips, Wood Drum, Flat Spokes and Rim.

Diam. of Wheel Inches	Each	Diam. of Drum Inches	Length of Drum Inches	Size Base Plate Inches	Drilled for Wood Screws No.	Weight Each in Lbs.
12	\$10.00	2½	3	3¾ x 3¾	12	3¼
16	15.50	3	3½	4 x 4	12	4¾
20	26.50	4	4½	5¼ x 5¼	16	9¾

**Parts for Fig. 563 Wheels**

	For 12" Size Each	For 16" Size Each	For 20" Size Each
Handles or Grips	\$0.25	\$0.25	\$0.40
Handle Bolts	.40	.40	.80
Posts with Back Plates	2.25	4.50	7.10
Drums	.70	1.30	3.25
Acorn Nuts	.80	1.00	1.60

Heavy Type — Brass

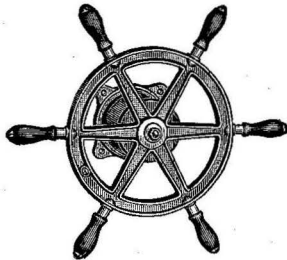


Fig. 5651

Stained Mahogany Grips, Wood Drum, Reinforced Spokes and Rim.

Diam. of Wheel Inches	Each	Diam. of Drum Inches	Length of Drum Inches	Size Base Plate Inches	Drilled for Wood Screws No.	Weight Each in Lbs.
12	\$10.00	2½	3	3¾ x 3¾	12	4
16	15.50	3	3½	4 x 4	12	6
20	26.50	4	4½	5¼ x 5¼	16	14

**Parts for Fig. 5651 Wheels**

	For 12" Size Each	For 16" Size Each	For 20" Size Each
Handles or Grips	\$0.25	\$0.25	\$0.40
Handle Bolts	.40	.40	.80
Posts with Back Plates	2.25	4.50	7.10
Drums	.70	1.30	3.25
Acorn Nuts	.80	1.00	1.60

This husky Drum Type Steerer is recommended for those installations where heavy duty service is required. Note the channel design of the rim and spokes for extra strength against bending. The "high spots" of the wheel are polished — balance foundry finish — which gives a very pleasing effect.

**STEERING WHEELS**

Standard Type — Galvanized Gray Iron

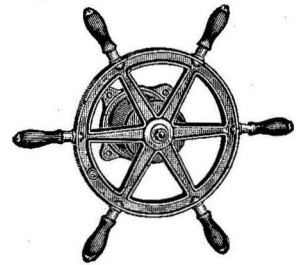


Fig. 5650

Stained Mahogany Grips, Wood Drum.

Diam. of Wheel Inches	Each	Diam. of Drum Inches	Length of Drum Inches	Size Base Plate Inches	Drilled for Wood Screws No.	Weight Each in Lbs.
12	\$7.50	2½	3	3¾ x 3¾	12	3½
16	10.25	3	3½	4 x 4	12	5
20	17.75	4	4½	5¼ x 5¼	14	12½
25	30.00	4	6	5¼ x 5¼	16	20½

**Parts for Fig. 5650 Wheels**

	For 12" Size Each	For 16" Size Each	For 20" Size Each	For 25" Size Each
Handles or Grips	\$0.25	\$0.25	\$0.40	\$0.65
Handle Bolts	.25	.25	.40	.65
Posts with Back Plates	1.55	2.60	4.50	9.00
Drums	.70	1.30	3.25	4.90
Acorn Nuts	.25	.45	.70	1.30

Diameter of all wheels is measured from tip to tip of handles.

**STEERING WHEELS**

Galvanized Gray Iron

Bracket Type

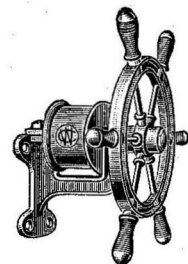


Fig. 5715

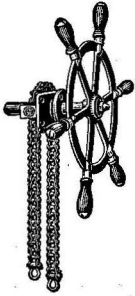
Oak Grips, Bronze Drum, Steel Spokes

Diam. of Wheel Inches	Each	Diam. of Drum Inches	Length of Drum Inches	Drilled for Bolts Inches	Weight Each in Lbs.
25	\$60.00	4½	4½	¾	27

For Fishing and Heavy Work Boats, this Bracket Steerer has no equal in a drum type of steerer. Each part, from steel spokes to extra heavy bracket, is made to stand up under extremely rugged conditions. It is dependable.

**CRUISER STEERERS**

Brass  
Bulkhead Chain Type



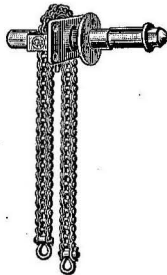
Diameter of all wheels is measured from tip to tip of handles.

With Polished Brass Wheel and Stained Mahogany Grips

Fig. 5713

Diam. Wheel Inches	Each	Diam. Shaft Inches	Length of Chain Feet	Pitch of Chain Inches	Diam. of Sprocket Inches	Weight Each in Lbs.
16	\$36.25	1	3	5/8	3 3/16	11
20	45.00	1	3	5/8	4 3/8	15
25	60.00	1 1/8	3	5/8	4 3/8	21

All sizes are drilled for No. 14 Wood Screws.



Without Wheel but Machined for Wood Wheels

Fig. 5712

For Diam. Wheel Inches	Each	Diam. Shaft Inches	Size of Wheel End of Shaft Inches	Lgth. of Chn. Ft.	Pitch of Chn. In.	Diam. of Sprocket In.	Weight Each in Lbs.
20	\$26.50	1	7/8 x 1 1/16	3	5/8	4 3/8	10
24	30.00	1 1/8	1 x 1 1/16	3	5/8	4 3/8	11
28	38.50	1 1/4	1 1/8 x 2	3	3/4	5 5/8	14
30	38.50	1 1/4	1 1/8 x 2 3/16	3	3/4	5 5/8	14
36	40.75	1 3/8	1 1/4 x 2 1/16	3	3/4	5 5/8	16

Drilled for Wood Screws: Sizes 20-inch and 24-inch — No. 14; Sizes 28-inch, 30-inch and 36-inch — No. 15.

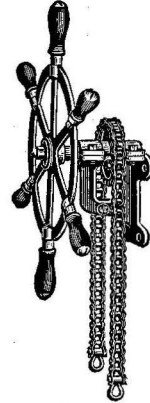
Parts for Figs. 5713 and 5712 Steerers

	For 16" Size Each	For 20" Size Each	For 24"-25" Size Each	For 28"-30"-36" Size Each
Brackets	\$5.50	\$7.00	\$7.00	\$10.50
Sprockets	3.60	6.50	6.50	8.25
Shafts	5.50	6.25	9.00	12.50
Finishing Plates	1.80	1.80	1.80	2.60
Acorn Nuts	1.00	1.10	1.80	2.60
Chain Shackles	1.30	1.30	1.30	1.30
Brass Roller Chain				
5/8-inch Pitch, per foot	3.50	3.50	3.50	...
3/4-inch Pitch, per foot	...	...	...	3.50

For Wheels for Fig. 5713 — See Fig. 570.

**CRUISER STEERERS**

Brass  
Bracket Chain Type

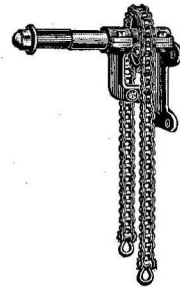


With Stained Mahogany Grips

Fig. 5714

Diam. Wheel Inches	With Pol. Brass Wheel Each	With Chrome Plated Wheel Each	Diam. Shaft Inches	Length of Chain Feet	Pitch of Chain Inches	Diam. of Sprocket Inches	Weight Each in Lbs.
16	\$45.00	\$52.00	1	3	5/8	3 3/16	12
20	53.00	60.00	1	3	5/8	4 3/8	17
25	63.00	70.00	1 1/8	3	5/8	4 3/8	23

All sizes are drilled for 3/8-inch diameter bolts.



Without Wheel but Machined for Wood Wheels

Fig. 5719

For Diam. Wheel Inches	Each	Diam. Shaft Inches	Size of Wheel End of Shaft Inches	Lgth. of Chn. Ft.	Pitch of Chn. In.	Diam. of Sprocket In.	Weight Each in Lbs.
20	\$37.00	1	7/8 x 1 1/16	3	5/8	4 3/8	12
24	40.00	1 1/8	1 x 1 1/16	3	5/8	4 3/8	13

Both sizes are drilled for 3/8-inch diameter bolts.

Parts for Figs. 5714 and 5719 Steerers

	For 16" Size Each	For 20" Size Each	For 24"-25" Size Each
Brackets	\$11.75	\$11.75	\$11.75
Sprockets	3.60	6.50	6.50
Shafts	5.50	6.25	9.00
Acorn Nuts	1.00	1.10	1.80
Chain Shackles	1.30	1.30	1.30
Brass Roller Chain			
5/8-inch Pitch, per foot	3.50	3.50	3.50

For Wheels for Fig. 5714 — See Fig. 570.

When ordering chain, specify Part No. 17 — Fig. 5718 and give Pitch required

**CRUISER STEERERS**

Polished Bronze  
Coast Guard Design  
Heavy Bulkhead Chain Type

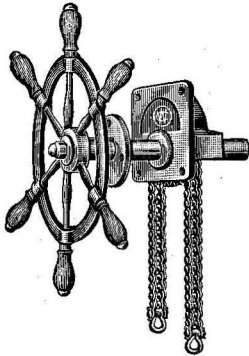


Fig. 5722

Diam. Wheel Inches	Each	Diam. Shaft Inches	Length of Chain Feet	Pitch of Chain Inches	Diam. of Sprocket Inches	Weight Each in Lbs.
20	\$70.00	1	3	5/8	4 3/8	20
24	91.00	1 1/8	3	5/8	4 3/8	25 1/2

Both sizes are drilled for No. 14 Wood Screws.

This husky unit, with its strong bronze bracket, large sprocket, oversized shaft and bronze roller chain, makes heavy steering easy and dependable. Bracket has integral cast bronze guard to prevent chain riding from sprocket and jamming. The attractive, sturdy bronze wheel is built to "take it" when "she's rolling 'em under." Has heavy hub with separate spokes, all carefully machined, and securely threaded together. Each spoke runs from the hub to outer tip of hardwood grip through machined holes in rim, thus eliminating separate handle bolts. The wood grips are fixed to prevent them from turning or loosening. Every feature makes this an outstanding wheel for any boat!

Diameter of all wheels is measured from tip to tip of handles.

**HERCULES REVERSE GEAR CONTROLS**

Polished Bronze  
Without Throttle Control

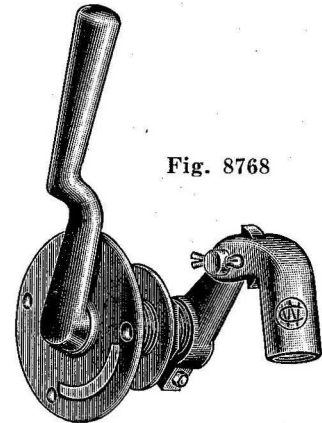


Fig. 8768

Pol. Bronze Each	Chrom. Plated Each	Elbow Toggle Tapped for Pipe Inches	Length Handle Inches
\$30.00	\$38.50	1/2 or 3/4	9
For Maximum Wood Thickness Inches	Diam. Bulkhead Plate Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1 1/2	5	12	7

For 1/2" or 3/4" pipe. Specify which when ordering.

With Throttle Control

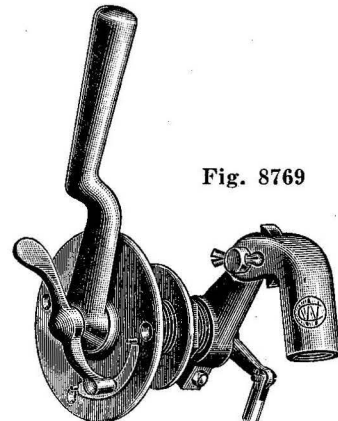


Fig. 8769

Pol. Bronze Each	Chrom. Plated Each	Elbow Toggle Tapped for Pipe Inches	Length Handle Inches
\$38.50	\$48.50	1/2 or 3/4	9
For Maximum Wood Thickness Inches	Diam. Bulkhead Plate Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1 1/2	5	12	7 1/4

For 1/2" or 3/4" pipe. Specify which when ordering.  
Heavy duty reverse gear control for flush mounting on the wheel box. All throttle and reverse gear connections are out of sight, and out of the way — yet both throttle and reverse control levers may be most conveniently located.

Smooth, powerful action developed through the "non-locking" Elbow Toggle. Throttle lever has positive friction to prevent vibration causing change of speed without your knowledge.

High quality bronze gives such great strength, possibility of binding or springing out of shape is eliminated.

See Fig. 5718 on page 65 for connecting parts to complete a hook-up.

**CRUISER STEERERS**

Polished Bronze  
Coast Guard Design  
Heavy Bulkhead Chain Type

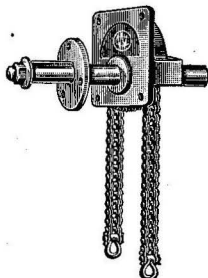


Fig. 5720

Without Wheel, but Machined for Wood Wheels

For Wheel Diam. Inches	Each	Diam. of Shaft Inches	Size of Wheel End of Shaft Inches	Lgth. of Chn. Ft.	Pitch of Chn. In.	Diam. of Sprocket In.	Weight Each in Lbs.
20	\$33.00	1	7/8 x 1 1/16	3	5/8	4 3/8	10 1/2
24	44.00	1 1/8	1 x 1 1/16	3	5/8	4 3/8	11 1/2

Both sizes are drilled for No. 14 Wood Screws.

STEERER AND REVERSE CONTROL PARTS

Plain Bronze

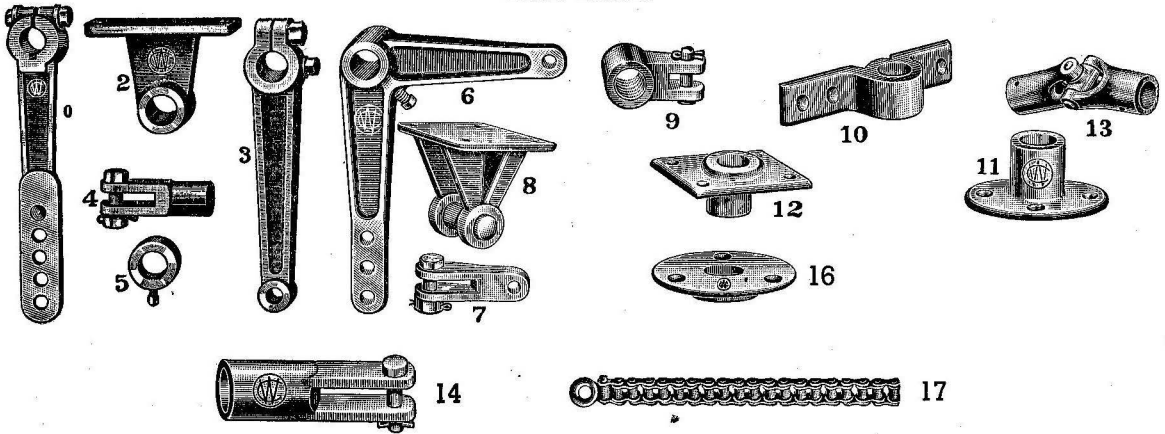


Fig. 5718

Part No.	Description	Each	Length Overall Inches	Length Center to Center of Holes Inches	Diam. Shaft Hole Inches	Diam. Clevis Bolt Hole Inches	Tapped for Pipe Inches	Tapped for Rod Inches	Diam. Pin or Bolt Inches	Width Between Jaws Inches	Dimensions Plate Inches	Drilled for Wood Screws No.	Weight Each in Lbs.
0	Lever	\$9.60	10 3/4	6 3/4 - 9*	1	1/2	..	..	..	..	..	..	2 1/2
2	Hanger	3.60	3**	.....	1	..	..	..	..	..	2 x 5 1/8	18	2 1/4
3	Lever (3 sizes)	{ 6.00† 6.30 6.60	{ 7 10 11 1/6	{ 5 1/2 7 3/4 9	{ 1 1 1	{ 1/2 1/2 1/2	..	..	..	..	..	..	{ 1 1/2 2 1/4 3 1/4
4	Clevis	2.30	3 3/4	.....	..	..	1/2	..	1/2	1/2	.....	..	1
5	Collar (2 sizes)	{ 1.50 1.50	.....	.....	1 1 1/8	..	..	..	..	..	.....	..	{ 1/4 1/4
6	Bell Crank	6.60	....	††	1	1/2	..	..	..	..	.....	..	2 1/2
7	Toggle (2 sizes)	{ 1.45 2.80	{ 2 7/8 3 3/4	{ 1 7/8 2 3/4	..	{ 1/2 & 3/8 1/2	..	..	..	1/2 1/2	.....	..	{ 3/8 3/4
8	Bracket	7.00	3**	.....	1	..	..	..	1	1 3/8	4 x 6	16	3 1/4
9	Adjustable Clevis (2 sizes)	{ 3.60 3.60	.....	.....	..	..	{ 3/4 ..	..	{ 1/2 1/2	1/2 1/2	.....	..	{ 1 1/8 1 1/8
10	Bulkhead Bracket	4.25	1 1/4**	.....	1	..	..	..	..	..	1 1/4 x 7	14	1 1/4
11	Lower Bearing	4.25	....	.....	1	..	..	..	..	..	4	12	1 1/4
12	Floor Plate Bearing	3.75	....	.....	1	..	..	..	..	..	3 1/4 x 3 7/8	14	1 1/8
13	Universal Joint (2 sizes)	{ 5.50 8.50	{ 4 1/2 5 3/4	.....	{ 3/4 1	..	..	..	..	..	.....	..	{ 1 1 1/8
14	Clevis (Long) (2 sizes)	{ 3.00 3.00	{ 4 1/6 4 1/6	.....	..	..	{ 3/4 ..	..	{ 1/2 1/2	1/6 1/6	.....	..	{ 3/4 3/4
16	Steerer Finishing Plate	1.40	....	.....	1	..	..	..	..	..	3 1/2	14	3/4

Part No.	Per Foot	Pitch Chain Inches	Weight Per Foot Lbs.
17 Brass Steerer Chain (2 sizes)	\$3.50	5/8	7/8
	3.50	3/4	7/8

Shackles only, each ....\$1.30

\*First dimension minimum; second dimension maximum. Holes 3/4" center to center. Lever spotted at 6" for an extra hole, not drilled.

\*\*Distance is from floor to centerline of shaft hole.

†This lever has a Keyway and Set Screw instead of as illustrated.

††Short arm 6 inches. Long arm 6, 7 and 8 inches.

In laying out a reverse control system the fewer parts that are used the better, as a general rule. However, in an attempt at simplification, bending of drag links and similar short cuts should not be indulged in as this will provide poor control. In many badly-designed hook-ups one lever is expected to act in two planes, with resultant binding. Toggles, such as Part No. 7, should be used more often than they are to reconcile vertical and horizontal motions. Closely fitted pins in clevises are important for proper linkage operation. All W-C control parts are closely fitted and are "Dependable".

## THROTTLE CONTROL PARTS

Cast Bronze

Up to date, properly designed parts from which any installation hook-up can be assembled.

### THROTTLES

Cast Bronze

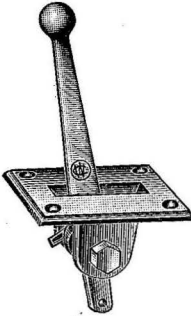


Fig. 8752 — Part No. 1

Satin Finish Each	Pol. Bronze Each	Chrom. Plated Each
\$13.75	\$16.00	\$20.00

With friction washers. Lever 7 inches above pivot, 2¼ inches below. Plate, 3½ x 4½ inches, drilled for No. 12 Wood Screws. Drilled for ¼-inch pin. Takes Part No. 3. Wt., 3 lbs.

### CLEVIS BRACKETS

Plain Bronze

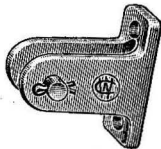


Fig. 8752 — Part No. 2

\$1.65 Each

Width between jaws, ½-inch. With ⅜-inch pin and cotter. Drilled for ¼-inch bolts. Takes Part Nos. 4, 5 and 7. Wt., ½ lb.

### CONTROL ROD CLEVISES

Plain Bronze



Fig. 8752 — Part No. 3

\$1.40 Each

Tapped ⅝-18. Width between jaws, ⅝ inches. With ¼-inch pin and cotter. Wt., ¼ lb.

### LEVERS

Plain Bronze



Fig. 8752 — Part No. 4  
\$2.75 Each

4-inch radius. Drilled for ⅜-inch shaft and ¼-inch pin. Wt., ¼ lb.

### LEVERS

Plain Bronze



Fig. 8752 — Part No. 5  
\$1.75 Each

3-inch radius. Drilled for ⅜-inch shaft and ¼-inch pin. Wt., ¼ lb.

### BELL CRANK BRACKETS

Plain Bronze

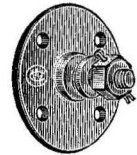


Fig. 8752 — Part No. 6  
\$3.00 Each

With washer, nut and cotter. Diam. base, 2½ inches. Drilled for No. 12 Wood Screws. Diam. post ⅜-inch. ⅝-inch under washer. Takes Part No. 7. Wt., ⅝ lb.

### BELL CRANKS

Plain Bronze



Fig. 8752 — Part No. 7

\$1.50 Each

Radius each arm, 3 inches. Drilled for ⅜-inch shaft and ¼-inch pins. Takes Part Nos. 2, 3 and 6. Wt., ⅝ lb.

**COCKPIT MOUNTING REVERSE CONTROLS**

Cast Bronze

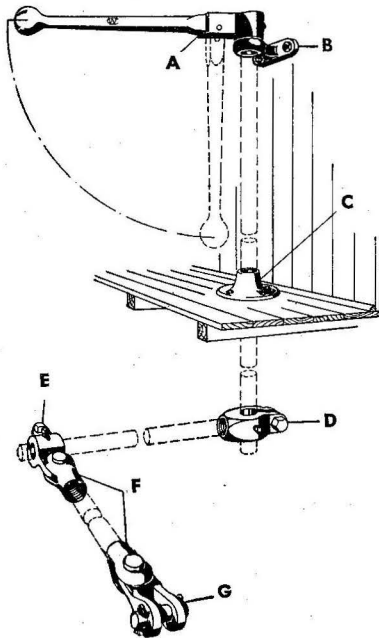


Fig. 904

Set Each	Length Upper Lever Inches	Sockets Tapped for Standard Pipe Size	Weight Set in Lbs.
\$25.00	9½	¾	5

At last — the perfect (and complete) reverse control for the small auxiliary! Designed by naval architect Winthrop L. Warner. Just right for engines like the Gray Light-Four, etc. Projects only 3½ inches from cockpit wall. Uses ¾ inch rod for vertical rod. Lever "arm" is ¾ inch standard pipe on which an adjustable fitting (E) slides and then locks after perfect alignment has been obtained. The arm length can be varied to fit your exact installation dimensions, Clevises (F) are tapped for ¾ inch standard pipe drag link. Note that toggle (G) with ½ inch jaw is included, assuring alignment and no binding. Don't compare this control with incomplete sets. Everything but the rod and pipe is furnished and both the rod and pipe are common sizes, easily obtained anywhere. Set includes upper bracket (B) and deck escutcheon (C). Only drop handle is polished. Handle socket emery finish. This is a tested control — ideal for the small auxiliary. Carefully fitted. Non rattling!

**CHAIN REVERSE CONTROLS**

Cast Bronze

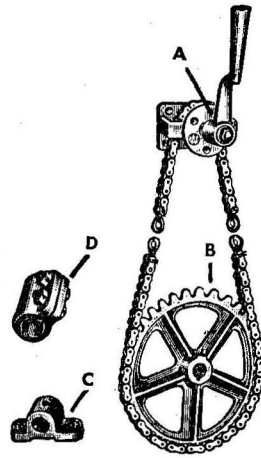


Fig. 8770

Set Each	Length Handle Inches	Diameter of Upper Sprocket Inches	Diameter of Lower Sprocket Inches	Weight Set in Lbs.
\$50.00	8¼	3⅝	10⅞	19¾

Set consists of upper sprocket assembly and lever (a), lower sprocket (b), a 3-foot length of ⅝ inch pitch roller chain and a 3-foot length of ¾ inch pitch roller chain, with chain shackles, a Fig. 888 sleeve coupling (d) for 1 inch engine reverse gear stub shaft, and pillow bearing (c) for 1 inch shaft. A sturdy, reliable control which offers new hook-up possibilities.

**HEAVY DUTY REVERSE CONTROLS**

Cast Bronze

Set Each	Length Handle Inches	Length Lower Lever Inches	Sockets Tapped for Pipe Size	Weight Set in Lbs.
\$46.00	12	5½	¾	17½

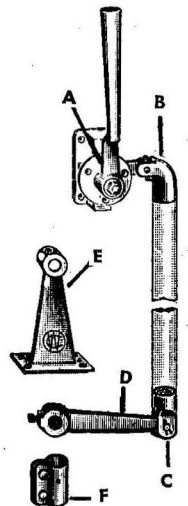


Fig. 8763

A powerful control, with toggle linkage. Fittings reamed for ¾ inch engine reverse control stub shaft. Height to center of shaft bearing 7½ inches. Set consists of upper lever assembly (A) with clevis (B) tapped for ¾ inch pipe; lower lever (D) and clevis (C) tapped for ¾ inch pipe, Fig. 888 shaft coupling (F), and extension shaft bearing (E).

**REVERSE GEAR CONTROLS**

Polished Bronze  
Standard Type

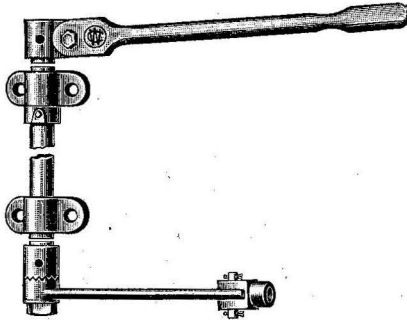


Fig. 8758

Fittings only, without shaft \$26.50 per set

Length Handle Inches	Length Lower Lever Inches	Diameter Vertical Shaft Inches	Weight without Shaft in Lbs.
17	7 3/4	1	9 1/2

Clevises are Fig. 5718, Part No. 4.

Brackets drilled for No. 18 Wood Screws.

All parts are of bronze. The handle and brackets are highly polished.

Upper and lower fittings designed to be pinned onto shaft.

An additional clevis is provided for connection to the reverse gear lever.

**Heavy Type**

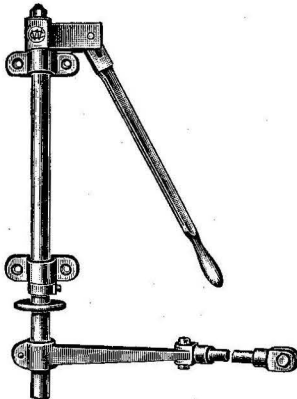


Fig. 8759

Fittings only, without shaft \$32.00 per set

Length Handle Inches	Length Lower Lever Inches	Bored for Shaft Inches	Weight without Shaft in Lbs.
18	9	1 1/8	18

Clevises are Fig. 5718, Part No. 14 (for 3/4-inch pipe).

Brackets drilled for No. 18 Wood Screws.

All parts of this control are made of bronze. The complete Handle Unit, as well as the Brackets, Floor Plate and Shaft Collar, are highly polished. An additional clevis is provided for connection to the Reverse Gear Lever. Clevises have 1/2 inch slots and 1/2 inch pins. Handle unit and lever are provided with keyways.

**REVERSE GEAR CONTROLS**

Bronze  
Flush Cockpit Type

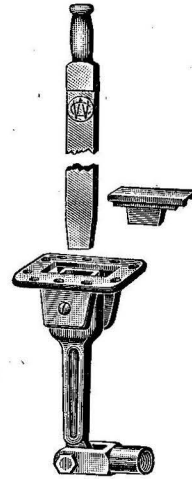


Fig. 8767

With Galvanized Steel Handle — \$26.00 Each  
With Polished Bronze Handle — \$32.00 Each

Overall Length Socket Per Set Inches	Length of Throw Inches	Length of Handle Inches	Dim. Floor Plate Inches	Drilled for Wood Screw No.	Approx. Weight Each in Lbs.
8 1/2	8	24	5 x 3 1/2	14	10

The ideal Clutch Control for auxiliaries. Handle can be instantly withdrawn from its socket. Flush locking plug (as illustrated) supplied to cover socket when handle is not in use. Two Clevises (Fig. 5718, Part No. 14, for 3/4-inch pipe) are included with each Control.

**REVERSE GEAR CONTROLS**

Bronze

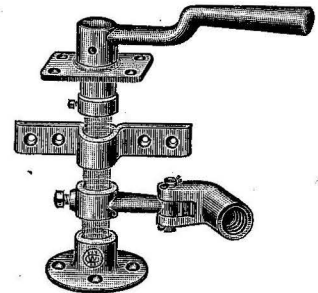


Fig. 8771

Plain Bronze Per Set	Pol. Bronze Per Set	Chrom. Plated Per Set	Approx. Weight Set in Lbs.
\$22.50	\$27.00	\$35.00	7 1/2

Size Handle Inches	Dim. Shelf Plate Inches	Dim. Bulkhead Bracket Inches	Diam. Vertical Shaft Inches	Toggle Tapped for Pipe Inches
8	3 1/4 x 3 3/8	1 1/4 x 7	1	3/4

Drilled for Wood Screws: Floor Plate and Bulkhead Bracket, No. 14; Lower Bearing, No. 12.

Shaft is not furnished. Control is supplied with Bulkhead Bracket or Shelf Plate. Please specify which when ordering.

On Polished or Chrome orders, polished and chrome represents handles, floor plate and bulkhead bracket only.

**CHOKE CONTROLS**

Chrome Plated

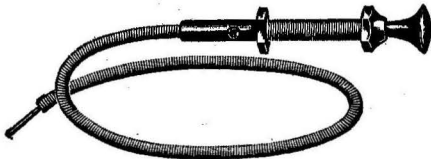


Fig. 913

Complete with Steel Casing and Wire

Size No.	Each	Length Casing and Wire Feet	Weight Complete in Lbs.	Stock Lengths Feet
2	\$3.25	7	7/8	7
3	3.60	10	1 1/8	10
4	4.10	15	1 5/8	15
				50

Complete with Brass Casing and Wire

12	\$4.15	7	7/8
13	4.95	10	1 1/8
14	5.90	15	1 5/8

Control only — \$2.00 Each

**BOWDEN CASING BRACKET CLIPS**

Plain Brass

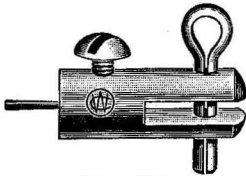


Fig. 921

Per Doz.	Packed Doz. Per Box	Width Between Jaws Inches	Weight Per Doz. in Lbs.
\$4.20	1	1/8	3/8

**BOWDEN CASING BRACKET CLAMPS**

Plain Brass

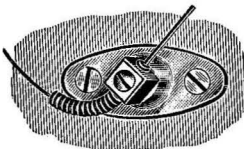


Fig. 922

Per Doz.	Packed Doz. Per Box	Drilled for Wood Screw No.	Weight Per Doz. in Lbs.
\$7.80	1	8	1 1/2

**FLEXIBLE BOWDEN WIRE AND CASING**

Cadmium Plated Steel Casing with Steel Wire  
Brass Casing with Phosphor Bronze Wire



Fig. 925

Steel Per Length Each	Brass Per Length Each	Weight Each Length in Lbs.
\$0.95	\$1.85	3/4
1.30	2.65	1
1.80	3.60	1 1/2
6.00	12.00	5

**CONTROL ROD CLIPS**

Plain Brass

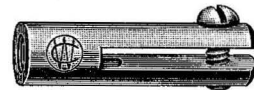


Fig. 923

Tapped Thread Inches	Per Doz.	Packed Dozen Per Box	Width Between Jaws Inches	Approx. Weight Per 100 in Lbs.
1/4-20	\$3.60	1	1/8	2 7/8
3/8-18	3.60	1	3/32	4 1/4

**CONTROL ROD CLIPS**

Plain Brass

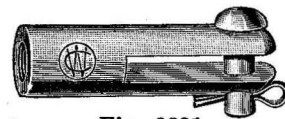


Fig. 9231

Tapped Thread Inches	Per Doz.	Packed Dozen Per Box	Width Between Jaws Inches	Approx. Weight Per 100 in Lbs.
1/4-20	\$4.20	1	3/16	4 1/4
3/8-18	4.20	1	3/16	4 1/4

**BOWDEN WIRE AND ROD CONNECTORS**

Plain Brass

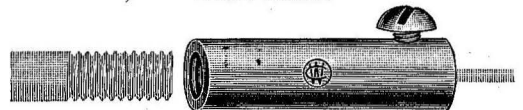


Fig. 9232

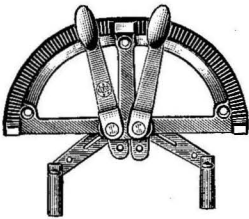
Tapped Thread Inches	Per Doz.	Packed Dozen Per Box	Overall Length Inches	Weight Per Doz. in Lbs.
1/4-20	\$3.60	1	1 1/8	3/8

This clip makes it easy to connect bowden control wire to 1/4-inch control rod. Clamp, Fig. 922, would also be used to hold the end of the bowden casing. With this connector it is practical to use rod on long straight runs of the control, and yet use bowden wire for turns or at the motor. The combination of rod and wire gives full flexibility, yet permits closer throttle setting.

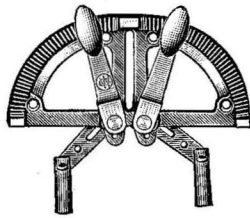
**THROTTLE CONTROLS**

Polished Brass

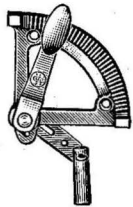
Flat Ratchet Type



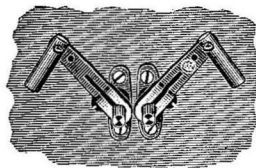
Regular — Double  
No. 1 — Fig. 8753



Heavy — Double  
No. 2 — Fig. 8753



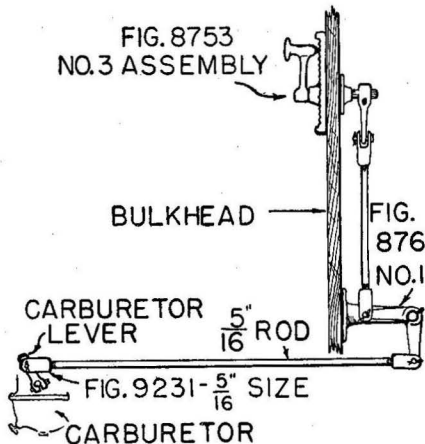
Heavy — Single  
No. 3 — Fig. 8753



Rear View  
Nos. 1 and 2

No.	Each	Spindles for Max. Wood Thickness Inches	Dim. Frame Inches	Rod Clips Tapped	Drilled for Screw No.	Weight Each in Lbs.
1	\$8.00	1 5/8	6 x 3 1/2	1/4-20	8	1 1/4
2	9.00	1 3/4	6 1/4 x 3 3/4	5/16-18	10	1 5/8
3	4.25	1 3/4	3 x 3 1/2	5/16-18	10	3/4

For motor end of Bowden connections, see Bowden Clip, Fig. 921, and Bowden Casing Swivel Clamp Fig. 922.



Representative throttle hook-up, showing typical use of Control Cranks — also termed bell cranks — to translate vertical into horizontal motion.

**SPARK AND THROTTLE CONTROLS**

Polished Brass  
Vertical Ratchet Type  
Single or Double Lever

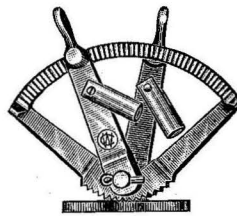


Fig. 875

No.	Pol. Brass Single Lever Each	Pol. Brass Double Lever Each	Rod Clips Tapped
1	\$4.00	....	1/4-20
2	....	\$6.25	1/4-20

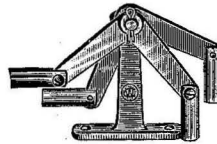
  

Dim. Frame Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
4 3/8 x 3 1/4	10	1/2
4 3/8 x 3 1/4	10	5/8

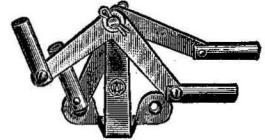
These controls have an adjustment at the base, consisting of a toothed arc allowing for a change in position of the quadrant. This adjustment is easily made by loosening a single screw.

**CONTROL CRANKS**

Plain Brass



Upright  
Fig. 876  
Single—No. 1 or 5  
Double—No. 2 or 6



Side  
Fig. 877  
Single—No. 3 or 7  
Double—No. 4 or 8

No.	Single Each	Double Each	Type	Regular			Weight Each in Lbs.
				Clips Tapped Thread Inches	Height Inches	Drilled for Wood Screw No.	
1	\$1.50	...	Upright	1/4-20	2 3/4	10	5/16
2	...	\$2.45	Upright	1/4-20	2 3/4	10	7/16
3	1.50	...	Side	1/4-20	2 3/4	10	5/16
4	...	2.45	Side	1/4-20	2 3/4	10	1/2

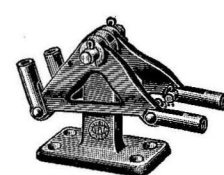
  

No.	Single Each	Double Each	Type	Heavy			Weight Each in Lbs.
				Clips Tapped Thread Inches	Height Inches	Drilled for Wood Screw No.	
5	\$1.75	...	Upright	5/16-18	2 7/8	10	1/2
6	...	\$2.70	Upright	5/16-18	2 7/8	12	1/4
7	1.75	...	Side	5/16-18	2 7/8	10	1/2
8	...	2.70	Side	5/16-18	2 7/8	12	3/4

	Regular Type	Heavy Type	Extra Heavy Type
Arm Cranks only	\$0.50	\$0.55	\$0.65
Base Brackets only	.55	.70	.80

Rod Clips only, see Figs. 923 and 9231.

No.	Single Each	Double Each	Type	Extra Heavy			
				Clips Tapped Thread Inches	Height Inches	Drilled for Wood Screw No.	
9	\$2.50	...	Upright	1/4-20	3 1/4	12	1
10	2.50	...	Upright	5/16-18	3 1/4	12	1
11	...	\$4.00	Upright	1/4-20	3 1/4	12	1 1/16
12	...	4.00	Upright	5/16-18	3 1/4	12	1 3/8



Upright  
Fig. 8760  
Single—No. 9 or 10  
Double—No. 11 or 12

### IMPROVED OUTBOARD THROTTLE CONTROLS

Cast Aluminum and Bronze

Phenolic Grip

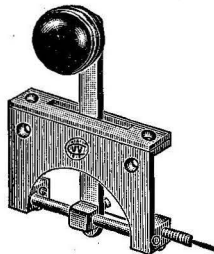


Fig. 929  
\$7.00 Each

Length of Throw Inches	Dimension Bracket Inches	Weight Each in Lbs.
2½	2½ x 4¾	1¼

Lever and Finish Plate are Chromium Plated.

Sturdy, practical control with self-aligning slide for Bowden Wire. No binding — smooth operation. Friction washers assure constant setting, unaffected by vibration. For right or left-hand installation on either side or rail mounting. Drilled for No. 10 Wood Screws.

### IMPROVED BULKHEAD CONTROLS

Cast Bronze

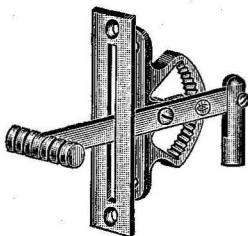


Fig. 8757  
\$5.50 Each

Finish Plate Dim. Inches	Length of Throw Inches	Weight Each in Lbs.
¾ x 4¾	2½	½

Attractive modern design for Wheel Box or Bulkhead mounting. Spring loaded ratchet holds throttle setting. All exposed parts Chrome Plated. Bracket drilled for No. 10 Round Head Wood Screws. Finish plate drilled for No. 8 Flat Head Wood Screws.

### THROTTLE CONTROLS

Plain Bronze  
Side Mounting

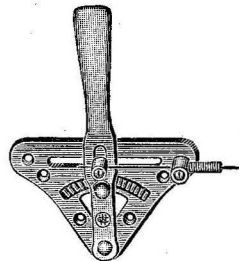


Fig. 9262  
\$2.90 Each

Length of Throw Inches	Dim. Plate Inches	Overall Height Inches	Weight Each in Lbs.
2¾	4¾ x 3	6¾	7/8

Drilled for No. 8 Wood Screws.

The straight line action of this throttle control eliminates the possibility of the Bowden wire kinking and also makes for easier operation.

### THROTTLE CONTROLS

Plain Bronze  
Upright Mounting

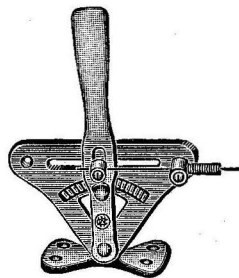


Fig. 9263  
\$3.00 Each

Length of Throw Inches	Dim. Base Inches	Dim. Plate Inches	Overall Height Inches	Weight Each in Lbs.
2¾	3 x 1¾	4¾ x 3	6¾	1½

Drilled for No. 8 Wood Screws.

This improved throttle control, designed for upright mounting, offers straight line action which assures smooth, easy operation and prevents Bowden wire from kinking.



"Sands" Marine Plumbing  
Fixtures Are Manufactured  
Exclusively By  
Wilcox, Crittenden & Co., Inc.

**STUFFING BOXES**

Plain Bronze

Regular

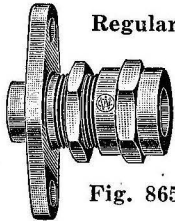


Fig. 865

Size Inches	Each	Drilled for Fastening Inches	Size Base Inches	Length of Bearing Inches	Weight Each in Lbs.
5/8	\$3.55	5/16	3 3/4 x 1 3/4	2	1
3/4	3.65	3/8	4 x 1 11/16	2 1/8	1
7/8	3.75	3/8	4 x 1 11/16	2 3/8	1 1/4
1	4.55	7/16	4 1/4 x 2 1/8	2 11/16	1 5/8
1 1/8	5.20	1/2	5 x 2 1/4	2 7/8	2
1 1/4	6.15	1/2	5 3/4 x 2 1/4	3	2 3/4
1 3/8	7.15	1/2	6 1/4 x 2 15/16	3	3 1/4
1 1/2	8.15	1/2	6 1/2 x 2 15/16	3	3 3/8

W-C Stuffing Boxes and Bearings are precision-bored and finished — will not score shaft.

**THE "EVERGOOD"**

Bronze

Flax Packed Combination Stuffing Box and Stern Bearing

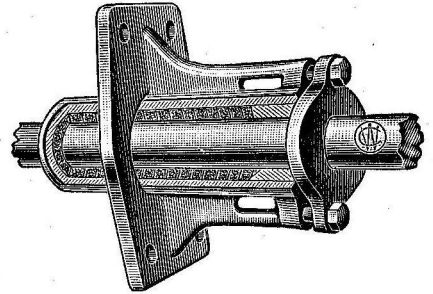


Fig. 8653

Replacement Packing Can Be Furnished

For Size Shaft Inches	Each	Size Base Inches	Approx.* Length of Flax Bearing Inches	Drilled for Fastening Inches	Weight Each in Lbs.
1	\$12.00	5 3/4 x 3	5 1/4	7/16	5 1/2
1 1/8	15.00	6 x 3	5 1/2	7/16	6
1 1/4	18.00	6 3/4 x 3 1/2	5 3/4	1/2	8 1/2
1 3/8	19.00	7 x 3 3/8	5 3/4	1/2	9
1 1/2	26.00	7 1/2 x 4 1/4	6 1/2	1/2	13 1/2
1 3/4	36.00	8 1/2 x 4 3/4	6 1/2	5/8	18
2	46.00	9 1/2 x 5 1/4	8 1/8	5/8	24

\*NOTE: Length of flax-packed section only of bearings. This is not total length of the fitting!

Heavy Oval Base — Two Fastenings

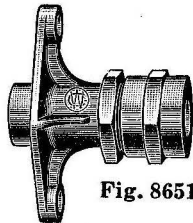


Fig. 8651

Size Inches	Each	Drilled for Fastening Inches	Size Base Inches	Length of Bearing Inches	Weight Each in Lbs.
1	\$8.80	1/2	6 3/8 x 3 3/8	4 1/4	4 3/4
1 1/8	9.10	1/2	6 1/2 x 3 3/4	4 3/8	5
1 1/4	10.40	5/8	6 7/8 x 3 5/8	4 5/8	5 1/2
1 3/8	11.70	5/8	7 1/4 x 3 7/8	5 3/8	7
1 1/2	14.00	5/8	8 1/2 x 4 1/8	5 3/4	8 5/8
1 3/4	19.80	3/4	9 3/4 x 4 3/8	7	11 1/4
2	23.40	3/4	10 3/8 x 4 5/8	8	14

A combination of Stuffing Box and Stern Bearing; sand or grit cannot cut or score either the packing bearing surface or the shaft. The flax packing reduces friction, wear, and loss of power to a minimum; no metal bearing contact — no wear. Packing gland cannot tighten up and bind the shaft as with screw-cap boxes; good for either left hand or right hand engine installations. During haul-out periods the bearing surface will not become dry or "freeze" to the shaft.

Simplicity of packing has not been overlooked in the design. Two cotted Everdur cap screws, easily reached, keep the packing gland in perfect adjustment.

Extra Heavy Rectangular Base — Four Fastenings

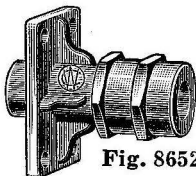


Fig. 8652

Size Inches	Each	Drilled for Fastening Inches	Size Base Inches	Length of Bearing Inches	Weight Each in Lbs.
1 1/4	\$11.70	1/2	5 1/2 x 3 1/2	4 5/8	6 1/8
1 3/8	13.00	1/2	6 x 4	5 1/8	7 3/4
1 1/2	15.60	1/2	6 x 4 3/8	5 5/8	9 1/4
1 3/4	22.10	5/8	6 1/2 x 4 1/2	7	11 3/8
2	26.00	5/8	7 1/2 x 4 3/4	7 7/8	15

Sizes of Flax Packing

For Size Shaft Inches	Square Flax Size Inches	For Size Shaft Inches	Square Flax Size Inches
1	1/4	1 1/2	3/8
1 1/8	1/4	1 3/4	1/2
1 1/4	3/16	2	1/2
1 3/8	3/16		

NOTE: W-C Stuffing Boxes and Stern Bearings are bored to tolerances for propeller shafting — not commercial brass rod.

**STUFFING BOXES AND STERN BEARINGS**

Cast Bronze — Threaded for Pipe

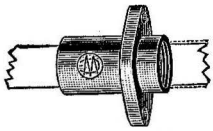


Fig. 8640

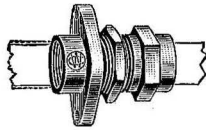


Fig. 8650

Size Inches	Stern Bearing Each	Stuffing Box Each	Tapped for Pipe Inches	Drilled for Fastening Inches	Size Base Inches	Weight Set in Lbs.
3/4	\$3.00	\$4.75	3/4	3/8	4 x 2 1/8	1 3/4
7/8	3.25	4.95	1	7/16	4 3/4 x 2 7/8	2 7/8
1	3.60	5.70	1	1/2	4 3/4 x 2 3/4	3 1/4
1 1/8	4.15	6.45	1 1/4	1/2	5 3/4 x 3	4 1/8
1 1/4	4.90	7.50	1 1/4	1/2	6 x 3	4 7/8
1 3/8	5.85	8.45	1 1/2	1/2	6 1/2 x 3 5/8	6 3/8
1 1/2	6.50	9.55	1 1/2	1/2	6 3/4 x 3 3/4	6 1/2

**STERN BEARINGS**

Plain Cast Bronze

Extra Heavy Rectangular Base — Four Fastenings

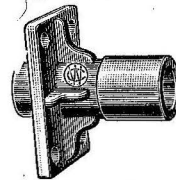


Fig. 8642

Size Inches	Each	Drilled for Fastening Inches	Length of Bearing Inches	Size Base Inches	Weight Each in Lbs.
1 1/4	\$7.50	1/2	4 5/8	5 1/2 x 3 1/2	4 3/4
1 3/8	9.10	1/2	5 1/8	6 x 4	6 1/2
1 1/2	10.70	1/2	5 5/8	6 x 4 3/8	7 1/8
1 3/4	14.95	5/8	7	6 1/2 x 4 1/2	9 5/8
2	18.80	5/8	7 7/8	7 1/2 x 4 3/4	12 1/4

**STERN BEARINGS**

Plain Cast Bronze

Regular

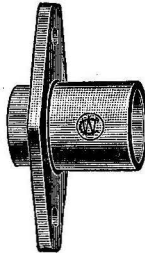
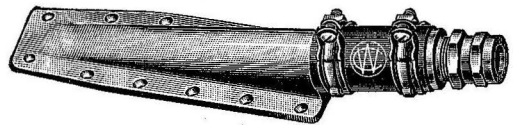


Fig. 864

Size Inches	Each	Drilled for Fastening Inches	Length of Bearing Inches	Size Base Inches	Weight Each in Lbs.
5/8	\$1.75	5/16	2	3 3/4 x 1 3/4	5/8
3/4	1.95	3/8	2 1/8	4 x 1 11/16	3/4
7/8	2.15	3/8	2 5/8	4 x 1 13/16	7/8
1	2.40	1/2	2 11/16	4 1/4 x 2 1/8	1 1/4
1 1/8	2.90	1/2	2 7/8	5 x 2 1/4	1 3/8
1 1/4	3.60	1/2	3	5 3/4 x 2 7/16	1 3/4
1 3/8	4.55	1/2	3	6 1/4 x 2 15/16	2 1/4
1 1/2	5.10	1/2	3	6 1/2 x 2 15/16	2 1/2

**SELF-ALIGNING SHAFT LOGS**

Cast Bronze



Rubber Necked

Fig. 8654

For Diam. Shaft Inches	Each	Length Base Inches	Max. Width Base Inches	Max. Over-all Length Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
5/8	\$8.00	9	3	14 1/2	12	3 1/4
3/4-L	8.00	9	3	14 1/2	12	3 1/4
3/4-R	10.00	11	3 3/4	18	14	6 3/4
7/8	10.25	11	3 3/4	18	14	6 3/4
1	10.50	11	3 3/4	18	14	6 3/4
1 1/8	18.00	14	4 1/4	22	..	9 3/4
1 1/4	21.50	18	4 3/8	26	..	12 3/8
1 3/8	27.00	21	5 1/4	30	..	14 1/2
1 1/2	28.50	21	5 1/4	30	..	14 1/2

Sizes 1 1/8-inch and up are not drilled.

5/8, 3/4, 7/8 and 1 inch have 14 degrees of angle.

1 1/8 inch has 15 degrees of angle.

1 1/4, 1 3/8 and 1 1/2 inch have 12 degrees of angle.

NOTE: W.C. Stuffing Boxes and Stern Bearings are bored to tolerances for propeller shafting — not commercial brass rod.

**ADJUSTABLE STRUTS**

Cast Bronze

For Small Inboard Engines

Heavy Oval Base Two Fastenings

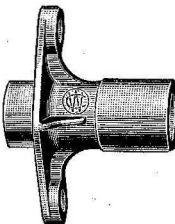


Fig. 8641

Size Inches	Each	Drilled for Fastening Inches	Length of Bearing Inches	Size Base Inches	Weight Each in Lbs.
1	\$4.55	1/2	4 1/4	6 3/8 x 3 3/8	3 1/2
1 1/8	5.20	1/2	4 3/8	6 1/2 x 3 1/4	3 5/8
1 1/4	6.20	5/8	4 5/8	6 7/8 x 3 5/8	4
1 3/8	7.80	5/8	5 3/8	7 3/4 x 3 3/8	5 1/2
1 1/2	9.10	5/8	5 3/4	8 1/2 x 4 1/8	6 3/4
1 3/4	12.70	3/4	7	9 3/4 x 4 3/8	9 1/4
2	16.25	3/4	8	10 3/8 x 4 5/8	11 1/4

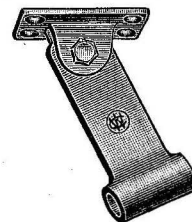


Fig. 863

For Diam. Shaft Inches	Each	Length Bearing Inches	Size Base Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
5/8 or 3/4	\$6.00	2 1/4	3 1/2 x 2 1/4	16	2 1/2

Maximum drop is 5 inches; can be reduced to 3 inches. Adjustable to any angle of shaft.

**STERN CASTINGS COMPLETE WITH GOODRICH CUTLESS BEARINGS**

Plain Bronze

Oval Base

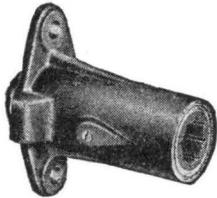


Fig. 8605

Square Base

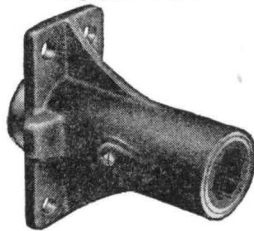


Fig. 8606

**GOODRICH CUTLESS BEARINGS**

With Bronze Shell

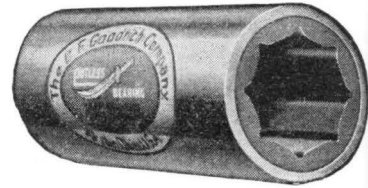
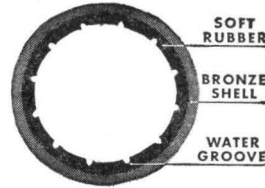


Fig. 8607

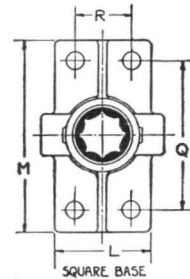
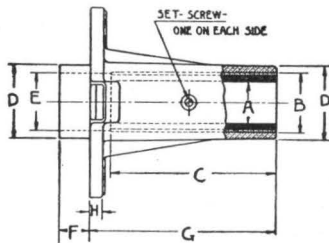
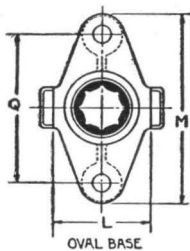
For Diam. Shaft Inches	Complete With Cutless Bearing Each	Stern Castings Only Each	Oval Base Pattern No.	Square Base Pattern No.	Approx. Weight Complete Each in Lbs.	For Diam. Shaft Inches	Each	Goodrich Code	Outside Diam. Shell Inches	Weight Each in Lbs.
1	\$16.30	\$7.30	C-9	....	3	1	\$9.00	Kefer	1 5/8	1 1/4
1 1/8	18.90	8.10	C-10	....	4	1 1/8	10.80	Kerny	1 3/4	1 1/2
1 1/4	22.80	10.40	C-11	C-3	5 3/4	1 1/4	12.40	Kiano	2	1 3/4
1 3/8	25.00	11.30	C-12	C-4	6 1/8	1 3/8	13.70	Kincy	2 1/8	2 1/4
1 1/2	33.00	17.20	C-13	C-5	10 1/2	1 1/2	15.80	Kingdom	2 3/8	2 1/2
1 3/4	40.40	19.60	....	C-6	13	1 3/4	20.80	Kite	2 5/8	3 1/4
2	53.60	29.00	....	C-7	16	2	24.60	Knave	3	4 1/2

When ordering be sure to specify Pattern Number.

When ordering be sure to specify Goodrich Code.

**DIMENSION DATA FOR**

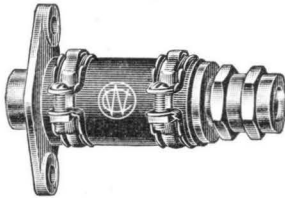
**STERN CASTINGS COMPLETE WITH CUTLESS RUBBER BEARINGS**



Cutless Bearing Dimensions, Inches			Casting Dimensions, Inches							Sq. Base Pattern No.	Drilled For Bolt Inches	Oval Base Pattern No.	Drilled For Bolt Inches
A (Shaft Diam.)	B	C	D	E	F	G	H	L	M				
1	1 5/8	4	2	1 1/2	1/2	4 1/16	3/8	2 1/2	5	...	..	C-9	7/16
1 1/8	1 3/4	4 1/2	2 1/8	1 5/8	3/4	5 1/8	7/16	2 3/4	5 1/2	...	..	C-10	7/16
1 1/4	2	5	2 3/8	1 7/8	7/8	5 5/8	1/2	3	6	C-3	1/2	C-11	1/2
1 3/8	2 1/8	5 1/2	2 1/2	2	1	6 3/16	5/8	3 1/4	6 1/2	C-4	1/2	C-12	1/2
1 1/2	2 3/8	6	2 7/8	2 1/4	1	6 7/8	5/8	3 1/2	7	C-5	1/2	C-13	5/8
1 3/4	2 5/8	7	3 1/8	2 1/2	1 1/8	7 7/8	5/8	4	8	C-6	1/2	....	..
2	3	8	3 5/8	2 7/8	1 1/4	8 7/8	5/8	4 5/8	9 1/4	C-7	5/8	....	..

**SELF-ALIGNING STUFFING BOXES**

Cast Bronze



Rubber Necked

Fig. 8655

For Diam. Shaft Inches	Each	Size Base Inches	Maximum Overall Length Inches	Drilled for Fastenings Inches	Weight Each in Lbs.
5/8	\$5.60	3 3/4 x 1 7/8	6	3/8	2
3/4	9.50	5 3/4 x 3	8 1/2	1/2	3 3/4
7/8	9.75	5 3/4 x 3	8 1/2	1/2	3 3/4
1	10.00	5 3/4 x 3	8 1/2	1/2	3 3/4
1 1/8	12.00	6 1/2 x 2 15/16	9 1/2	5/8	6 1/4
1 1/4	14.00	6 1/2 x 2 15/16	9 1/2	5/8	6 1/4
1 3/8	16.00	5 x 3 3/4	10	1/2	7 3/4
1 1/2	18.00	5 x 3 3/4	10	1/2	7 3/4

The 1 3/8 and 1 1/2 sizes have rectangular plates with four bolt holes.

Caution: While rubber-necked shaft logs and stuffing boxes are called "self-aligning" and are capable of absorbing small and "temporary" mis-alignments, they must not be considered a cure-all for a faulty installation. They will not handle a real mis-alignment. Their chief function is to absorb vibration. The cure for mis-alignment is lining up the engine properly. Even a few thousandths of mis-alignment will absorb lots of horsepower!

**STUFFING BOX PARTS**

For Figs. 8654 and 8655



Stuffing Boxes  
Fig. 8657



Rubber Sleeves  
Fig. 8658



Hose Clamps  
Fig. 8660

For Diam. Shaft Inches	Fig. 8657 Boxes Each	Fig. 8658 Sleeves Each	Fig. 8660 Clamps Each	Length Hose Inches	I. D. Hose Inches	Weight Each in Lbs.	
						Fig. 8657	Fig. 8658
5/8	\$3.25	\$0.70	\$0.40	3 1/4	1 1/4	1	3/16
3/4	4.00	1.05	.60	4 1/4	1 3/4	1 1/2	1/4
7/8	4.25	1.05	.60	4 1/4	1 3/4	1 1/2	1/4
1	4.50	1.05	.60	4 1/4	1 3/4	1 1/2	1/4
1 1/8	5.50	1.60	.85	4 1/2	2 1/4	2 3/4	1/2
1 1/4	6.50	1.60	.85	4 1/2	2 1/4	2 3/4	1/2
1 3/8	8.00	2.75	1.30	5	2 1/2	3 3/4	3/4
1 1/2	9.00	2.75	1.30	5	2 1/2	3 3/4	3/4

**SLEEVE TYPE SHAFT COUPLINGS**

Plain Manganese Bronze

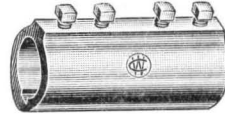


Fig. 890

Size No.	Each	Diam. Shaft Hole Inches	Length Overall Inches	Keyway Inches	Weight Each in Lbs.
1	\$4.00	3/4	3	3/16	7/8
2	4.00	7/8	3	3/16	3/4
3	4.00	1	3	3/16	7/8

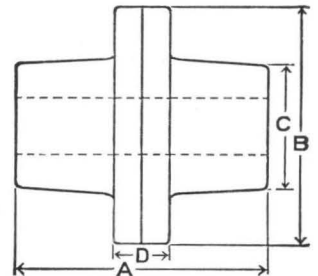
Good shaft coupling for small engines. Also for reverse gear and steering gear hook-ups.

**FLANGE COUPLINGS**

Gray Iron



Fig. 882



Our Flange Couplings are accurately made and are interchangeable as to shaft size within the limits of each size of coupling. For example — a 1-inch and 1 1/4-inch shaft may be coupled by using a No. 2 male bored for one of those sizes and a No. 2 female bored for the other size. To join a 1 1/4-inch and a 1 3/8-inch shaft a similar combination may be used.

Each coupling is fitted with standard keyway and set screws.

Size No.	Each	For Diameter Shaft, Inches
0	\$4.75	5/8, 3/4
1	6.25	5/8, 3/4, 7/8, 1, 1 1/8
2	7.50	3/4, 7/8, 1, 1 1/8, 1 1/4, 1 3/8, 1 1/2
13	11.50	1 1/4, 1 3/8, 1 1/2, 1 3/4, 2

All special bores subject to additional charge.

Size No.	DIMENSIONS				Weight Each in Lbs.
	A Inches	B Inches	C Inches	D Inches	
0	2 5/8	3	1 5/8	1	2 1/2
1	3 7/8	4	2 1/8	7/8	4 3/4
2	4	4 1/2	*2 5/8	1	7 1/4
13	5 1/2	5 1/2	*3	1 1/4	14 3/4

\*No. 2 for 1 3/8 and 1 1/2 inch shaft sizes, hub dimension "C" is 2 5/8 inches. No. 13 for 2 inch shaft size, hub dimension "C" is 3 1/2 inches.

**Size of Keyway for All Couplings**

Diameter Shaft Inches	Standard Sq. Key Inches	Diameter Shaft Inches	Standard Sq. Key Inches
5/8, 3/4, 7/8	3/16	1 3/8, 1 1/2	3/8
1, 1 1/8	1/4	1 3/4	7/16
1 1/4	3/8	2	1/2

SMALL FITTINGS FOR AIR COOLED INBOARD ENGINES

STRAIGHT TILLERS

Plain Bronze



Fig. 466

Length Inches	Each	For Post Inches	Weight Each in Lbs.
6	\$1.75	5/8	5/8

For use with No. 00  
Fig. 464 shown below.

UPPER RUDDER POST BEARINGS

Plain Bronze



Fig. 869

For Post Inches	Each	Dim. Plate Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
5/8	\$1.30	2 1/16 x 1 1/2	10	1/2

Bearing set in line with base plate for vertical mounting.

RUDDERS

Galvanized or Brass

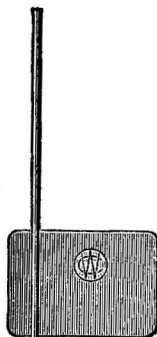


Fig. 464

Size No.	Galv. Each	Brass Each	Weight Each in Lbs.
00	\$5.75	\$6.50	3

Diam. Post Inches	Dim. Blade Inches	Length Post Inches
5/8	6 x 8 x 1/16	25

See page 79 for larger sizes.

RUDDER SKEGS

Plain Bronze



Fig. 867

Length Inches	Each	Width Inches	Drilled for Diam. Fastening Inches	Weight Each in Lbs.
16	\$2.90	1 3/4	1/4	2 1/2

RUDDER POST COLLARS

Plain Bronze



Fig. 870

For Post Inches	Each	Weight Each in Lbs.
5/8	\$1.25	1/8

SELF-ALIGNING STUFFING BOXES

Bronze



Fig. 8655

For Diam. Shaft Inches	Each	Weight Each in Lbs.
5/8	\$5.60	2
3/4	9.50	3 3/4
7/8	9.75	3 3/4

See complete listing of Fig. 8655 on page 75 for dimensions.

STUFFING BOXES

Bronze

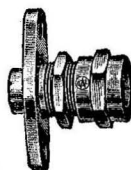


Fig. 865

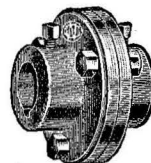
Size Inches	Each	Weight Each in Lbs.
5/8	\$3.55	1
3/4	3.65	1
7/8	3.75	1 1/4

See complete listing of Fig. 865 on page 72 for dimensions.

FLANGE COUPLINGS

Gray Iron

Fig. 882



Plain Bronze

Fig. 8820

Fig. 882			Fig. 8820		
Size No.	Each	For Diam. Shaft Inches	Size No.	Each	For Diam. Shaft Inches
0	\$4.75	5/8, 3/4	0	\$6.25	5/8, 3/4, 7/8, 1
1	6.25	7/8			Size Keyway Inches 3/16

Bolts, Nuts and Set Screws in Fig. 8820 are Everdur Bronze. See complete listing of Fig. 882 on page 75 for dimensions.

STERN BEARINGS

Bronze



Fig. 864

Size Inches	Each	Weight Each in Lbs.
5/8	\$1.75	5/8
3/4	1.95	3/4
7/8	2.15	7/8

See complete listing of Fig. 864 on page 73 for dimensions.

INTERMEDIATE PROPELLER SHAFT BEARINGS

Plain Bronze



Fig. 871

For Diam. Shaft Inches	Each	Length Inches	Width Inches	Drilled for Diam. Fastening Inches	Weight Each in Lbs.
5/8	\$1.25	1 7/8	3 7/8	1/16	1/2
3/4	1.55	2	4	3/8	3/4
7/8	1.70	2	4	3/8	3/4

Has 1/8-inch pipe thread for grease cup.

SELF-ALIGNING SHAFT LOGS

Bronze



Fig. 8654

For Diam. Shaft Inches	Each	Weight Each in Lbs.
5/8	\$8.00	3 1/4
3/4-L	8.00	3 1/4
3/4-R	10.00	6 3/4
7/8	10.25	6 3/4
1	10.50	6 3/4

See complete listing of Fig. 8654 on page 73 for dimensions.

**HI-DUTY MUFFLERS**

Gray Iron



Fig. 895

Fig. 8950

Fig. 8951

Both Ends Tapped for Pipe

Inlet End Tapped for Pipe and Exhaust End with Flange for Copper Tubing

Both Ends with Flanges for Copper Tubing

For Exhaust Pipe Size Inches	Fig. 895 Each	Fig. 8950 Each	Fig. 8951 Each	Weight Each in Lbs.
1	\$9.75	\$11.25	\$12.75	7 1/2
1 1/4	13.25	15.25	17.25	15
1 1/2	13.25	15.25	17.25	15
2	17.00	19.50	22.00	22
2 1/2	22.00	25.25	28.50	35
3	26.50	30.50	34.50	40
3 1/2	42.00	46.00	50.00	65
4	.....	.....	60.00	105

Hi-Duty Mufflers are of oversize capacity. Order by size of your exhaust pipe, except: (A) Two-cycle engines use next larger size muffler. (B) Engines of more than 650 cubic inch piston displacement require 3 1/2-inch size.

For Exhaust Pipe Size Inches	Water		Diameter Inches	Outlet Offset From Center Inches
	Inlet and Outlet Tapped Pipe Size Inches	Length Overall Inches		
1	3/8	6	4 5/8	1 1/8
1 1/4	1/2	10 1/2	5 1/2	1 1/8
1 1/2	1/2	10 1/2	5 1/2	1 1/8
2	3/4	12	7	1 7/8
2 1/2	3/4	14	8 1/8	2 1/8
3	3/4	16	8 3/4	1 7/8
3 1/2	1	18 7/8	10	2 1/4
4	1 1/4	19	12 1/2	4 1/2

**STAINPROOF WATER OUTLETS**

Cast Brass

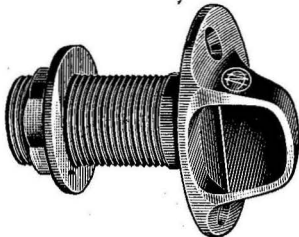


Fig. 8570

So designed that no drip or trickle of water will run down side of hull and stain it.

Threaded for Pipe Inches	Plain Brass Each	Pol. Brass Each	Chrom. Plated Each	Diam. Flange Inches	Length Tail Piece Inches	Weight Each in Lbs.
1/2	\$2.50	\$3.00	\$4.00	2 1/8	2 1/2	1 1/2
3/4	3.00	3.50	4.25	2 1/2	2 1/2	3/4

Drilled for Wood Screw No. 10.

**EXHAUST PIPE FLANGES**

Cast Brass

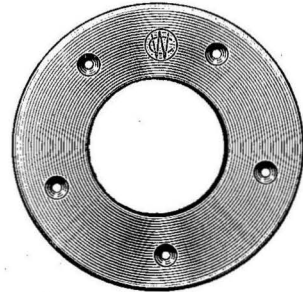


Fig. 8573

For Pipe Inches	Plain Brass Each	Polished Brass Each	Chromium Plated Each
1 1/2	\$0.80	\$1.15	\$1.70
2	1.55	2.50	3.10
2 1/2	1.90	2.75	3.40
3	2.20	3.45	4.25
3 1/2	2.35	3.60	4.55

For Pipe Inches	Inside Diameter Inches	Outside Diameter Inches	Number Screw Holes	Weight Each in Lbs.
1 1/2	1 1/4	4	4	3/8
2	2 3/8	4 7/8	5	3/4
2 1/2	2 7/8	5 9/8	5	1
3	3 1/2	6 7/8	5	1 1/2
3 1/2	4	6 7/8	5	1 3/4

1 1/2 inch size drilled for No. 10 Wood Screws. All other sizes for No. 12 Wood Screws.

**EXHAUST TUBE FLANGES**

Cast Brass

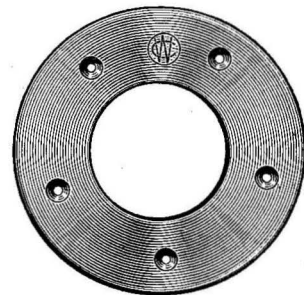


Fig. 8574

For O. D. Tubing Inches	Plain Brass Each	Polished Brass Each	Chromium Plated Each
2	\$0.80	\$1.15	\$1.70
2 1/2	1.55	2.50	3.10
3	1.90	2.75	3.40
3 1/2	2.20	3.45	4.25
4	2.35	3.60	4.55

For O. D. Tubing Inches	Inside Diameter Inches	Outside Diameter Inches	Number Screw Holes	Weight Each in Lbs.
2	2 1/8	4	4	3/8
2 1/2	2 3/8	4 7/8	5	5/8
3	3 1/8	5 9/8	5	7/8
3 1/2	3 3/8	6 7/8	5	1 1/2
4	4 1/8	6 7/8	5	1 3/4

2 inch size drilled for No. 10 Wood Screws. All other sizes for No. 12 Wood Screws.

**RUDDER PINTLES**

Galvanized Malleable Iron or Brass



Fig. 460

Size Width Between Straps Inches	Galv. Each	Plain Brass Each	Length Straps Inches	Width Straps Inches	Weight Per 100 in Lbs.
1/2	\$0.45	\$0.60	2 1/4	5/8	22 1/2
5/8	.55	.65	2 7/8	3/4	25
3/4	.60	.75	3	7/8	30
7/8	.90	1.00	4 1/8	7/8	46
1	1.05	1.15	4 1/4	1 1/16	64
1 1/4	1.40	1.60	4 3/4	1	78
1 1/2	1.80	2.00	5 1/4	1 3/8	124

**SELF-LOCKING RUDDER FITTINGS**

Plain Cast Bronze

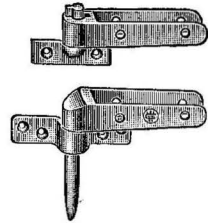


Fig. 461

Per Set	Width Between Straps Inches	Length Inside Straps Inches	Straps Drilled for Rivets Inches	Weight per Set in Lbs.
\$3.25	3/4	3 1/2	1/4	1 1/4

On and off in a flash — yet, rudder cannot float off by itself! Swing rudder athwartships to hang it. Once in place, can't come off when sailing. Neat and light. Lower pintle long enough to make for easy insertion below water. Gudgeons for transom drilled for No. 10 Wood Screws.

**RUDDER GUDGEONS**

Galvanized Malleable Iron or Brass

Plate



Fig. 462

Size No.	Galv. Each	Plain Brass Each	Used With Pintle Size	Length Plate Inches	Width Plate Inches	I. D. Hole Tapered Inches	Weight Per 100 in Lbs.
0	\$0.33	\$0.40	1/2	3	5/8	3/8 to 5/16	9
1	.45	.50	5/8	3 1/2	3/4	7/16 to 3/8	14
2	.50	.55	3/4	3 1/2	7/8	7/16 to 3/8	18
3	.55	.60	7/8	3 3/4	7/8	1/2 to 7/16	24
4	.65	.75	1	4 1/4	1	11/16 to 5/8	38
5	.85	.90	1 1/4	4 1/2	1 1/8	3/4 to 5/8	48
6	.95	1.10	1 1/2	4 3/4	1 1/4	13/16 to 11/16	60

Strap



Fig. 463

Size Width Between Straps Inches	Galv. Each	Plain Brass Each	Used With Pintle Size	Length Straps Inches	Width Straps Inches	I. D. Hole Tapered Inches	Weight Per 100 in Lbs.
1/2	\$0.33	\$0.40	1/2	1 3/4	5/8	3/8 to 5/16	8 3/4
5/8	.40	.50	5/8	2 1/8	3/4	7/16 to 3/8	12 1/2
3/4	.45	.55	3/4	2 1/2	13/16	7/16 to 3/8	20
7/8	.60	.70	7/8	3	7/8	1/2 to 7/16	31
1	.70	.85	1	3	1	11/16 to 5/8	31
1 1/4	.85	1.00	1 1/4	3 1/2	1 1/8	3/4 to 5/8	50
1 1/2	1.00	1.20	1 1/2	4	1 1/4	13/16 to 11/16	62

Screw



Fig. 461

Size No.	Galv. Each	Plain Brass Each	Used With Pintle Size	Diam. Shank Inches	I. D. Hole Tapered Inches	Weight Per 100 in Lbs.
0	\$0.22	\$0.25	1/2	3/16	3/8 to 3/16	4
1	.22	.25	5/8	3/8	7/16 to 3/8	6
2	.28	.30	3/4	3/8	7/16 to 3/8	7
3	.40	.45	7/8	7/16	1/2 to 7/16	9
4	.45	.50	special	1/2	3/16 to 1/2	13

**DETACHABLE RUDDER FITTINGS**

Plain Manganese Bronze

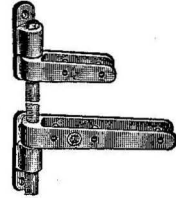


Fig. 455

Per Set	Width Between Straps Inches	Length Inside Short Strap Inches	Length Inside Long Strap Inches	Weight Set in Lbs.
\$4.85	3/4	2 7/8	5 3/8	1 1/4

For small boats. Lightweight detachable fittings operating on 3/8-inch bronze rod (not supplied). Rudder can't jump or float off, yet is quickly removed by withdrawing rod which should be fitted at top with nut or cotter. Gudgeons designed for through-bolting to stern knee instead of stern planking. Straps drilled for 3/8-inch rod and 3/16-inch rivets. Gudgeons drilled for 3/8-inch rod and No. 14 wood screws (1/4-inch bolts).

**SLIDING RUDDER FITTINGS**

Plain Manganese Bronze

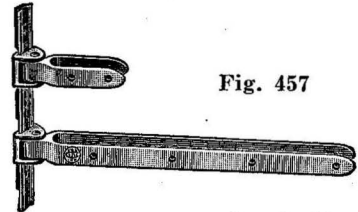


Fig. 457

Per Set	Track Only Each	Width Track Inches	Width Between Straps Inches	Length Inside Short Strap Inches	Length Inside Long Strap Inches	Weight Set in Lbs.
\$10.50	\$4.50	1	3/4	3 3/4	9 3/4	3 1/2

Cast manganese bronze track and rugged straps make sturdy outfit. Eliminates groping for that lower gudgeon! No track batten needed. 18 1/2-inch length of track is drilled for No. 12 wood screws and has stop at bottom. Straps are drilled for 1/4-inch rivets.

**RUDDER QUADRANTS**

Galvanized Malleable Iron

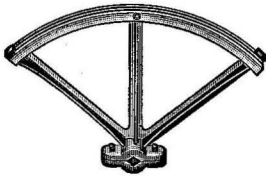


Fig. 465

Radius Inches	Each	For Rudder Size No.	Square Hole Adjustable Inches	Weight Each in Lbs.
7	\$4.80	0	5/16 to 3/4	3
10	10.00	0 and 1	5/16 to 1	6 3/8
12	12.00	2	3/4 to 1 1/4	8 1/4
15	18.25	2	3/4 to 1 1/4	13 3/8
18	30.00	.....	1 to 1 3/8	26

7-inch size is Gray Iron.

Other designs and materials upon application.

**RUDDERS**

Galvanized Steel or Brass

Size No.	Galv. Each	Plain Brass Each	Dim. Blade Inches
00	\$5.75	\$6.50	6 x 8 x 1/16
0	9.50	...	12 x 12 x 1/8
1	11.50	...	14 x 14 x 3/8
2	17.00	...	16 x 16 x 3/8

Size No.	Diam. Post Inches	Length Post Inches	Weight Each in Lbs.
00	5/8	25	3
0	3/4	40	11
1	3/4	42	13
2	1	48	24

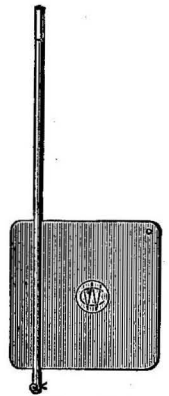


Fig. 464

The squared end of the Post will fit quadrants, Fig. 465. The lower end fits the hole in Skeg, Fig. 4642.

Pipes, Fig. 4641, and Stuffing Boxes, Fig. 4640 fit the Posts.

**RUDDER PIPES**

Galvanized Steel

Size No.	Each	For Rudder Size No.
1	\$1.25	0 and 1
2	2.50	2

Pipe Size Inches	Length Inches	Weight Each in Lbs.
3/4	12	1 3/8
1	16	2 1/8



Fig. 4641

**OUTBOARD FINS**

Special Aluminum Alloy

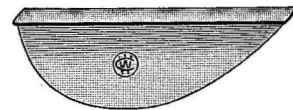


Fig. 8980

Fin Depth Inches	Each	Base Dimensions Inches	Weight Each in Lbs.
4 1/2	\$2.25	12 3/4 x 2	1 1/8

Only Special Salt Water Resisting Aluminum of extra strength is used in our fins.

A good all-purpose Fin. Long enough to prevent weaves — deep enough to stabilize on turns, to reduce skid, and to reach solid water on rough days.

**RUDDER SKEGS**

Galvanized Steel



Fig. 4642

Size No.	Each	Dimensions Inches	Drilled for Wood Screw No.	To Fit Rudder Post Diam. Inches	Weight Each in Lbs.
0	\$3.50	24 x 1 1/2 x 3/8	20	3/4	4 1/2
1	5.25	30 x 1 3/4 x 1/2	20	3/4	8 3/4
2	9.50	42 x 2 x 5/8	24	1	17

**RUDDER STUFFING BOXES**

Plain Bronze



Fig. 4640

Size No.	Each	Threaded for Pipe Size Inches	For Diam. Post Inches	For Rudder Size No.	Weight Each in Lbs.
1	\$0.85	3/4	3/4	0 and 1	1/4
2	.95	1	1	2	3/8
3	1.35	1 1/4	1 1/8	.....	1
4	1.60	1 1/4	1 1/4	.....	1

**ELECTROLYSIS ELIMINATORS**

Pure Zinc



Fig. 459 — No. 1



Fig. 459 — No. 2

Size No.	Each	Length Inches	Width Inches	Depth Inches	Weight Each in Lbs.
1	\$1.80	5 1/4	2 3/4	1 1/16	2
2	2.60	6 3/8	2 5/8	1	3 3/4

Protect your propeller, shaft, bearings and other underwater fittings from electrolytic action by using these eliminators. The pure, free zinc of these eliminators will be consumed by the underwater electric currents, rather than your brass and bronze fittings. Secure to outside of hull under water, near propeller.

**RUDDER CAPS WITH TILLER STRAPS**

Cast Bronze  
Angle (70°)

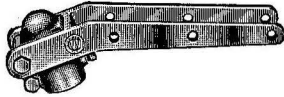


Fig. 4560

Especially recommended for "National One-Design" sailboats.

Size No.	Satin Finish Each	Fits Rudder Post Diam. Inches	Overall Length of Straps Inches	Width Between Straps Inches	Drilled For Diam. Inches	Weight Each in Lbs.
0	\$11.50	3/4	8 3/4	1 3/8	1/4	2
1	11.50	1	8 3/4	1 3/8	1/4	2

With Set Screw — no Keyway.

Made of special heavy bronze to give sufficient strength to meet the demands made on a fitting of this kind. The heavy cap is fastened securely to the rudder post by set screw and is securely clamped.

The hinged rudder straps permit the tiller to be held at a convenient angle. Of course, they fit snugly around the cap to eliminate side play.

Tiller straps are heavy, and of extra length to securely grip and reinforce the tiller. Larger sizes have high rudder cap.

**RUDDER STUFFING BOXES AND BEARINGS**

Plain Bronze

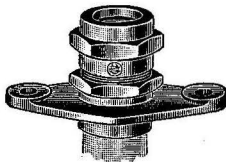


Fig. 4646

For Diam. Post Inches	Each	Threaded for Pipe Inches	Length and Diam. Pipe Boss (L x D)	Size Base Inches	Drilled for Fastenings	Weight Each in Lbs.
3/4	\$4.75	3/4	1/2 x 1 3/8	4 x 2 1/8	3/8	1
7/8	4.95	1	9/16 x 1 11/16	4 3/4 x 2 7/8	7/16	1 1/2
1	5.70	1	9/16 x 1 11/16	4 3/4 x 2 3/4	7/16	1 3/8
1 1/8	6.45	1 1/4	3/4 x 2	5 3/4 x 3	1/2	2 3/8
1 1/4	7.50	1 1/4	3/4 x 2	6 x 3	1/2	2 3/4
1 3/8	8.45	1 1/2	13/16 x 2 1/4	6 1/2 x 3 5/8	1/2	3 5/8
1 1/2	9.55	1 1/2	13/16 x 2 1/4	6 3/4 x 3 3/4	1/2	3 1/2

A proper bearing and watertight stuffing box for rudder posts on either sailing or power boats. Boss is tapped for pipe for rudder post tube (which need not be used on power boats with thin plank keel). On sailing craft with heavy horn timbers, long threaded pipe "nipple" screws both into the timber and this fitting, being sawn off flush on outside of boat.

**RUDDER STUFFING BOXES AND BEARINGS**

Cast Manganese Bronze

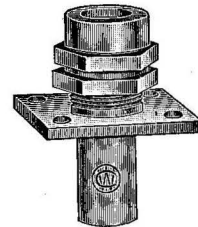


Fig. 4647

For Diam. Post Inches	Each	Drilled For Fastening Inches	Size Base Inches	Length of Bearing Inches	Weight Each in Lbs.
1 1/4	\$12.50	1 3/32	4 x 3 3/4	5	3 1/8

A rugged Stuffing Box and Bearing that can take it in heavy going. Square base gives large supporting surface, and has four fastening holes instead of two — providing extremely firm and leakproof installation. Centers of fastening holes are 1/6-inch from edge of base. Packing is 3/16-inch square. This is the Stuffing Box and Bearing that was supplied for use on LCVF's during the war.

**RUDDER STUFFING BOXES AND BEARINGS**

Plain Bronze

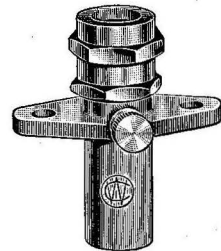


Fig. 4645

For Diam. Post Inches	Each	Drilled for Fastening Inches	Size Base Inches	Length of Bearing Inches	Weight Each in Lbs.
1	\$8.60	3/8	4 1/4 x 2 5/8	5	2 1/2
1 1/8	9.25	1/2	5 x 2 7/8	5	2 3/4
1 1/4	11.45	1/2	5 7/8 x 3	6 1/4	4 3/8
1 3/8	12.50	1/2	6 1/4 x 3 1/4	6 1/2	5 1/4
1 1/2	13.60	1/2	6 1/2 x 3 3/4	6 1/2	5 1/2

Provides a proper bearing combined with stuffing box so rudder installation may be made to eliminate both vibration and leakage. The grease cup assures free movement — no binding.

**DECK PLATES**

Cast Bronze  
Regular

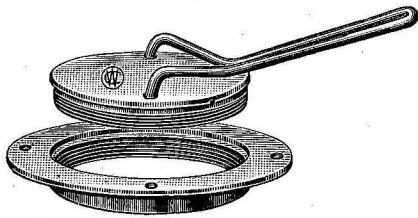


Fig. 532

Diam. Opening Inches	Mach. Finish Complete Each	Polished Chrome Finish Complete Each	Key Spanners as shown Each	O. D. Plate Inches	Drilled for Wood Screws No.	Weight Each in Lbs.
1	\$1.70	\$3.15	\$0.25	2 1/4	7	3/6
1 1/2	2.15	3.75	.30	2 7/8	7	3/6
2	3.25	4.80	.30	3 3/16	8	5/6
2 1/2	3.75	5.50	.45	4 3/16	10	7/6
3	4.25	6.00	.50	4 13/16	10	1
4	6.50	9.00	.60	5 3/4	12	1 1/4
5	9.75	13.25	.65	7 3/8	12	3
6	11.50	15.75	.65	8 1/8	12	3 3/8
8	30.00	40.00	.75	10 1/16	14	6 1/2

Machine finish covers only supplied on order at one-half the price of complete deck plate.

Brass keys are furnished with all Deck Plates up to 2 1/2 inches, and Galvanized Steel Key Spanners with all larger sizes, without extra charge.

**DECK PLATES**

Cast Bronze  
For Pipe

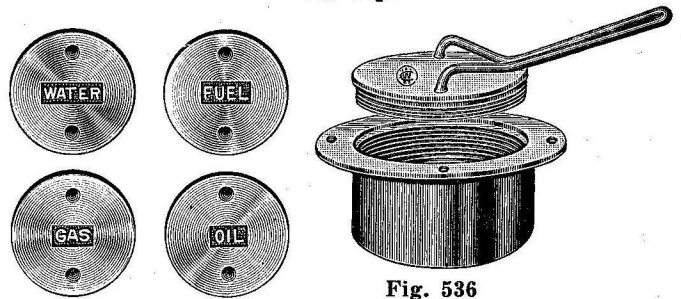


Fig. 536

For Pipe Inches	Mach. Finish Complete Each	Polished Chrome Finish Complete Each	Key Spanners as shown Each	O. D. Plate Inches	Drilled for Wood Screws No.	Weight Each in Lbs.
3/4	\$2.00	\$3.50	\$0.25	2 1/2	7	1/4
1	2.30	4.00	.25	2 5/8	7	3/8
1 1/4	2.80	4.70	.30	3 1/8	7	1/2
1 1/2	3.10	5.20	.30	3 1/2	10	5/6
2	4.00	6.30	.45	4 1/16	10	1
2 1/2	4.80	7.30	.45	4 1/2	12	1 3/8
3	6.50	9.20	.50	5 1/16	12	2

Machine finish covers only supplied on order at one-half the price of complete deck plate.

Galvanized Steel Key Spanner furnished with 3-inch Deck Plate. All other sizes furnished with Brass Key.

When specified, 1 1/4 inch, 1 1/2 inch and 2 inch deck plates can be furnished with lettering "Water", "Gas", "Fuel" or "Oil" clearly cast in the cover.

**"FLASH" DECK PLATES**

Cast Bronze

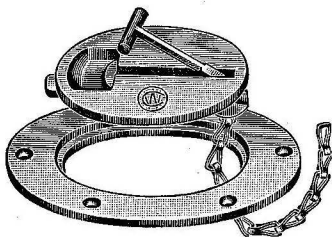


Fig. 5324

Diam. Opening Inches	Emery Finish Each	Frame Diam. Inches	Drilled for Wood Screws No.	Weight Each in Lbs.
4	\$6.50	6 3/8	10	2 3/8

The "quick-as-a-flash" deck plate. Ideal for installation over steering gear for emergency tillers; perfect when installed vertically in cockpit sides for gas tank shut-offs, handy for emergency get-at-ability of your reverse gear hook-up. Just the right size for a fire extinguisher — fire can be extinguished with little air being let in. Locks down tight and non-rattling. This plate, complete with safety chain, has a dozen uses aboard any type of boat. It is no trinket but a practical access plate which can be opened instantly by hand.

**"NO-LOSE" DECK PLATES**

Cast Bronze

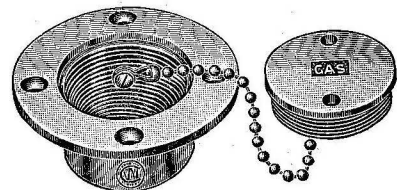


Fig. 5322

Lettering "GAS" or "WATER" clearly cast in the face of cap.

One brass key furnished with each Plate. "GAS" shipped unless otherwise specified.

For Pipe Inches	Mach. Finish Each	O. D. Plate Inches	Depth of Collar Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
1 1/2	\$3.50	3 1/2	1 1/2	10	3/4

You can't lose the gas tank filler hole Cap when a "No-Lose" Deck Plate is used! The illustration tells the story.

The threaded Collar provides one inch of thread below the screw.

**UNIVERSAL DECK PLATE KEYS**

Cast Bronze

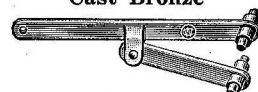


Fig. 537  
\$1.10 Each

Length overall, 6 1/2 inches. Weight, 1/2 pound. Fits all Fig. 532 and Fig. 536 Deck Plates up to and including 6-inch size.

**GAS TANK CAPS**

Polished Brass

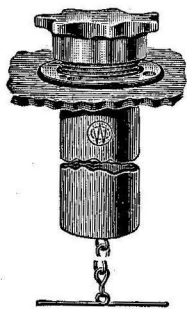


Fig. 5321

Polished Brass ..... \$3.25 Each  
 Chrome Plated ..... 4.50 Each

A set consists of 1 Collar and 1 Cap with 10 inches of Chain and Toggle. Pipe not furnished.

Tapped for 1½ inch Pipe. Collar drilled for Wood Screw No. 8. Weight each, ¾ lb.

For use with pipe from gas tank run up through deck. Flange fits snugly around pipe making a neat finish. Screw cap turns down on pipe. Chain with toggle is dropped down into the tank so that cap cannot be lost overboard when removed.

**MANHOLE PLATES FOR DECKS**

Galvanized Gray Iron or Cast Bronze  
 Watertight

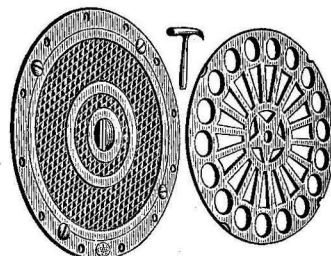


Fig. 531

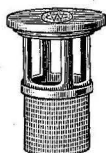
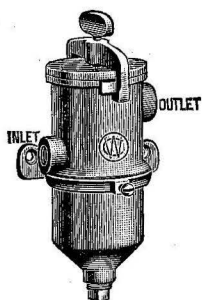
Diam. Opening Inches	Without Grating Each		With Grating Each	
	Galv.	Bronze	Galv.	Bronze
9	\$21.50	.....	.....	.....
10	22.80	.....	\$28.00	.....
12	27.25	\$43.00	33.00	\$54.00
14	31.50	52.75	43.00	78.00
16	43.00	81.00	56.00	102.00
18	48.50	95.00	63.00	124.00
20	53.00	.....	71.00	.....

Bronze plates have emery finish.

Diam. of Opening Inches	Diam. Frame Inches	Drilled for Wood Screw No.	Weight Brass Each With Grating Pounds
9	12¾	16	21
10	13¾	16	25
12	15¾	18	31
14	17¾	18	45
16	19¾	20	51
18	21¾	20	65
20	24	20	90

**GASOLINE STRAINERS**

Plain Cast Brass



Dutch Weave Brass Screen  
 Materially Increases Straining Surface Area

With Supporting Bracket—  
 Takes All Weight Off Fuel Line

Fig. 881

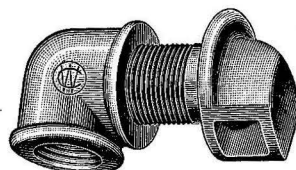
Size No.	Each	Length Overall Inches	Diam. Inches	Straining Surface Sq. In.	Tapped for Pipe Inches	Weight Each in Lbs.
1	\$7.50	8¾	2¾	11¾	¼ or ⅜	2⅞
1½	10.50	9	3⅞	17½	⅝ or ½	4¾
2	14.00	9½	4	28¼	½ or ¾	7½

In this Strainer the gasoline enters the settling chamber and passes upward through the Dutch Weave Brass Screen.

Easy to clean. Screen is attached (see illustration) to leak-proof cap. To remove, simply loosen thumb screw and take off yoke. No petcock to loosen and drip gas. Tight plug can be unscrewed, opening large drain hole, when desired.

**GAS TANK VENTS**

Plain Cast Bronze



With Flanged Elbow

Fig. 8764

Size No.	Each	For Pipe Inches	For Thickness Inches	For Tanks Up to	Weight Each in Lbs.
1	\$2.40	¾	1½	100 gals.	½
2	2.40	½	1½	100 gals.	½
3	2.75	¾	1¾	100 gals.	1

These Vents comply with the recommendations of the Marine Section Committee of the National Fire Protection Association.

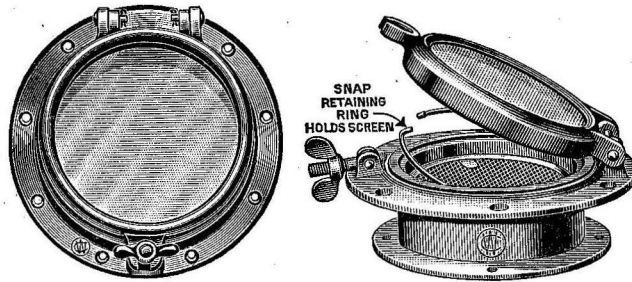
On sailing craft, vents should be near center line, aft.

Vents must be installed to lead outboard.

**INSIDE PORTLIGHTS**

Plain Bronze

Round "Sea-More" Pattern



With Removable Hinge Pins

Fig. 5253

Glass — All polished plate — Insuring clearer view — No distortion and better light

Just what the name "Sea-more" implies — a portlight of improved design which assures boat owners of the maximum amount of light and vision. The glass is the full diameter of the spigot or tube.

We recommend with all "Sea-more" portlights, the use of our patented Portlight Screens, Fig. 5254. This screen is placed inside the spigot or tube of the portlight, and is entirely out of the way of the glass sash when closed. A far neater and better arrangement than clumsy push-in banded screens! Prices do not include screens. For Screens, see page 86.

Portlights will be furnished with intermediate lengths of spigot to exactly fit varying wood thicknesses. Price for special length spigots will be based on the next longer standard listed length. When ordering specify thickness of wood carefully as finish ring is designed to come flush with end of spigot on outside. When you give the exact thickness of wood we make allowance for the ring when making the spigot. Outside Finishing Rings furnished unless otherwise specified.

Diam. of Opening Inches	For Wood Thickness 1½ Inches Each	For Wood Thickness 3 Inches Each	For Wood Thickness 4½ Inches Each	For Wood Thickness 6 Inches Each
4	\$7.75	\$8.75	\$9.75	\$10.80
5	9.10	10.10	11.10	12.15
6	10.80	11.80	13.15	14.65
7	15.50	17.15	18.90	20.50
8	17.50	19.40	21.60	24.35
9	23.65	25.60	28.70	31.75
10	31.75	34.65	39.20	43.75
12	39.15	43.75	49.30	55.75

Without Outside Finishing Rings deduct from above prices:

4-Inch Size Each	5-Inch Size Each	6-Inch Size Each	7-Inch Size Each	8-Inch Size Each	9-Inch Size Each	10-Inch Size Each	12-Inch Size Each
\$0.50	\$0.60	\$0.70	\$0.90	\$1.10	\$1.75	\$2.25	\$2.75

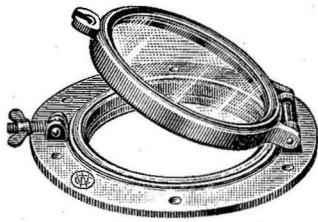
Dimension Data For All Fig. 5253 Portlights

Diam. of Opening Inches	Diam. of Flange Inches	Thickness of Glass Inches	Number of Fastenings	Drilled for Wood Screw No.		Weight Each with 1½-Inch Spigot in Lbs.
				Flange	Finishing Ring	
4	6⅞	¼	1	12	7	4½
5	7¾	¼	1	12	8	6
6	8⅞	¼	1	12	8	7¾
7	10⅞	⅜	1	12	10	11
8	11½	⅜	1	12	10	14½
9	13¼	½	1	14	12	18½
10	14¼	½	2	14	12	20
12	17	½	2	14	12	32½

See page 85 for the ultimate in yacht ports — the "Marine Window" — far superior to the old style round opening.

**OUTSIDE PORTLIGHTS**

Gray Iron or Brass  
Round "Sea-More" Pattern



With Removable Hinge Pins

Fig. 525

Galvanized

Diam. of Opening Inches	Galv. Each	Diam. of Clear Glass Inches	Thick-ness of Glass Inches	Diam. of Frame Inches	Weight Each in Lbs.
4	\$6.40	4	1/4	7 3/8	3 1/2
5	6.80	5	1/4	8 3/4	4 3/4
6	7.65	6	1/4	9 3/4	7 1/4
7	10.15	7	3/8	10 7/8	9 1/2
8	13.50	8	3/8	12 1/4	12 1/2
9	17.85	9	1/2	14	15 5/8
10	20.80	10	1/2	15 3/8	20 5/8

Brass

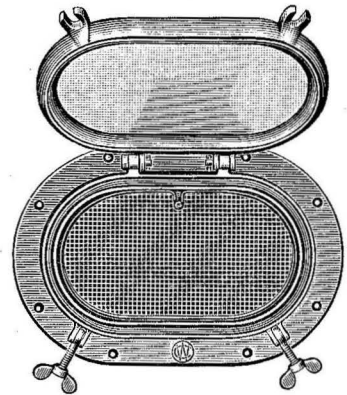
Diam. of Opening Inches	Plain Brass Each	Diam. of Clear Glass Inches	Thick-ness of Glass Inches	Diam. of Frame Inches	Weight Each in Lbs.
4	\$7.15	4	1/4	7 3/8	2 3/4
5	8.50	5	1/4	8 3/4	4 3/8
6	10.50	6	1/4	9 3/4	5 3/16
7	14.50	7	3/8	10 7/8	8
8	16.50	8	3/8	12 1/4	9 7/8
10	32.00	10	1/2	15 3/8	19 5/8

The ten inch portlights are furnished with two fastenings.

Flanges are drilled and countersunk for same sizes of wood screws as are used with Fig. 5253 Portlights. See page 83.

**INSIDE PORTLIGHTS**

Plain Bronze or Aluminum  
Oval "Sea-More" Pattern



With Removable Hinge Pin

Fig. 5252

Strongly made, fitted with two fastenings, Heavy Polished Plate Glass, and especially designed so as to admit light or air to the full size of the Port.

With or without Patented Screen. Prices do not include Screens. For Screens, see Fig. 5255.

Prices include Outside Finishing Rings which are furnished unless otherwise specified.

Plain Bronze

Size of Opening Inches	For Wood Thickness 1 1/2 Inches	For Wood Thickness 2 Inches
4 x 7	\$17.50	\$18.15
5 x 9	21.25	21.75

Plain Aluminum

Size of Opening Inches	For Wood Thickness 1 1/2 Inches	For Wood Thickness 2 Inches
4 x 7	\$13.75	\$14.85
5 x 9	16.00	17.00

Without Outside Finishing Rings, deduct from above prices:

Size Inches	Plain Bronze Each	Plain Aluminum Each
4 x 7	\$0.60	\$0.60
5 x 9	.90	.90

Dimension Data

Size of Opening Inches	Length of Flange Inches	Width of Flange Inches	Thick-ness of Glass Inches	Drilled for Wood Screw No. Flange	Drilled for Finishing Ring	Bronze Wt. Each with 1 1/2-Inch Spigot in Lbs.
4 x 7	10	7	3/8	10	8	8 1/2
5 x 9	12 1/2	8	3/8	10	8	11 3/4

The weights of aluminum portlights are approximately 50 percent of the weights listed above for bronze.

**WING NUTS**

Plain Brass  
For Portlights

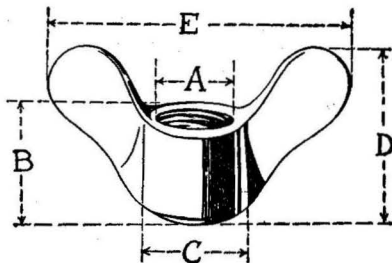


Fig. 5259

For Diam. Bolt Inches	Each	A Inches	B Inches	C Inches	D Inches	E Inches
1/4	\$0.15	1/4	3/8	3/16	3/4	1 3/4
5/16	.18	5/16	3/8	1/16	3/4	1 3/4
3/8	.18	3/8	1/2	5/8	13/16	1 3/4
7/16	.30	7/16	1/2	3/4	1 1/16	2 1/8
1/2	.35	1/2	1/2	3/4	1 1/16	2 1/8
9/16	.45	9/16	3/4	1	1 1/16	2 1/2
5/8	.45	5/8	3/4	1	1 1/16	2 1/2

**MARINE WINDOWS**

Plain Bronze or Aluminum



With Removable Hinge Pins

Fig. 5258

Here is a real marine window — built to meet the severe conditions of marine use. Full opening glass area. One window — one hull opening — gives two to three times as much light or air as round portlights. May be installed in either hull, trunk, or raised deck cabins.

The aluminum windows have the great advantage of light weight. Made of salt water resistant aluminum, with aluminum, monel and stainless steel fastenings. No corrosion between the various parts.

Dress up the old boat — put in W-C marine windows and the change will delight you.

Removable chrome-plated screens are furnished without extra charge.

Prices include Outside Finishing Rings, which are furnished unless otherwise specified.

Size of Opening Inches	Plain Bronze Each	Plain Aluminum Each
5 x 12	\$23.75	\$21.00
7 x 14	27.50	24.00
8 x 18	38.00	31.00
10 x 21	59.00	49.00

Without Outside Finishing Rings, deduct from above prices:

Size of Opening Inches	Plain Bronze Each	Plain Aluminum Each
5 x 12	\$1.65	\$1.65
7 x 14	2.00	2.00
8 x 18	2.75	2.75
10 x 21	4.50	4.50

**Dimension Data**

Size of Opening Inches	Size Frame Inches	Length Spigot or Sleeve Inches	Clear Glass Area Inches	Thickness of Glass Inches
5 x 12	8 x 15	2	5 x 12	3/16
7 x 14	10 x 17	2	7 x 14	7/32
8 x 18	11 x 21	2	8 x 18	1/4
10 x 21	14 1/2 x 25 1/2	1 5/8	10 x 21	3/8

Size of Opening Inches	Drilled for Wood Screw No.		Weight in Lbs. With Finishing Ring	
	Flange	Finishing Ring	Bronze Each	Aluminum Each
5 x 12	10	8	17 1/4	7 3/4
7 x 14	10	8	23	10 1/3
8 x 18	10	8	30	14 1/2
10 x 21	14	10	40	19 1/3

**AIR PORTS**

Cast Brass

Plain Finish

For Wood or Steel Hulls

Brass Frame and Sash — with or without Covers.

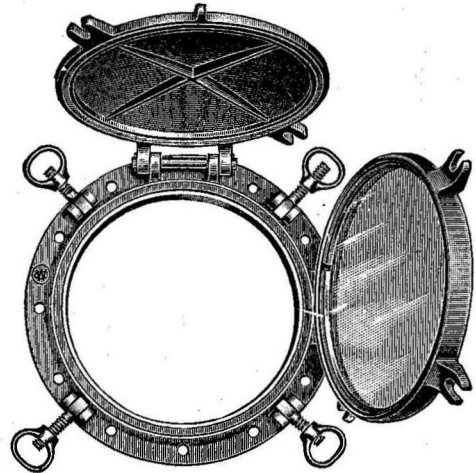


Fig. 5256

Can also be furnished with both Cover and Sash hinged on same pin. Specify Fig. 5256-A when ordering.

Diam. Opening Inches	Without Cover Each	With Galv. Gray Iron Cover Each	Diam. Clear Glass Inches	Thickness Glass Inches	Outside Diam. Frame Inches	Outside Diam. Spigot Inches	Weight Each With-out Cover in Lbs.
10	\$42.00	\$46.00	10	3/4	14 3/8	10 3/8	30
12	54.00	58.00	12	3/4	16 3/8	12 3/8	37 1/2
14	57.00	63.00	14	3/4	18 1/2	14 1/2	44
15	62.00	70.00	15	3/4	19 3/8	15 3/8	46
16	69.00	77.00	16	1	20 1/2	16 1/2	50
18	95.00	105.00	18	1	23 3/8	18 3/8	72

Standard Spigot length 3/4 inch. Spigot lengths up to 6 inches inclusive available. Prices on application.

Frame regularly drilled for 1/2-inch Bolts.

Covers can be supplied in Brass or Galvanized Gray Iron. Thickness of Glass may be varied from above table within reasonable limits. Prices on application.

Note: Diameter of Clear Glass in all sizes equals nominal diameter of Air Ports.

**PORTLIGHT CHAINS**  
Galvanized Iron



Fig. 5290

Length Inches	Galv. Each	I. D. Rings Inches	Size Jack Chain	Weight Each in Lbs.
11½	\$1.00	1¼	No. 8	⅝

Designed for use with large Air Ports. Furnished complete with Plain Brass Eye Strap.

**PORTLIGHT CHAINS**  
Polished Brass

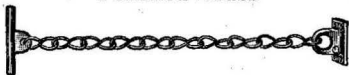


Fig. 529

Length Inches	Pol. Brass Each	Dim. Eye Plate Inches	Weight Each in Lbs.
8	\$1.00	1½ x 1	⅜

Designed for use with Regular Portlights.

**RUBBER FOR PORTLIGHTS  
AND MARINE WINDOWS**



Fig. 528

Be sure to specify number of feet required when ordering.

No.	Per Foot	Dimensions Inches	Used With Portlights— Size Inches
1*	\$0.20	¾ x ¾	4
2*	.20	½ x ¼	5—6 and 4 x 7—5 x 9
3*	.30	⅝ x ⅝	7—8—9—10—12
4†	.30	¼ x ½	Marine Windows
5‡	.30	¼ x ⅝	Marine Windows

\*For use in Portlights, Figs. 525, 5252 and 5253.

†This sponge rubber is for 5 x 12, 7 x 14 and 8 x 18-inch Marine Windows, Fig. 5258.

‡This sponge rubber is for 10 x 21 Marine Windows.

Sponge rubber is not available in single pieces longer than 72 inches.

**AIR SCOOPS**

Galvanized Sheet Iron  
For Round Portlights and Air Ports

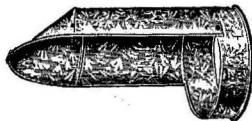


Fig. 5250

With integral insect screens

For insertion in Portlights and Air Ports to improve ventilation.

For Portlights Inches	Complete With Screens Each	For Air Ports Inches	Complete With Screens Each
4	\$6.00	10	\$12.50
5	6.85	12	13.50
6	7.60	14	14.50
7	8.25	15	15.50
8	9.00	16	16.25
		18	17.00

**AIR PORT SCREENS**

Bronze

Push-In Type

Use with Fig. 5256 Air Ports



Fig. 526

For Size Air Ports Inches	Each	For Size Air Ports Inches	Each
10	\$4.30	15	\$7.30
12	6.30	16	8.15
14	6.90	18	10.00

**MOSQUITO SCREENS**

Bronze

Round Type

Use with Figs. 525  
and 5253 Portlights

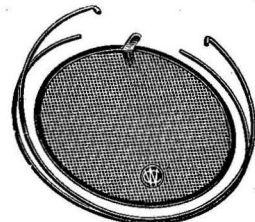


Fig. 5254

For Size Opening Inches	Bronze Each	Dull Chrome Plate Each	For Size Opening Inches	Bronze Each	Dull Chrome Plate Each
4	\$2.20	\$3.55	8	\$3.60	\$5.35
5	2.50	3.90	9	3.85	6.00
6	2.75	4.60	10	4.75	6.80
7	3.30	4.95	12	5.50	7.85

We recommend the use of our mosquito screens with Chrome Plated Mesh as the most effective way to eliminate discolored white Topsides.

Oval Type

Use with Fig. 5252 Portlights

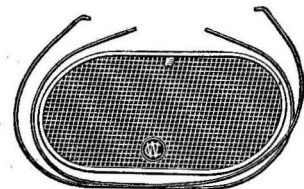


Fig. 5255

For Size Opening Inches	Bronze Each	Dull Chrome Plate Each
4 x 7	\$3.20	\$5.35
5 x 9	3.75	5.85

**ROUND FRAMES FOR GLASS**

Cast Brass

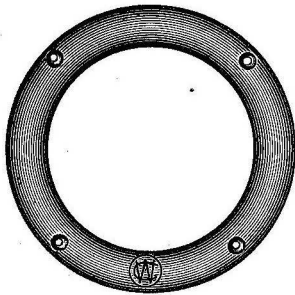


Fig. 5260

Size No.	Plain Each	Polished Each	Inside Diameter Inches	Outside Diameter Inches	Weight Each in Lbs.
1	\$1.05	\$1.65	3 7/8	5 1/4	1/2
2	1.15	1.75	4 7/8	6 1/4	5/8
3	1.20	1.90	4 7/8	6 3/4	1 1/16
4	1.25	2.15	5 1/4	7 1/4	3/4
5	1.75	2.70	5 3/4	8	7/8
6	2.15	3.10	6 1/4	8 1/2	1
7	2.45	3.55	7 1/4	9 3/4	1 3/8
8	3.55	5.00	8 3/4	11 1/4	1 7/8
9	4.10	6.00	9 1/4	12 1/4	2
10	4.95	6.75	10 1/4	13 1/4	2 3/4

All Drilled for No. 10 Wood Screw.

**DECK LIGHTS**

Cast Brass

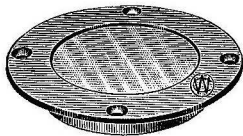


Fig. 524

Size of Clear Glass Inches	Plain Each	Polished Each	Thickness of Glass Inches	Diam. of Frame Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
3 1/2	\$5.25	\$6.75	1/4	5 3/4	8	1 3/4
4	5.50	7.50	1/4	6 1/2	10	1 7/8
5	6.25	8.60	3/8	7 1/2	10	3 3/8
6	7.00	9.35	3/8	8 1/2	10	3 7/8
7	10.35	13.25	1/2	9 1/2	12	6 3/4
8	12.85	16.00	1/2	11	12	7 1/4

**FIXED LIGHTS**

Plain Cast Brass



Fig. 5241

Glass is secured by a threaded bezel ring.

Diam. of Clear Glass Inches	Each	Thickness of Glass Inches	Diam. of Frame Inches	Drilled for Diam. Bolt Inches	Weight Each in Lbs.
8	\$20.00	1/2	11 1/4	3/8	9 5/8
10	24.00	1/2	13 3/8	7/16	11 1/2
12	30.00	1/2	15 1/2	7/16	15

All Deck and Fixed Lights listed above can be furnished with heat-treated glass to order. Prices on application.

**WATER DECK IRONS**

Galvanized Gray Iron



Fig. 668

Inside Pipe Size Inches	Each	Outside Pipe Size Inches	O. D. Flange Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
3	\$3.85	3 1/2	7 1/2	12	3 1/2
4	5.25	4 1/2	9 1/4	14	5 3/8
4 1/2	5.50	5	10	14	6 1/2
5	6.00	5 1/2	10 1/2	14	7
6	7.50	7	11 1/4	14	9 5/8

**LOCKER VENTILATORS**

Polished Brass

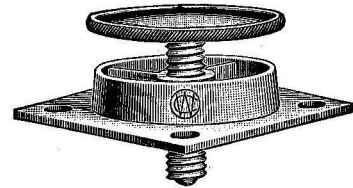


Fig. 674

Diam. of Opening Inches	Pol. Brass Each	Size Plate Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
2 1/2	\$5.00	3 1/4 x 3 1/4	10	5/8
3	6.25	4 1/8 x 4 1/8	10	1 1/8
3 3/8	7.75	4 7/8 x 4 7/8	10	1 5/8

**SWIVELING**

**OVAL MOUTH COWL VENTILATORS**

Polished Cast Bronze

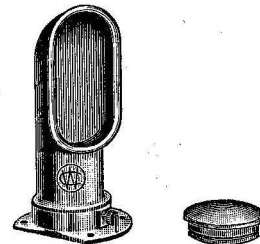


Fig. 8788

Furnished with Swivel Type Deck Plate and Cover.

Size No.	Polished Bronze Each	Chromium Plated Each
5	\$13.00	\$17.00

Ventilators are painted red inside. Flat side permits installation in small spaces. Offers practically no obstruction on deck. Swivels in all directions. Locks firmly in every one. Ideal for use with Exhaust Blower, Fig. 8780.

Size No.	Diam. Throat Inches	Inside Dim. of Mouth Inches	Height above Deck Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
5	2	4 3/8 x 2	8	8	3 3/4

**SHEET METAL VENTILATORS**

Galvanized Steel or Polished Brass

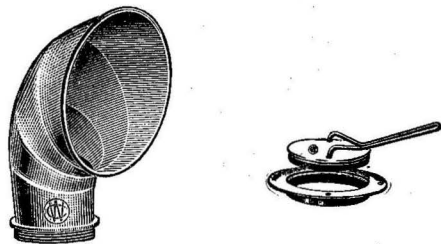


Fig. 874

Furnished with Bronze Deck Plate, Cover, Key or Key Spanner according to size.

Size Deck Plate Inches	Galv. Sheet Steel Each	Pol. Sheet Brass Each	Diam. Mouth Inside Inches	Throat Area Sq. In.	Height from Deck to Bottom of Mouth Inches	Weight Each in Lbs.
2	\$13.50	\$18.50	4	2.4	1½	1⅛
2½	14.50	19.75	5	3.7	1½	1⅝
3	15.75	21.00	6	6	1¾	2⅛
4	19.25	24.00	8	10.3	2	3¼
5	32.00	37.00	10	17.7	3	5
6	43.00	48.00	12	24.3	3¼	7¾
8	98.00	103.00	16	44	4	13¾

Can be furnished with Extra Height Throat to order.

Galvanized ventilators are Hot Dip Galvanized after fabrication.

**HALF VENTILATORS**

Cast Bronze

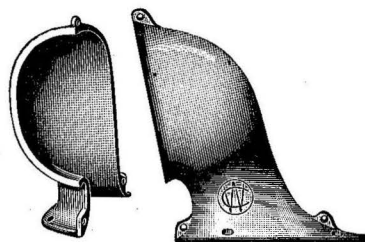


Fig. 8801

Size No.	Plain Bronze Pair	Polished Bronze Pair	Chrom. Plated Pair	Weight Pair in Lbs.
10	\$9.35	\$13.75	\$19.25	5

Ventilators are painted red inside.

Size No.	Inside Dim. Throat Inches	Inside Dim. Mouth Inches	Height above Deck Inches	Drilled for Wood Screw No.
10	3 x 1½	5¼ x 2¾	8	8

**ROUND MOUTH COWL VENTILATORS**

Galvanized Gray Iron or Cast Bronze

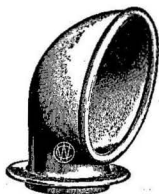


Fig. 8784

With non-removable Deck Flange.

Size No.	Galvanized Each	Plain Bronze Each	Polished Bronze Each	Chromium Plated Each
8	\$1.95	\$5.25	\$8.00	\$10.00

Bronze Ventilators only are painted red inside. Cast in one piece, complete with flange. Collar, below flange, is ⅝ in. long. Has much greater capacity than clam shell ventilators.

Size No.	Diam. Opening at Base Inches	Inside Diam. Mouth Inches	Height above Deck Inches	O. D. of Deck Flange Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
8	2	4	5	3½	10	1¾

**OVAL MOUTH COWL VENTILATORS**

Cast Bronze

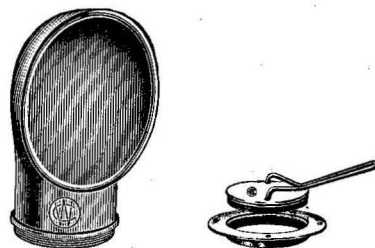


Fig. 8786

Furnished with Bronze Deck Plate, Cover and Key Spanner.

Size Deck Plate Inches	Plain Bronze Each	Polished Bronze Each	Chromium Plated Each
3	\$16.50	\$22.50	\$29.00
4	21.50	30.00	38.00
5	33.00	43.00	....

Ventilators are painted red inside.

Size Deck Plate Inches	Inside Dim. of Mouth Inches	Throat Area Sq. In.	Height above Deck Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
3	6¼ x 4⅞	5	8½	10	4¾
4	6⅝ x 4¾	10.3	9	12	8¼
5	8⅜ x 6¼	16.8	11½	14	14½

**LOCKER VENTILATORS**

Stamped Brass

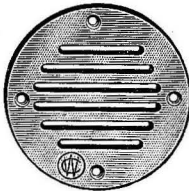


Fig. 8792

Diam. Inches	Polished Brass Each	Chrom. Plated Each	Drilled for Wood Screw No.	Weight Each in Lbs.
2½	\$0.40	\$0.85	5	⅙
3¼	.50	1.00	6	⅛

A neat, practical and attractive means of providing that necessary ventilation, in such places as lockers and between hull planking and ceiling.

**TRANSOM VENTILATORS**

Cast Brass

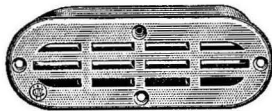


Fig. 8791

Plain Brass Each	Polished Brass Each	Chrome Plated Each	Weight Each in Lbs.
\$1.50	\$2.50	\$3.50	1

Length Inches	Width Inches	Depth Collar Inches	Drilled for Wood Screw No.
6¾	2¼	¾	8

Usually two of these Ventilators are installed. They are set into the stern transom, providing proper ventilation in a part of the boat seldom possible to "air." Ventilation means longer boat life—no dry rot—less trouble. Also an excellent locker or battery compartment ventilator.

**MUSHROOM VENTILATORS**

Galvanized Gray Iron or Bronze

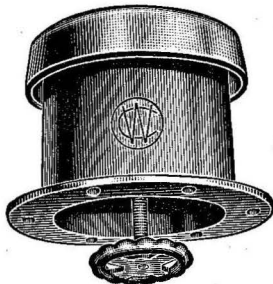


Fig. 8804

Size Inches	Galv. Each	Plain Bronze Each	Height		Diam. Base Inches	Approx. Weight Each in Lbs.
			Open Inches	Closed Inches		
3	\$7.80	\$10.50	6½	4¾	5¾	6
4	9.00	12.00	6¾	4¾	6½	8
5	12.00	15.00	7½	4¾	7½	10
6	13.00	24.00	10¾	7¾	8¾	17
8	24.00	39.00	12¾	8¾	10¾	29

3-Inch size has no hand wheel.

3 and 4 inch sizes are drilled for No. 10 Wood Screws; 5, 6 and 8 inch sizes for No. 12 Wood Screws.

**CLAM SHELL VENTILATORS**

Cast Brass

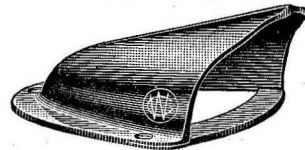


Fig. 8782

Effectively streamlined; red enameled inside; only sizes 2 and 3 furnished with watershed as shown.

Size No.	Polished Brass Each	Chrom. Plated Each	Length and Width Base Inches	Height Opening Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
0	\$2.10	\$2.85	3½ x 3	1¼	6	¾
1	2.60	3.25	3½ x 4½	2	8	¾
2	5.50	6.50	4½ x 5	2¼	8	1¼
3	6.50	7.75	6 x 6½	3	10	2

**CLAM SHELL VENTILATORS**

Stamped Brass

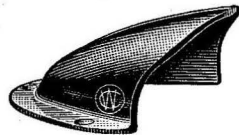


Fig. 8790

Strong enough not to get out of shape. Economical for deck installations or over the ends of ventilation air pipes. Red enameled inside.

Size No.	Polished Brass Each	Chrom. Plated Each	Length and Width Base Inches	Height Opening Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
2	\$2.15	\$3.00	4¾ x 5	2	6	½

**STREAMLINED SCOOP VENTILATORS**

Cast Brass

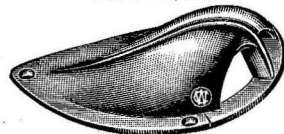


Fig. 8789

Polished Brass Each	Chrom. Plated Each	Height Opening Inches	Length and Width Base Inches	Drilled for Wood Screws No.	Weight Each in Lbs.
\$4.75	\$6.60	1	7½ x 4½	8	1¾

**HEAVY CLAM SHELL VENTILATORS**

Galvanized Gray Iron

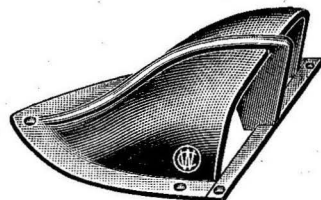
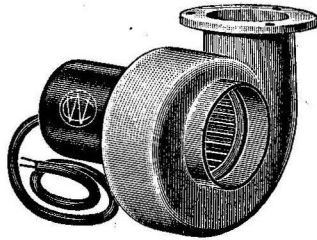


Fig. 8787

Each	Height Opening Inches	Length and Width Base Inches	Drilled for Wood Screws No.	Weight Each in Lbs.
\$2.50	2½	8 x 6½	10	3

**EXHAUST BLOWERS**

Cast Aluminum



No. 10  
3 Inch Size

No. 20  
4 Inch Size

for 6-12  
and 32 Volts, D. C.

Fig. 8780

Fan and housing are non-sparking.

A caution plate, to be placed at blower switch, is furnished without charge.

Specify size and volts when ordering.

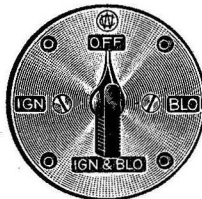
Volts	Size		Amperes	Capacity Per Minute Cubic Feet	
	No. 10 Each	No. 20 Each		No. 10	No. 20
6	\$17.00	\$30.00	7.	90	180
12	18.00	31.00	4.	90	180
32	20.00	33.00	1.5	90	180

Size	Intake Pipe Size Inches	I. D. Outlet Inches	O. D. Outlet Flange Inches	Overall Dimensions Inches	Weight Each in Lbs.
20	4	4 1/8	6 3/8	8 1/2 x 8 x 8	6

Drilled for 3/16-inch diameter fastenings.

Large capacity — non-vibrating — durable. Built specifically for marine use. Foolproof, fully enclosed motor.

**IMPROVED COMBINED BLOWER AND IGNITION SWITCHES**



Cast Bronze

Fig. 879

Pol. Bronze Each	Chrom. Plated Each	Diam. Face Plate Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$8.75	\$10.00	4	6	1/2

Conforms with Sec. 27.4-4 of Motor Boat Regulations, U.S.C.G.

Every boat owner knows some gasoline leak may have developed, or explosive fumes collected in the engine room while the boat has been tied up.

But — they don't always remember to ventilate the engine room before starting the motor. So, here's the automatic reminder! Snap this ignition switch and the blower starts. Best to do it when you first come on board. Let it run at least ten minutes.

Then, snap the switch again. The blower still runs, but the motor ignition is on. Warm up the motor while the blower is still running. Snap the switch to its third position. The blower shuts off — only engine ignition is on.

The mechanism of this switch is the same as used by the Navy, built to their specifications, but modified to prevent complete rotation, a reminder to carry out the proper switching cycles.

Two section switch construction provides complete independence of the blower and ignition circuits. You can run your blowers at a different voltage from your engine ignition system, should your installation require it.

Four screw terminals, lettered with "B" and "I" make the wiring job quick and easy. Switch is safe and positive.

**"SEA-BREEZE" CABIN HEATERS**

Cast Aluminum

For 6 Volts, D. C.

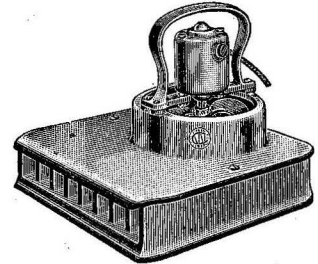


Fig. 883

Low Current Consumption —

Places no burden on your battery.

Size No.	Each	Size Base Inches	Height Inches	Weight Each in Lbs.
1	\$23.00	8 7/8 x 8 7/8	8	6 1/4

No need to shiver and shake! Just the thing to make those early spring and late fall cruises comfortable. No more annoying damp clothes and bunks. Will even dry out the wet seat of a pair of pants in no time!

Just set this "Sea-Breeze" Heater on your stove — right over a burner (if alcohol or gas), or on the hot top of a coal stove. Plug in socket. A hot, dry blast of air is blown down toward the floor and starts circulating throughout the cabin.

Naturally, the motor is designed for marine use. The Heater fits tight and snug on the stove. Fresh air is drawn in at the top, around the motor and handle, keeping them cool. Both are also heat-insulated. Then, the fan forces the air through the heating chamber and out the front in a hot downblast.

Of course, the Heater may be turned so the force of the warm air current is sent in any desired direction.

The "Sea-Breeze" is really a double-purpose unit. With the aid of your regular galley stove, it keeps your cabin warm and comfortable, or on hot, stuffy nights — placed in the companionway — its powerful suction fan will draw in the cool outside air and send a delightful breeze into the cabin.

The "Sea-Breeze" Cabin Heater is one of those "Dependable" W-C gadgets you never want to be without!

**HAVE YOU MET THE "SKIPPER"?**

It's an entirely new marine toilet — proven and tested — truly dependable! Its price and many unusual features will surprise you. See it on page 108.

**ENGINE CRANKCASE PUMPS**

Brass



Fig. 5395  
\$8.25 Each



Fig. 5383  
\$7.75 Each

Fig. 5383 furnished with 10 inches of 5/8-inch rubber hose.

Fig.	Length Pump Overall Inches	Length Flexible Tube Inches	Length Rubber Hose Inches	O. D. Tail Piece Inches	Diam. Barrel Inches	Weight Each in Lbs.
5395	15	12	..	..	1 3/32	2
5383	17 1/4	..	10	5/8	1 3/32	1 3/4

A few strokes with this double action pump and crankcase is empty. Makes changing oil easy. The special nozzle prevents oil splashing.

Flexible oil-tight metal hose on Fig. 5395 readily reaches to bottom of crankcase of average motor. Diameter of end nipple is 3/4-inch.

Fig. 5383 appeals especially to owners of Gray Marine Motors. On such motors, the oil is drawn off through the oil dagger tube. The inside diameter of this tube is too small to admit the metal hose of Fig. 5395. Rubber hose furnished with Fig. 5383 pump exactly fits oil dagger tube on all "Grays."

**GALLEY OR LAVATORY PUMPS**

Polished Brass or Chromium Plated



High Spout  
Fig. 5394

Polished Brass Each	Chromium Plated Each	Diam. Barrel Inches	Length Barrel Inches	Weight Each in Lbs.
\$19.75	\$23.00	2 1/8	6	3 3/4

Capacity: 7 strokes to one quart.

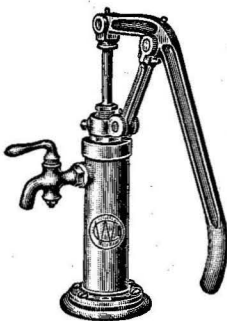
Fig. 5394 is machined to take 5/8-inch O. D. Tail Piece. (See Fig. 1509.) 1/2-inch pipe coupling can be used for connection.

These pumps have the flapper type of valve at the bottom, or intake, and a poppet valve with cup leather on the piston for suction and discharge.

The Handle is all metal, cast in one piece for extra strength, with comfortable non-tiring grip. Handle easily adjusted for either right or left hand installation.

**GALLEY OR LAVATORY PUMPS**

Plain Cast Bronze



Dresser Mounting  
Fig. R-6534

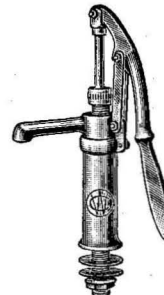
Each	Diam. Barrel Inches	Length Barrel Inches	Weight Each in Lbs.
\$38.00	2	6 3/4	9 1/2

Capacity: 4 strokes to one quart.

This heavy-duty, well made pump has a cast reversible handle, and is equipped with polished brass lever handle faucet. Has intake tapped for 1-inch pipe.

**GALLEY OR LAVATORY PUMPS**

Polished Brass or Chromium Plated



High Spout  
Fig. 5397

Polished Brass Each	Chrom. Plated Each	Diam. Barrel Inches	Length Barrel Inches	Weight Each in Lbs.
\$17.50	\$21.00	1 1/2	5	3 3/4

Capacity: 15 strokes to one quart.

This pump is machined to take 5/8-inch O. D. Tail Piece. (See Fig. 1509.) 1/2-inch pipe coupling can be used for connection.

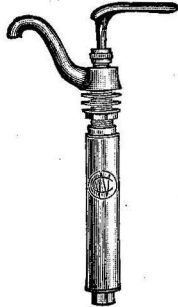
Pump has the ball check type of valve both at the bottom, or intake, and on the piston for suction and discharge.

**GALLEY OR LAVATORY PUMPS**

Polished Brass or Chromium Plated



Low Straight Spout  
Fig. 5393



Low Gooseneck Spout  
Fig. 5385

Fig. No.	Pol. Brass Each	Chrom. Plated Each	Diam. Barrel Inches	Length Barrel Inches	Spout Projects Inches	Weight Each in Lbs.
5393	\$12.00	\$14.00	1½	7	3	3
5385	13.00	15.00	1½	7	3	3

Capacity: 10 strokes to one quart.

Tapped for ¾-inch pipe.

All parts extending below basin Plain Brass. Ball check type valves throughout. Fig. 5385 outlet is 2½ inches above sink line.

**"ANGLE" GALLEY PUMPS**

Polished Bronze or Chromium Plated

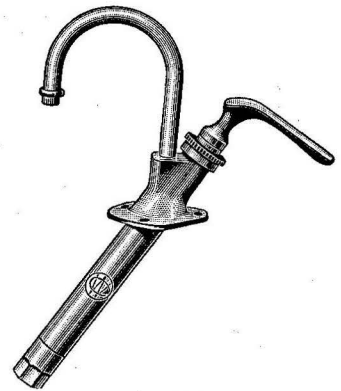


Fig. 5386

Pol. Bronze Each	Chrome Plated Each	Diam. Barrel Inches	Inlet Tapped Pipe Size Inches	Depth Below Base Inches	Height Above Base Inches	Weight Each in Lbs.
\$11.25	\$14.00	1¾	¾	7½	6¾	2¼

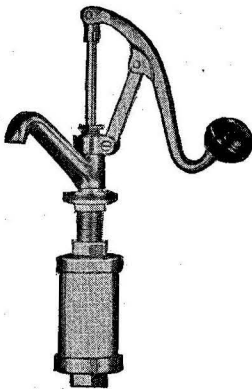
Drilled for No. 8 wood screw.

Capacity: 10 strokes to one quart.

The angle does the trick! Pumps with less effort and stretching. Good looking — low priced. A big value. Spout designed so its position may be changed to meet all installation conditions.

**GALLEY OR LAVATORY PUMPS**

Chromium Plated Bronze



High Spout  
Fig. 829

\$23.00 Each

Capacity: 6 strokes to one pint.

Diameter Barrel: 1¾ inches.

Depth below Base: 6 inches.

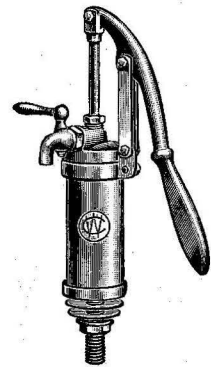
½-inch Pipe Connection.

Weight: 2½ lbs. each.

More improvements in this little pump with the big capacity! New linkage ratios make pumping even easier than before. A new valve holds the prime and delivers more water. This pump may be installed on a water supply line with other pumps, yet will not leak when handle is down tight. Barrel is mounted below dresser top. Handle may be rotated to easiest pumping position.

**GALLEY OR LAVATORY PUMPS**

Polished Brass or Chromium Plated



High Spout — With Shut Off  
Fig. 5394-A

Pol. Brass Each	Chrom. Plated Each	Diam. Barrel Inches	Length Barrel Inches	Weight Each in Lbs.
\$24.00	\$28.00	2½	6	3¾

Capacity: 7 strokes to one quart.

Pump is threaded for ¾-inch O. D. Tail Piece. (See Fig. 1509.) Will also take ½-inch Pipe Coupling. Flapper type of valve at the bottom, or intake. Poppet valve with cup leather on the piston for suction and discharge.

Easy pumping all-metal handle, cast in one piece for strength. Handle easily adjusted for either right or left hand installation.

**IMPROVED DOUBLE ACTION PUMPS**

Polished Brass



With Brackets  
Fig. R-6542-B

Diam. Barrel Inches	Pol. Brass Each	Length Overall Inches	Weight Each in Lbs.
1 1/2	\$13.50	15 5/8	3

Capacity: 4 strokes to one quart.

Inlet and outlet threaded to take standard 5/8-inch garden hose couplings, or 3/4-inch standard pipe coupling.

A high-grade pump for bilge or sink discharge. Ample clearance from bulkhead. Double action — discharges on both up and down stroke. Plunger "rod" is of stout tubing — no chance of bending. Ball check valves on both inlet and plunger. Removable valve seats for cleaning.

For inlet or discharge lines, use either 5/8-inch garden hose with couplings and 5/8-inch size Fig. 8569 (page 102), or 3/4-inch standard pipe and fittings with 3/4-inch size Fig. 857 (page 103).

The number of strokes per gallon is the true measure of a Hand Pump's capacity.

**"SEA-SPRAY" BILGE PUMPS**

Brass  
Single Action



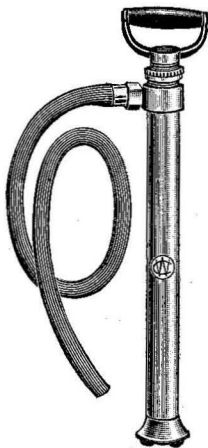
Fig. 5388

Diam. Barrel Inches	Each	Height Inches	Strokes Per Quart	Weight Each in Lbs.
1 1/4	\$4.75	17	4	1 5/8

Just the pump for small sail or motor boats and skiffs. The simple, new style valve action gives the easiest operation and the greatest amount of water. Usually, no hose is necessary as the up-angle spout throws the water well overboard. However, a piece of 5/8-inch garden hose will fit the spout if needed. The low price is another attractive feature of this new pump.

**NUTMEG BILGE PUMPS**

Brass  
Double Action



Regular Type  
Fig. 539

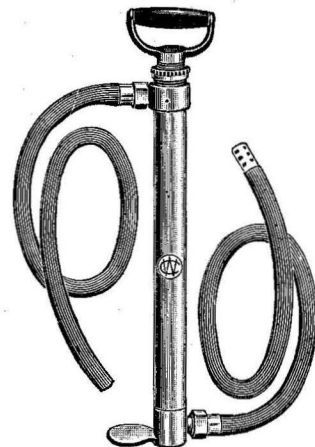
Size No.	Each	Height Inches	Diam. Inches	Strokes Per Quart	Weight Each in Lbs.
1	\$8.50	16	1 3/2	7	3 1/8
2	10.00	17	1 1/2	3	4 1/2
4	12.50	26	1 1/2	1 1/2	5 3/4

One five-foot length of hose with coupling furnished with each pump.

New! W-C Bilge Pump Brackets, Fig. 7970, for permanent mounting. See page 96.

**NUTMEG BILGE PUMPS**

Brass  
Double Action



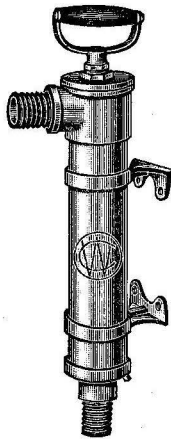
Suction Hose and Strainer Type  
Fig. 5391

Size No.	Each	Height Inches	Diam. Inches	Strokes Per Quart	Weight Each in Lbs.
1	\$11.25	18 1/2	1 3/2	7	5 1/2
2	13.25	21 1/2	1 1/2	3	7 1/4

Two five-foot lengths of hose with couplings and one strainer furnished with each pump.

**NAVY BILGE PUMPS**

All Brass, Poppet Valve Construction  
For Hose Connection



Navy Bilge Pumps  
Have Removable  
Screw-Top Caps.

Fig. 800

Each	For Hose Connections Inches	Overall Length Inches	Length Barrel Inches	Diam. Barrel Inches	Weight Each in Lbs.
\$21.50	1½	26	16½	2¾	11

Capacity at a lift of 6 feet — 3 strokes per gallon. This pump has metal poppet valve, ½-inch plunger rod, and removable top. Full swiveling brackets, drilled for ¼-inch bolts. Use 1½-inch size Fig. 8569 (page 102) for outboard connection.

**IMPROVED NAVY BILGE PUMPS**

All Brass, Poppet Valve Construction  
For Pipe Connection

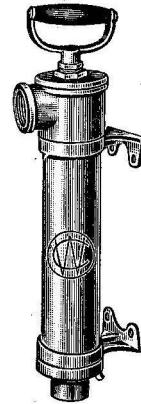


Fig. 5392

See Fig. 808 for hose conversion.

Each	Tapped For Pipe Inches	Inlet	Outlet	Overall Length Inches	Length Barrel Inches	Diam. Barrel Inches	Weight Each in Lbs.
\$21.00	1¼	1½		25½	16¾	2¾	10½

Capacity at six-foot lift is one gallon every three strokes. Removable screw-top cap means you don't have to break connection lines to inspect the plunger or clear the pump!

This improved Navy Bilge Pump is exceptionally sturdy, all brass and bronze construction of utmost reliability. Tight sealing plunger and cup construction assures heavy suction. All brass intake poppet valve usually makes priming unnecessary.

Brackets drilled for ¼-inch Bolts. They can be swung in any direction for left or right-hand mounting. Can be slipped up or down barrel to suit the installation needs. Plunger rod is ½-inch diameter, which cannot be bent in service. Gasketed screw-top cap permits removal of plunger unit without dismantling pump. The best in pumps for capacity and reliability under all service conditions.

**FLUSH COCKPIT MOUNTING  
NAVY PUMPS**

All Brass  
Poppet Valve Construction  
For Pipe Connection

\$29.50 Each

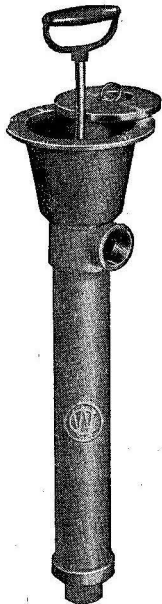


Fig. 8000

Inlet	Outlet	Overall Length Inches	Length Barrel Inches
1¼	1½	25½	16½

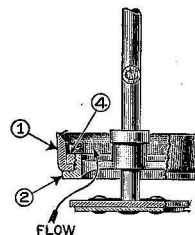
Diam. Barrel Inches	Diam. Flange Inches	Weight Each in Lbs.
2¾	7½	15

Capacity—3 strokes per gallon.

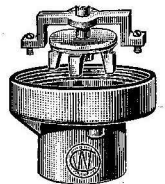
See Fig. 808 for hose conversion.

A large capacity Navy Type Bilge Pump, for permanent out-of-the-way flush installation in cockpit floor or seat. Better than the old yacht pumps because plunger mechanism is built in, and it pumps overboard below deck level. No oily bilge water in the cockpit. Cover quickly removable. Plug in bowl permits priming, if necessary. Sturdy cast cover — not slippery. Water cannot enter the pump or get into boat through the top.

**Construction Notes**



Plunger



Poppet Valve

Comparative tests have proven our plunger construction (illustrated above) to be the best! This is an exclusive W-C design. There is no packing to wear down and lose suction.

No. 1 is a special high grade cup leather, properly seated by bronze ring No. 4 to bronze ring No. 2. This ring assembly, on the down or filling stroke, slides up the plunger rod to the stop collar.

The flow opening is oversize to insure a full load of water without back pressure.

BILGE OR GALLEY PUMP REPLACEMENT PARTS

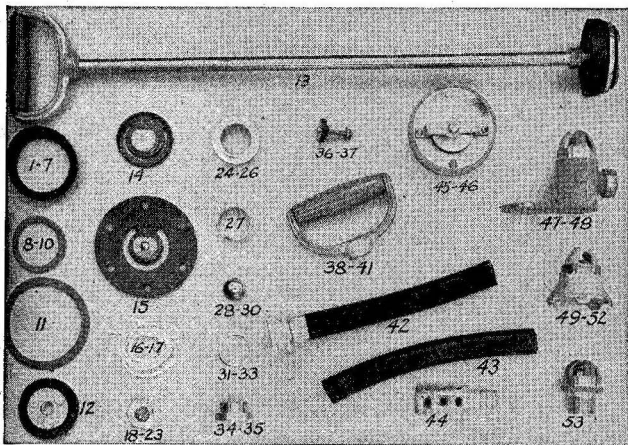


Fig. 7975

**Pump Group Letter**

A — Figs. 539, 5391 No. 1, 5383, 5395  
 B — Figs. 539 Nos. 2 and 4, 5391 No. 2  
 C — Figs. 5385, 5393, 5397  
 D — Figs. 800, 5392, 8000  
 E — Figs. 5394, 5394-A, 5396\*, 5396-A\*  
 F — Figs. R-6534, R-6534-B\*  
 G — Fig. 829  
 H — Fig. 5386  
 I — Fig. 5387\*  
 J — Fig. 5390\*  
 K — Fig. R-6542-B

\*Model not shown in catalog.

To order a repair part for a W-C Bilge or Galley Pump, identify your Pump Figure Number from the pictures and specifications in this catalog. After identifying your Pump, determine in which letter group it is included.

All parts listed for this letter will fit your Pump. Check the Parts Picture against the Parts Listing for the part required. On your order, please include the Figure Number, the Part Number and the Part Name.

Part No.	Pump Group Letter	Description of Part	Each
1	A-H-I	Cup Leather .....	\$0.30
2	B-C-K	Cup Leather .....	.35
3	J	Cup Leather .....	.35
4	E	Cup Leather .....	.55
5	D	Cup Leather .....	.70
6	F	Cup Leather .....	.55
7	G	Cup Leather .....	.55
8	A-H	Top Cap Leather Washer .....	.30
9	E	Top Cap Leather Washer .....	.12
10	F	Top Cap Leather Washer .....	.12
11	D	Cap Gasket .....	.18
12	D	Plunger Leather Washer — Riveted to Brass Reinforcing Plate ...	1.10
13	D	Piston Rod Complete with Handle, Leathers and Valve Assembly..	5.25
14	E	Weighted Flap Valve .....	.85
15	F	Weighted Flap Valve .....	1.10
16	B-E-K	Woven Packing .....	.12
17	C-D-E-F-G-I	Cotton Packing .....	.12
18	C	Packing Nut .....	.70
19	D	Packing Nut .....	.70
20	E	Packing Nut .....	.60
21	F	Packing Nut .....	.70
22	G	Packing Nut .....	.60
23	I	Packing Nut .....	.70
24	A-H	Packing Gland Nut .....	.90
25	B	Packing Gland Nut .....	1.15
26	K	Packing Gland Nut .....	1.15
27	K	Packing Gland Ring .....	.80
28	A-H-J-I	Brass Check Ball, 1/2" diameter...	.45
29	C	Brass Check Ball, 5/8" diameter...	.50
30	B-K	Brass Check Ball, 7/8" diameter...	.55
31	A-H-I	Cup Leather Retaining Ring, 7/8" O. D. ....	.10
32	B-K	Cup Leather Retaining Ring, 1 1/4" O. D. ....	.10

Part No.	Pump Group Letter	Description of Part	Each
33	E	Flap Leather Retaining Ring, 2" O. D. ....	\$0.15
34	A-H	Cup Leather Retainer and Check Ball Seat .....	.80
35	B-K	Cup Leather Retainer and Check Ball Seat .....	.90
36	G	Lower Poppet Valve Assembly ..	.60
37	H	Lower Poppet Valve Assembly ..	.45
38	A	Complete Handle .....	1.10
39	B-K	Complete Handle .....	1.10
40	D	Complete Handle .....	1.10
41	I	Complete Handle .....	1.10
42†	A-B-I	5-foot length of Rubber Hose with Coupling .....	1.10
43	J	5-foot length of Rubber Hose, No Coupling .....	.95
44	A-B	Strainer for 5/8-inch I. D. Rubber Garden Hose .....	.55
45		Complete Bottom Connection with Valve for Fig. 5392 or 8000 ...	3.75
46		Complete Bottom Connection with Valve for Fig. 800 (for 1 1/2 inch I. D. Hose) .....	4.85
47		Complete Bottom Connection with Ball for Fig. 5391 No. 1 .....	2.40
48		Complete Bottom Connection with Valve for Fig. 5391 No. 2 .....	2.95
49		Complete Bottom Connection with Valve for Fig. 539 No. 1 .....	1.70
50		Complete Bottom Connection with Valve for Fig. 539 Nos. 2 and 4. ...	2.40
51		Complete Bottom Connection with Valve for Fig. 5387 .....	1.70
52		Complete Bottom Connection with Valve for Fig. 5390 .....	1.70
53		Complete Bottom Connection with Valve for Fig. R-6542-B .....	2.00

†Pumps, Figs. 5383, 5395 do not use this Hose. Order Hose for such Pumps by Pump Figure Number.

**HOSE CONVERSION NIPPLES**

Cast Brass

For Navy Pumps and Strainers.



Fig. 808

For Pipe Size Inches	Each	Nipple For I. D. Hose Inches	Length Overall Inches	Weight Each in Lbs.
1 1/4	\$1.30	1 1/2	2 5/8	3/16
1 1/2	1.30	1 1/2	2 5/8	1/2

Converts any Fig. 5392, or 8000 Navy Bilge Pump for hose connections. Can be used with Fig. 803 and 805 Strainers.

**BILGE PUMP STRAINERS**

Cast Brass

For use with Fig. 5392, 800 and 8000 Navy Pumps.

45 Degree Top Outlet For Hose



Fig. 8070

Side Outlet For Hose

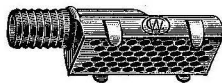


Fig. 804

Top Outlet For Hose



Fig. 806

Fig.	Each	For Hose Size Inches	Overall Length Inches	Overall Height Inches	Overall Width Inches	Weight Each in Lbs.
8070	\$2.40	1 1/2	4 7/8	3 1/8	2 3/4	1 5/8
804	2.40	1 1/2	6 7/8	2	2 3/4	1 1/2
806	2.40	1 1/2	4 7/8	3 3/8	2 3/4	1 5/8

Side Outlet For Pipe

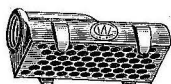


Fig. 803

Top Outlet For Pipe



Fig. 805

Fig.	Each	Threaded for Pipe Inches	Overall Length Inches	Overall Height Inches	Overall Width Inches	Weight Each in Lbs.
803	\$2.40	1 1/4	4 7/8	2 1/2	2 3/4	1 5/8
805	2.40	1 1/4	4 7/8	2	2 3/4	1 5/8

**BILGE PUMP STRAINERS**

Cast Brass

For use with pumps equipped with 5/8-inch garden hose.



Fig. 8040

For Hose Inches	Each	Overall Length Inches	Overall Height Inches	Overall Width Inches	Weight Each in Lbs.
5/8	\$1.10	4	7/8	2	1/4

Will suck up water to the last 1/8-inch! One screw will hold this strainer in the deepest part of the bilge. Covered top feature means you can pump out the last drop! An ideal strainer for mounting with the ballast in sailboats.

**BILGE PUMP BRACKETS**

Plain Cast Bronze



Fig 7970



\$1.65 Pair

Designed for permanent mounting of any Bilge Pump having 1 1/2-inch diameter barrel. Distance from center of pump to wall, 2 1/4-inches. Drilled for No. 8 Wood Screws. Weight, 3/8 lb. per pair.

**GARBOARD DRAIN PLUGS**

Cast Bronze

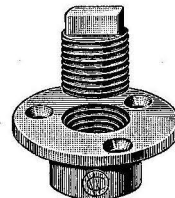


Fig. 872

Fig.	Plain Bronze Each	Plug Pipe Size Inches	Diam. Flange Inches	Depth Collar Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
872	\$1.25	1/2	2	5/8	7	1/4

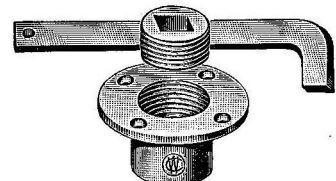


Fig. 873

Fig.	Plain Bronze Each	Plug Pipe Size Inches	Diam. Flange Inches	Depth Collar Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
873	\$2.50	1	2 5/8	1 1/4	7	1

Price for Fig. 873 includes the 6-inch Hot Dip Galvanized Steel Wrench, as illustrated.

The extra long collars on our plugs prove most advantageous when installations must be made through thick planking. Carefully machined tapered pipe threads insure positive water-tight fit of the plugs.

**"SEA-BILGE" ELECTRIC BILGE PUMPS**

Bronze  
Enameled Finish

Switch Controlled

Automatic

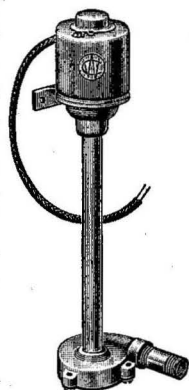


Fig. 8002

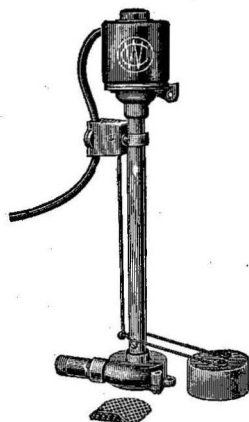


Fig. 8003

All motors are for direct current operation only.

Both types have removable strainer for easy cleaning.

Volts	Weight Each		Overall Height Inches	Weight in Lbs.	
	Fig. 8002 Each	Fig. 8003 Each		Fig. 8002	Fig. 8003
6	\$20.00	\$30.00	12	4	4 3/4
12	22.00	32.00	12	4	4 3/4
32	25.00	35.00	12	4	4 3/4

Replacement Strainers ..... \$0.25 Each

Here is an electric bilge pump, furnished with 6-, 12- or 32-volt motor, that will pump 6 gallons per minute to a height above water level of 6 feet. Low intake assures reduction of water in bilge to one-eighth of an inch.

Built for marine use. All brass, with special marine all-enclosed motor, which has bronze brush springs — not steel! Has plenty of pep, with low battery drain.

Small and compact — easy to install. Adjustable mounting bracket allows various installation positions. Outlet machined for choice of 1/2-inch copper water tubing, 3/4-inch pipe coupling, or standard garden hose (3/8-inch) coupling. Screened intake is easy to clean if required.

Construction is such that water cannot reach the motor. A 3/4-inch size Stainproof Water Outlet, Fig. 8570, is just the thing for the thru-hull discharge and keeps the stream of water away from the topsides. Or use 3/8-inch size Fig. 8569 or 1/2-inch Fig. 857.

**BILGE OR CONTRACTORS' PUMPS**

Galvanized Sheet Steel

With "T" Handle

Heavy construction, galvanized sheet steel with wood handle. Throws large volume of water quickly. Has oak leather plunger, and bottom valve. A lot of pump for little money.

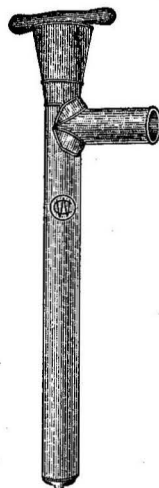


Fig. 542

Diam. Barrel Inches	Length Barrel Feet	Each	Weight 1/2 Doz. in Lbs.
2	3	\$8.75	25 1/2
2	4	9.20	27
2	5	9.65	28 1/2
3	3	10.80	28 1/2
3	4	11.25	30
3	5	11.70	31 1/2

NOTE: Pumps are sold in packages only, containing 6 of a single length and diameter.

**PUMP PLUNGERS**

Leather

Made of heavy red oak leather, securely riveted, strong and durable. Built for hard work.



Fig. 5400

For Diam. Pump Inches	Per Dozen	Packed Dozen Per Box	Weight Dozen in Lbs.
2	\$5.50	1	1
3	6.50	1	1 5/8
4	10.00	1	2 3/8

**PUMP VALVES**

Galvanized Iron

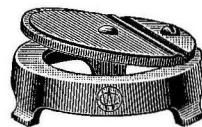


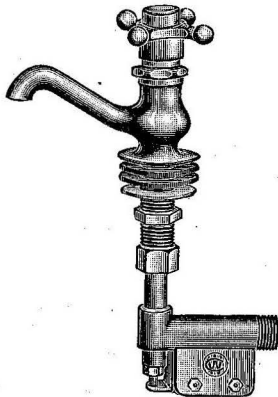
Fig. 544

For Diam. Pump Inches	Per Dozen	Packed Dozen Per Box	Weight Dozen in Lbs.
2	\$5.35	1	2 1/4
3	7.20	1	3 1/2
4	9.50	1	7 1/4

Made of galvanized iron with oak leather flappers which are weighted to eliminate curling.

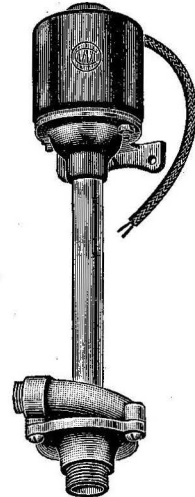
**ELECTRIC WATER SYSTEMS**  
**With**  
**FAUCET CONTROL**

**FAUCET UNIT ONLY**  
 Chromium Plated  
 Self-Closing Handle Type



**Fig. 8281**  
**\$19.50 Each**

**PUMP UNIT ONLY**  
 Bronze  
 Enameled Finish



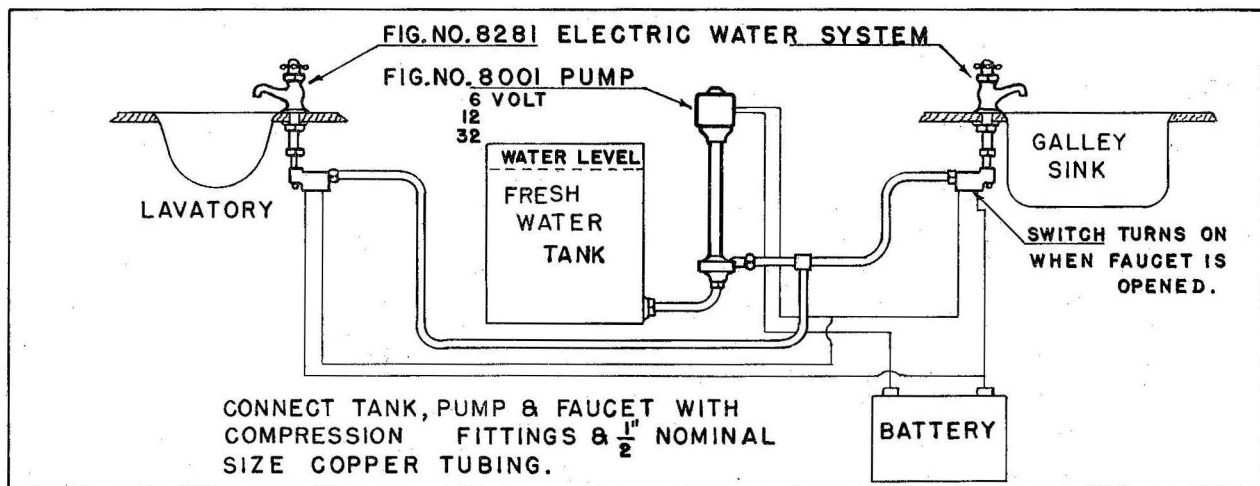
**Fig. 8001**

Ht. Above Drain Board Inches	Length Below Drain Board Inches	Spout Projects Inches	Weight Each in Lbs.
3 5/8	5 1/4	2 5/8	2 3/8

Size No.	Each	Volts	Height Overall Inches	Weight Each in Lbs.
1	\$22.00	6	16	5
2	24.00	12	16	5
3	27.00	32	16	5

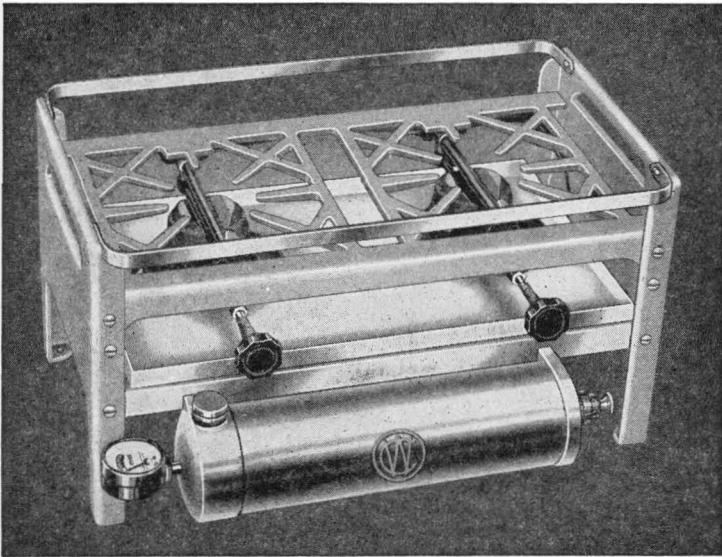
These Faucets, together with one Fig. 8001 Electric Motor Pump Unit, give you running water when and as you want it. The W-C Electric Water System assures fresh running water in both galley and lavatory. This self-closing faucet controls the electric pump. Opening the faucet starts the pump, and the pump automatically stops when faucet is closed, preventing waste of water.

All motors are for direct current operation only. One motor pump unit may be connected to both lavatory and galley faucets. Either faucet will control pump. Fig. 8001 pump unit has motor built for heavy duty marine work, but uses little current — no more than the boat radio! Pump is centrifugal type and delivers a continuous stream; five gallons per minute, if you want that much.



**IMPROVED "SEA-COOK" PRESSURE ALCOHOL STOVES**

CAST SALT-WATER-PROOF ALUMINUM



**Fig. 8255**  
\$55.00 Each

Here's a real boat stove. Sturdy but lightweight, with lots of cooking space. Non-rattling — with structural parts of aluminum. Stove is practically non-magnetic. Best of materials throughout, especially for marine use.

The "Sea-Cook" is all that its name implies — a Pressure Alcohol Stove, designed solely for boat use, with burners giving an intensely hot flame that cooks safely, quickly and economically.

Designed 100% for utility and practicality aboard any boat. Always ready for instant use. Will stand roughest kind of handling. Safe in every respect.

**Dimensions** — 20 $\frac{3}{4}$  inches long; 10 $\frac{1}{2}$  inches wide at feet; 16 $\frac{1}{4}$  inches wide overall, including tank; 10 $\frac{3}{16}$  inches high. Each leg of stove has a flange at the base with a hole for hold-down pin, or screw; or can be mounted on track with Fig. 824 Slide Plates.

**Net Weight** — 20 lbs. each.

**Burners** — Efficient, trouble-free and quiet. Perform equally well at either high or low flame. Corrosion-proof.

**Frame** — Strong, rigid, durable aluminum castings. Non-bending non-warping. Easily cleaned. Bolted together — absolutely no loose parts to rattle or vibrate.

**Safety Drip Pan** — Full-sized and liquid-tight — over  $\frac{3}{4}$  inch deep — of 20-gauge sheet steel, hot dip galvanized after fabrication to provide years of protection against rust. No paint to chip off. No rattling — held securely in place with spring clips. Easy to remove, but easily cleaned without removal from stove.

**Grate** — One-piece aluminum casting. Special open design over burners allows flame to reach utensils with minimum loss of heat to grate casting.

**Tank** — All brass construction. Capacity, nearly two quarts — more than enough to prepare three large meals. Tank filler pipe is extra large, permitting instantaneous sight check of fuel supply. No necessity for a fuel supply gauge which requires a level tank for correct reading.

**Pressure Gauge** — Gauge dial clearly marked for correct operation. Tank and all fittings are safe, far in excess of any pressure that can be built up in tank or fuel line.

**Priming Pan** — Also of cast aluminum. Contains asbestos wicking in deep, over-sized trough. Positioned to keep priming heat where required, regardless of heel of boat. Capacity is over ten times that required for proper amount of priming alcohol — eliminating all possibility of spilled priming fuel; another safety factor.

**Control Valves** — Stainless steel valves controlled by easy-to-grip, moulded handles. Heat guard on valve stem protects fingers.

**Generator Cleanout Plug** — Generator element is brazed to a threaded plug located at front of stove. Removal of plug and generator element for cleaning is a matter of seconds. Only seasonal cleaning is required if top quality fuel is always used!

**SLIDE PLATES FOR "SEA-COOK" STOVES**

Cast Bronze



**Fig. 824**

Plain  
Bronze  
Set  
\$3.25

Weight  
Set  
in Lbs.  
 $\frac{3}{8}$

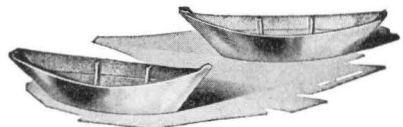
No Track Furnished.

A set consists of 4 slides — 2 with knurled locking screws — and 4 bolts for attaching to stove legs. These slides are made to fit  $\frac{5}{8}$ -inch Mast Track, Fig. 120.

The Slides are bolted to the legs of the stove, and then mounted on the track.

**"DORY" ASH TRAYS**

Polished Bronze or Aluminum



**Fig. 1620-D**  
\$5.50 Per Set

Pieces Per Set	Length Inches	Width Inches	Depth Inches	Wt. Set Lbs.
5	6	2	$\frac{7}{8}$	2 $\frac{1}{2}$

Large capacity — well-balanced receptacles. Highly polished exteriors add to the attractiveness of these Dory Ash Trays.

**AUTOMATIC BOAT DRAINERS**

Brass Tubing with Cast Bronze Fittings

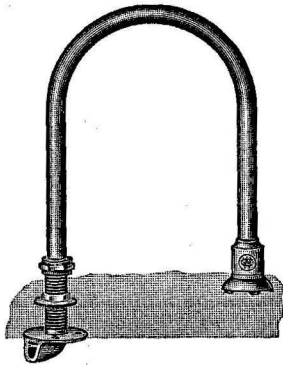


Fig. 1532

Height Inside Hull Inches	Each	Diam. Tube Inches	For Hull Thickness Inches	Weight Each in Lbs.
11	\$11.50	5/8	up to 1 3/4	1 1/2

Streamlined exhaust fitting fits hull closely, minimizes resistance. Drainer operates at 6-8 m.p.h. boat speed. Ball check prevents back flow.

**AUTOMATIC BOAT DRAINS**

Cast Bronze

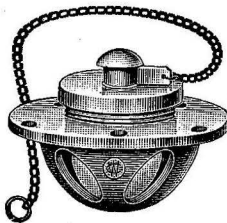


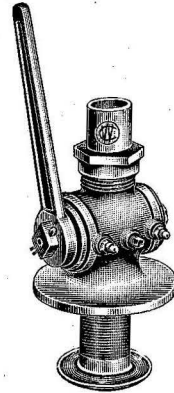
Fig. 594

Size No.	Complete Each	Caps Only With Chain Each	Rubber Balls Only Each
1	\$2.50	\$1.10	\$0.20
2	4.40	1.35	.25

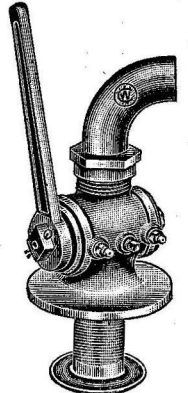
Size No.	Diam. Opening Inches	Diam. Flange Inches	Weight Each in Lbs.
1	3/4	2 1/4	1/2
2	1 1/4	3 5/8	1

**LUBRICATED SEACOX**

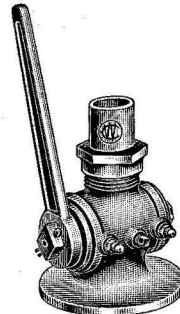
Cast Bronze



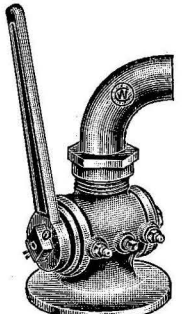
Straight Tail Piece Fig. 1507-L



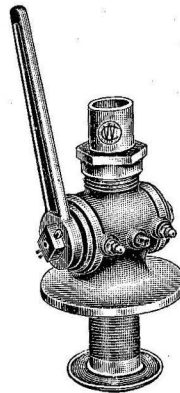
90 degree Curved Tail Piece Fig. 1511-L



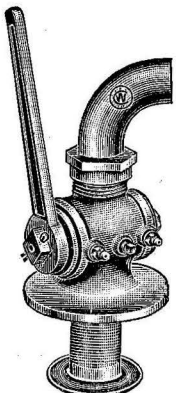
Straight Tail Piece Fig. 1506-L



90 degree Curved Tail Piece Fig. 1505-L



Straight Tail Piece Fig. 1508-L



90 degree Curved Tail Piece Fig. 1512-L

For lubricated Seacox add \$3.50 each to the list price of any type shown on opposite page.

For years it has been our practice to send out all Seacox with greased plugs at time of shipment, as we have found that the ground "keys" or plugs are much easier to swing after a few months of service if so treated.

Now — to make it possible for owners to keep their Seacox free and easy at all times, all W-C Seacox can be had with grease-grooves and grease cups for this moderate additional charge. No need to disassemble plugs now to keep them in tip-top operating order.



"Sands" Marine Plumbing Fixtures Are Manufactured Exclusively By Wilcox, Crittenden & Co., Inc.

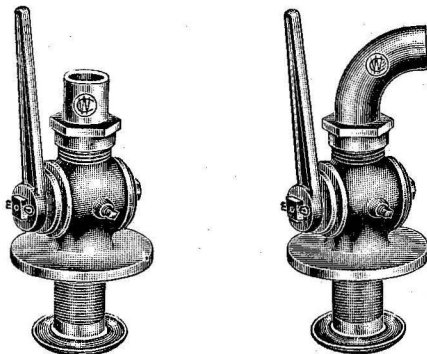
**"FULL-WAY" SEACOX**

Cast Bronze

Best and safest practice is to provide a seacock for every hole in the hull — whether for toilet intakes and discharges, engine cooling water lines, cockpit scuppers or galley sinks. Particularly with toilet installations "Full-Way" Seacox must be used.

"Full-Way" Seacox passages are full pipe size and offer no obstructions to flow. They are safe, sure shut-offs. They have drain plugs on both sides and have adequate length manganese bronze shut-off handles. All "Full-Way" Seacox are greased with special salt-waterproof lubricant. All are provided with tail pieces for lead pipe or hose connections. If desired, the tail pieces can be unscrewed and a pipe hook-up taken directly to the regular pipe threads on the Seacock. W-C Seacox are easier to install. The new W-C Thru-Hulls (without flange prongs) can be threaded tightly into the hull planking and the Seacox body by an easy threading-in rotation from outside the boat. With this new method, the Seacock can be located and firmly secured in a predetermined, easy-to-operate position. Gone are the plank-tearing prongs, oversize planking holes and leaky installations. All replaced with a correct, stronger, and tighter Seacox connection.

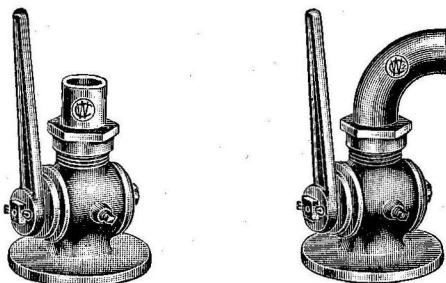
For Outlets  
With Thru-Hull Connection



Straight Tail Piece Fig. 1507      90 degree Curved Tail Piece Fig. 1511

Pipe Size Inches	Fig. 1507		Fig. 1511	
	With Standard Thru-Hull Each Fig. 857	With Extra-Long Thru-Hull Each Fig. 857	With Standard Thru-Hull Each Fig. 857	With Extra-Long Thru-Hull Each Fig. 857
3/4	\$11.20	\$13.20	\$11.50	\$13.50
1	14.40	15.80	14.65	16.00
1 1/4	19.00	20.35	19.35	20.60
1 1/2	22.00	23.00	22.50	23.50
2	34.00	35.00	35.00	35.85
2 1/2	115.00	121.00	....	....
3	165.00	....	....	....

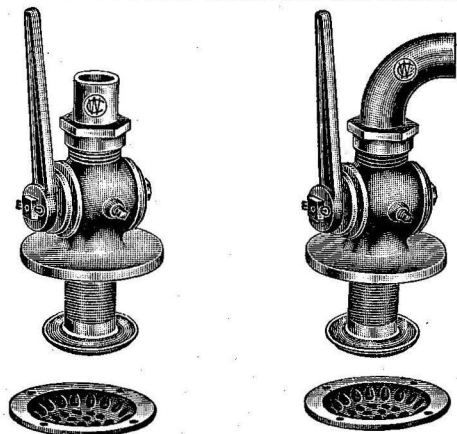
Without Thru-Hull Connection



Straight Tail Piece Fig. 1506      90 degree Curved Tail Piece Fig. 1505

Pipe Size Inches	Fig. 1506 Each	Fig. 1505 Each
3/4	\$9.85	\$10.15
1	12.70	12.95
1 1/4	16.50	16.85
1 1/2	19.00	19.50
2	29.25	30.25
2 1/2	109.20	....
3	160.00	....

For Inlets  
With Thru-Hull Connection and Strainer



Straight Tail Piece Fig. 1508      90 degree Curved Tail Piece Fig. 1512

Pipe Size Inches	Fig. 1508		Fig. 1512	
	With Standard Thru-Hull Each Fig. 857	With Extra-Long Thru-Hull Each Fig. 857	With Standard Thru-Hull Each Fig. 857	With Extra-Long Thru-Hull Each Fig. 857
3/4	\$11.80	\$13.80	\$12.10	\$14.10
1	15.00	16.40	15.25	16.60
1 1/4	19.80	21.15	21.15	21.40
1 1/2	23.35	24.35	23.85	24.85
2	35.60	36.60	36.60	37.45
2 1/2	118.60	124.60	....	....

Separate strainers are superior to inserted or integral strainers because lines can be readily cleared of barnacles, etc.

**BASIC DATA FOR ALL "FULL-WAY" SEACOX**

Thru-Hulls have straight pipe threads and may be shortened to suit the work.

Pipe Size Inches	For Lead Pipe or Hose Size Inches	Diam. Flange Inches	Approx. Weight* Each Lbs.
3/4	3/4	3 1/2	3 3/4
1	1	4	5 1/4
1 1/4	1 3/8	4 1/2	8
1 1/2	1 1/2	5	12
2	2	6 1/8	17 3/4
2 1/2	2 1/2	7	28
3	3 †	9	65

\*With Thru-Hull and Tail Piece.  
†Tail Piece threaded for 3-inch pipe.

All W-C "Full-Way" Seacox are individually tested and conform with U. S. Coast Guard regulations.

See opposite page for data on Lubricated Seacox.

**TAIL PIECES AND COUPLING NUTS**

Cast Bronze

Straight Tail Piece and Coupling Nut



Fig. 1509

Pipe Size Inches	Each	O. D. Tail Piece Inches	Length Inches	Average Weight Each in Lbs.
3/8	\$0.65	1/2	3/4	1/8
1/2	0.70	5/8	7/8	1/4
3/4	.95	3/4	1 5/8	1/2
1	1.15	1	1 7/8	3/4
1 1/4	1.60	1 3/8	1 3/8	7/8
1 1/2	1.90	1 1/2	1 3/4	1
2	2.75	2	1 7/8	1 3/8
2 1/2	4.85	2 1/2	3 1/4	2 1/4

Dependable tail pieces for lead pipe or hose connection with coupling nuts and packing washers. Coupling nuts are threaded straight pipe sizes. Made to fit all "Full-Way" Seacox, Thru-Hull Connections, Figs. 856 and 857, and Strainers, Fig. 8572.

**TAIL PIECES AND COUPLING NUTS**

Cast Bronze

90 Degree Curved Tail Piece and Coupling Nut

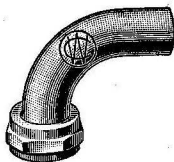


Fig. 1510

Pipe Size Inches	Each	O. D. Tail Piece Inches	Length Inches	Average Weight Each in Lbs.
3/4	\$1.15	3/4	2 1/2	1/2
1	1.50	1	2 3/4	3/4
1 1/4	2.00	1 3/8	2 3/4	7/8
1 1/2	2.25	1 1/2	3	1
2	3.25	2	3 3/4	1 3/8

**THRU-HULLS FOR HOSE**

Cast Bronze

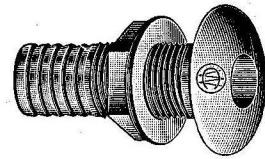


Fig. 8569

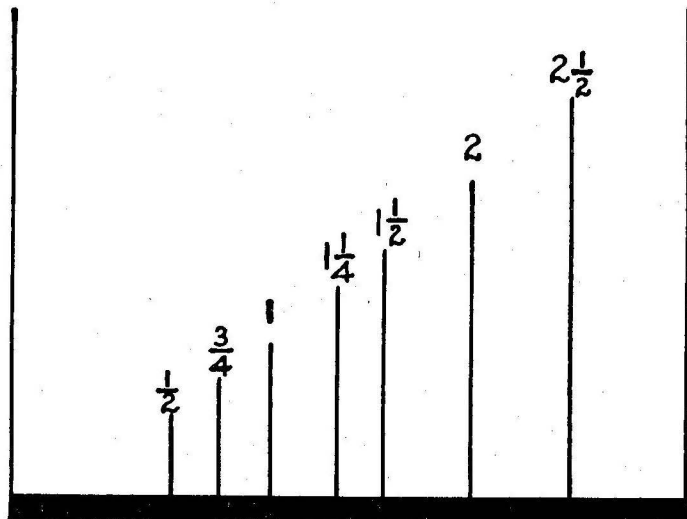
For Hose Inches	Each	Overall Length Inches	Maximum Wood Thickness Inches	Weight Each in Lbs.
5/8	\$1.65	3	1 1/4	3/8
3/4	1.90	3 5/8	1 5/8	1 1/2
1 1/2	3.25	4 1/4	2	1 5/8

Provides a shipshape Thru-Hull Connection for overboard end of discharge line. Recommended especially for use with bilge pumps.

**HOW BIG IS 3/4-INCH PIPE?**

Pipe sizes are misleading because the nominal sizes of pipe and the actual inside dimensions do not agree. For example, 1/2-inch pipe actually measures 5/8 inch inside and about 7/8 inch outside, while 3/4 inch pipe is over 13/16 inch inside and 1 inch outside.

The diagram below shows the actual outside diameters of the body of 1/2 inch to 3-inch pipe. The figures show nominal sizes. Unthreaded pipe or straight pipe threads will fit these lines. The end of a standard tapered pipe thread will be slightly under the sizes shown. To use the diagram to identify a fitting, lay the fitting against the line at the left, running up and down the page, and read the size at the right which corresponds most nearly to the width of the fitting.



**THRU-HULL CONNECTIONS**

Plain Cast Bronze  
Without Tail Piece

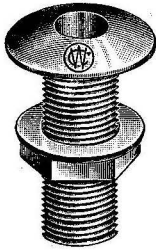


Fig. 857

Pipe Size Inches	Regular Each	Extra Long Each	Length Stem Inches		Weight Regular Each in Lbs.
			Regular	Extra-Long	
3/8	\$1.25	...	2 1/4	...	1/8
1/2	1.35	...	2 1/4	...	1/4
3/4	1.70	\$3.15	2 1/4	5 1/2	1/2
1	2.30	3.40	2 1/2	5 1/2	3/4
1 1/4	3.20	4.30	3	5 1/2	1 3/8
1 1/2	3.90	5.00	3 1/4	5 1/2	2
2	5.90	7.00	3 1/2	5 1/2	2 3/8
2 1/2	9.10	10.20	3 3/4	5 1/2	3 1/4
3	20.75	...	5 1/2	...	8 3/4

Dependable Thru-Hull Connections cost less to install than any other form of hull fitting. Permanent. Neat. Leakproof. These connections have the stem threaded straight pipe sizes. Packing washer included in coupling nut of Fig. 856. Fig. 856 can also be furnished with Curved Tail Piece, Fig. 1510, in sizes 3/4, 1, 1 1/2 and 2 inches.

For Strainers, see Figs. 8560 and 8561.

Thru-Hull Connections with 5 1/2-inch long stem can be furnished with Seacox. See page 101.

**THRU-HULL CONNECTIONS**

Plain Cast Bronze  
With Tail Piece

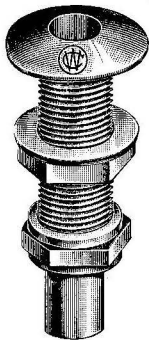


Fig. 856

Pipe Size Inches	Each	Length Stem Inches	O.D. Tail Piece Inches	Weight Each in Lbs.
1/2	2.10	2 1/4	5/8	1/2
3/4	2.65	2 1/4	3/4	5/8
1	3.45	2 1/2	1	1
1 1/4	4.75	3	1 3/8	1 7/8
1 1/2	5.85	3 1/4	1 1/2	2 3/4
2	8.60	3 1/2	2	3 1/2

**HIGH SPEED INTAKE STRAINERS**

Plain Cast Bronze

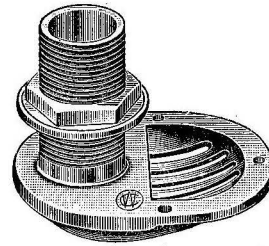


Fig. 8572

Admits full supply of water at all speeds; design of strainer prevents clogging.

Pipe Size Inches	Each	Length Stem Inches	Size Base Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
3/4	2.75	2 1/2	2 7/8 x 3 7/8	7	3/4
1	3.35	2 3/4	3 1/8 x 4 1/4	7	1
1 1/4	4.50	3 1/2	3 3/8 x 4 1/2	7	1 5/8
1 1/2	5.50	3 1/2	3 1/2 x 5	8	2
2	7.75	4 1/2	4 1/4 x 6 1/2	10	4

For tail pieces, see Figs. 1509 and 1510.

**SCOOP STRAINERS**

Plain Cast Brass

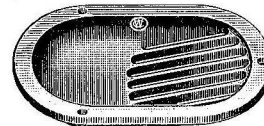


Fig. 8560

This strainer may be used in combination with our Thru-Hull Connections.

Size No.	Each	Use with Figs. 856 and 857 Inches	Outside Dim. Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
2	.65	3/4 - 1	4 7/8 x 3 1/4	6	1/2
3	1.20	1 1/4	6 1/4 x 4 1/4	10	1
4	2.60	1 1/2 - 2	8 1/4 x 5 1/4	10	2

**ROUND STRAINERS**

Plain Cast Brass



Fig. 8561

This strainer may be used in combination with our Thru-Hull Connections.

Diam. Inches	Each	Use with Figs. 856 and 857 Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
3	.40	1/2	7	1/4
3 1/2	.60	3/4 - 1	7	1/2
4	.80	1 1/4	7	1 1/2
5	1.35	1 1/2	10	5/8
6	1.60	2	10	1
8	3.60	2 1/2	10	2 3/8

**THE INSTALLATION AND MAINTENANCE OF SEACLOS**

W-C and Sands Seaclos can be installed either above or below the boat's waterline.

**Mounting:** The Seaclo should be fastened securely to the boat to prevent rocking of the fixture during pumping. Bolting the Seaclo feet to a board and screwing the board to the cabin flooring or boat's frames makes a solid mounting.

**Piston Rod Packing Nut:** To reduce wear and maintain easy pump operation, do not tighten this packing nut any more than absolutely necessary to prevent leakage around the piston rod during pumping. A little waterproof grease occasionally applied to the packing found under this nut will also prove beneficial.

**Supply and Discharge Lines:** The Inside Diameter\* of the Rubber Hose or Lead Pipe required for the Supply and Discharge Lines is noted under each Model in this Catalog. We recommend using W-C Lubricated "Full-Way" Seacox with Thru-Hull Connections, Fig. 1508-L or Fig. 1512-L, for the Hull Supply Fitting; Fig. 1507-L or Fig. 1511-L for the Hull Discharge Fitting.

The illustration below in solid outline shows a Seaclo installed to give easiest operation when the Seaclo is located either above or below the boat's waterline.

As the special backwater check ("Joker") valve is designed to prevent flooding on below-waterline installations, it is now possible to run the discharge line direct to the Seacox, omitting the heavy high loop (shown in dotted outline). This, by shortening the line, naturally makes for easiest discharge. However, a high vented loop is highly recommended for safety.

A high loop is not sure prevention against flooding unless a vacuum relief valve is installed at the top of the loop to prevent sea-water from siphoning back through the discharge line.

The practice of closing all your boat's Seacox, no matter where used, before going ashore is highly recommended. W-C Lubricated Seacox make this

safety measure quick and easy.

The Tail Pieces supplied on W-C and Sands Seaclos and Seacox will take either Rubber Hose with Clamps or Lead Pipe with Wiped Joints. Where a relatively short Discharge Line is to be used, automobile radiator hose now available in many different moulded curves and bends makes an ideal lightweight, vibration-free line.

**Laying Up:** When you haul your boat for storage, a little attention to your Seaclo is important. Fill the bowl with clean, fresh water and pump it overboard through the Discharge Line. Repeat this procedure two or three times especially if the boat has been used in salt water. If freezing weather will not be encountered, no further attention will be necessary. If freezing weather is a factor, it will be necessary to remove the drain plug in the Waste Arm.

**DO NOT PUT OIL, KEROSENE OR ANTI-FREEZE SOLUTIONS IN THE BOWL OR PUMP. YOU WILL RUIN THE VALVES.**

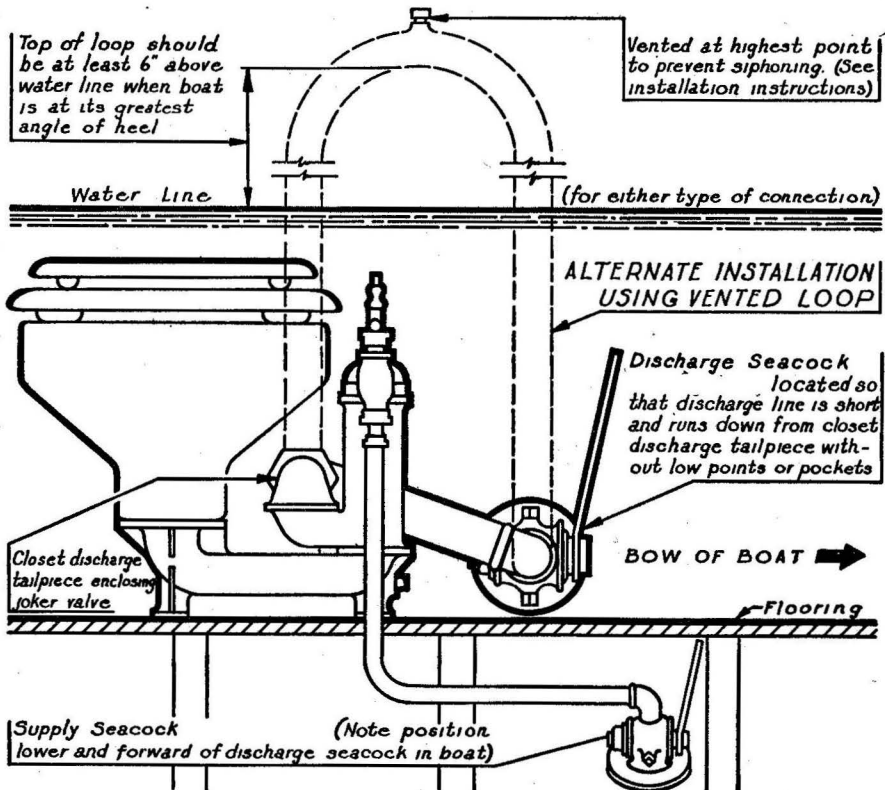
**Commissioning Instructions:** During the storage period the Leather Valves in a Seaclo will tend to dry out and become stiff. In this condition they will seat poorly. To soften them fill the bowl with fresh water (the warmer, the better) and pump overboard. Repeat once or twice and leave the bowl full of water overnight with the Piston Rod in up position.

Put a few drops of light machine oil on the metal bearing surfaces and your Seaclo will be in shape for the season.

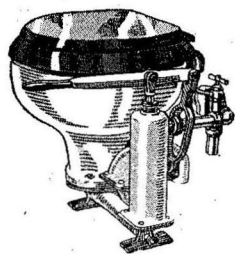
When you first open the Seaclo Seacox after your boat is overboard, it is good practice to make periodic checks on the lines, bowls, etc., to make sure that all connections are tight and that the valves are functioning properly.

**Repair Parts:** It is to your advantage when your Seaclo requires repairs to purchase and use all the parts included in a W-C Repair Kit designed for your Model Seaclo. A thorough job at this stage will prove cheapest and least troublesome in the long run. For Repair Kit information, see page 111.

\*Rubber hose and lead pipe are measured by inside diameter (I.D.).



*SEA Seasoned*



# SEACLOS

FOR EVERY TYPE AND SIZE OF BOAT  
— for Above or Below the Waterline

All models of the Seaclo now offered in the W-C and Sands line have been greatly improved since they were last available for pleasure boat installations. To meet the requirements of the Army and Navy for marine pump closets of greater durability and easier, foolproof operation, changes in both materials and design had to be made.

When the first old type Seaclo installed on Army and Navy boats began to get their terrific use and abuse and reports were received by us of breakdowns and faulty operation, we at W-C went to work to improve every model. Test models were installed on government boats and their performance carefully checked. New materials and designs were given thorough tests; eventually the improvements sought became realities. On some models the type of construction has been altered, while on others the water passages have been enlarged. Every model you see here has been "Sea-Seasoned" in every sense of the word. All have seen more service than a lifetime of yachting would ever call for!

A W-C or Sands Seaclo may appear to be no different superficially from "copies" assembled by imitators, but keep in mind that there is a lot more to a marine water closet than meets the eye. For your own convenience and your boat's safety, insist on the best. Insist on a W-C or Sands model. In the Seaclo line you have the benefit of the facilities of the largest boat equipment plant in the world and the combined plumbing skill of the two best known names in the yachting industry — Wilcox-Crittenden and Sands.

### General Specifications

Only the highest grade materials are used in the construction of W-C and Sands Seaclos. It is worth noting that all Seaclo models have:

- (1) Bronze metal parts.
- (2) Twice fired pure white china bowls.
- (3) Bored cylinders for easier pumping and longer cup-leather life.
- (4) Oversized water passages to prevent clogging and reduced pumping effort.

(5) Only the finest white seats and covers throughout.

(6) Phosphor bronze valve springs.

(7) Piston cups, flap valves and packings of the very best leather, specially treated to retard salt water leaching, drying out and stiffening.

(8) The Sands patented backwater check "Joker" valve in the discharge tail piece in all Hand Pump Seaclos except the "Senior" Seaclo, and that can be converted to take one very easily. This rubber safety valve prevents water from backing up through the discharge line into the Seaclo and flooding the bowl. Seaclo equipped with a "Joker" valve can use a short, direct discharge line in place of a high vented loop. The direct line makes pumping easier and requires fewer strokes.

(9) The tail pieces supplied with each Seaclo are made to fit the inside diameter of standard sizes of rubber hose or lead pipe. These fittings rotate freely in their coupling nuts, permitting short out-of-the-way supply and discharge lines, which add to the efficiency and attractiveness of the installation.

Seaclos are shipped complete. Packed with each model is:

(1) A copy of "Installation and Maintenance Instructions".

(2) A Parts List with a picture showing each part, numbered, described and priced for easier identification, ordering and replacement.

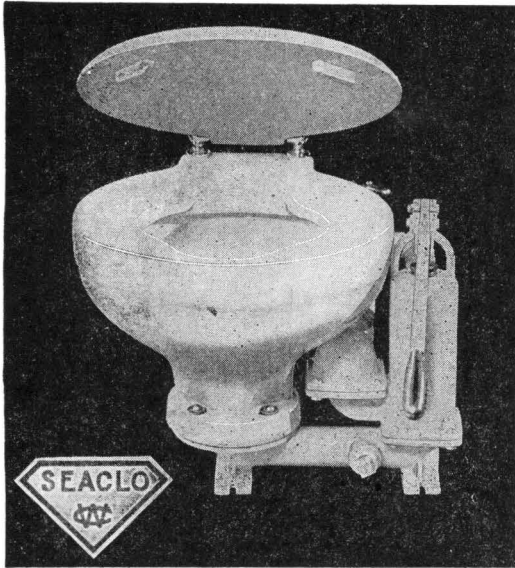
Not included, but available to complete your Seaclo installation, is the complete line of W-C "Full-Way" Seacox and thru-hull fittings, described on page 101. For trouble-free operation we recommend our Lubricated Seacox, Fig. 1508-L or Fig. 1512-L for the supply line and Fig. 1507-L or 1511-L for the discharge line. They should be ordered in the same size as the inside diameters of the rubber hose or lead pipe recommended for the model to be installed.

All Hand Pump Seaclo models in the W-C and Sands line except the "Junior" are available as left-hand fixtures, with the pump on the opposite side of the bowl. Right-hand Seaclos as illustrated will be shipped unless otherwise specified.

Drawings to ½, ¾ and 1 inch scales showing three views of every Seaclo model are available without charge to naval architects and boat builders, to facilitate laying out of plumbing fixtures in new designs or conversion work.

### REPAIR AND NEW PARTS LISTS

Complete Parts Lists are now published in Special Separate Seaclo Booklets containing illustrations of every part, installation instructions and diagram, and hints on the care of your Seaclo. There is a folder for every Hand Pump model. Ask for your copy — ask for it by model name — it's free!



**THE "JUNIOR"**

Fig. 1498, Without Bowl Cover . . . . . Each \$67.50  
 Fig. 1499, With White Bowl Cover . . . Each 70.00

The W-C "Junior" is the most compact pump closet on the market. A complete small Seaclo, having all the desirable features of the larger models, it can be installed under a seat or berth in a small boat, while in larger ones the "Junior" makes an ideal second fixture forward in quarters where space is usually limited. The 3/4 inch pipe plug located in the waste arm for draining purposes can be removed and the lavatory or sink drain piped into the Seaclo instead of through an extra seacock and hull fitting. Integral "seat" makes this the most sanitary, easily cleaned closet in existence.

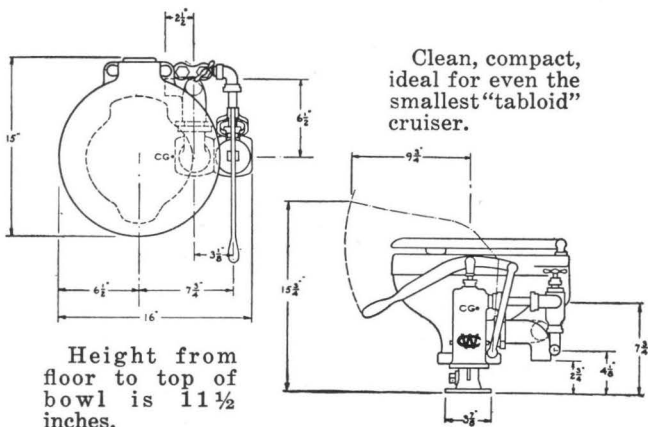
**Pump:** 2 1/2 inch inside diameter.

**Supply Valve:** Hand-operated, faucet type. This valve has just been redesigned and now incorporates a machined relief valve which positively eliminates vacuum kick.

**Materials:** As described for all Seaclos on page 105. White Enamel Pump Parts. White Cover when specified.

**Connections:** Supply — 90° curved tail piece for 3/4 inch inside diameter rubber hose or lead pipe. Discharge—90° curved tail piece for 1 1/2 inch inside diameter rubber hose or lead pipe. The supply and discharge tail pieces are connected to the Seaclo with coupling nuts having 3/4 inch and 2 inch straight pipe threads.

**Net Weight:** 40 pounds (with cover).



**THE "REGULAR"**

Fig. 1500, With Horizontal Handle . . . Each \$70.00  
 Fig. 1502, With Vertical Handle . . . . Each 72.50  
 (Fig. 1502 is the "Crown" model.)

The large comfort-height bowl with a compact pumping mechanism has won the W-C "Regular" its popularity. The "Regular" like the "Junior" has a 3/4 inch pipe plug for draining or lavatory connections.

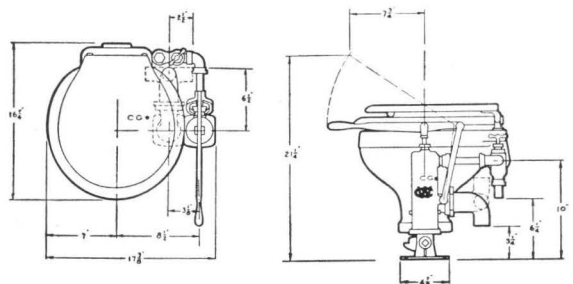
**Pump:** 2 1/2 inch inside diameter.

**Supply Valve.** Hand operated, faucet type. This valve has just been redesigned and now incorporates a machined relief valve which positively eliminates vacuum kick.

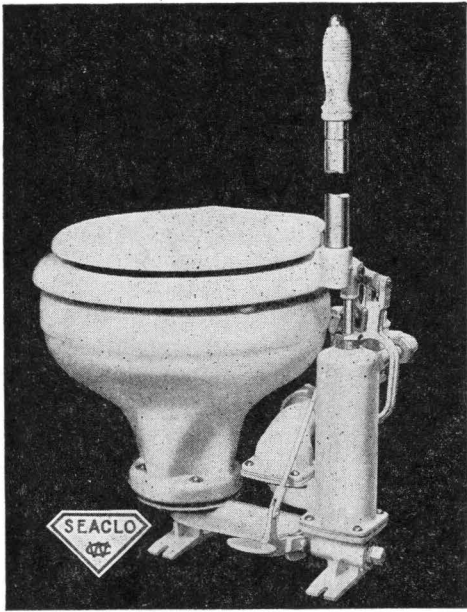
**Materials:** As described for all Seaclos on page 105. White Enamel Pump Parts. Gleaming white "Olsonite" plastic Seat and Cover — each molded in one piece. Not affected by dampness or salt water.

**Connections:** Supply — Straight tail piece for 3/4 inch inside diameter rubber hose or lead pipe. Discharge—90° curved tail piece for 1 1/2 inch inside diameter rubber hose or lead pipe. The supply and discharge tail pieces are connected to the Seaclo with coupling nuts having 3/4 inch and 2 inch straight pipe threads.

**Net Weight:** 45 pounds.



Scale drawings are available to all architects, builders and boat owners upon request. Three popular scale templates provided.



**THE "IMPERIAL"**

Fig. 1504, With Vertical Handle . . . Each \$75.00  
 Fig. 1503, With Horizontal Handle . . Each 72.50  
 (Fig. 1503 is the "Monarch" model.)

The W-C "Imperial" Seaclo is similar to the "Regular" except for its supply valve which is foot operated — an added convenience especially on the model with vertical handle.

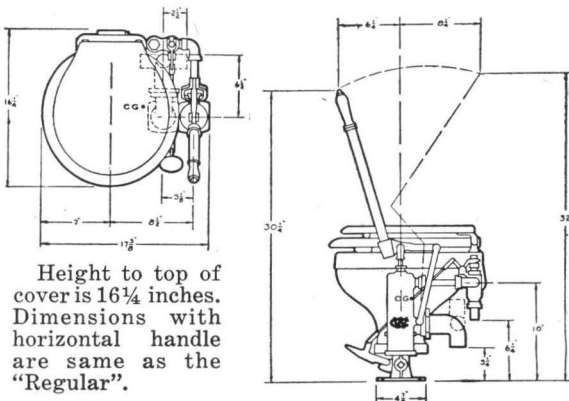
**Pump:** 2½ inch inside diameter.

**Supply Valve:** Foot-operated and positive self-closing. This valve has just been redesigned and now incorporates a machined relief valve which positively eliminates vacuum kick.

**Materials:** As described for all Seaclos on page 105. White Enamel Pump Parts. Gleaming white "Olsonite" plastic Seat and Cover — each molded in one piece. Not affected by dampness or salt water.

**Connections:** Supply — Straight tail piece for ¾ inch inside diameter rubber hose or lead pipe. Discharge — 90° curved tail piece for 1½ inch inside diameter rubber hose or lead pipe. The supply and discharge tail pieces are connected to the Seaclo with coupling nuts having ¾ inch and 2 inch straight pipe threads.

**Net Weight:** 48 pounds.



Height to top of cover is 16¼ inches. Dimensions with horizontal handle are same as the "Regular".



**THE "SENIOR"**

Fig. 1501 . . . . . Each \$125.00  
 The W-C "Senior" is a heavily constructed marine pump closet designed to stand up under the toughest service. The bowl is full sized while the pump mechanism is extra large to prevent all possibility of clogging. The "Senior" Seaclo has a ¾ inch drain plug.

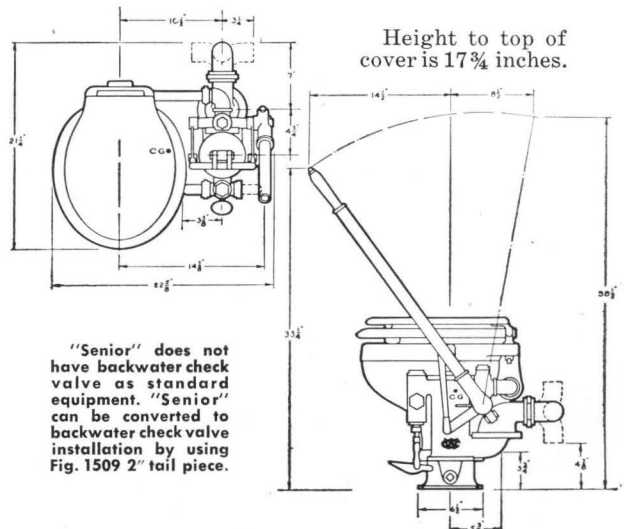
**Pump:** 3½ inch inside diameter.

**Supply Valve:** Foot-operated and self-closing, of extra-heavy construction, with provision for connecting the supply line to either side of the valve body to simplify the Seaclo installation.

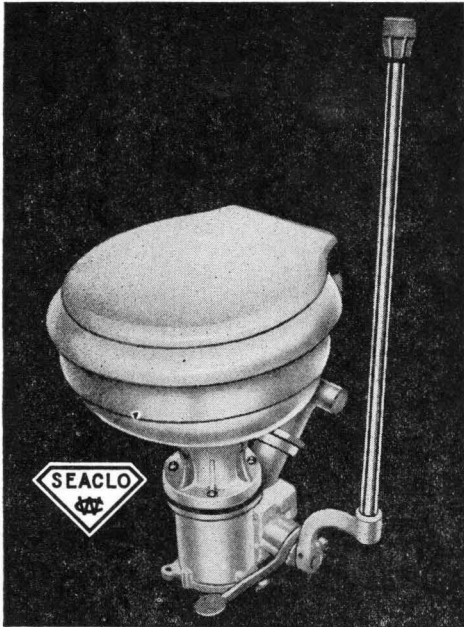
**Materials:** As described for all Seaclos on page 105. White Enamel Pump Parts, White Seat and Cover.

**Connections:** Supply — 90° curved tail piece for 1 inch inside diameter rubber hose or lead pipe. Discharge — 90° curved tail piece for 2 inch rubber hose or lead pipe. The supply and discharge tail pieces are connected to the Seaclo with coupling nuts having 1 inch and 2 inch straight pipe threads.

**Net weight:** 79 pounds.



Height to top of cover is 17¾ inches.



**THE "SKIPPER"**

Fig. 1550 ..... Each \$95.00

**THE YACHTSMAN'S CLOSET  
NEAT — COMPACT  
DEPENDABLE  
EFFORTLESS OPERATION**

**The most radical improvement in marine plumbing  
in years!**

Here is an entirely new marine toilet — proven and tested — truly dependable! You'll find it difficult to believe a marine closet can be so neat, compact and simple to operate until you actually see and inspect the "Skipper".

It's easy to operate. Just press down on foot pedal on right side of toilet. This opens flush water valve.

Then, move pump handle forward and back slowly. The "Skipper's" large 4-inch pump, with unrestricted passages, makes pumping easy, eliminates possibility of clogging and empties the bowl completely with just a few easy strokes.

The flap check at bottom of bowl will keep the desired amount of water in the bowl. The bowl may be pumped dry by operating the pump handle only, and not opening the flush water valve by depressing the foot pedal. The special-designed flush water jet drives waste out of the bowl. After the bowl is emptied, pump several extra strokes with flush water valve open to clear the discharge line.

There are no exposed working parts — no valves or piston rods to leak. The pump unit is under and within the dimensions of the shining white porcelain bowl, with its gleaming white "Olsonite" plastic seat and cover — each molded in one piece. Not affected by dampness or salt water. The long chrome-plated pump lever, with rubber grip, makes pumping surprisingly easy.

The "Skipper" may be safely installed above or below the waterline.

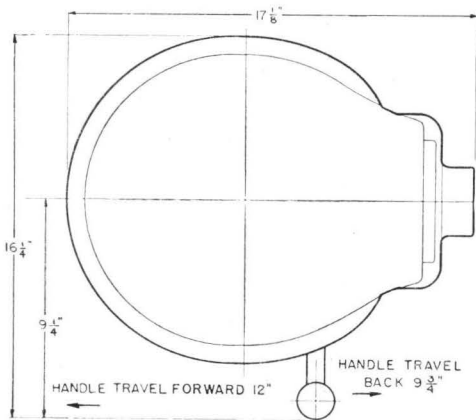
The "Skipper's" outlet tail piece, which can be swiveled, is correct size for 1½-inch inside diameter hose or lead pipe. Most convenient hookup will be with tail piece leading to either left or right of closet, horizontally. "Skipper" is provided with the safety backwater check valve, Figure R-7515, No. 2 size, which prevents water backing up through the closet when it is installed below waterline.

A heavy stainless steel spring holds inlet water valve shut except when foot pedal is pressed down. The inlet connection, which can also be swiveled in any direction, is the correct size for ¾-inch inside diameter hose or lead pipe.

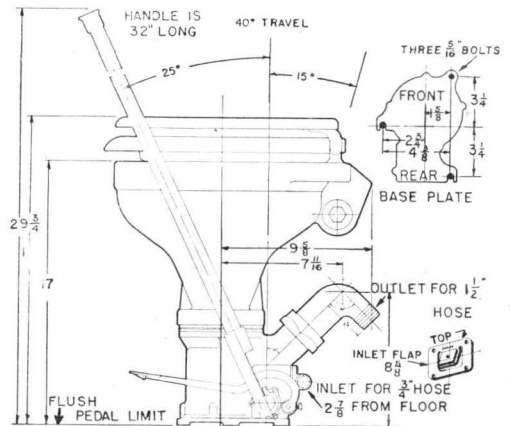
A 1½-inch seacock (W-C Figure 1507 or 1511) should be used at the hull on the outlet line. A ¾-inch seacock (W-C Figure 1508 or 1512) should be used on the inlet connection line at the hull.

**Dimensions:** Front to back, 17½ inches. Overall width, 16¼ inches. Height from floor to top of cover, 19⅞ inches. Space required for base, 6 x 7 inches.

**Net Weight:** 55 pounds.



Plan view (top) of "Skipper" showing extreme dimensions.



Right-hand side view of "Skipper" indicating swinging room needed for handle, plus piping connections.



MANUFACTURED EXCLUSIVELY BY WILCOX, CRITTENDEN & COMPANY, INC.



**THE "MOHAWK"**

Fig. R-4017 ..... Each \$150.00

One of the larger closets in the Sands line, the "Mohawk" has an exceptionally large bowl yet the pump and flushing mechanism occupies a minimum of room. The vertical handle with the linkage of the rocker arms and yoke permits easy pumping from a standing position.

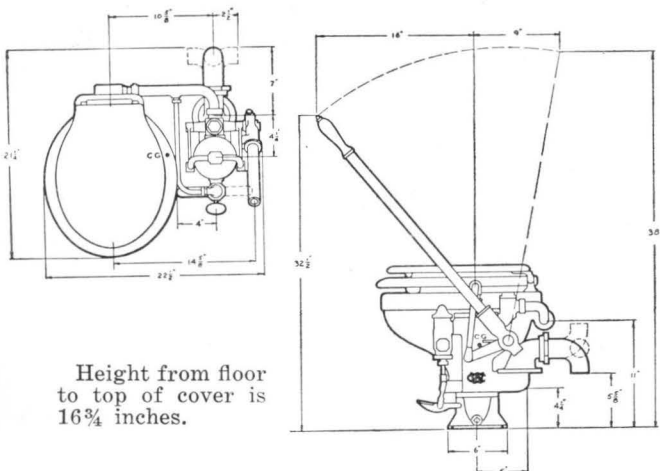
**Pump:** 3 inch inside diameter.

**Supply Valve:** Foot-operated and self-closing, with a separate breather pipe and mechanically operated venting system. The "Mohawk" supply valve is tops in design and performance! Provision is made to connect the supply line to either side of the valve body, permitting a simplified and neat installation.

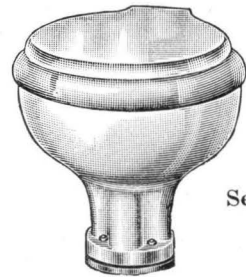
**Materials:** As described for all Seaclos on page 105. White Enamel Pump Parts with Chrome Plated Trim. White Seat and Cover.

**Connections:** Supply — 90° curved tail piece for 1 inch inside diameter rubber hose or lead pipe. Discharge — 90° curved tail piece for 1½ inch inside diameter rubber hose or lead pipe. The supply and discharge tail pieces are connected to the Seaclo with coupling nuts having 1 inch and 2 inch straight pipe threads.

**Net Weight:** 73 pounds.



**SEACLO BOWLS, SEATS AND COVERS**



Bowls  
Fig. 1530

Seats and Covers  
Fig. 1531

Be sure to specify both Figure Number and Part Number when ordering.

**Bowls**

Part No.	Model	Each	Weight Each in Lbs.
142	"Winner", "Sanette" .....	\$16.50	12½
182	"Knockabout"* "Spedit"* ..	24.00	16½
213	"Mohawk", "Frisco"* "Iowa"*	27.00	18
336	"Regular", "Imperial", "Skipper" .....	16.50	17
389	"Senior" .....	27.00	21¼
542	"Junior" .....	16.50	15¾

\*Models not shown in catalog.

Bowls are shipped complete with spud.

**White Seats and Covers**

Part No.	Model	Each	Weight Each in Lbs.
122	"Regular", "Imperial", "Winner", "Sanette", "Skipper", "Spedit"* "Knockabout"* ..	\$12.00	5¾
123	"Senior", "Mohawk", "Frisco"*, "Iowa"* .....	18.00	6½
543	"Junior" (cover only) .....	7.50	3½

\*Models not shown in catalog.

Part No. 122 "Olsonite" Seats and Covers are gleaming white, one-piece molded special plastic. No more cracking, peeling or splitting. Not affected by dampness or salt water. The smooth polished surface cleans easily.

**SANDS BACKWATER CHECK VALVES**

Rubber

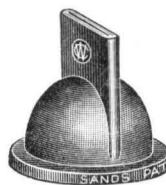


Fig. R-7515

Size No.	Each	Inside Diameter Inches	Outside Diameter Inches
1	\$1.25	1½	2¼
2	1.75	1⅞	2⅝

The famous Sands patented rubber discharge backwater check ("Joker") valve. Sure provision against flooding of closets below the waterline. No. 1 size standard equipment in the "Junior", "Regular" and "Imperial" Seaclos and Sands "Winner", "Sanette", and "Mohawk", and the "Spedit" and "Knockabout" which are not shown in catalog. Optional in the "Senior" Seaclo. No. 2 size is designed for use in the W-C "Skipper", as well as Sands "Iowa", "Florida" and "Frisco" Seaclos, which are not shown in catalog.



**SEACLO REPAIR KITS**

- Fig. 1513 for "Imperial", "Junior", "Regular", "Monarch" or "Crown" ... \$6.75 each
- Fig. 1514 for "Senior" ..... 8.00 each
- Fig. 1523 for "Winner" ..... 6.75 each
- Fig. 1524 for "Sanette" ..... 6.75 each
- Fig. 1525 for "Knockabout"† or "Spedit"† 6.75 each
- Fig. 1526 for "Mohawk" ..... 8.00 each
- Fig. 1527 for "Frisco"† ..... 8.75 each
- Fig. 1528 for "Iowa"† ..... 9.25 each
- Fig. 1529 for "Florida"† ..... 9.50 each
- Fig. 1539 for "Skipper" ..... \$6.00 each

†Model not shown in catalog.

Seaclo Repair Kits include all the necessary parts to put a Seaclo in A-1 operating condition. Listed above are the kits for every hand pump model in the W-C and Sands line. In general the kit for every model consists of cup leathers, flap valves, gaskets, packings and screws, as well as check valve ball, discharge backwater check ("Joker") valve, inlet valve packing and spring. These parts come packed in an individual box with a complete parts list.

We will gladly send you a Parts List for any Seaclo. Send us its model name, type number and, if possible, its age.

All models of all Seaclos shipped since January 1, 1945 carry a type number. The number is changed whenever a design change is made on a model. The type number therefore identifies your Seaclo for repair part purposes. Note, however, that the parts in the Repair Kits are for the particular model irrespective of type number or age. They will repair any model. Repair Kit Parts have not been changed.

**CORNER LAVATORIES**  
White Plastic



Fig. 1555  
\$15.00 Each

Length on Sides Inches	Ht. of Back Inches	Projection Back to Front Inches	Size Basin Inches	Approx. Weight Each in Lbs.
12 3/4	1 1/2	14	11 1/8 x 7 3/8 x 4 3/4	2

Accessories furnished: Chrome plated waste hole fitting, with 5/8-inch O.D. tail piece; rubber stopper, chain and chain stay. Holes can easily be drilled for installation and fixtures.

**"E. Z. BLOW" FOG HORNS**  
Galvanized Iron

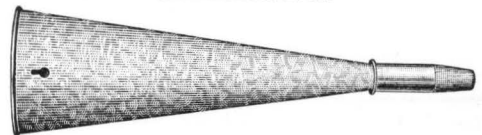


Fig. 118

Length Inches	Per Dozen	Packed Dozen Per Box	Weight Dozen in Lbs.
15	\$21.50	1	6
20	25.75	1	10

Our Fog Horns have the wood mouthpiece — not metal. One test will prove conclusively the supremacy of the wood mouthpiece. Every Horn is individually blown and adjusted to tone and pitch before leaving the factory.

**BOAT HOOKS**  
Galvanized Malleable Iron

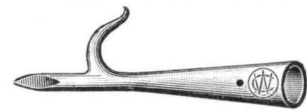


Fig. 243

Size No.	Galv. Each	For Diam. Pole Inches	Extreme Length Inches	Weight Each in Lbs.
1	\$1.25	1 1/4	8 3/4	1/2
2	1.65	1 1/2	9 5/8	7/8
3	2.50	2	9 3/4	1 3/8

Galvanized Malleable Iron or Bronze

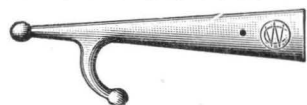


Fig. 244

Size No.	Galv. Each	Pol. Bronze Each	Chrom. Plated Each	For Diam. Pole Inches	Extreme Length Inches	Weight Each in Lbs.
3 1/2	...	\$2.25	\$3.75	1	7 3/8	1/2
4	\$1.30	2.40	4.00	1 1/4	8	5/8
5	1.65	3.20	4.75	1 1/2	9 3/8	1

**LIQUID COMPASSES**

In Mahogany Boxes

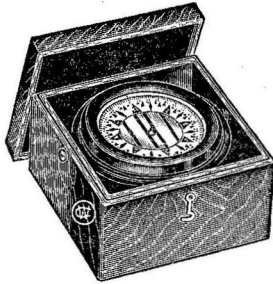


Fig. 855

Diam. of Dial Inches	Each	Size Box Inches	Weight Each in Lbs.
2	\$14.50	4¾ x 4¾	1¾
2½	16.50	5¼ x 5¼	2¼
3	22.50	5¾ x 5¾	3¾
4	29.00	7½ x 7½	6¼
5	37.50	8¾ x 8¾	9½

The boxes are well finished — covers fastened with brass hooks.

The 2-inch and 2½-inch sizes are furnished in mahogany boxes with "slide covers."

Degree markings, as well as "points," stand out clearly and are easily read on all W-C Compass Cards. These are cards you can really steer by!

W-C "Dependable" Compasses have full-sized cards. In each case, the size of Compass given actually represents the size of card contained in that Compass.

**BULKHEAD COMPASS BRACKETS**

Cast Bronze

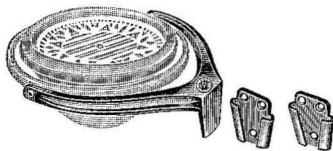


Fig. 850

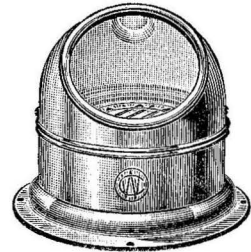
For Size Compass Inches	Bracket Only Complete Each	Complete With Compass* Each	Bracket Clips Drilled for Wood Screw No.	Weight Bracket Each in Lbs.
3	\$3.50	\$26.00	8	¾
4	4.60	33.60	8	⅝

\*Includes mahogany box.

This sturdy, attractive mounting for bulkheads, forward ends of sailboat cockpits, etc., takes 3 or 4-inch W-C Compasses and Gimbal Rings, which provide double swing. When not in use, there is only flat, smooth clip attached to bulkhead. No clumsy projections. An extra clip for below deck stowing is provided.

**COMPASS BINNACLES**

Polished Brass  
Electric Lighted



With Flanged Base

Fig. 853

Size Compass Inches	Pol. Brass Each		Chrom. Plated Each	
	Without Compass	With Compass	Without Compass	With Compass
3	\$30.50	\$51.50	\$35.75	\$56.75
4	33.75	60.75	40.25	67.25
5	37.75	72.75	45.50	80.50

Size Compass Inches	Overall Height Inches	Diam. Base Inches	Drilled for R. H. Wood Screw No.	Weight Each With Compass in Lbs.
3	7½	7	8	4
4	9¾	8⅞	8	6¾
5	11¼	10¾	8	10

A two-piece Binnacle—extra heavy construction—highly finished. No-glare shielded light socket in head. Black enamel non-reflecting interior finish. Bayonette type lock holds head securely to base. For mounting use brass screws through holes in flanged base.

**COMPASS COMPENSATING MAGNETS**

Chromium Plated



Fig. 852

\$1.00 Per Pair

Available in 3, 4 and 5-inch lengths.

Be sure to specify size desired when ordering.

These flat magnets are for correcting compass deviation. The length of magnet is usually equal to the diameter of the compass card, but this is not absolutely essential.

**SHIPS' BELLS**

Special Stamped Bell Metal

Light Pattern

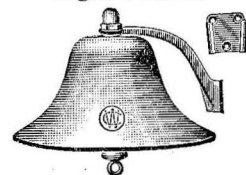


Fig. 6182

Diam. Inches	Plain Each	Polished Each	Chromium Plated Each	Weight Each in Lbs.
6	\$4.40	\$5.20	\$7.00	1¼
8	6.40	7.20	9.00	2¾

Use No. 8 Wood Screws for fastening.

**LEBBY MARINE SEARCHLIGHTS**

Polished Brass or Chromium Plated

The "Lebby" is designed and constructed on true scientific searchlight principles. Ordinary "Spotlights" are so frequently offered to the marine public as Searchlights that many boat owners are misled.

A Marine Searchlight should have the ability to pick up and identify at long range a definite object, as easily as one would point a finger at it in daylight. To get such results, a closely focused penetrating beam must emanate from the Searchlight.

Spotlights are equipped with metal reflectors only. Accordingly, they produce just a diffused beam of practically no greater intensity than the light rays coming from the bulb.

"Lebby" Searchlights do not have reflectors, but instead are equipped with concentrating, magnifying projectors. The rays from the bulb are gathered by this compensated crystal mirror projector, so as to form one central point of brilliant light. This radiant spot is then magnified many thousand times and thrown out in a piercing, searching ray that finds the desired object with finger pointing simplicity.

Made of Brass throughout, and built for long service under severe conditions. Practically 40° Elevation and Depression range. Focusing device permits instantaneous change from concentrated beam to full flood.

All "Lebbys" are equipped with non-glare bulb shields. The shield eliminates the usual light "spillage" immediately ahead of the searchlight. This increases the operator's vision and thereby improves the efficiency of the beam.

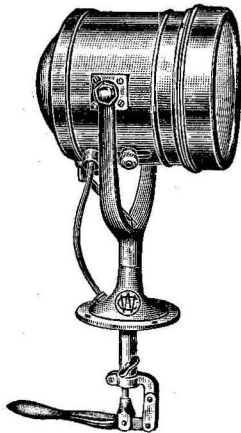


Fig. 1

7-Inch Lebby Searchlight  
Pilot House Type  
(With Control)

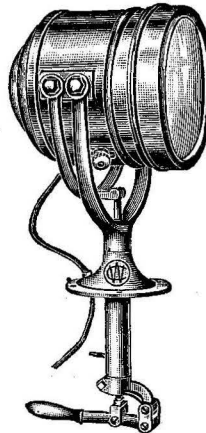


Fig. 2

10-Inch Lebby Searchlight  
Pilot House Type  
(With Control)

Be Sure to Specify Voltage Required When Ordering

Prices Given Below Include Bulb of Required Voltage

Information and Prices on Extra Bulbs

Fig.	Diameter Inches	Polished Brass Each	Chrome Plated Each
1	7	\$132.00	\$163.00
2	10	150.00	185.00

For Size Light Inches	Volts	Amperes	Type Base	Each
7 & 10	6-8	5	Bayonette, D. C.	\$2.50
7 & 10	12-16	6	Bayonette, D. C.	2.50
7 & 10	32	3.5	Bayonette, D. C.	4.00

Dimensions

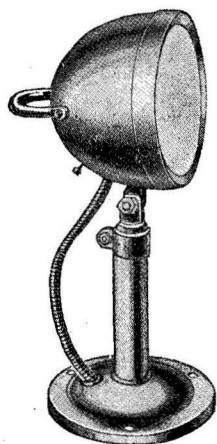
Fig.	Diam. Inches	Length of Body Inches	Diam. Reflector Inches	Height to Center of Beam Inches	Depth Below Base Plate Inches	Diameter of Base Inches	Weight Pounds	Beam Mile
1	7	8 $\frac{3}{4}$	6 $\frac{1}{2}$	10 $\frac{1}{4}$	5 $\frac{1}{2}$	5	11	$\frac{1}{2}$
2	10	11	9	12	8 $\frac{1}{2}$	6 $\frac{1}{4}$	25	$\frac{3}{4}$

**SEALED BEAM SEARCHLIGHTS**

**POLISHED BRASS OR CHROMIUM PLATED  
WITH CLEAR LENS**

The bulb, reflector and lens in W-C "Sealed Beam" Searchlights are all in one piece — vibration-proof — water-tight. No more corroded reflectors — complete light efficiency throughout the life of the lamp. Quick, easy replacement of sealed beam unit when necessary.

**DECK CONTROL**



Size No.	6 V.		Diam. Lens Inches
	Pol. Brass Each	Chrom. Plated Each	
1	\$11.50	\$13.25	4½
2	13.75	15.75	6

Size No.	Height Overall Inches	Diam. Base Inches	Weight Each in Lbs.
1	10½	3	1¾
2	12¾	4¾	2½

Fig. 1911

No. 1 size supplied in 6-volt only. No. 2 size supplied in 6- or 12-volt — 6-volt furnished unless otherwise specified. For 12-volt, add \$1.50 to 6-volt prices.

**CABIN CONTROL**

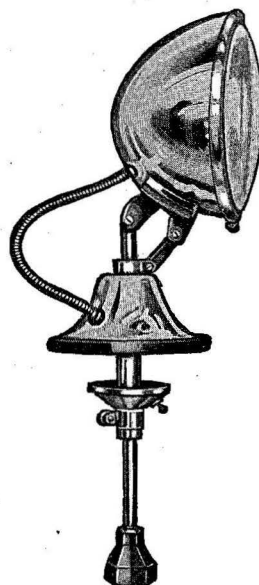


Fig. 1912

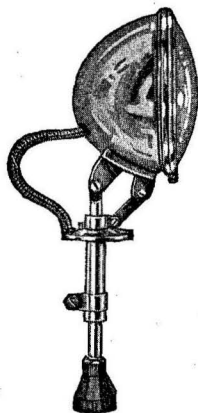


Fig. 1913

**CABIN CONTROL**

Diam. Lens Inches	6 V.	
	Pol. Brass Each	Chrom. Plated Each
6	\$28.50	\$33.50

Height Overall Inches	Height Above Deck Inches	Diam. Base Inches	Weight Each in Lbs.
16½	9½	3	4

Supplied in 6- or 12-volt. 6-volt furnished unless otherwise specified. For 12-volt, add \$1.50 to above prices.

Diam. Lens Inches	6 or 12 V.		Height Overall Inches	Height Above Deck Inches	Diam. Base Inches	Weight Each in Lbs.
	Pol. Brass Each	Chrom. Plated Each				
7	\$34.00	\$40.00	23	14	6	6

Supplied in 6- or 12-volt. 6-volt furnished unless otherwise specified.

**COMBINATION LIGHT AND SEARCHLIGHT  
SEALED BEAM SEARCHLIGHT**

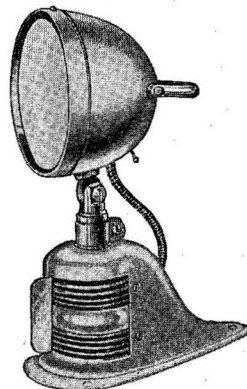


Fig. 1914

Supplied in 6-volt only.  
Combination light lens, 2½ x 2¾ inches.

**DECK CONTROL**

Diam. Lens Inches	Pol. Brass Each	Chrom. Plated Each
4½	\$23.00	\$26.75

Height Overall Inches	Size Base Inches	Weight Each in Lbs.
11¼	6¼ x 4	2½

**SEALED BEAM DATA**

Lamp Mfrs. Sealed Beam Unit No.	Volts	Watts	Approx. Range Miles	Used on W-C Fig. No.
4515	6	30	¼	1911 (#1) & 1914
4535	6	40	¼	1911 (#2) & 1913
4435	12	40	¾	1911 (#2) & 1913
4542	6	100	¼	1912
4543	12	100	¾	1912

**"SEA-LITE" SEALED BEAM PORTABLE SPOTLIGHTS**

Gray Wrinkle Finish

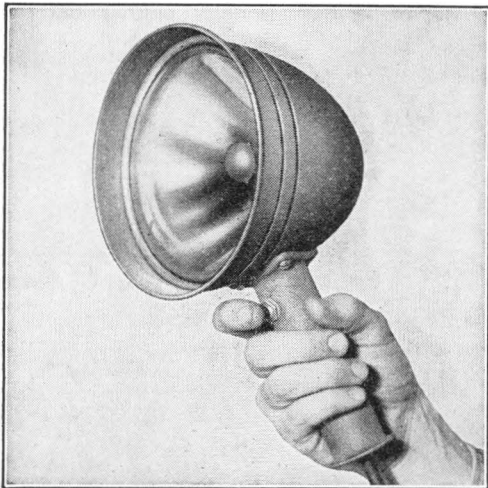


Fig. 8

Volts	Each	Diam. Lens Inches	Overall Length Inches	Watts	Lamp Mfrs. Sealed Beam Unit No.	Weight Each in Lbs.
6-8	\$13.00	5 3/4	10 1/2	40	4535	2 1/4
12-16	14.50	5 3/4	10 1/2	40	4435	2 1/4

6-8 volt size furnished unless otherwise specified.

Ideal on sailboats where a searchlight cannot be permanently mounted. Equipped with 15 feet of waterproof, heavy-duty cable, it can be carried to any point on deck at will. Plug will fit any standard bayonette base double contact socket. Refer to Fig. 149, Page 138, for suitable water-tight Deck Socket.

The mirror reflector and shielded new-style filament are permanently sealed from moisture and corrosion. There's absolutely no dimming with age!

The "Sea-Lite" is balanced with a handy, non-slip aluminum grip. The 6-8 volt Spotlight offers 115,000 beam candle power, and the 12-16 volt size, 125,000 beam candle power — at your finger tips! The snap-on-snap-off switch offers instantaneous control. Just point the spotlight like a pistol — it's easy to hold "dead on" that buoy in a tumble of sea.

**ELECTRIC CABIN FIXTURES**

Wrought Brass  
The "Centerbar"

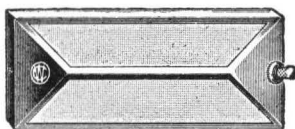


Fig. 189

Equipped with Rotary Switch. At least 50% more efficient than usual types of electric Cabin Lights.

Size No.	Pol. Brass Each	Chrom. Plated Each	Length Inches	Width Inches	Depth Inches	Weight Each in Lbs.
2	\$5.90	\$7.10	8 1/4	3	1 1/8	1

Size No.	For Current Volts	Number of Sockets	Type of Socket
2	6-12-32	2	Bayonette Base D. C.

**CABIN LAMPS**

Polished Brass

The "Petite" and the "Regular"  
With Improved Gimbal Bracket

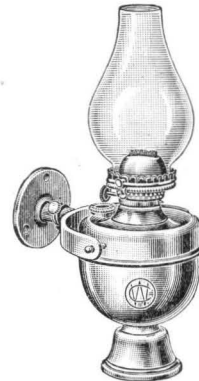


Fig. 99

Size No.	Pol. Brass Each	Chrom. Plated Each	Extension Inches	Overall Height Inches	Weight Each in Lbs.
"Petite"	\$9.85	\$13.00	5	9 3/4	2
1	10.00	13.75	5 3/4	10 1/4	2 1/4
2	11.50	15.00	6 1/2	12	2 3/4

Wall Plate is 2 3/4 inches diameter. For Smoke Bells see Fig. 103.

These Cabin Lamps are properly weighted in the base for perfect balance. They have an improved double-swing wall bracket of minimum extension, that insures steady light when the boat is rolling.

**SMOKE BELLS AND ARMS**

Polished Brass



Fig. 103

Size No.	Pol. Brass Each	Chrom. Plated Each	Extension to Center Inches	Diam. Bell Inches	Weight Each in Lbs.
11	\$2.25	\$3.50	4	4 1/8	1/4
12	2.25	3.50	4	5 3/4	5/8

No. 11 size is used with "Petite," Fig. 99. No. 12 size is used with Nos. 1 and 2, Fig. 99.

For bulbs for all cabin fixtures on this page to operate on 6 — 12 — 32 or 110 volts, see Figs. 947 and 948 — page 146.

**ELECTRIC CABIN FIXTURES**

Polished Cast Bronze or Aluminum  
Equipped With Switch  
Medium Screw Base Socket

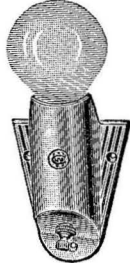


Fig. 1062

Each	Wall Length Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$4.00	3 1/2	6	7/16

The Polished Aluminum Light has all the attractiveness of Chrome Finish!

**ELECTRIC CABIN FIXTURES**

Cast Bronze — Chromium Plated  
Equipped With Switch  
Bayonette Base Double Contact Socket

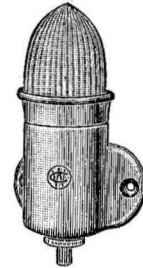


Fig. 1063

Each	Depth Inches	Width Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$4.65	4	2	6	1/2

**ELECTRIC BERTH LIGHTS**

Wrought Brass — Chromium Plated  
Equipped With Switch  
Bayonette Base Double Contact Socket

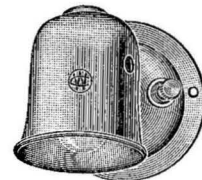
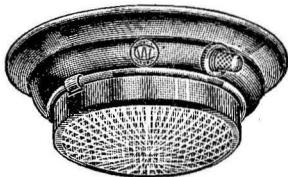


Fig. 1064

Each	Diam. Base Inches	Drilled for Wood Screw No.	Weight Each in Lbs.
\$3.25	2 1/2	6	1/4

**DOME LIGHTS**

Wrought Brass  
Equipped with Switch  
Bayonette Base Double Contact Socket



Holophane Globe

Fig. 1102

Size Diam. Glass Inches	Pol. Brass Each	Chrom. Plated Each	Overall Diam. Inches	Depth Inches	Approx. Weight Each in Lbs.
3	\$4.50	\$6.25	5	1 5/8	5/8
4	5.50	7.25	6	1 3/4	7/8
5	6.25	8.25	7 1/4	2 1/2	1
6	8.00	10.00	8	2 1/2	1 1/4

**ELECTRIC CABIN FIXTURES**

Wrought Brass  
Equipped With Switch  
The "Sea-Glo"

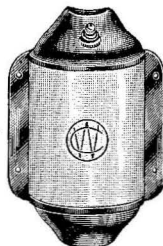


Fig. 1891

Size No.	Pol. Brass Each	Chrome Plated Each	Length Inches	Width Inches	Depth Inches	Weight Each in Lbs.
5	\$4.40	\$5.70	6	4	1 1/2	3/8

Size No.	Volts	Number of Sockets	Type of Socket
5	6-12-32	1	Bayonette Base D. C.

For bulbs for all cabin and dome fixtures on this page to operate on 6 — 12 — 32 or 110 volts, see Figs. 947 and 948 — page 146.

**EXTRACTS FROM THE NEW MOTOR BOAT LAW  
CONCERNING RUNNING LIGHTS**

(See Regulations by U. S. Coast Guard, Bureau of Marine Inspection for complete official rulings and specifications on equipment.)

Every motor boat in all weathers from sunset to sunrise shall carry and exhibit the following lights when under way, and during such time no other lights which may be mistaken for those prescribed shall be exhibited.

**Every motor boat of Classes A and 1 shall carry the following lights:**

First: A bright white light aft to show all around the horizon. (We suggest: W-C Figs. 19, 42, 4200, 4201, 451, 5301, 931, or 9303.)

Second: A combined lantern in the fore part of the vessel and lower than the white light aft, showing green to starboard and red to port, so fixed as to throw the light from right ahead to two points abaft the beam on their respective sides. (We suggest W-C Fig. 9302 for Class A, and Figs. 36, 38, 195, 2600, 2601, 2801, or 930, for both Classes A and 1.)

**Every motor boat of Classes 2 and 3 shall carry the following lights:**

First: A bright white light in the fore part of the vessel, as near the stem as practicable, so constructed as to show an unbroken light over an arc of the horizon of twenty points of the compass, so fixed as to throw the light ten points on each side of the vessel; namely, from right ahead to two points abaft the beam on either side. (We suggest: W-C Figs. 12, 16, 32, 35, 196, 198, 2800 or 281.)

Second: A bright white light aft to show all around the horizon, and higher than the white light forward. (We suggest: W-C Figs. 21, 52, 60, 928, 932, 933 or 935.)

Third: On the starboard side, a green light so constructed as to show an unbroken light over an arc of the horizon of ten points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the starboard side. On the port side, a red light so constructed as to show an unbroken light over an arc of the horizon of ten points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the port side. The said side lights shall be fitted with inboard screens of sufficient height so set as to prevent these lights from being seen across the bow. (We suggest: W-C Figs. 11, 15, 30, 33, 34, 197, 199 or 300.)

Motor boats of Classes 2 and 3, when propelled by sail and machinery, or by sail alone, shall carry the colored side lights, suitably screened, but not the white lights prescribed by this section; provided, however, that motor boats of all classes, when so propelled, shall carry, ready at hand, a lantern or flashlight showing a white light which shall be exhibited in sufficient time to avert collision; provided further, that motor boats of Classes A and 1, when so propelled, shall not be required to carry the combined lantern prescribed. (Note that only a white light is carried by a Class A or 1 auxiliary under sail!)

**EQUIPMENT REQUIRED BY LAW ON MOTOR BOATS\***

(See Regulations by U. S. Coast Guard, Bureau of Marine Inspection for exact specifications.)

CLASS A (Less than 16')	CLASS 1 (16' or over, and less than 26')	CLASS 2 (26' or over, and less than 40')	CLASS 3 (40' or over, and not more than 65')
Combination Light (Red and Green) forward. White Light aft.	Combination Light (Red and Green) forward. White Light aft.	White Light forward. Red and Green Side Lights. White Light aft.	White Light forward. Red and Green Side Lights. White Light aft.
White Anchor Light.**	White Anchor Light.**	White Anchor Light.**	White Anchor Light.**
	Whistle or other sound device.	Whistle or other sound device.	Whistle or other sound device.
		Bell.	Bell.
Life Preservers.	Life Preservers.	Life Preservers.	Life Preservers.
Fire Extinguishing Apparatus.	Fire Extinguishing Apparatus.	Fire Extinguishing Apparatus.	Fire Extinguishing Apparatus.
Backfire Trap, or similar.	Backfire Trap, or similar.	Backfire Trap, or similar.	Backfire Trap, or similar.
Ventilation to bilges of engine and tank compartments.†	Ventilation to bilges of engine and tank compartments.†	Ventilation to bilges of engine and tank compartments.†	Ventilation to bilges of engine and tank compartments.†

\* The term "motor boat" includes every vessel propelled by machinery, outboard or inboard, and not more than 65 ft. in length. The length is measured from end to end, over the deck, excluding sheer.

\*\* When at anchor.

† Unless entirely open boat.

**ELECTRIC STERN LIGHTS**

Galvanized Gray Iron, Cast Bronze or Wrought Brass

Galvanized Gray Iron or Cast Bronze  
Screw Base Fresnel Globe



Fig. 928

Size No.	Height Inches	Diam. Globe Inches	Diam. Base Inches	Weight Each in Lbs.
1	10 1/4	2 1/2	3	1 7/8
2	11	3	3	1 7/8

Size No.	Galv. Each	Polished Bronze Each	Chromium Plated Each
1	\$3.90	\$6.50	\$8.45
2	3.90	6.50	8.45

Furnished with Bayonette Base Double Contact Socket.

Cast Bronze  
Fresnel Lens

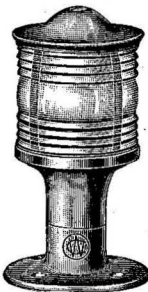


Fig. 932

Height Inches	Dim. Lens Inches	Diam. Base Inches	Weight Each in Lbs.
6 1/2	3 1/4 x 3 1/4	4	3 1/2

	Polished Bronze Each	Chromium Plated Each
	\$10.75	\$12.50

Regularly furnished with Bayonette Base Double Contact Socket. Medium Screw Base Socket supplied, if specified, add \$1.25 each.

Water-tight. Adjustable to any height. Body casting made in two pieces. Post can be extended by using 1-inch brass pipe.

Wrought Brass  
Screw Base Fresnel Globe

Size No.	Height Inches	Diam. Globe Inches	Diam. Base Inches	Weight Each in Lbs.
1	6 3/4	2 1/2	2 1/4	1
2	7 1/2	3	2 1/4	1
3	11 1/4	2 1/2	3	1 1/4
4	12	3	3	1 1/4

Size No.	Polished Brass Each	Chromium Plated Each
1	\$4.50	\$5.75
2	4.50	5.75
3	5.25	6.75
4	5.25	6.75

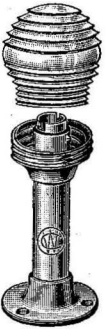


Fig. 933

Furnished with Bayonette Base Double Contact Socket.

**FLAG POLE FIXTURES**

Wrought Brass

Screw Base Fresnel Globe

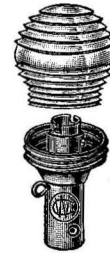


Fig. 934

Size No.	Height Overall Inches	Diam. Bottom Opening Inches	Diam. Globe Inches	Weight Each in Lbs.
1	5	3/4	2 1/2	3/4
2	5 3/4	3/4	3	7/8

Size No.	Polished Brass Each	Chromium Plated Each
1	\$4.00	\$5.00
2	4.00	5.00

Furnished with Bayonette Base Double Contact Socket.

Wrought Brass  
Corrugated Globe



Fig. 57

Size No.	I. D. Ferrule Inches	O. D. Ferrule Inches	O. D. Globe Inches	Length Inches	Weight Each in Lbs.
1	5/16	5/8	1 1/4	3 1/8	1/4
2	3/4	1 1/16	1 1/4	3 3/8	1/4

Size No.	Polished Brass Each	Chromium Plated Each	Weight Each in Lbs.
1	\$3.25	\$4.25	1/4
2	3.25	4.25	1/4

Furnished with Bayonette Base Double Contact Socket.

**ELECTRIC SIGNAL AND MAST TRUCK FIXTURES**

Cast Bronze



Fig. 9351

Size No.	Plain Bronze Each	Pol. Bronze Each	Chrome Plated Each
1	\$4.25	\$5.00	\$5.75
2	4.25	5.00	5.75

Size No.	Tapped For Size Pipe Inches	Diam. Lens Inches	Overall Height Inches	Weight Each in Lbs.
1	1/2	2 1/2	3 1/4	3/4
2	1/2	3	4	3/4

No. 2 size can be furnished with Red Lens — add \$0.55 each.

Furnished with Bayonette Base Double Contact Socket.

**SPAR LIGHT FIXTURES**

Mast Truck or Yard Arm Fixture — Cast Bronze  
Watertight Construction — Clear Fresnel Globe



Fig. 5301

Size Globe Inches	Plain Bronze Each
2 1/2 x 3 1/2	\$6.00

Height Overall Inches	Tapped for Pipe Size Inches	Weight Each in Lbs.
6 3/8	1/2	1 1/2

Furnished with Bayonette Base Double Contact Socket.

Mast Truck or Yard Arm Fixture — Cast Bronze  
Watertight Construction — Clear Fresnel Globe



Fig. 5401

Size Globe Inches	Plain Bronze Each
2 1/2 x 3 1/2	\$7.00

Height Overall Inches	Diam. Base Inches	Weight Each in Lbs.
5	2 5/8	1 3/4

Furnished with Bayonette Base Double Contact Socket.

For screw mounting. Watertight stuffing gland on side for wiring.

**SPAR LIGHT FIXTURES**

Signal Light Fixture — Cast Bronze  
Screw Base — Clear Fresnel Globe



Fig. 52

Size Globe Inches	Plain Bronze Each	Polished Bronze Each	Chromium Plated Each
5 x 3 1/2	\$6.50	\$7.25	\$8.50

Height Overall Inches	Tapped for Pipe Size Inches	Weight Each in Lbs.
6 1/2	1/2	2 3/4

Best type where visual passing signals are required.

With colored globe (Amber, Red, Green or Blue) add \$1.65 each.

Furnished with Medium Screw Base Socket to take Bulb, Fig. 948 (Size Nos. 18, 19, 20, 22 or 28).

Mast Light Fixture — Cast Bronze  
Screw Base — Clear Fresnel Globe

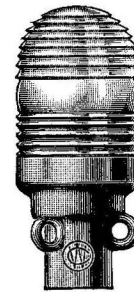


Fig. 60

Size Globe Inches	Plain Bronze Each	Height Overall Inches	Diam. Bottom Opening Inches	Weight Each in Lbs.
5 x 3 1/2	\$7.50	8 1/4	1 1/2	3 1/8

With colored globe (Red, Green or Blue) add \$1.65 each.

Furnished with Medium Screw Base Socket to take Bulb, Fig. 948 (Size Nos. 18, 19, 20, 22 or 28). Has two eyes for halliards.

Mast Light Fixture  
Cast Bronze  
Clear Fresnel Lens

Plain Bronze Each	Polished Bronze Each
\$9.25	\$10.00

Height Overall Inches	Diam. Bottom Opening Inches	Size Lens Inches Ht. Diam.	Weight Each in Lbs.
5 3/4	1 1/4	3 1/4 x 3 1/4	2 1/2



Fig. 935

Regularly furnished with Bayonette Base Double Contact Socket. Medium Screw Base Socket will be supplied, if specified, at \$1.25 extra per light.

Electric Equipment in all of our Flag Pole Lights consists of Bayonette Base Double Contact Sockets; all hollow poles wired through with highest grade waterproof two-conductor cord of ample length. All fixtures are fitted with 1/8-inch diameter eyes for flag halliards.

**FLAG POLE LIGHTS**

**POLISHED TUBULAR BRASS POLES — WIRED**

Corrugated Globes

Length Inches	Pol. Brass Each	Chrom. Plated Each	O. D. Pole Inches	Weight Each with Socket in Lbs.
18	\$5.60	\$7.35	3/8	3/4
24	6.00	7.75	3/8	7/8

Prices include pole sockets as illustrated.

Takes Fig. 123 Globe



Fig. 4200



Fig. 42

**Fig. 4200**

Length Inches	Pol. Brass Each	Chrom. Plated Each	O. D. Pole Inches	Weight Each with Socket in Lbs.
24	\$6.25	\$8.00	3/4	1
30	6.50	8.25	3/4	1 1/8

Prices include pole sockets as illustrated.

Takes Fig. 123 Globe

**FLAG POLE LIGHTS**

**POLISHED TUBULAR BRASS POLES — WIRED**

Corrugated Globes

**Fig. 4201**

Pole and Cast Bronze Pole Socket have integral electric connections.

Length Inches	Pol. Brass Each	Chrom. Plated Each	Weight Each with Socket in Lbs.
24	\$8.50	\$10.25	1 1/4
30	8.75	10.50	1 1/2

O. D. Pole, 3/4 inch

Takes Fig. 123 Globe

Prices include polished cast bronze pole socket.



Fig. 4201

**ADJUSTABLE STERN LIGHTS**

**POLISHED TUBULAR BRASS POLES — WIRED**

Corrugated Globes

**Fig. 451**

Length Inches	Pol. Brass Each	Chrome Plated Each	O. D. Pole Inches	Weight Each with Socket in Lbs.
18	\$6.50	\$8.25	3/4	3/4

Prices include pole socket as illustrated.

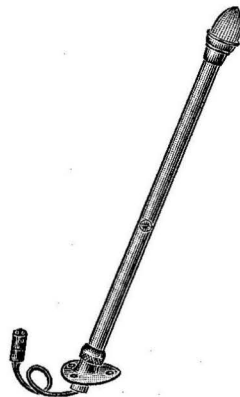


Fig. 451

Takes Fig. 123 Globe.

Adjustable to any height down to 4 inches. Pole is held securely in socket by knurled nut. Connector is designed to pass through hole in socket for easy removal of pole.

**FLAG POLE LIGHTS**

**MAHOGANY POLES — WIRED**

Screw Base Fresnel Globes  
Wrought Brass Fixtures

**Fig. 44**

Length Inches	Pol. Brass Each	Chrom. Plated Each	Weight Each in Lbs.
24	\$6.60	\$8.00	1 1/4
30	6.90	8.30	1 1/4
36	7.25	8.65	1 1/2
48	8.25	9.65	1 3/4

Diameter Fresnel Globe, 2 1/2 or 3 inches.

3-inch diameter furnished unless 2 1/2-inch is specified.

Diameter base of pole, 1 1/4 inches. Can be used with Flag Pole Sockets, Fig. 550 or 557. Pole is complete with ferrule.

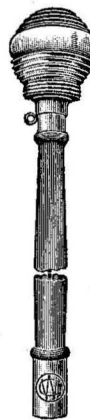


Fig. 44

**MAHOGANY POLES — WIRED**

Screw Base Fresnel Globes  
Wrought Brass Fixtures

**Fig. 4400**

Pole and Polished Cast Bronze Pole Socket have integral electric connections.

Length Inches	Pol. Brass Each	Chrom. Plated Each	Weight Each with Socket in Lbs.
24	\$10.75	\$12.50	1 1/8
30	11.00	12.75	1 1/8
36	11.25	13.00	2 1/8
48	12.50	14.25	2 3/8

Diameter base of pole, 1 1/4 inches. Pole is complete with ferrule.

Diameter Fresnel Globe, 2 1/2 or 3 inches.

3-inch diameter furnished unless 2 1/2-inch is specified.

Prices include polished cast bronze pole socket.

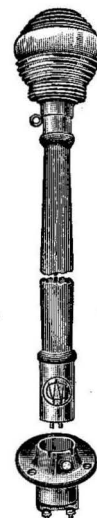


Fig. 4400

**"SPORT KIT" LIGHTS**

Nickel Plated

"All-In-One" Light and Battery Case

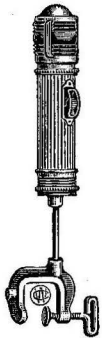


Fig. 9302



Fig. 9303

**Combination Bow Light, Fig. 9302**

Height Lens Inches	Each	Overall Height Inches	Weight Each in Lbs.
1 1/16	\$6.50	15	7/8

**Stern Light, Fig. 9303**

Diam. Globe Inches	Each	Overall Height Extended Inches	Overall Height Closed Inches	Weight Each in Lbs.
1 1/4	\$6.50	26 1/2	20	1 1/8

Prices include one bulb. Two standard dry cell batteries used are not furnished.

Extra Bulbs (order Fig. 943) .....\$0.20 each

Clamp is adjustable from 3/4 to 1 1/8 in. opening, for either vertical or horizontal attachment. "Sport Kit" Lights can be attached or detached in a moment. No wires to bother with! Their size allows convenient stowing when not in use.

These handy Combination Bow Lights and Stern Lights are operated by two flashlight type standard dry cell batteries. They are easily attached to row-boats, canoes and dinghies when powered with an outboard motor. Remember, the law requires the use of lights of this type when a boat has motor power. Fig. 9302 is the Bow Light used with Fig. 9303 Stern Light, but other combinations of types of lights can be selected from the variety shown in this catalog.

**STERN LIGHTS AND FLAG POLES**

Polished Brass

Tubular Pole — Corrugated Globe

"All-In-One" Type

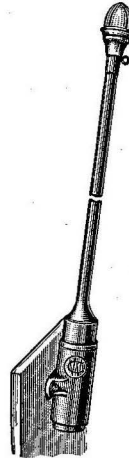


Fig. 931

Diam. Globe Inches	Polished Brass Each	Chrome Plated Each	Height Above Socket Inches	Depth Below Socket Inches	Weight Each in Lbs.
1 1/4	\$11.00	\$14.00	24	4	2 1/2

Price includes one bulb. Two standard dry cell batteries used are not furnished.

Supplied complete with socket as illustrated.

Extra Bulbs (order Fig. 943) ..\$0.20 each

This Stern Flag Pole and Light fits into a 1 1/2" socket that is easily attached to the transom or coaming. Having self-contained batteries and switch, there is no wiring. Practical for use on small power boats, and also ideally suited for small sailboats where the law requires the display of a clear white light at night, even when under sail.

**COMBINATION LIGHTS**

Polished Brass

"All-In-One" Type

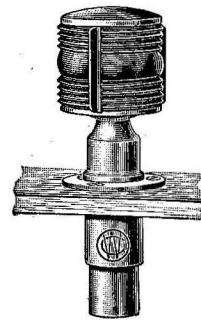


Fig. 930

Height Lens Inches	Polished Brass Each	Chrome Plated Each	Height Above Deck Inches	Depth Below Deck Inches	Weight Each in Lbs.
2 3/4	\$10.50	\$13.00	4 3/4	4	2

Price includes one bulb. Two standard dry cell batteries used are not furnished.

Extra Bulbs (order Fig. 943) .....\$0.20 each

Equipped with Fresnel Lenses; one Red and one Green.

An attractive, practical, self-contained electrically lighted Bow Light. Designed especially for small runabouts (inboard or outboard), dinghies, tenders, canoes; in fact, any small power boats of Class 1 and under.

Two flashlight type standard dry cell batteries are necessary in each light. Rated performance—4 to 6 normal nights of service.

The Bow Light fits into a 1 1/2 in. Flush Type Deck Socket as illustrated. The socket may be used to hold a flag pole during daylight hours.

**COMBINATION LIGHTS**

Cast Bronze  
With Rebulbing Plug

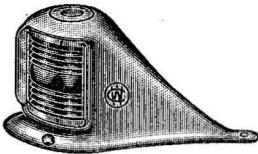


Fig. 260

Height Lens Inches	Pol. Bronze Each	Chrom. Plated Each	Dim. Base Inches	Height Inches	Weight Each in Lbs.
2 3/4	\$10.50	\$12.00	4 1/8 x 8	4	2 5/8

Equipped with Fresnel Lenses; one Red and one Green.

Bayonette Base Double Contact Socket.

3/4-inch diameter Flag Pole Socket.

**COMBINATION LIGHTS**

Cast Bronze

With Rebulbing Plug

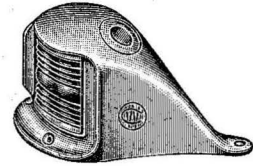


Fig. 2601

Height Lens Inches	Pol. Bronze Each	Chrom. Plated Each	Dim. Base Inches	Height Inches	Weight Each in Lbs.
2 3/4	\$10.00	\$11.75	4 x 7 3/4	4 1/8	3 5/8

Equipped with Fresnel Lenses; one Red and one Green.

Bayonette Base Double Contact Socket.

3/4-inch diameter Flag Pole Socket set at 30-degree angle.

**COMBINATION LIGHTS**

With Rebulbing Plug

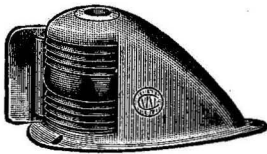


Fig. 2600

Height Lens Inches	Chrom. Plated Finish Each	Dim. Base Inches	Height Inches	Weight Each in Lbs.
2 3/4	\$7.25	3 3/4 x 6 3/8	3 1/2	1

Price includes one 6 volt bulb.

Extra bulbs (order Fig. 9460) .....\$0.20 each

Equipped with Fresnel Lenses; one Red and one Green.

Miniature Bayonette Base Socket.

5/8-inch diameter Flag Pole Socket.

An attractive streamlined Bow Light. Small, but suitable for boats up to 26 feet in length. Adds a snappy appearance to any boat.

**COMBINATION LIGHTS**

Wrought Brass

With Rebulbing Plug

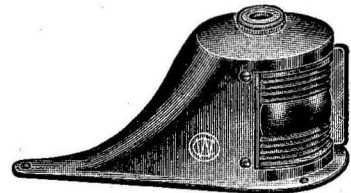


Fig. 2801

A quality unit at a modest price. Pressed from heavy gauge stock. Looks just like a cast light!

Height Lens Inches	Pol. Brass Each	Chrom. Plated Each	Dim. Base Inches	Height Inches	Weight Each in Lbs.
3 1/4	\$10.50	\$12.50	4 1/2 x 9 1/2	4	1 3/4

Equipped with Fresnel Lenses; one Red and one Green.

See Page 117 for Extracts From The New  
Motor Boat Law Concerning Running Lights.

BULBS RECOMMENDED FOR USE IN ALL  
LIGHTS ON THIS PAGE ARE LISTED ON

**COMBINATION LIGHTS**

Wrought Brass  
For Fixed Mounting

Size Lens Inches	Pol. Brass Each	Chrom. Plated Each
Ht. Cir. 2 3/4 x 2 1/6	\$4.25	\$5.50
Height Inches	Diam. Base Inches	Weight Each in Lbs.
4	2 1/2	3/4



Fig. 36

Equipped with Fresnel Lenses; one Red and one Green. Bayonette Base Double Contact Sockets.

With Demountable Deck Bracket

Size Lens Inches	Pol. Brass Each	Chrom. Plated Each
Ht. Cir. 2 3/4 x 2 1/6	\$5.00	\$6.25
Height Inches	Weight Each in Lbs.	
4 1/2	5/8	

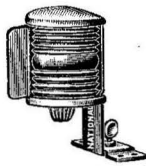


Fig. 38

Equipped with Fresnel Lenses; one Red and one Green. Bayonette Base Double Contact Sockets.

**COMBINATION LIGHTS**

Galvanized Iron or Polished Wrought Brass  
Turret Top — Bottom Opening  
Combined Oil and Electric  
Oil Only or Electric Only

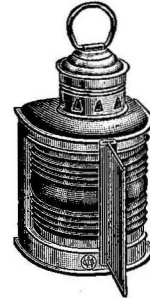


Fig. 195

Fig.		Galv. Each	Pol. Brass Each
195	Oil and Electric—Comb. Fount	\$8.25	\$9.50
195-A	Oil only	7.50	8.75
195-B	Electric only	7.50	8.75

Height Lens Inches	Height Without Ring Inches	Base Inches	Weight Each in Lbs.
3 3/4	8 1/2	5 x 4 1/2	2 3/8

Equipped with Fresnel Lenses; one Red and one Green.

Bayonette Base Double Contact Socket.

Medium Screw Base Socket can be supplied to order. Add \$1.25 per light to above prices.

**COMBINATION LIGHTS**

Galvanized Iron or Polished Wrought Brass  
Turret Top — Hinged Front  
Combined Oil and Electric

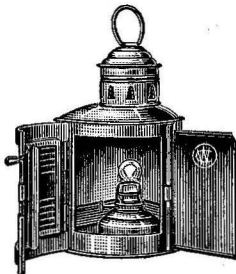


Fig. 9

Height Lens Inches	Galv. Each	Pol. Brass Each	Chrom. Plated Each
3 3/4	\$9.75	\$11.00	\$13.75
Height Without Ring Inches	Base Inches	Weight Each in Lbs.	
9	5 x 4 1/2	2 7/8	

Equipped with Fresnel Lenses; one Red and one Green.

Bayonette Base Double Contact Socket.

Medium Screw Base Socket can be supplied to order. Add \$1.25 per light to above prices.

**COMBINATION LIGHTS**

Galvanized Iron or Polished Wrought Brass  
Sturdy Type — Electric Only

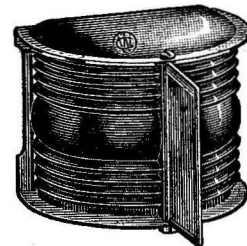


Fig. 31

Height Lens Inches	Galv. Each	Pol. Brass Each	Chrom. Plated Each	Size Base Inches	Height Inches	Weight Each in Lbs.
3 3/4	\$5.50	\$6.50	\$8.75	3 1/2 x 4 3/8	3 3/4	1 1/2

Removable plug in base for rebulbing.

Furnished with Fresnel Lenses; one Green and one Red.

## ANCHOR OR RIDING LIGHTS

Galvanized Iron or Polished Wrought Brass

### "STANDARD"

Turret Top — Bottom Opening

Combined Oil and Electric, Oil Only or Electric Only

Equipped with wire guards, bolted into position — not soldered. Easily removed for lens replacement.



Fig. 19

Fig.	Size Lens, Inches Ht. Diam.	Height Inches	Width Inches	Weight Each in Lbs.
	3 1/4 x 3 1/4	8 1/2	4 3/8	2
			Galvanized Each	Polished Brass Each
19	Oil and Electric with Combined Fount		\$6.50	\$7.75
19-A	Oil only		6.00	7.25
19-B	Electric only		6.00	7.25
				Chromium Plated Each
				\$10.50
				10.00
				10.00

Prices include Clear Fresnel Lenses. For Colored Lens (Red or Green), add to above prices \$1.65 each. Fig. 19-B regularly furnished with Bayonette Base Double Contact Socket. Medium Screw Base Socket will be supplied to order. Add \$1.25 each.

### "NO. 21"

Turret Top — Bottom Opening

Combined Oil and Electric, Oil Only or Electric Only

Equipped with Navy Specification Brass Guards, assuring maximum protection to Lens. Guards bolted into position — not soldered. Easily removed for lens replacement.

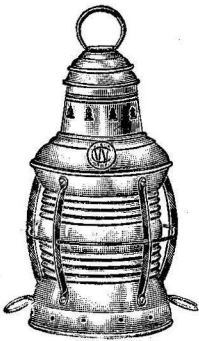


Fig. 21

Fig.	Size Lens, Inches Ht. Diam.	Height Inches	Width Inches	Weight Each in Lbs.
	4 1/4 x 4 1/8	11	5 5/8	4
			Galvanized Each	Polished Brass Each
21	Oil and Electric with Combined Fount		\$8.00	\$9.25
21-A	Oil only		7.50	8.75
21-B	Electric only		7.50	8.75
				Chromium Plated Each
				\$12.00
				11.50
				11.50

Prices include Clear Fresnel Lenses. For colored Lens (Red or Green), add to above prices \$2.00 each. Fig. 21-B regularly furnished with Bayonette Base Double Contact Socket. Medium Screw Base Socket will be supplied to order. Add \$1.25 each. Hinged Bottom furnished to order at \$0.65 extra per light.

### "TEN DAY"

For Oil Only

Long Time Burner, Chimney and Fount



Fig. 20



Size Lens Inches Ht. Diam.	Polished Brass Each	Height Inches	Width Inches	Weight Each in Lbs.
4 1/4 x 4 1/8	\$19.50	12 1/2	5 7/8	5 5/8

Price includes Clear Fresnel Lens. For Colored Lens (Red or Green), add to above prices \$2.00 each.

Equipped with Navy Specification Brass Guards — bolted into place — easily removed for lens replacement. The bail is heavy cast brass, securely riveted.

## ANCHOR OR RIDING LIGHTS

Galvanized Iron or Polished Wrought Brass

Flat Top — Bottom Opening — Electric Only

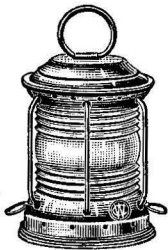


Fig. 22-B

Galv. Each	Pol. Brass Each	Chrom. Plated Each	Size Lens Inches Ht. Diam.	Height Inches	Diam. Inches	Weight Each in Lbs.
\$6.00	\$7.25	\$10.00	3 1/4 x 3 1/4	5 3/4	4 1/2	1 1/2

Prices include Clear Fresnel Lenses. For Colored Lens (Red or Green), add to above prices \$1.65 each. Bayonette Base Double Contact Sockets are furnished as regular equipment. Medium Screw Base Sockets can be supplied. Add \$1.25 per light to above prices.

**"CRUISE-LITE" ANCHOR LIGHTS**

Polished Brass  
Weather Proof  
"All-In-One" Type



Fig. 9371

Diam. Globe Inches	Each	Height Without Handle Inches	Diam. Base Inches	Weight Each in Lbs
2½	\$9.80	11¼	3¼	1½

Price includes one bulb, but no battery.

When ordering, specify with or without battery.

No. 6 Dry Cell Batteries (order Fig. 9440) \$0.60 each

Extra Bulbs (order Fig. 9461) ..... .50 each

This is a handsome, lightweight, self-contained dry battery Anchor Light, which will burn 21 days continuously. Just the thing to take along cruising. One single No. 6 Dry Cell Battery will last a whole season's cruising on the average man's boat. Absolutely watertight, with fully enclosed waterproof switch. Easy to stow away. Sturdy handle to hang it by, and two rings for guy lines.

**CLASS 2 BOW LIGHTS**

Wrought Brass  
With Rebulbing Plug

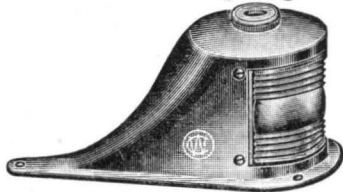


Fig. 2800

Height Lens Inches	Pol. Brass Each	Chrom. Plated Each	Dim. Base Inches	Height Inches	Weight Each in Lbs.
4¼	\$10.75	\$12.75	4½ x 9½	4¾	2

Equipped with Clear Fresnel Lens.

Bayonette Base Double Contact Socket.

Pressed from first quality heavy gauge brass, this is the companion Bow Light for Side Light, Fig. 300. This combination offers a set of running lights with all the attractiveness of cast lights, at only a fraction of the cost.

**30-DAY ANCHOR LIGHTS**

Galvanized Iron  
Weather Proof  
"All-In-One" Type



Fig. 937

Diam. Globe Inches	Each	Weight Each in Lbs.
2½	\$20.00	3¾
Height Without Handle Inches	Diam. Base Inches	
10¾	6¼	

Price includes one bulb, but no batteries.

When ordering, specify with or without batteries.

No. 6 Dry Cell Batteries (order Fig. 9440) \$0.60 each

Extra Bulbs (order Fig. 946) ..... .55 each

Lights are supplied with Miniature Bayonette Base Single Contact Socket, taking Fig. 946 Bulb.

Here is a real, honest-to-goodness Long Time Burning "All-In-One" Electric Anchor or Riding Light. Good for over 750 consecutive burning hours. Three No. 6 Dry Cell Batteries contained in the Lamp Body furnish ample power to the special bulb, to give this extra long continuous burning capacity. Handle is removable; can be hooked to base rings if desired, so Light will hang with globe at the bottom. Equipped with water-tight rotary switch. This also makes a mighty handy, spark-proof emergency lantern — safe to use under any conditions. It's always ready — no fuss — no wires — no bother!

**CLASS 2 SIDE LIGHTS**

Wrought Brass  
With Rebulbing Plug

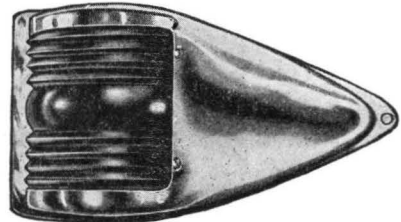


Fig. 300

Height Lens Inches	Pol. Brass Pair	Chrom. Plated Pair	Length Inches	Height Inches	Weight Pair in Lbs.
4¼	\$16.50	\$20.50	10¾	5½	4

Furnished in pairs, equipped with Fresnel Lenses; one Green and one Red.

Bayonette Base Double Contact Socket.

Improved, newly-designed stamped Side Lights. Pressed from heavy gauge stock. Sturdy and compact. Have the appearance of cast lights. The bayonette-locking rebulbing plug can be removed with a quarter turn.

**CLASS 2 SIDE LIGHTS**

Galvanized Iron, Polished Wrought Brass or Polished Cast Bronze

All lights on this page furnished in pairs, equipped with Fresnel Lenses: one Green for Starboard and one Red for Port. Class 2. Side Light Lenses measure 4 1/4 inches in height; see Fig. 132.

Turret Top — Hinged Front  
Combined Oil and Electric

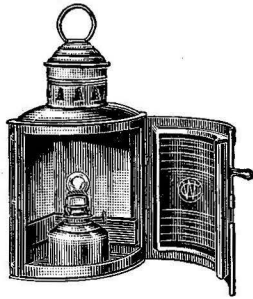
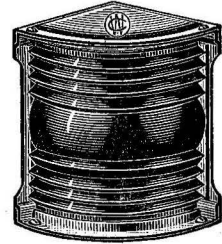


Fig. 11

Galv. Pair	Pol. Wrought Brass Pair	Chrom. Plated Pair	Height Without Ring Inches	Base Inches	Weight Pair in Lbs.
\$17.00	\$19.50	\$25.00	9 1/2	4 1/2	5 1/2

Sturdy Type — Flat Top  
Electric Only



Class 2 — Fig. 33

Galv. Pair	Pol. Wrought Brass Pair	Chrom. Plated Pair	Size Base Inches	Height Inches	Weight Pair in Lbs.
\$8.50	\$10.50	\$15.00	3 1/2 x 4 3/8	4 3/4	2 1/2

Removable plug in base for rebulbing.

Turret Top — Bottom Opening  
Combined Oil and Electric  
Oil Only or Electric Only

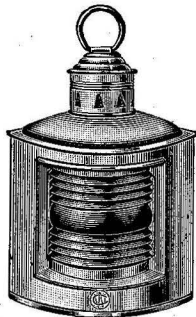
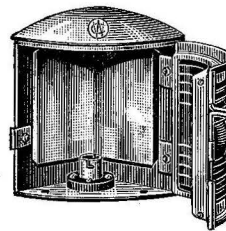


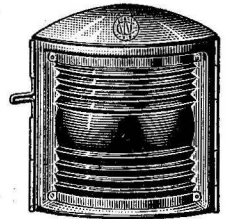
Fig. 197

Fig.		Galv. Pair	Pol. Wrought Brass Pair	Height Without Ring Inches	Width Inches	Weight Pair in Lbs.
197	O. & E.	\$13.00	\$15.00	10 3/4	4 7/8	5
197-A	Oil	12.00	14.00	10 3/4	4 7/8	5
197-B	Elec.	12.00	14.00	10 3/4	4 7/8	5

Flat Top — Hinged Front  
Electric Only



Open



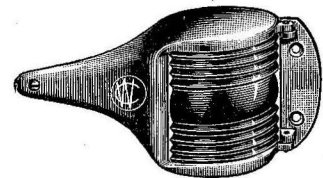
Closed

Class 2 — Fig. 34

Pol. Cast Bronze Pair	Chrom. Plated Pair	Height Inches	Size Base Inches	Weight Pair in Lbs.
\$19.00	\$23.00	5 1/2	5 1/4 x 3 5/8	7

Improved Hinged Type

Easy Rebulbing — Cleaning — Lens Replacement  
Electric Only



Class 2 — Fig. 30

Pol. Cast Bronze Pair	Chrom. Plated Pair	Height Lens Inches	Length Inches	Height Inches	Weight Pair in Lbs.
\$19.00	\$23.00	4 1/4	9 3/8	5	5 1/2

Bayonette Base Double Contact Sockets regular equipment with all electric styles of lights on this page. Fig. 197-B can be supplied with Medium Screw Base Sockets. Add \$2.50 PER PAIR to above prices.

**CLASS 2 BOW LIGHTS**

Galvanized Iron, Polished Wrought Brass or Polished Cast Bronze

All lights on this page equipped with Clear Fresnel Lens.

Class 2 Bow Light Lenses measure 4¼ inches in height; see Fig. 133.

**Turret Top — Hinged Front**  
**Combined Oil and Electric**

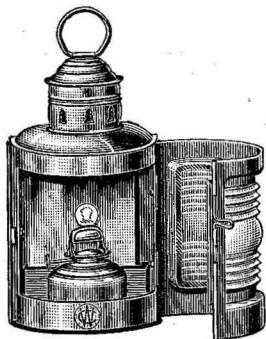
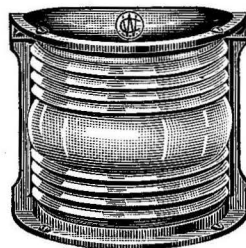


Fig. 12

Galv. Each	Pol. Wrought Brass Each	Chrom. Plated Each	Height Without Ring Inches	Width Inches	Weight Each in Lbs.
\$8.50	\$9.75	\$12.50	9½	5	3¼

**Sturdy Type — Flat Top**  
**Electric Only**



Class 2 — Fig. 32

Galv. Each	Pol. Wrought Brass Each	Chrom. Plated Each	Size Base Inches	Height Inches	Weight Each in Lbs.
\$4.25	\$5.25	\$7.50	5 x 2½	4¼	1¾

Removable plug in base for rebulbing.

**Turret Top — Bottom Opening**  
**Combined Oil and Electric**  
**Oil Only or Electric Only**

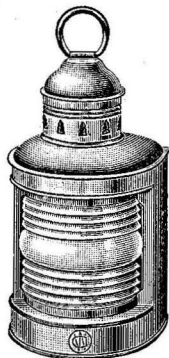
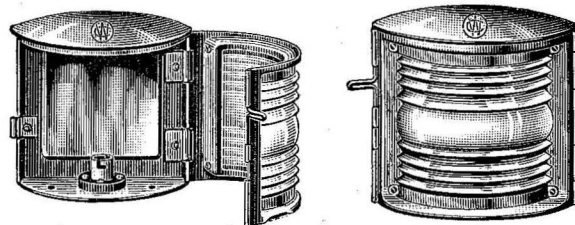


Fig. 196

Fig.		Galv. Each	Pol. Wrought Brass Each	Height Without Ring Inches	Width Inches	Weight Each in Lbs.
196	O. & E.	\$6.50	\$7.50	10½	5¼	2½
196-A	Oil	6.00	7.00	10½	5¼	2½
196-B	Elec.	6.00	7.00	10½	5¼	2½

**Flat Top — Hinged Front**  
**Electric Only**

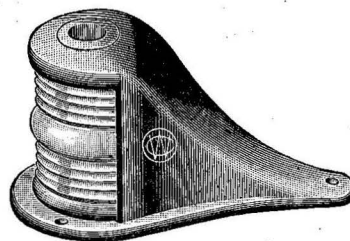


Open Closed

Class 2 — Fig. 35

Polished Cast Bronze Each	Chromium Plated Each	Height Inches	Size Base Inches	Weight Each in Lbs.
\$9.50	\$11.50	5%	5 x 2¼	3¼

**With Rebulbing Plug — Electric Only**



Pol. Cast Bronze Each	Chrom. Plated Each
\$17.00	\$21.00

Dim. Base Inches	Height Inches	Weight Each in Lbs.
5½ x 10	5½	6¼

Class 2 — Fig. 281

1-inch diameter Flag Pole Socket.

Bayonette Base Double Contact Sockets regular equipment with all electric styles of lights on this page. Fig. 196-B can be supplied with Medium Screw Base Sockets. Add \$1.25 PER LIGHT to above prices.

**CLASS 3 SIDE LIGHTS**

Galvanized Iron, Polished Wrought Brass or Polished Cast Bronze

All lights on this page furnished in pairs, equipped with Fresnel Lenses; one Green for Starboard and one Red for Port. Class 3 Side Light Lenses measure 5 5/8 inches in height; see Fig. 132.

Turret Top — Hinged Front  
Combined Oil and Electric

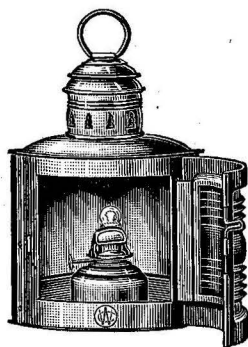


Fig. 15

Galv. Pair	Pol. Wrought Brass Pair	Chrom. Plated Pair	Height Without Ring Inches	Width Inches	Weight Pair in Lbs.
\$19.50	\$22.50	\$29.00	10 1/2	5 1/8	7 1/4

Turret Top — Bottom Opening  
Combined Oil and Electric  
Oil Only or Electric Only

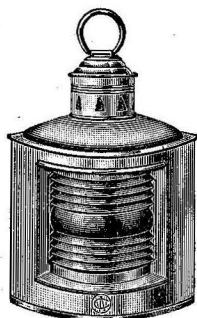


Fig. 199

Fig.	Galv. Pair	Pol. Wrought Brass Pair	Height Without Ring Inches	Width Inches	Weight Pair in Lbs.
199 O.&E.	\$16.50	\$19.00	11 1/2	5 5/8	6 1/4
199-A Oil	15.00	17.50	11 1/2	5 5/8	6 1/4
199-B Elec.	15.00	17.50	11 1/2	5 5/8	6 1/4

Bayonette Base Double Contact Sockets regular equipment with all electric styles of lights on this page. Figs. 34 and 199-B can be supplied with Medium Screw Base Sockets. Add \$2.50 PER PAIR to above prices.

Sturdy Type — Flat Top  
Electric Only

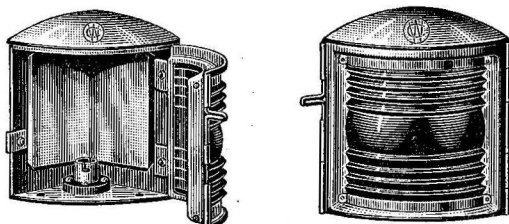


Class 3 — Fig. 33

Galv. Pair	Pol. Wrought Brass Pair	Chrom. Plated Pair	Size Base Inches	Height Inches	Weight Pair in Lbs.
\$10.00	\$12.00	\$16.50	4 1/2 x 5 3/4	6 1/2	5 1/2

Removable plug in base for rebulbing.

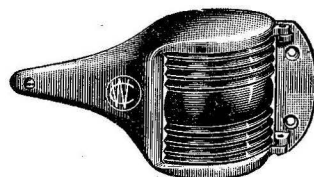
Flat Top — Hinged Front  
Electric Only



Open Closed  
Class 3 — Fig. 34

Pol. Cast Bronze Pair	Chrom. Plated Pair	Height Inches	Size Base Inches	Weight Pair in Lbs.
\$23.00	\$27.00	7	6 1/4 x 4 1/2	10 1/2

Improved Hinged Type  
Easy Rebulbing — Cleaning — Lens Replacement  
Electric Only



Class 3 — Fig. 30

Pol. Cast Bronze Pair	Chrom. Plated Pair	Length Inches	Height Inches	Weight Pair in Lbs.
\$28.00	\$33.00	10	6 5/8	7 1/2

**CLASS 3 BOW LIGHTS**

Galvanized Iron, Polished Wrought Brass or Polished Cast Bronze

All lights on this page equipped with Clear Fresnel Lens.

Class 3 Bow Light Lenses measure 5 inches in height; see Fig. 133

**Turret Top — Hinged Front  
Combined Oil and Electric**

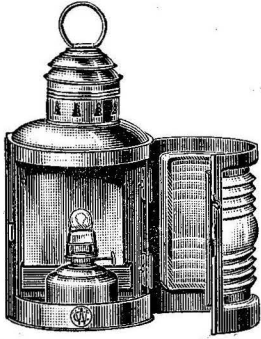
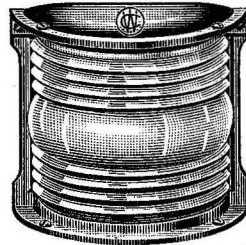


Fig. 16

Galv. Each	Pol. Wrought Brass Each	Chrom. Plated Each	Height Without Ring Inches	Width Inches	Weight Each in Lbs.
\$9.75	\$11.25	\$14.50	11	5½	3¾

**Sturdy Type — Flat Top  
Electric Only**



Class 3 — Fig. 32

Galv. Each	Pol. Wrought Brass Each	Chrom. Plated Each	Size Base Inches	Height Inches	Weight Each in Lbs.
\$5.00	\$6.00	\$8.25	5¼ x 3¾	5½	2¼

Removable plug in base for rebulbing.

**Turret Top — Bottom Opening  
Combined Oil and Electric  
Oil Only or Electric Only**

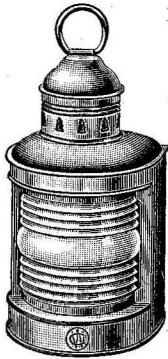
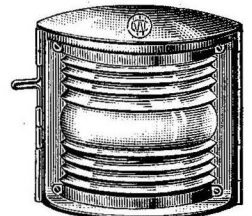
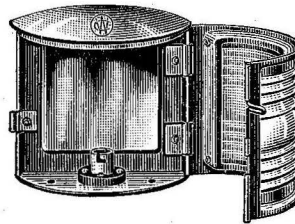


Fig. 198

Fig.		Galv. Each	Pol. Wrought Brass Each	Height Without Ring Inches	Width Inches	Weight Each in Lbs.
198	O. & E.	\$8.25	\$9.50	12	6	3½
198-A	Oil	7.50	8.75	12	6	3½
198-B	Elec.	7.50	8.75	12	6	3½

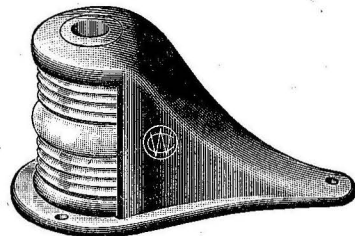
**Flat Top — Hinged Front  
Electric Only**



Open Closed  
Class 3 — Fig. 35

Pol. Cast Bronze Each	Chrom. Plated Each	Height Inches	Size Base Inches	Weight Each in Lbs.
\$11.50	\$13.50	6¼	5¼ x 3	4½

**With Rebulbing Plug — Electric Only**

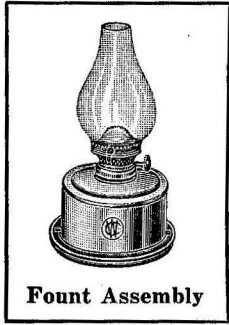


Class 3 — Fig. 281

Pol. Cast Bronze Each	Chrom. Plated Each	Dim. Base Inches	Height Inches	Weight Each in Lbs.
\$24.00	\$29.00	5½ x 10½	5½	8

1-inch diameter Flag Pole Socket.

Bayonette Base Double Contact Sockets regular equipment with all electric styles of lights on this page. Figs. 35 and 198-B can be supplied with Medium Screw Base Sockets. Add \$1.25 PER LIGHT to above prices.



Fount Assembly

**NAVIGATION LIGHTS FOR VESSELS OVER 65 FEET LONG**

Galvanized — Maritime Commission 6000 Series — Oil

American Improved Top — Bottom Opening — With Chimney, Wick and Burner

Mounting Brackets and Lugs fitted to make these Lights interchangeable with all our large Electric Lights. Heavy steel bodies, hot dip galvanized after fabrication. Fount capacity exceeds specifications. Lenses are USCG Merchant Marine Inspection Division sizes.

These lights comply with the regulations of the U. S. Coast Guard in all respects. Approvals published in "Proceedings of Merchant Marine Council".

**SIDE LIGHTS (FIG. 6110)**

Oil — American Improved Top — Bottom Opening  
With Chimney, Wick and Burner  
112½ Degree Red and Green Lenses

Size No.	Galv. Pair	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	Weight Pair in Lbs.	For Size Vessel
USCG 3	\$68.00	6¾	18¼	7¾ x 7¾	17¼	65'-150'
USCG 2	90.00	7½	22¼	10¼ x 9¾	29½	over 150'

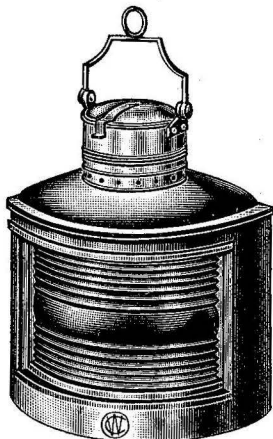


Fig. 6110

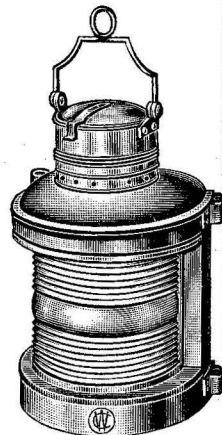


Fig. 6120

**MASTHEAD, RANGE AND TOWING LIGHTS (FIG. 6120)**

Oil — American Improved Top — Bottom Opening  
With Chimney, Wick and Burner — 225 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$34.00	6¾	18¼	7½ x 7¼	9¼	8	65'-150'
USCG 2	45.00	7½	22¼	10½ x 9	11¾	15	over 150'

**STERN LIGHTS (FIG. 6130)**

Oil — American Improved Top — Bottom Opening  
With Chimney, Wick and Burner — 135 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$34.00	6¾	18¼	7½ x 7¼	9¼	7¾	65'-150'
USCG 2	45.00	7½	22¼	10½ x 9	11¾	14¼	over 150'

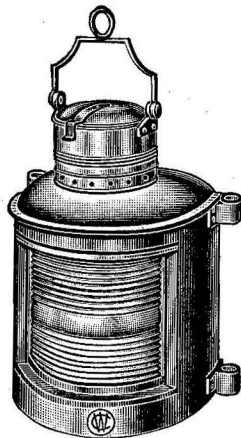


Fig. 6130

**ANCHOR LIGHTS (FIG. 6140)**

Oil — American Improved Top — Bottom Opening  
With Chimney, Wick and Burner — 360 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$33.00	6¾	19	7¾	8	8	65'-150'
USCG 2	44.00	7½	22¾	9½	10½	15	over 150'

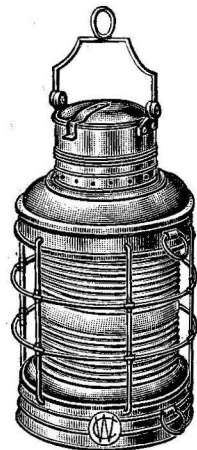


Fig. 6140 — Clear  
Fig. 6150 — Red

**NOT-UNDER-COMMAND LIGHTS (FIG. 6150)**

Oil — American Improved Top — Bottom Opening  
With Chimney, Wick and Burner — 360 Degree Red Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$38.00	6¾	19	7¾	8	8	65'-150'
USCG 2	49.00	7½	22¾	9½	10½	15	over 150'

THESE LIGHTS CAN BE CONVERTED FOR 2 OR 3-WIRE ELECTRIC OPERATION. FOR LISTING OF CONVERSION ADAPTERS AND RECOMMENDED BULBS, SEE PAGE 145.

**NAVIGATION LIGHTS FOR VESSELS OVER 65 FEET LONG**

Galvanized — Maritime Commission 6000 Series — Electric  
 Watertight — With Cast Bronze Re-Bulbing Plates — Stuffing Tubes  
 Mogul 3-Wire Phenolic Sockets

Correctly centered, adjustable height Cast Bronze Socket Mountings. Side Lights equipped with Clips and Brackets for mounting. Other lights have heavy lugs or rings. Bodies made of heavy black iron sheets and hot dip galvanized after fabrication, thus insuring the best protective coating. Lenses are USCG Merchant Marine Inspection Division sizes.

These lights comply with the regulations of the U. S. Coast Guard in all respects. Approvals published in "Proceedings of Merchant Marine Council".



**SIDE LIGHTS (FIG. 6112)**

Electric — Mogul Socket — Watertight — Top Opening  
 112½ Degree Red and Green Lenses

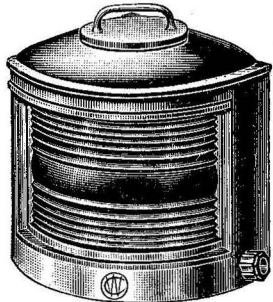


Fig. 6112

Size No.	Galv. Pair	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	Weight Pair in Lbs.	For Size Vessel
USCG 3	\$68.00	6¾	12½	7¾ x 7¾	18½	65'-150'
USCG 2	90.00	7½	14%	10¼ x 9%	31	over 150'

**MASTHEAD, RANGE AND TOWING LIGHTS (FIG. 6122)**

Electric — Mogul Socket — Watertight — Top Opening  
 225 Degree Clear Lens

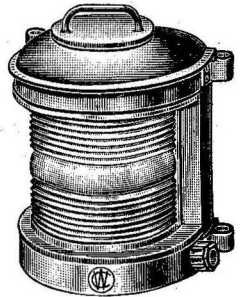


Fig. 6122

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$34.00	6¾	12%	7½ x 7¼	9½	9¼	65'-150'
USCG 2	45.00	7½	14%	10½ x 9	11%	16½	over 150'

**STERN LIGHTS (FIG. 6132)**

Electric — Mogul Socket — Watertight — Top Opening  
 135 Degree Clear Lens

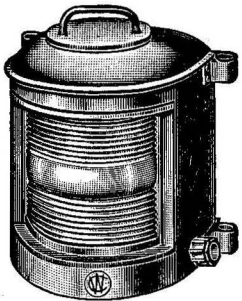


Fig. 6132

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$34.00	6¾	12%	7½ x 7¼	9½	8½	65'-150'
USCG 2	45.00	7½	14%	10½ x 9	11%	15¾	over 150'

**ANCHOR LIGHTS (FIG. 6142)**

Electric — Mogul Socket — Watertight — Top Opening  
 360 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$33.00	6¾	13¼	7½	8	9¼	65'-150'
USCG 2	44.00	7½	15	9½	10½	16½	over 150'

**NOT-UNDER-COMMAND LIGHTS (FIG. 6152)**

Electric — Mogul Socket — Watertight — Top Opening  
 360 Degree Red Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$38.00	6¾	13¼	7½	8	9¼	65'-150'
USCG 2	49.00	7½	15	9½	10½	16½	over 150'

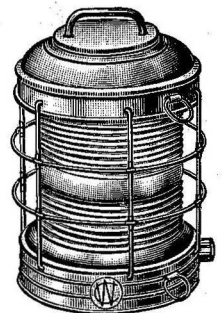
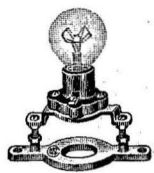


Fig. 6142 — Clear  
 Fig. 6152 — Red

THESE LIGHTS ARE DESIGNED TO TAKE BULB, FIG. 948 (SIZE NO. 29)



Medium Screw Base Socket Mounting for 6000 Series

**NAVIGATION LIGHTS FOR VESSELS OVER 65 FEET LONG**

Galvanized — Maritime Commission 6000 Series — Electric  
Watertight — With Cast Bronze Re-Bulbing Plates  
Medium Screw Base Phenolic Sockets — Stuffing Tubes

Correctly centered, adjustable height Cast Bronze Socket Mountings. Side Lights equipped with Clips and Brackets for mounting. Other lights have heavy lugs or rings. Bodies made of heavy black iron sheets and hot dip galvanized after fabrication, thus insuring the best protective coating. Lenses are USCG Merchant Marine Inspection Division sizes.

These lights comply with the regulations of the U. S. Coast Guard in all respects. Approvals published in "Proceedings of Merchant Marine Council".

**SIDE LIGHTS (FIG. 6111)**

Electric — Medium Screw Base Socket — Watertight — Top Opening  
112½ Degree Red and Green Lenses

Size No.	Galv. Pair	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	Weight Pair in Lbs.	For Size Vessel
USCG 3	\$66.00	6¾	12½	7¾ x 7¼	18½	65'-150'
USCG 2	88.00	7½	14¾	10¼ x 9½	31	over 150'

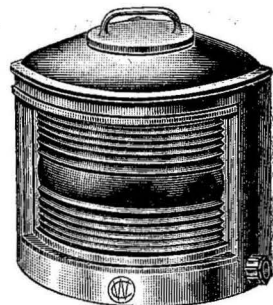


Fig. 6111

**MASTHEAD, RANGE AND TOWING LIGHTS (FIG. 6121)**

Electric — Medium Screw Base Socket — Watertight — Top Opening  
225 Degree Clear Lens

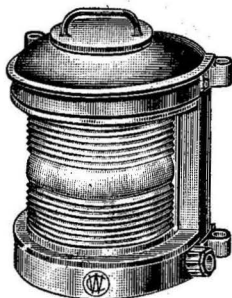


Fig. 6121

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$33.00	6¾	12¾	7½ x 7¼	9¼	9¼	65'-150'
USCG 2	44.00	7½	14¾	10½ x 9	11¾	16½	over 150'

**STERN LIGHTS (FIG. 6131)**

Electric — Medium Screw Base Socket — Watertight — Top Opening  
135 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$33.00	6¾	12¾	7½ x 7¼	9¼	8½	65'-150'
USCG 2	44.00	7½	14¾	10½ x 9	11¾	15¾	over 150'

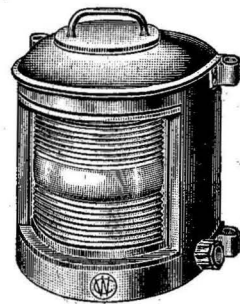


Fig. 6131

**ANCHOR LIGHTS (FIG. 6141)**

Electric — Medium Screw Base Socket — Watertight — Top Opening  
360 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$32.00	6¾	13¼	7⅞	8	9¼	65'-150'
USCG 2	43.00	7½	15	9½	10½	16½	over 150'

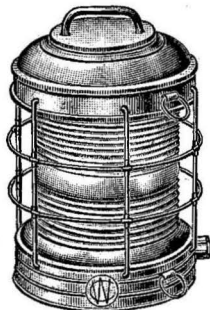


Fig. 6141 — Clear  
Fig. 6151 — Red

**NOT-UNDER-COMMAND LIGHTS (FIG. 6151)**

Electric — Medium Screw Base Socket — Watertight — Top Opening  
360 Degree Red Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$37.00	6¾	13¼	7⅞	8	9¼	65'-150'
USCG 2	48.00	7½	15	9½	10½	16½	over 150'

THESE LIGHTS ARE DESIGNED TO TAKE BULB, FIG. 948 (SIZE NO. 28)

**NAVIGATION LIGHTS FOR VESSELS OVER 65 FEET LONG**

Galvanized

Commercial 5000 Series — Electric

Flat Top — Bottom Opening — Medium Screw Base Phenolic Sockets

Correctly centered Socket Mountings. Side Lights equipped with Clips and Brackets for mounting. Other lights have heavy lugs or rings. Bodies made of heavy black iron sheets and hot dip galvanized after fabrication, thus insuring the best protective coating. Lenses are USCG Merchant Marine Inspection Division sizes.



Medium Screw Base Mounting

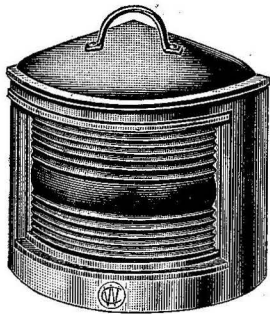


Fig. 5111

**SIDE LIGHTS (FIG. 5111)**

Electric — Medium Screw Base Socket — Flat Top — Bottom Opening

112½ Degree Red and Green Lenses

Size No.	Galv. Pair	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	Weight Pair in Lbs.	For Size Vessel
USCG 3	\$51.00	6¾	12⅞	7¾ x 7¼	13⅞	65'-150'
USCG 2	69.00	7½	14⅝	10¼ x 9⅝	25	over 150'

**MASTHEAD, RANGE AND TOWING LIGHTS (FIG. 5121)**

Electric — Medium Screw Base Socket — Flat Top — Bottom Opening

225 Degree Clear Lens

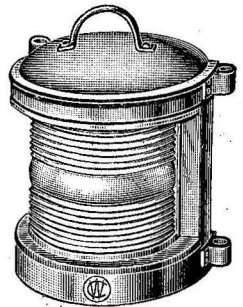


Fig. 5121

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$25.50	6¾	12⅞	7½ x 7¼	9⅞	7⅞	65'-150'
USCG 2	34.50	7½	14⅝	10½ x 9	11⅞	11⅞	over 150'

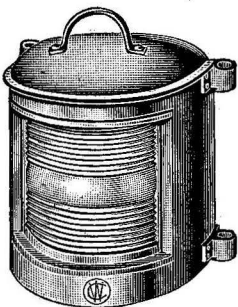


Fig. 5131

**STERN LIGHTS (FIG. 5131)**

Electric — Medium Screw Base Socket — Flat Top — Bottom Opening

135 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$25.50	6¾	12⅞	7½ x 7¼	9⅞	6⅞	65'-150'
USCG 2	34.50	7½	14⅝	10½ x 9	11⅞	11⅞	over 150'

**ANCHOR LIGHTS (FIG. 5141)**

Electric — Medium Screw Base Socket — Flat Top — Bottom Opening

360 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$24.00	6¾	13⅝	7⅞	8	7⅞	65'-150'
USCG 2	33.00	7½	15¼	9½	10½	13⅞	over 150'

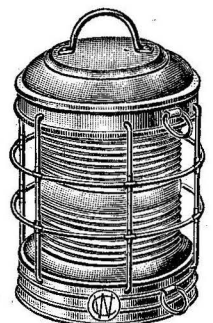


Fig. 5141 — Clear  
Fig. 5151 — Red

**NOT-UNDER-COMMAND LIGHTS (FIG. 5151)**

Electric — Medium Screw Base Socket — Flat Top — Bottom Opening

360 Degree Red Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$29.00	6¾	13⅝	7⅞	8	7⅞	65'-150'
USCG 2	38.00	7½	15¼	9½	10½	13⅞	over 150'

THESE LIGHTS ARE DESIGNED TO TAKE BULB, FIG. 948 (Size No. 28)



Mogul Socket Mounting

NAVIGATION LIGHTS FOR VESSELS OVER 65 FEET LONG

Galvanized

Commercial 5000 Series — Electric

Flat Top — Bottom Opening — Mogul 3-Wire Phenolic Sockets

Correctly centered Socket Mountings. Side Lights equipped with Clips and Brackets for mounting. Other lights have heavy lugs or rings. Bodies made of heavy black iron sheets and hot dip galvanized after fabrication, thus insuring the best protective coating. Lenses are USCG Merchant Marine Inspection Division sizes.

SIDE LIGHTS (FIG. 5112)

Electric — Mogul Socket — Flat Top — Bottom Opening

112½ Degree Red and Green Lenses

Size No.	Galv. Pair	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	Weight Pair in Lbs.	For Size Vessel
USCG 3	\$56.20	6¾	12¾	7¾ x 7¼	14	65'-150'
USCG 2	74.20	7½	14¾	10¼ x 9½	25½	over 150'

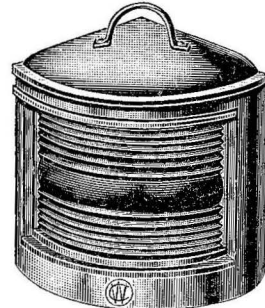


Fig. 5112

MASTHEAD, RANGE AND TOWING LIGHTS (FIG. 5122)

Electric — Mogul Socket — Flat Top — Bottom Opening

225 Degree Clear Lens

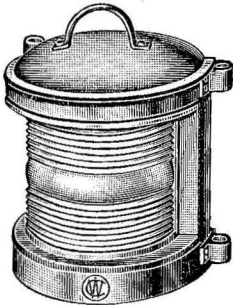


Fig. 5122

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$28.10	6¾	12¾	7½ x 7¼	9¼	8	65'-150'
USCG 2	37.10	7½	14¾	10½ x 9	11¾	12	over 150'

STERN LIGHTS (FIG. 5132)

Electric — Mogul Socket — Flat Top — Bottom Opening

135 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$28.10	6¾	12¾	7½ x 7¼	9¼	6¾	65'-150'
USCG 2	37.10	7½	14¾	10½ x 9	11¾	12	over 150'

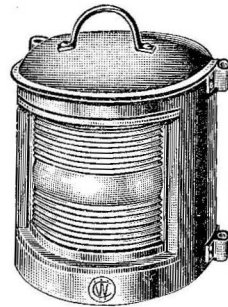


Fig. 5132

ANCHOR LIGHTS (FIG. 5142)

Electric — Mogul Socket — Flat Top — Bottom Opening

360 Degree Clear Lens

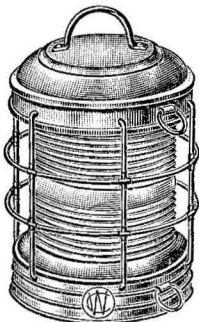


Fig. 5142 — Clear  
Fig. 5152 — Red

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$26.60	6¾	13¾	7½	8	8	65'-150'
USCG 2	35.60	7½	15¾	9½	10½	13½	over 150'

NOT-UNDER-COMMAND LIGHTS (FIG. 5152)

Electric — Mogul Socket — Flat Top — Bottom Opening

360 Degree Red Lens

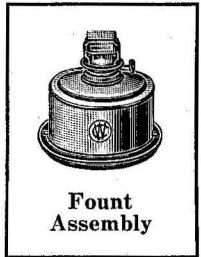
Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$31.60	6¾	13¾	7½	8	8	65'-150'
USCG 2	40.60	7½	15¾	9½	10½	13½	over 150'

THESE LIGHTS ARE DESIGNED TO TAKE BULB, FIG. 948 (SIZE NO. 29)

**NAVIGATION LIGHTS FOR VESSELS OVER 65 FEET LONG**

Galvanized  
Commercial 5000 Series — Oil  
Turret Top — Bottom Opening — With Wick and Burner

Mounting Brackets and Lugs fitted to make these Lights interchangeable with all our large Electric Lights. Heavy steel bodies hot dip galvanized after fabrication. Fount capacity exceeds specifications. Lenses are USCG Merchant Marine Inspection Division sizes.



Fount Assembly

**SIDE LIGHTS (FIG. 5110)**

Oil — Turret Top — Bottom Opening  
With Wick and Burner — 112½ Degree Red and Green Lenses

Size No.	Galv. Pair	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	Weight Pair in Lbs.	For Size Vessel
USCG 3	\$51.00	6¾	17⅞	7¼ x 7¼	13	65'-150'
USCG 2	69.00	7½	21	10¼ x 9⅞	24¼	over 150'

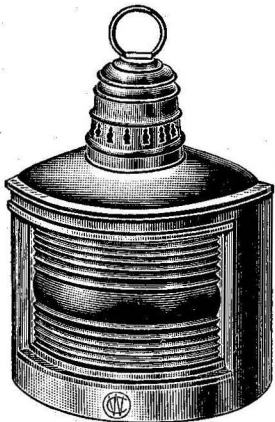


Fig. 5110

**MASTHEAD, RANGE AND TOWING LIGHTS (FIG. 5120)**

Oil — Turret Top — Bottom Opening  
With Wick and Burner — 225 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$25.50	6¾	17⅞	7½ x 7¼	9¼	7	65'-150'
USCG 2	34.50	7½	21	10½ x 9	11⅞	10¼	over 150'

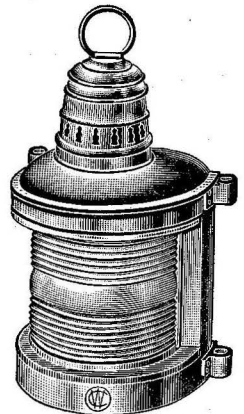


Fig. 5120

**STERN LIGHTS (FIG. 5130)**

Oil — Turret Top — Bottom Opening  
With Wick and Burner — 135 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Size Base Inches	C. to C. Lugs Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$25.50	6¾	17⅞	7½ x 7¼	9¼	7	65'-150'
USCG 2	34.50	7½	21	10½ x 9	11⅞	10¼	over 150'

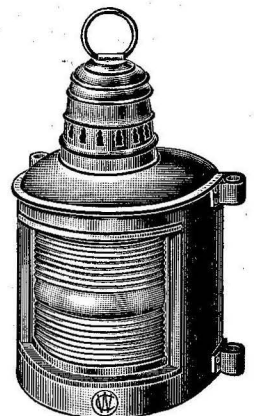


Fig. 5130

**ANCHOR LIGHTS (FIG. 5140)**

Oil — Turret Top — Bottom Opening  
With Wick and Burner — 360 Degree Clear Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$24.00	6¾	18⅞	7⅞	8	9	65'-150'
USCG 2	33.00	7½	21½	9½	10½	14	over 150'

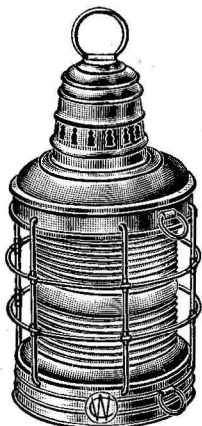


Fig. 5140 — Clear  
Fig. 5150 — Red

**NOT-UNDER-COMMAND LIGHTS (FIG. 5150)**

Oil — Turret Top — Bottom Opening  
With Wick and Burner — 360 Degree Red Lens

Size No.	Galv. Each	Overall Ht. Lens Inches	Overall Height Inches	Diam. Base Inches	C. to C. Rings Inches	Weight Each in Lbs.	For Size Vessel
USCG 3	\$29.00	6¾	18⅞	7⅞	8	9	65'-150'
USCG 2	38.00	7½	21½	9½	10½	14	over 150'

THESE LIGHTS CAN BE CONVERTED FOR 2 OR 3-WIRE ELECTRIC OPERATION. FOR LISTING OF CONVERSION ADAPTERS AND RECOMMENDED BULBS, SEE PAGE 145.

**NAVIGATION LIGHTS FOR INTERMEDIATE SIZE VESSELS**

Galvanized Iron

These galvanized lights are made of heavy black iron sheets and are hot dip galvanized after fabrication, thus insuring the heaviest possible protective coating. Lights are equipped with burners, wicks and brackets.

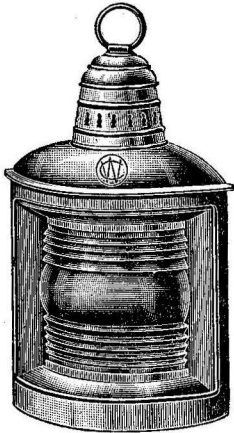


Fig. 61

**SIDE LIGHTS (FIG. 61)**

Oil Only — Turret Top — Bottom Opening

Furnished in pairs, one Red Fresnel Lens for Port, one Green Fresnel Lens for Starboard.

Size No.	Galv. Pair	Size Lens Inches Ht. Cir.	Height Inches	Size Base Inches	Weight Pair in Lbs.
9	\$47.00	6 7/8 x 8 3/4	14 1/2	9 1/2 x 8	12

**BOW OR MASTHEAD LIGHTS (FIG. 62)**

Oil Only — Turret Top — Bottom Opening

Furnished with Clear Fresnel Lens.

Size No.	Galv. Each	Size Lens Inches Ht. Cir.	Height Inches	Size Base Inches	Weight Each in Lbs.
14	\$23.50	5 1/2 x 9 3/4	14 1/2	7 1/2 x 6 3/4	6

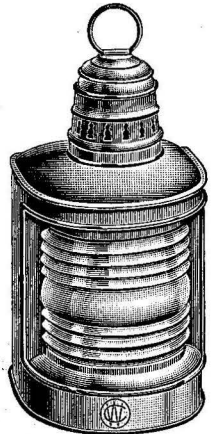


Fig. 62

**ANCHOR LIGHTS (FIG. 63)**

Oil Only — Turret Top — Bottom Opening

Furnished with Clear Fresnel Lens.

Size No.	Galv. Each	Size Lens Inches Ht. Diam.	Height Inches	Diameter Base Inches	Weight Each in Lbs.
22	\$22.00	5 5/8 x 5 1/4	15	7 1/4	7 1/2

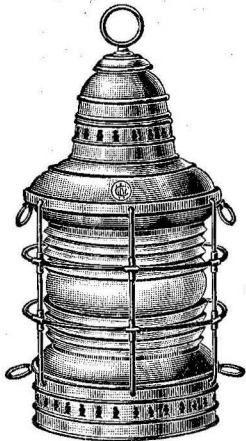


Fig. 63

**GLOBE, DISTRESS OR SIGNAL LANTERNS**

Galvanized Iron or Polished Brass  
Oil or Electric

**NAVY HAND LANTERNS**

Galvanized Iron or Polished Brass  
Oil Burning

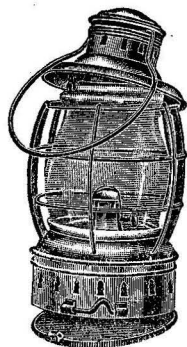


Fig. 97

With Clear Globes

Height Globe Inches	Galv. Iron Each	Pol. Brass Each	Height Inches	Extreme Width Inches	Weight Each in Lbs.
6 3/8	\$8.50	\$10.00	11	6 3/8	2 3/4

For Ruby Globe add to above prices \$2.00 each.

Diam. Globe Inches	Galv. Each	Pol. Brass Each
6	\$12.75	\$18.00
8	14.75	21.50
10	26.50	36.00

Diam. Globe Inches	Height Overall Inches	Weight Each in Lbs.
6	10 1/2	1 3/4
8	14	3 1/2
10	17 3/4	5 5/8

Medium Screw Base Sockets are supplied when electric.

For Ruby Globe add to above prices \$3.25 each.

For Combined Oil and Electric in 6-inch and 8-inch sizes, add \$1.50 each; in 10-inch size, add \$2.25 each.

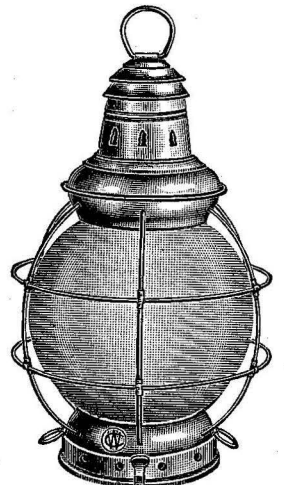


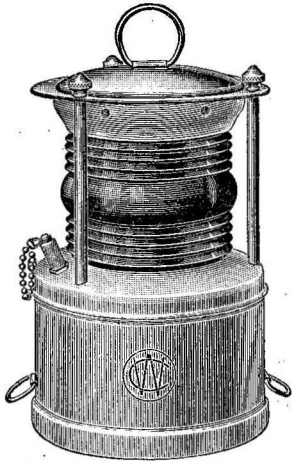
Fig. 95

With Clear Globe

**SIGNAL LIGHTS**

Galvanized Iron

"All-In-One" Type — Self-Contained Dry Batteries



360° Red Fresnel Lens  
Fig. 938

One bulb is always furnished with each light. Current supplied by three No. 6 Dry Cell Batteries, wired in parallel.

Diam. Lens Inches	Each	Height Without Handle Inches	Diam. Base Inches	Weight Each in Lbs.
5	\$27.00	13	6½	5⅞

Price does not include batteries.

When ordering, specify with or without batteries. No. 6 Dry Cell Batteries (order Fig. 9440) \$.60 each Extra Bulbs (order Fig. 940) .65 each

A Loading Light for tankers or barges carrying inflammable cargoes, when Government requirements demand a Red warning light, safe and spark-proof, be displayed.

"All-In-One" means dry batteries, bulb and switch are all contained within the light itself. 15 nights of light with one set of batteries! Two-mile visibility.

**"ALL-IN-ONE" SIGNAL LIGHT BRACKETS AND FLAG HOLDERS**

Galvanized Iron

Fig. 9380

Tapped for Pipe Inches	Each	Overall Height Inches	Diam. Base Inches	Weight Each in Lbs.
2	\$7.00	16½	7	4⅞

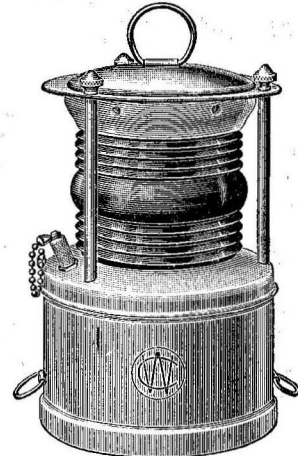
A complete bracket to display either Red warning flag, in 1-inch flag pole socket, or Red warning light, Fig. 938, as required on tankers or barges loading or unloading inflammable cargoes. Fig. 939 Anchor Light also fits this bracket. Light rests in base cup, handle in hook, so it is secure. Bracket may be mounted on 2-inch pipe or post. Socket is threaded for pipe, but no pipe is furnished.



**ANCHOR LIGHTS**

Galvanized Iron

"All-In-One" Type — Self-Contained Dry Batteries



360° Clear Fresnel Lens  
Fig. 939

One bulb is always furnished with each light. Current supplied by three No. 6 Dry Cell Batteries, wired in parallel.

Diam. Lens Inches	Each	Height Without Handle Inches	Diam. Base Inches	Weight Each in Lbs.
5	\$25.00	13	6½	5⅞

Price does not include batteries.

When ordering, specify with or without batteries. No. 6 Dry Cell Batteries (order Fig. 9440) \$.60 each Extra Bulbs (order Fig. 940) .65 each

A dependable Anchor or Riding Light. Same light as Fig. 938, but equipped with Clear Fresnel Lens.

**SIDE LIGHTS**

Galvanized Iron

"All-In-One" Type — Self-Contained Dry Batteries

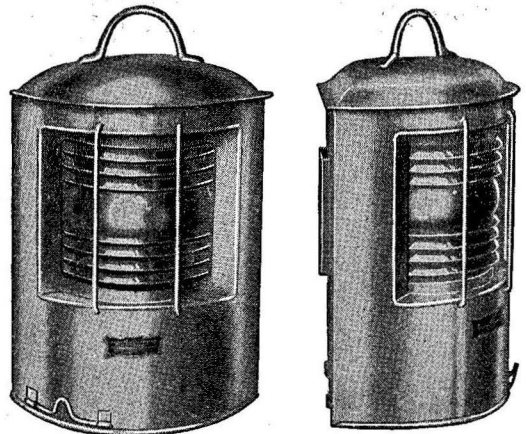


Fig. 936

One bulb is always furnished with each light. Current supplied by four No. 6 Dry Cell Batteries, wired in parallel.

Size Lens Inches	Ht. Cir.	Per Pair	Height Without Handle Inches	Dim. Base Inches	Weight Pair in Lbs.
5½ x 6		\$55.00	14¾	6½ x 6½	11

Price does not include batteries.

When ordering, specify with or without batteries. No. 6 Dry Cell Batteries (order Fig. 9440) \$.60 each Extra Bulbs (order Fig. 940) .65 each

Furnished in pairs, equipped with one Green and one Red Fresnel Lens. No open flame — no fire hazards — safe — convenient. Two-mile visibility — 20 nights of light from one set of batteries.

**ELECTRIC FITTINGS**  
**SOCKETS — PLUGS — ADAPTERS**

**WATER-TIGHT CONNECTIONS**

Bronze  
Double Contact

Deck Sockets

Connector Plugs

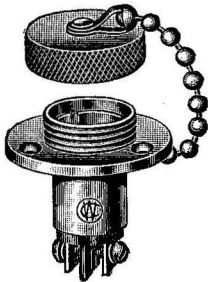


Fig. 149

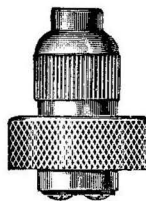


Fig. 151

	Overall Dimensions Inches	Bronze Each	Chrom. Plated Each
Deck Sockets	1½ x 1½	\$1.65	\$2.60
Connector Plugs	1½ x 1½	1.65	2.60

Deck Sockets, Fig. 149, are of Bronze with D. C. Socket, and come complete with threaded knurled Cap and Chain. These are used in conjunction with the Bronze D. C. Connector Plugs, Fig. 151 — the combination insuring a positive water-tight fitting.

**SOCKETS AND CONNECTOR PLUGS**

Bayonette Base Double Contact

Nickel Plated

Hard Rubber

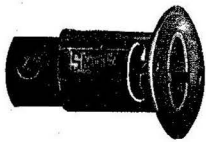


Fig. 153



Fig. 152

Overall Dimensions Inches	Each
Ht. Diam.	\$0.50
1½ x 1½	

Overall Dim. Inches	Each
Ht. Diam.	\$0.30
1½ x ¾	

**DECK  
OUTLETS**

Bronze

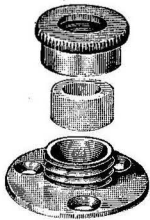


Fig. 150

**FIXTURE  
SOCKETS**

Nickel Plated



Fig. 154

Overall Dimensions Inches	Bronze Each	Chrom. Plated Each
Ht. Diam.	\$1.00	\$2.00
¾ x 1½		

Overall Dimensions Inches	Each
Ht. Diam.	\$0.65
¾ x 1¼	

Outlets, Fig. 150, provide a simple, waterproof method of running electric wires through decks, and, furthermore, prevent chafing wear on insulation. Fixture sockets, Fig. 154, are bayonette base double contact.

**CONNECTORS**

Rubber Case

Metal Case

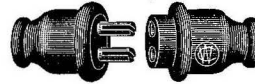


Fig. 918

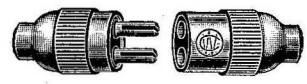


Fig. 919

Fig.	Overall Length Closed Inches	Each
918	2¼	\$0.75
919	2½	1.15

**BAYONETTE BASE  
DOUBLE CONTACT SOCKETS**

Nickel Plated — Bakelite Base

Overall  
Dimensions  
Inches

Each

Ht. Diam.

\$0.70

1 x 1¾

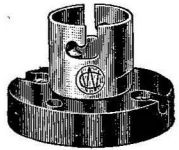


Fig. 164

**BAYONETTE BASE  
DOUBLE CONTACT SOCKETS**

Phenolic

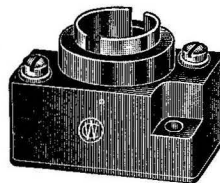


Fig. 163

Size Base Inches	Height Inches	Each
1 x 1¾	1½	\$0.60

**BAYONETTE BASE  
DOUBLE CONTACT SOCKETS**

Phenolic With Brass Case

Large screw terminals. A socket that is practical to wire.

Overall  
Dimensions  
Inches

Each

Ht. Diam.

\$0.85

1½ x 1¼



Fig. 167

**BAYONETTE BASE  
DOUBLE CONTACT SOCKETS  
(SHORT)**

Hard Rubber, With Brass Case



Fig. 165

Overall  
Dimensions  
Inches

Each

Ht. Diam.

\$0.35

1 x 1¼

**ELECTRIC ADAPTERS**

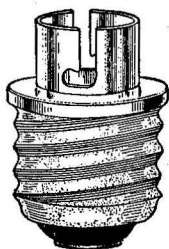


Fig. 158

Each  
Medium Screw Base to Bayonette Base  
Double Contact ..... \$0.80

**ELECTRIC ADAPTERS**

Bayonette Base Double Contact Socket



Fig. 155

Overall Dimensions  
Inches  
Ht. Diam.  
1 1/8 x 1  
Each  
\$0.70

This Fig. 155 Adapter is used to convert Oil Founts for electric lights. Punch hole in bottom of Fount to admit wires, screw Adapter into Burner Collar.

**ADAPTER FOR OIL AND ELECTRIC**

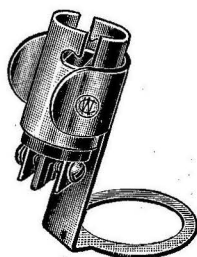


Fig. 168

\$1.45 Each

Converts all oil founts taking No. 0 or No. 1 burners to combination oil and electric. Socket is bayonette base double contact.

**BURNERS**

Brass

“Simplex” or “Badger”

Size No.	Per Dozen	For Size Wick Inches	Weight Dozen in Lbs.
0	\$3.00	1/2	1/2
1	3.50	5/8	1/2
2	5.20	7/8	1

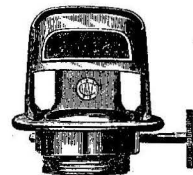


Fig. 160

“Marcy”

Size No.	Per Dozen	For Size Wick Inches	Weight Dozen in Lbs.
2	\$14.40	7/8	1 1/4



Fig. 161

“Hornet”

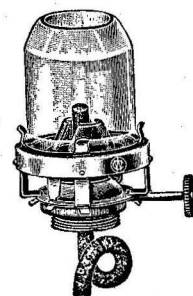
Size No.	Per Dozen	For Size Wick Inches	Weight Dozen in Lbs.
1	\$4.40	1/2	1/2



Fig. 1610

“Long Time” Burners and Chimneys

	Each	Height Inches	Weight Each in Lbs.
Burner	\$1.85	1 1/2	1/16
Chimney	.90	1 3/4	1/16
Wicks	.20	...	...



Used with Fig. 20 Anchor Lights.

Burner — Fig. 166  
Chimney — Fig. 166-C

**MOUNTING BRACKETS FOR SIDE, MASTHEAD AND BOW LIGHTS**

Galvanized Iron or Brass

Size No.	Galv. Each	Brass Each	Dim. Inches	For Lights	Weight Each in Lbs.
1	\$0.65	\$1.00	5 1/4 x 1 1/2	Small	1/8
2	1.00	....	7 3/8 x 2	Medium	5/8
3	1.95	....	7 7/8 x 2 1/2	Large	3/4



Fig. 124

**DIVIDER SCREENS FOR COMBINATION LIGHTS**

Galvanized Iron or Brass

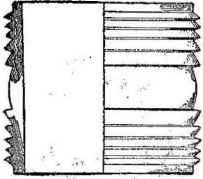
Size Inches	Galv. Each	Brass Each	Weight Each in Lbs.
5 x 3 1/8	\$1.00	\$1.30	3/16

Used with Figs. 9 and 195 Combination Lights.



Fig. 125

FRESNEL LENSES



For Figure 6000 Series and Figure 5000 Series Electric and Oil Navigation Lights

For Side Lights  
Arc of Visibility  
112½ degrees

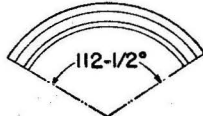


Fig. 137

	Red Each	Green Each	Height Overall Inches	Weight Each in Lbs.
USCG Size No. 3	\$8.50	\$8.50	6¾	2½
USCG Size No. 2	11.75	11.75	7½	3¾

For Masthead, Range and Towing Lights  
Arc of Visibility  
225 degrees

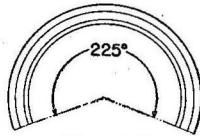


Fig. 138

	Clear Each	Height Overall Inches	Weight Each in Lbs.
USCG Size No. 3	\$9.25	6¾	3
USCG Size No. 2	11.50	7½	4¼

For Stern Lights  
Arc of Visibility  
135 degrees

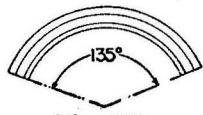


Fig. 139

	Clear Each	Height Overall Inches	Weight Each in Lbs.
USCG Size No. 3	\$6.50	6¾	1½
USCG Size No. 2	8.00	7½	2½

For Anchor and Not-Under-Command Lights  
Arc of Visibility  
360 degrees

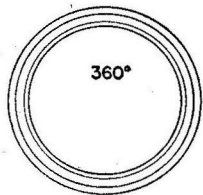


Fig. 140

	Clear Each	Red Each	Height Overall Inches	Weight Each in Lbs.
USCG Size No. 3	\$8.50	\$13.00	6¾	4½
USCG Size No. 2	10.50	15.75	7½	6½

FRESNEL LENSES

For Side and Combination Lights

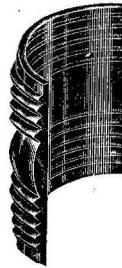


Fig. 132

Size A Comb. used with Fig. 9302.

Size B Comb. used with Figs. 260, 2600, 2601, 36, 38 and 930.

Size C Comb. used with Fig. 31.

Size D Comb. used with Figs. 9, 195, 195A and 195B.

SK Comb. used only with Fig. 2801.

SK Cl. 2 Side used only with Fig. 300.

	Red or Green Each	Height Overall Inches	O. D. Edge to Edge Inches	Cir. of Bull's Eye Inches	Weight Each in Lbs.
Size A Comb.	\$0.60	1½	1½	1½	½
Size B Comb.	1.00	2¾	2	2½	¾
Size C Comb.	1.50	3¼	2¾	3¾	¾
Size D Comb.	1.50	3¾	3	3¾	¾
SK Comb.	1.50	3¼	2¾	3¾	¾
SK Cl. 2 Side	2.10	4¼	3¾	4½	½
Class 2 Side	2.10	4¼	3¾	4½	½
Class 3 Side	2.60	5¾	4½	6	¾
No. 9 Side	6.00	6¾	6	8½	1¾

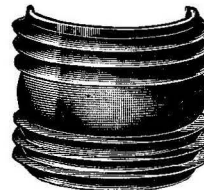


Fig. 133

For Bow, Masthead and Range Lights

	Clear Each	Height Overall Inches	O. D. Edge to Edge Inches	Cir. of Bull's Eye Inches	Weight Each in Lbs.
Class 2 Bow	\$2.10	4¼	3¾	7	¾
*SK Cl. 2 Bow	2.10	4¼	3¾	5¾	½
Class 3 Bow	2.60	5	4¾	8	1
No. 14 Bow	7.20	5½	5¼	9¾	1¾

\*This lens used only with Fig. 2800.

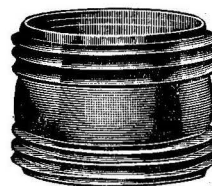


Fig. 134

For Anchor and Signal Lights

	Clear Each	Red or Green Each	Height Overall Inches	O. D. Edge to Edge Inches	Cir. of Bull's Eye Inches	Weight Each in Lbs.
No. 19 Anchor	\$1.50	\$2.00	3¼	3¼	10½	¾
No. 21 Anchor	2.00	3.00	4¼	4¾	15¼	2¼
No. 22 Anchor	6.00	10.50	5¾	5¾	17¾	3¾

**FRESNEL GLOBES**

360° Closed Top

For Stern and Signal Lights,

Flag Pole, Mast Truck and Yard Arm Fixtures



Fig. 128



Fig. 129



Fig. 136



Fig. 1300

Fig.	Clear Each	Amber Each	Red Blue Green Each	Dim. Ht. Inches	Dim. Diam. Inches	Weight Each in Lbs.
128 Screw Base	\$1.50	...	\$2.00*	3	x 3	1/6
129 Screw Base	1.50	...	2.00*	2 1/2	x 2 1/2	1/6
136 Screw Base	2.25	\$4.00	4.00	5	x 3 1/2	1 1/4
1300 Flared Base	1.50	...	...	3 1/2	x 2 3/8	1/2

\*Furnished Red only.

Figs. 128 and 129 — Used with Figs. 44, 4400, 928, 933, 934 and 9351.

Fig. 136 — Used with Figs. 52 and 60.

Fig. 1300 — Used with Figs. 5301 and 5401.

**CORRUGATED GLOBES**

For Flag Pole Fixtures

Clear — Female Thread

With Brass Collar  
Fig. 123



Fig. 123

Without Brass Collar  
Fig. 126

Size No.	Pol. Brass Each	Chrome Plated Each	Fits on Pole Diam. Inches	Dim. Ht. Inches	Dim. Diam. Inches	Weight Each in Lbs.
1	\$1.00	\$1.25	1/6	1 3/4	x 1 1/4	1/8
2	1.00	1.25	3/4	1 3/4	x 1 1/4	1/8

Used with Figs. 42, 4200, 4201, 451, 57 and 931.

Fig. 126

Each	Dim. Ht. Inches	Dim. Diam. Inches	Weight Each in Lbs.
\$0.55	1 1/2	x 1 1/4	1/6

Used with Fig. 9303.

**SIGNAL LANTERN GLOBES**

Clear or Colored Glass

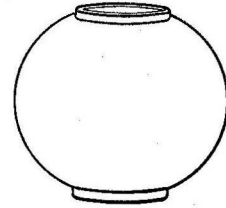


Fig. 147

Size Diam. Inches	Clear Each	Ruby Each	Height Inches	Weight Each in Lbs.
6	\$2.50	\$5.50	6 1/8	3/4
8	4.50	7.50	7 1/2	3
10	7.00	10.50	7 1/2	2 5/8

**NAVY LANTERN GLOBES**

Clear or Colored Glass

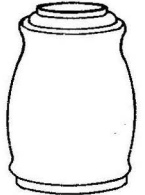


Fig. 141

Size Ht. Inches	Clear Dozen	Ruby Dozen	Weight Dozen in Lbs.
6 3/8 x 4 5/8	\$9.50	\$23.50	12

**LIPPED CHIMNEYS**

Clear Glass

No.	Per Dozen	Diam. Base Inches	Height Inches	Weight Dozen in Lbs.
1	\$9.60	1 5/8	4 1/2	1 1/2
2	10.80	2 1/8	5 1/2	1 7/8



Fig. 144

**"HORNET" CHIMNEYS**

Clear Glass

No.	Per Dozen	Diam. Base Inches	Height Inches	Weight Dozen in Lbs.
1	\$10.00	1 1/2	4 1/2	1

Fits No. 1 "Hornet" Burners.

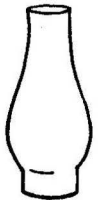


Fig. 1440

**WICKS**

Fig. 148

Size No.	Per Dozen	Width Inches
0	\$0.48	1/2
1	.60	5/8
2	.84	7/8
Long Time Burner	2.35	...

**OIL FOUNTS AND ELECTRIC ADAPTERS FOR ALL LIGHTS OTHER THAN 5000 AND 6000 SERIES**

See List on opposite page

**Oil Founts**

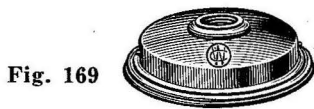


Fig. 169

Size No.	Each	Will Fit Recess Inches	Takes "Simplex" or "Marcy" Burner No.	Uses Wick No.	Approx. Net Weight Each in Oz.
1	\$1.25	4	0	0	5



Fig. 170

Size No.	Each	Will Fit Recess Inches	Takes "Simplex" or "Marcy" Burner No.	Uses Wick No.	Approx. Net Weight Each in Oz.
2	\$1.25	2 1/16	0	0	1 1/2
3	1.25	3 3/16	1	1	2
4	2.00	3 3/4	1	1	4
4 1/2	2.00	3 3/4	2	2	6
5	2.00	3 3/4	2	2	6
5 1/2	2.15	3 3/4	2	2	8
6	3.00	4 3/16	2	2	12



Fig. 171

Size No.	Each	Will Fit Space Inches	Takes "Simplex" or "Marcy" Burner No.	Uses Wick No.	Approx. Net Weight Each in Oz.
1	\$1.25	2 7/8	0	0	1 1/2
2	1.25	2 7/8	1	1	2 1/2

Fig. 171 Founts are used only with Hinged Front Lights.

**With Bayonette Base Double Contact Sockets**



Fig. 179

Size No.	Each	Will Fit Recess Inches	Approx. Net Weight Each in Oz.
1	\$2.00	2 1/16	1 1/2
2	2.00	3 3/16	2

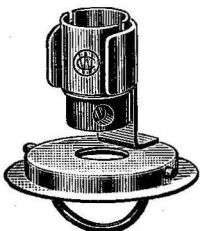


Fig. 180

Size No.	Each	Will Fit Recess Inches	Approx. Net Weight Each in Oz.
1	\$2.00	1 1/2	2

**With Medium Screw Base Sockets**



Fig. 184

Size No.	Each	Will Fit Recess Inches	Approx. Net Weight Each in Oz.
0	\$2.00	2 1/16	3
1	2.00	3 3/16	4

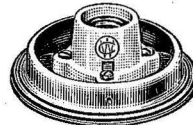


Fig. 183

Size No.	Each	Will Fit Recess Inches	Approx. Net Weight Each in Oz.
1	\$2.00	4	5



Fig. 1841

Size No.	Each	Will Fit Recess Inches	Weight Each in Oz.
1	\$2.00	3 3/4	6
1 1/2	2.15	3 3/4	7

**With Bayonette Base Double Contact Sockets**

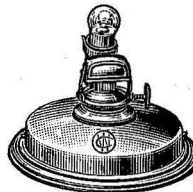


Fig. 174

Size No.	Each	Will Fit Recess Inches	Approx. Net Weight Each in Oz.
1	\$3.00	4	
0			6



Fig. 175

Size No.	Each	Will Fit Recess Inches	Approx. Net Weight Each in Oz.
1	\$3.00	2 1/16	5 1/2
2	3.00	3 3/16	6



Fig. 178

Size No.	Each	Will Fit Recess Inches	Approx. Net Weight Each in Oz.
1	\$2.00	4	5

OIL FOUNTS AND ELECTRIC ADAPTERS  
FOR NAVIGATION LIGHTS

Light Figure No. and Size	Oil Fount	Oil-Electric Combination Fount	Electric Adapter with Bay. Base D. C. Socket	Electric Adapter with Medium Screw Base Socket
9	171 No. 1			
11	171 No. 1			
12	171 No. 1			
15	171 No. 2			
16	171 No. 1			
19	169 No. 1	174 No. 1	178 No. 1	183 No. 1
19-A	169 No. 1	174 No. 1	178 No. 1	183 No. 1
19-B			178 No. 1	183 No. 1
20	176 No. S1	(Special oil fount. Fount only each \$7.50)		
21	170 No. 3	175 No. 2	179 No. 2	184 No. 1
21-A	170 No. 3	175 No. 2	179 No. 2	184 No. 1
21-B			179 No. 2	184 No. 1
22-B			178 No. 1	183 No. 1
31			180 No. 1	
32 — Class 2			180 No. 1	
Class 3			180 No. 1	
33 — Class 2			180 No. 1	
Class 3			180 No. 1	
61 No. 9	170 No. 4½			1841 No. 1*
62 No. 14	170 No. 4			1841 No. 1*
63 No. 22	170 No. 5			1841 No. 1*
95 — 6"	169 No. 1	174 No. 1	178 No. 1	183 No. 1
95 — 8"	170 No. 3	175 No. 2	179 No. 2	184 No. 1
95 — 10"	170 No. 5½			1841 No. 1½
97	170 No. 3			
195	170 No. 2	175 No. 1	179 No. 1	184 No. 0
195-A	170 No. 2	175 No. 1	179 No. 1	184 No. 0
195-B	170 No. 2	175 No. 1	179 No. 1	184 No. 0
196	170 No. 3	175 No. 2	179 No. 2	184 No. 1
196-A	170 No. 3	175 No. 2	179 No. 2	184 No. 1
196-B	170 No. 3	175 No. 2	179 No. 2	184 No. 1
197	170 No. 3	175 No. 2	179 No. 2	184 No. 1
197-A	170 No. 3	175 No. 2	179 No. 2	184 No. 1
197-B	170 No. 3	175 No. 2	179 No. 2	184 No. 1
198	170 No. 3	175 No. 2	179 No. 2	184 No. 1
198-A	170 No. 3	175 No. 2	179 No. 2	184 No. 1
198-B	170 No. 3	175 No. 2	179 No. 2	184 No. 1
199	170 No. 3	175 No. 2	179 No. 2	184 No. 1
199-A	170 No. 3	175 No. 2	179 No. 2	184 No. 1
199-B	170 No. 3	175 No. 2	179 No. 2	184 No. 1

\*These lights will also take adapter, Figure 1842 No. 1, for 3-wire mogul lamp, Figure 948, Size 29.

OIL FOUNTS AND ELECTRIC ADAPTERS FOR FIGURE 6000 SERIES  
AND FIGURE 5000 SERIES NAVIGATION LIGHTS

See List on opposite page

Oil Founts



Fig. 170

Size No.	Each	Will Fit Recess Inches	Takes "Simplex" or "Marcy" Burner No.	Uses Wick No.	Approx. Net Weight Each in Oz.
2	\$1.25	2 <sup>11</sup> / <sub>16</sub>	0	0	1 <sup>1</sup> / <sub>2</sub>
3	1.25	3 <sup>3</sup> / <sub>16</sub>	1	1	2
4	2.00	3 <sup>3</sup> / <sub>4</sub>	1	1	4
4 <sup>1</sup> / <sub>2</sub>	2.00	3 <sup>3</sup> / <sub>4</sub>	2	2	6
5	2.00	3 <sup>3</sup> / <sub>4</sub>	2	2	6
5 <sup>1</sup> / <sub>2</sub>	2.15	3 <sup>3</sup> / <sub>4</sub>	2	2	8
6	3.00	4 <sup>7</sup> / <sub>16</sub>	2	2	12

Oil Founts

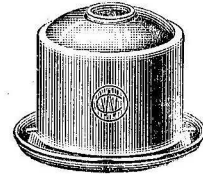


Fig. 172

Size No.	Each	Will Fit Recess Inches	Takes "Simplex" or "Marcy" Burner No.	Uses Wick No.	Approx. Net Weight Each in Oz.
2	\$2.00	3 <sup>3</sup> / <sub>4</sub>	2	2	10
3	3.00	4 <sup>3</sup> / <sub>4</sub>	2	2	12
3 <sup>1</sup> / <sub>2</sub>	3.25	4 <sup>3</sup> / <sub>4</sub>	2	2	13

Fount Assemblies used in Fig. 6000

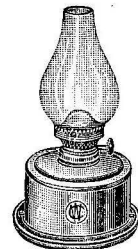
Series Oil Lights

Electric Adapters for 2-Wire Electric —  
Medium Screw Base Sockets

Size No.	Each	Will Fit Recess Inches	Weight Each in Oz.
1	\$2.00	3 <sup>3</sup> / <sub>4</sub>	6
1 <sup>1</sup> / <sub>2</sub>	2.15	3 <sup>3</sup> / <sub>4</sub>	7



Fig. 1841



For USCG Lights

Size No. 2

Fount Assembly for USCG Size No. 2 Lights is composed of the following: Fount, Fig. 172, No. 3 (except Anchor and Not-Under-Command Lights, which take No. 3<sup>1</sup>/<sub>2</sub>); "Marcy" Burner, Fig. 161, No. 2; Wick, Fig. 148, No. 2, and Lipped Chimney, Fig. 144, No. 2.

Size No.	Each	Will Fit Recess Inches	Weight Each in Oz.
1	\$3.00	4 <sup>3</sup> / <sub>4</sub>	8
1 <sup>1</sup> / <sub>2</sub>	3.25	4 <sup>3</sup> / <sub>4</sub>	9

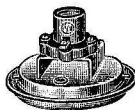


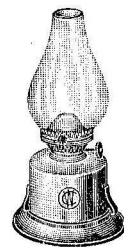
Fig. 1851

Electric Adapters for 3-Wire Electric —  
Mogul Base Sockets

Size No.	Each	Will Fit Recess Inches	Weight Each in Oz.
1	\$4.25	3 <sup>3</sup> / <sub>4</sub>	8
1 <sup>1</sup> / <sub>2</sub>	4.45	3 <sup>3</sup> / <sub>4</sub>	9



Fig. 1842



For USCG Lights

Size No. 3

Fount Assembly for USCG Size No. 3 Lights is composed of: Fount, Fig. 170, No. 4<sup>1</sup>/<sub>2</sub> (except Anchor and Not-Under-Command Lights, which take No. 5<sup>1</sup>/<sub>2</sub>); "Marcy" Burner, Fig. 161, No. 2; Wick, Fig. 148, No. 2, and Lipped Chimney, Fig. 144, No. 2.

Size No.	Each	Will Fit Recess Inches	Weight Each in Oz.
1	\$5.25	4 <sup>3</sup> / <sub>4</sub>	10
1 <sup>1</sup> / <sub>2</sub>	5.50	4 <sup>3</sup> / <sub>4</sub>	12



Fig. 1852

**OIL FOUNTS AND ELECTRIC ADAPTERS FOR FIGURE 6000 SERIES  
AND FIGURE 5000 SERIES NAVIGATION LIGHTS**

Light Figure No. and U.S.C.G. Size	Oil Fount	Adapter for 2-Wire Electric (Medium Screw Base Socket)*	Adapter for 3-Wire Electric (Mogul Base Socket)**
5110 No. 3	170 No. 4½	1841 No. 1	1842 No. 1
5120 No. 3	170 No. 4½	1841 No. 1	1842 No. 1
5130 No. 3	170 No. 4½	1841 No. 1	1842 No. 1
5140 No. 3	170 No. 5½	1841 No. 1½	1842 No. 1½
5150 No. 3	170 No. 5½	1841 No. 1½	1842 No. 1½
5110 No. 2	172 No. 3	1851 No. 1	1852 No. 1
5120 No. 2	172 No. 3	1851 No. 1	1852 No. 1
5130 No. 2	172 No. 3	1851 No. 1	1852 No. 1
5140 No. 2	172 No. 3½	1851 No. 1½	1852 No. 1½
5150 No. 2	172 No. 3½	1851 No. 1½	1852 No. 1½
5111 No. 3		1841 No. 1	1842 No. 1
5121 No. 3		1841 No. 1	1842 No. 1
5131 No. 3		1841 No. 1	1842 No. 1
5141 No. 3		1841 No. 1½	1842 No. 1½
5151 No. 3		1841 No. 1½	1842 No. 1½
5111 No. 2		1851 No. 1	1852 No. 1
5121 No. 2		1851 No. 1	1852 No. 1
5131 No. 2		1851 No. 1	1852 No. 1
5141 No. 2		1851 No. 1½	1852 No. 1½
5151 No. 2		1851 No. 1½	1852 No. 1½
5112 No. 3		1841 No. 1	1842 No. 1
5122 No. 3		1841 No. 1	1842 No. 1
5132 No. 3		1841 No. 1	1842 No. 1
5142 No. 3		1841 No. 1½	1842 No. 1½
5152 No. 3		1841 No. 1½	1842 No. 1½
5112 No. 2		1851 No. 1	1852 No. 1
5122 No. 2		1851 No. 1	1852 No. 1
5132 No. 2		1851 No. 1	1852 No. 1
5142 No. 2		1851 No. 1½	1852 No. 1½
5152 No. 2		1851 No. 1½	1852 No. 1½
6110 No. 3	170 No. 4½	1841 No. 1	1842 No. 1
6120 No. 3	170 No. 4½	1841 No. 1	1842 No. 1
6130 No. 3	170 No. 4½	1841 No. 1	1842 No. 1
6140 No. 3	170 No. 5½	1841 No. 1½	1842 No. 1½
6150 No. 3	170 No. 5½	1841 No. 1½	1842 No. 1½
6110 No. 2	172 No. 3	1851 No. 1	1852 No. 1
6120 No. 2	172 No. 3	1851 No. 1	1852 No. 1
6130 No. 2	172 No. 3	1851 No. 1	1852 No. 1
6140 No. 2	172 No. 3½	1851 No. 1½	1852 No. 1½
6150 No. 2	172 No. 3½	1851 No. 1½	1852 No. 1½

\*Takes 50-watt, 110-120 volt, clear A-19 medium screw base bulb, Figure 948, Size No. 28.

\*\*Takes 50-50 watt, 110-120 volt, clear P-25 3-wire mogul base bulb, Figure 948, Size No. 29.

**BULBS FOR W-C NAVIGATION LIGHTS**

The Fresnel lenses in W-C Navigation Lights require a CLEAR glass bulb for a light source. Proper lens illumination also requires the light source (bulb filament) to be centered with respect to the height and diameter of the lens. Listed below are bulb recommendations for our Navigation Lights.

Navigation Lights offered with Bayonette Base Double Contact Sockets, unless specifically noted as using a special bulb, are designed to use the following:

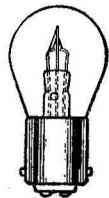
For 6 volts Bulb, Fig. 947 (Size No. 2)

For 12 volts Bulb, Fig. 947 (Size No. 7)  
 For 32 volts Bulb, Fig. 947 (Size No. 12)

When Navigation Lights regularly supplied with Bayonette Base Double Contact Sockets are offered with Medium Screw Base Sockets as an alternate, the following bulbs are recommended:

In Lights, Figs. 932 and 935 — Use Bulb, Fig. 948 (Size No. 18, 19, 20 or 22).

In Lights, Figs. 19-B, 21-B, 22-B, 195-B, 196-B, 197-B and 198-B — Use Bulb, Fig. 948 (Size No. 18, 19, 20, 22, 25 or 28).



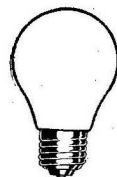
**CLEAR GLASS  
 BAYONETTE BASE  
 DOUBLE CONTACT BULBS**

Fig. 947

Order by Fig. No. and Size No.

Size No.	Each	For Electric System Volts	Candle Power	Maximum Amperes*	Type No.
1	\$0.20	6-8	3	.64	G-6
2	.25	6-8	6	1.14	G-6
3	.35	6-8	15	2.04	S-8
4	.40	6-8	21	2.66	S-8
5	.55	6-8	32	4.08	RP-11
6	.25	12-16	3	.41	G-6
7	.30	12-16	6	.63	G-6
8	.45	12-16	15	1.15	S-8
9	.60	12-16	21	1.45	S-8
10	.75	12-16	32	2.22	RP-11
11	.95	30-32	3	.16	G-6
12	1.00	30-32	6	.24	G-8
13	1.25	30-32	15	.50	S-8
14	1.50	30-32	21	.60	RP-11
15	1.75	30-32	32	.90	RP-11
16	2.25	30-32	50	1.35	RP-11
17	.85	110-120	15 watts		T-7

\*Maximum amperes are shown for these bulbs to indicate the battery load. These figures are average and may vary slightly. Where wattage of the bulb is indicated the ampere load can be estimated by dividing the wattage of the bulb by its listed voltage.



**INSIDE FROSTED  
 MEDIUM SCREW  
 BASE BULBS**

Order by Fig. No. and Size No.

Fig. 941

Size No.	Each	For Electric System Volts	Watts	Type No.
30	\$0.75	6-8	15	A-17
31	.75	6-8	25	A-19
32	1.00	6-8	50	A-21
33	.75	12-16	15	A-17
34	.75	12-16	25	A-19
35	1.00	12-16	50	A-21
36	.65	30-32	15	A-17
37	.65	30-32	25	A-19
38	.65	30-32	50	A-21

**CLEAR GLASS SPECIAL BULBS**

Order by Fig. No. only

Fig.	Each	For Battery Volts	Amperes	Base	Type No.
940	\$0.65	1.5	.5	Bay. D. C.	S-8
943	.20	2.5	.3	Min. Scr.	G-3 1/2
946	.55	4.0	.06	Min. Bay.	T-3 1/4
9460	.20	6.0	.25	Min. Bay.	G-3 1/2
9461	.50	1.35	.06	Min. Scr.	T-3 1/4

**BULBS FOR "CENTERBAR" AND "SEA-GLO" FIXTURES**

These fixtures when equipped with Bayonette Base D. C. Socket will take any bulb listed under Fig. 947.

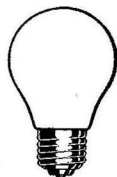


Fig. 948

**CLEAR GLASS  
 SCREW BASE BULBS**

Order by Fig. No. and Size No.

Size No.	Each	For Electric System Volts	Watts	Base	Type No.
18	\$0.95	6-8	15	Med.	A-17
19	.95	12-16	15	Med.	A-17
20	.75	30-32	15	Med.	S-14
21	.75	30-32	15	Med.	A-17
22	.50	110-120	10	Med.	S-14
23	.50	110-120	10	Inter.	S-11
24	.85	110-120	15	Cand.	T-7
25	.75	110-120	25	Med.	T-10
26	.75	110-120	25	Inter.	T-6 1/2
27	.95	110-120	40	Med.	T-10
28	.50	110-120	50	Med.	A-19
29	5.00	110-120	50-50	3-contact mogul	P-25

The number in the bulb type description shows the maximum bulb diameter in eighths of an inch. Tip to tip dimensions including the base are:

Type No.	Inches	Type No.	Inches
G-6	1 1/8	T-7	2 5/8
S-8	2	T-10	5 5/8
RP-11	2 1/4	A-17	3 5/8
S-11	2 3/8	A-19	3 1/2
S-14	3 1/2	A-21	4 1/8
T-6 1/2	5 1/2	P-25	5 1/8

Bases referred to on this page are the following: Medium Screw Base, Mogul, Intermediate Screw Base, Miniature Screw Base, Candelabra, Bayonette Base and Miniature Bayonette Base. Medium Screw Base (sometimes referred to as "Standard" Screw Base) is the same as the common household lamp type.

FIGURE NUMBER INDEX

Figure No.	Page	Figure No.	Page	Figure No.	Page	Figure No.	Page
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1	113	149	138	183	142	253	31
2	113	1498	106	184	142	254	51
8	115	1499	106	1841	142, 144	255	52
9	123	150	138	1842	144	2560	39
11	126	1500	106	1851	144	260	122
12	127	1501	107	1852	144	2600	122
15	128	1502	106	189	115	2601	122
16	129	1503	107	1891	116	265	28
19	124	1504	107	1911	114	266	9
19-A	124	1505	101	1912	114	267	9
19-B	124	1505-L	100	1913	114	273	19
20	124	1506	101	1914	114	274	50
21	124	1506-L	100	195	123	275	51
21-A	124	1507	101	195-A	123	276	51
21-B	124	1507-L	100	195-B	123	2800	125
22-B	124	1508	101	196	127	2801	122
30	126, 128	1508-L	100	196-A	127	281	127, 129
31	123	1509	102	196-B	127	283	13
32	127, 129	151	138	197	126	284	39
33	126, 128	1510	102	197-A	126	287	39
34	126, 128	1511	101	197-B	126	2870	39
35	127, 129	1511-L	100	198	129	288	39
36	123	1512	101	198-A	129	289	39
38	123	1512-L	100	198-B	129	290	5
42	120	1513	111	199	128	2902	6
44	120	1514	111	199-A	128	291	5
52	119	152	138	199-B	128	2910	6
57	118	1523	111	2000	28	2912	6
60	119	1524	111	2002	26	2913	6
61	136	1525	111	2004	28	294	5
62	136	1526	111	2011	28	295	5
63	136	1527	111	2013	26	300	125
95	136	1528	111	2050	27	301	16
97	136	1529	111	206	27	302	16
99	115	153	138	2060	27	303	16
103	115	1530	110	207	27	304	16
1062	116	1531	110	2071	27	305	16
1063	116	1532	100	208	9	3051	18
1064	116	1539	111	210	8	3052	18
1102	116	154	138	212	8	307	15
118	111	155	139	213	8	3071	15
120	31	1550	108	2130	8	310	15
1202	31	1555	111	214	9	311	15
1203	31	158	139	216	9	3162	18
1204	31	160	139	2180	9	320	18
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