

March 5, 1946.

D. M. LONTZ

2,395,892

FLOAT

Filed Sept. 12, 1944

Fig. 1 -

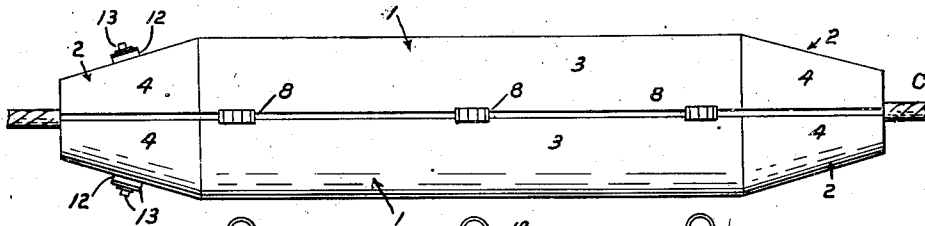


Fig. 2 -

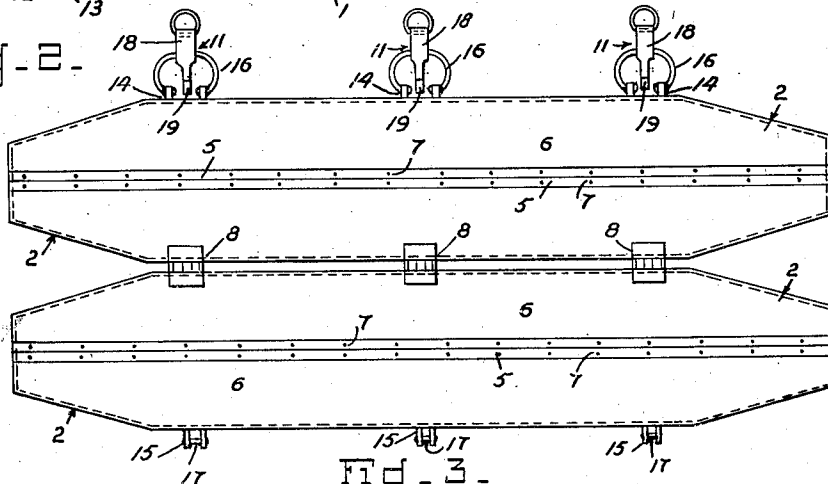


Fig. 3 -

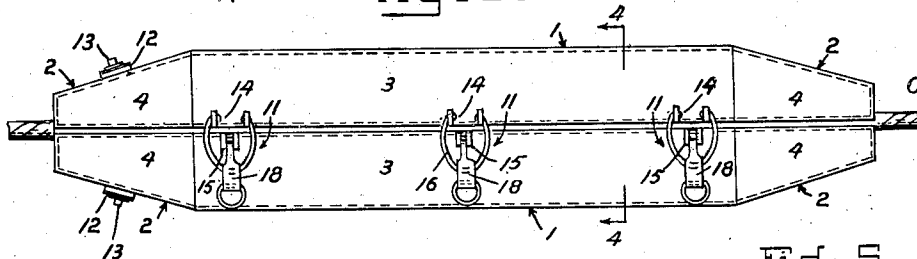


Fig. 4 -

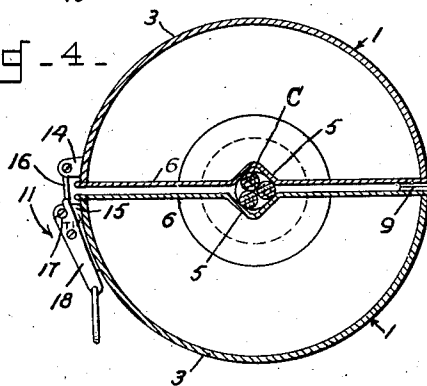


Fig. 5 -

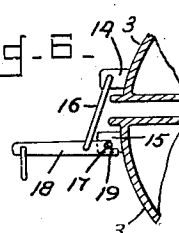
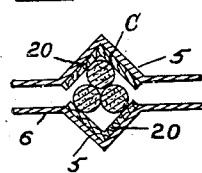


Fig. 6 -



Inventor

Dudley M. Lontz

By C. E. Herrstrom & H. E. Thibodeau

Attorneys

UNITED STATES PATENT OFFICE

2,395,892

FLOAT

Dudley M. Lontz, Watertown Arsenal, Mass.

Application September 12, 1944, Serial No. 553,776

1 Claim. (Cl. 9—8)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment to me of any royalty thereon.

This invention relates to a float or pontoon for supporting rope or cable.

Rope or cable when unsupported in water quickly sinks. Hence when a comparatively long cable is used in towing a target, for example, especially at low speeds, it is apt to sag deeply in the water unless supported by buoyant elements. If used in shoal waters, it is thus apt to chafe on the bottom or to become snagged or fouled on obstacles which may be encountered on the bottom.

It is an object of the invention to provide an improved float which can be quickly and easily attached to a towing cable as it is being paid out from the towing vessel and which is shaped to offer little resistance to progress through the water when in use.

To this end I provide a float having an approximate cigar shape, the float being made in two halves which are hinged together to be clamped on to the cable as hereinafter described. A suitable number of such floats may be provided on the after deck of the towing vessel so as to be attached to the towing cable at desired intervals as the cable is being paid out, and to be removed from the cable as it is being hauled in.

The specific nature of this invention as well as other objects and advantages thereof will clearly appear from a description of a preferred embodiment as shown in the accompanying drawing in which:

Fig. 1 is a side elevational view of a float embodying the invention, as assembled on a tow line.

Fig. 2 is a plan view showing the float in its open position.

Fig. 3 is an elevational view similar to Fig. 1 showing the opposite side of the float.

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 3, looking in the direction of the arrows.

Fig. 5 is a fragmentary sectional view on the line 4—4 of Fig. 3, but including filler pieces.

Fig. 6 is a fragmentary sectional view on the line 4—4 of Fig. 3, showing a fastener in a partly closed position.

Referring now to the drawing more in detail, the invention will be fully described.

The float illustrated in the drawing is generally cigar shaped, having a cylindrical central portion and tapering end portions. The float may be said to be divided through its longitudinal axis into two approximately equal hollow sections or units

which are preferably formed from sheet metal and are so constructed as to define an axial opening which extends longitudinally through the float between the sections for receiving the tow line.

More particularly, each unit of the float may consist of a semi-cylindrical hollow middle section 1 terminating at each end in a truncated semi-conical section 2. The semi-cylindrical surface 3 of the middle section 1 and semi-conical surfaces 4 of the end sections 2 are co-axial.

The inner surfaces 6 of these sections are plane except for an axial groove 5 which with the corresponding groove 5 in the other unit forms a longitudinal passage for the cable or hawser to which the float is to be secured.

These grooves may be of any desired cross-section, but, as illustrated in Figures 4 and 5, are V-shaped. This results in an effective pinching of the hawser C when the float is secured upon it since the hawser tends to become wedged between the converging surfaces which form the V grooves when the float is closed about it. This tends to prevent the float from slipping along the hawser when being drawn through the water. As a further means to prevent slippage of the float along the hawser, I may provide a number of small spurs or bosses 7 on the sides of the grooves 5 to press into the hawser. These spurs can readily be made, for example, by touching the surfaces of the grooves with an electric arc welding rod (not shown) at points where spurs are desired.

The two units are preferably joined by one or more hinges mounted along opposed side edges of the units, three such hinges being shown in Figures 1 and 2. These hinges facilitate rapid handling of the floats in attaching them to or detaching them from a cable or hawser. As indicated in Figure 4, the hinges 8 may be arranged with their leaves 9 secured to the plane faces of the units, and their pins 10 outside of the cylindrical contour of the surface 3.

When a float is to be attached to a cable, the lower half or unit is slipped under the cable and the upper unit is then swung over and upon the cable. The float is secured in its closed position by one or more clasps or fasteners 11, three such fasteners being shown in Figure 3. These fasteners may be of any suitable design and are preferably constructed in such a way as to be quickly and easily operated to draw the free edges of the units toward each other with considerable force but with a slight resilient yield so that the cable will be firmly clamped in the grooves 5 when the float is fastened shut.

On one conical surface 4 of each unit of the float there may be attached a block 12 with a screwplug 13 for use in testing the air-tightness of the units and for drainage in case a unit becomes damaged and springs a leak.

In order that the units shall be air-tight, the construction in the preferred embodiment is entirely by welding with a subsequent test at about two pounds per square inch air pressure. However, any method of construction which will effectively provide air and watertight units would be satisfactory.

Satisfactory fastening means can be made as indicated in Figures 3 and 6. As therein shown, a pair of ears 14 are mounted on the upper unit near the free edge thereof. A pair of ears 15, which, for uniformity in manufacture, may be similar to the ears 14, are mounted on the lower unit opposite to the ears 14. Each of the ears 14 and 15 has a hole therethrough. The holes in the ears 14 receive an approximately circular ring 16 of stiff spring wire. The holes in the ears 15 receive a short straight pin 17 which spans the space between the ears 15 and is peened at its ends to be kept permanently in its position. The ring 16 loosely supports a toggle lever 18 which has a notch 19 near one end adapted to engage the pin 17 as a fulcrum (Figure 6). When the lever 18 is rocked downward, a powerful leverage is exerted on the ring 16 to draw the upper unit down toward the lower unit and thus to clamp the cable C between the units. For effective clamping, the grooves 5 should be of proper size relative to the diameter of the cable so that the ring 16 will be somewhat distorted when the fastener 11 is fully closed. This provides for a resilient take-up when the diameter of the hawser is reduced during use by reason of the towing tension imposed thereon.

For use on smaller hawsers or cables than the size for which it is designed, the float may be

provided with fillers 20 of wood or other material shaped to fit into the grooves 5 as shown in Figure 5. The fillers shown are simple troughs which are pressed against the spurs 7 and are indented by the same to prevent longitudinal slipping. The inner faces of the fillers may be roughened or scored in any manner to prevent slipping of the filler on the hawser.

While I have described the invention in great detail and with particular reference to the preferred embodiment thereof, it is desired that the invention be not limited thereto but only by the scope of the appended claim.

I claim:

- 15 As a new article of manufacture, a pontoon for supporting a towing cable comprising in combination, a pair of pontoon half-sections formed of sheet metal and generally semi-cylindrical in cross section, hinge means associated with adjacent sides of said half-sections whereby the latter may be swung between open and closed positions, said half-sections being provided with substantially flat inner surfaces and each of said surfaces being provided with a V-shaped groove which extends longitudinally through the central portion thereof, said grooves being arranged whereby they coincide with one another when the said half-sections are swung into closed position so as to provide a diamond-shaped opening which extends longitudinally of and entirely through the pontoon for receiving a longitudinally-extending cable, the grooved portions being provided with projections which extend outwardly from the faces thereof so as to impinge the said cable when the half-sections are in said closed position and the cable is disposed in said opening, and fastening means associated with the opposite adjacent sides of said half-sections whereby the same may be releasably secured in said closed position.
- 20
- 25
- 30
- 35
- 40

DUDLEY M. LONTZ.