

(No Model.)

S. I. PRESCOTT.

DEVICE FOR DISTRIBUTING OIL UPON WATER.

No. 481,818.

Patented Aug. 30, 1892.

Fig. 1.

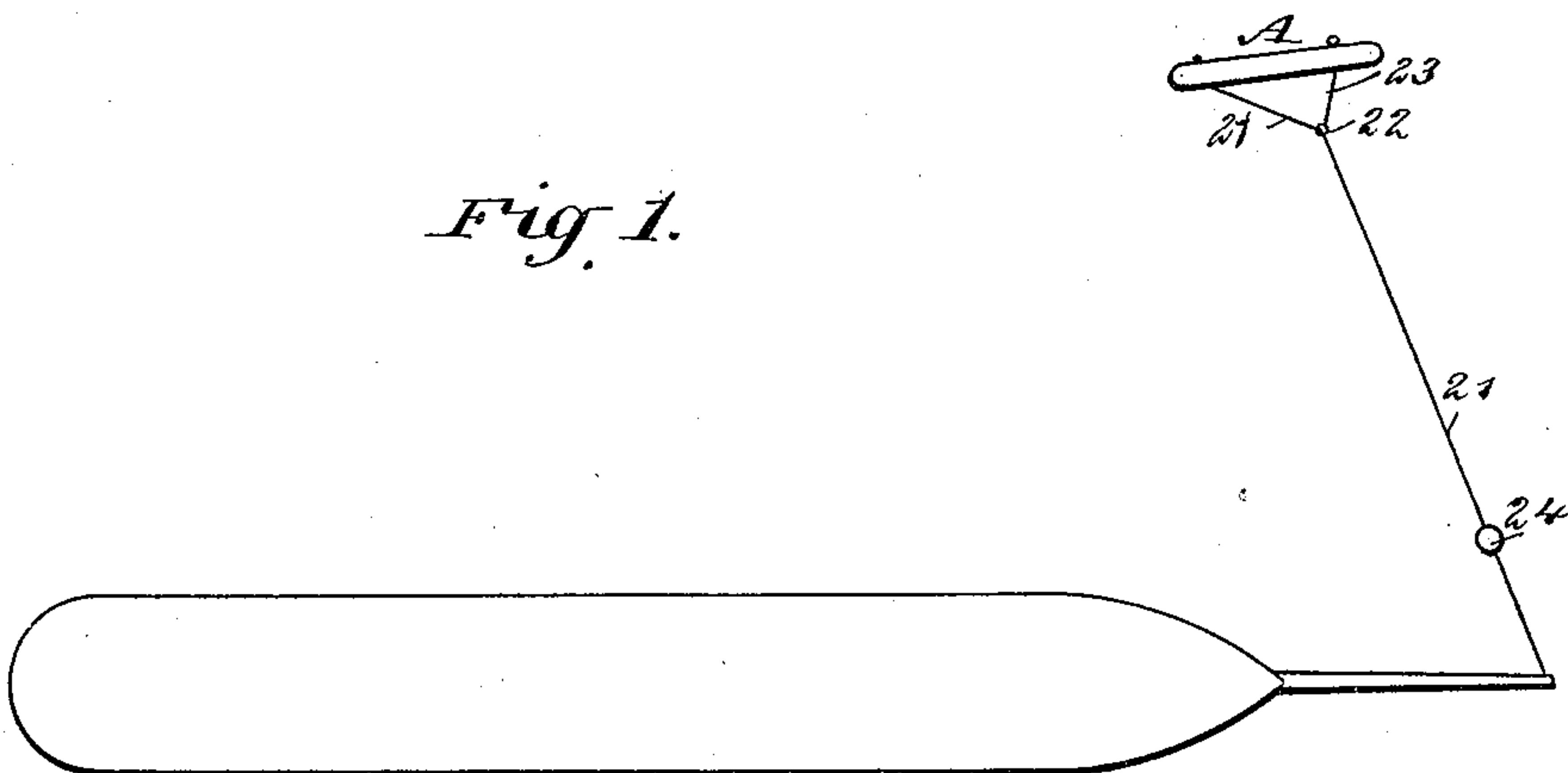


Fig. 2.

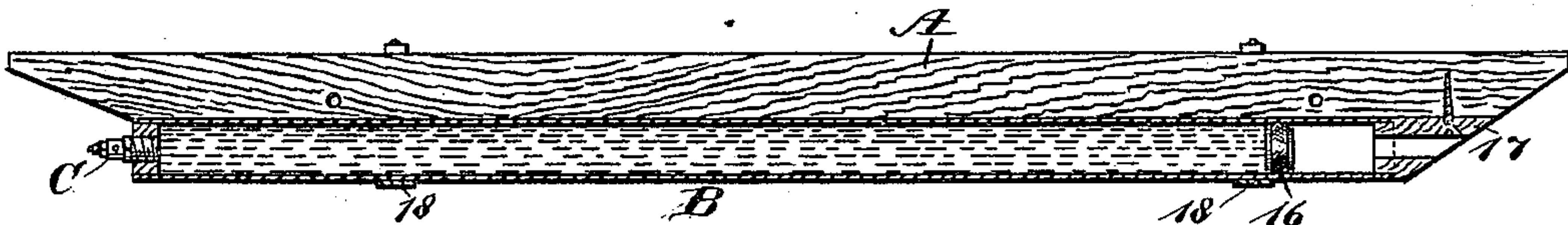


Fig. 3.

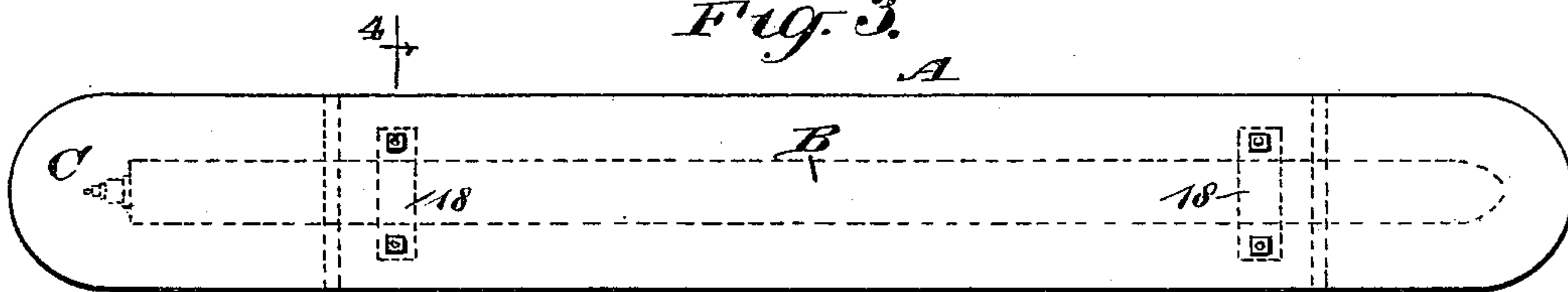


Fig. 5.

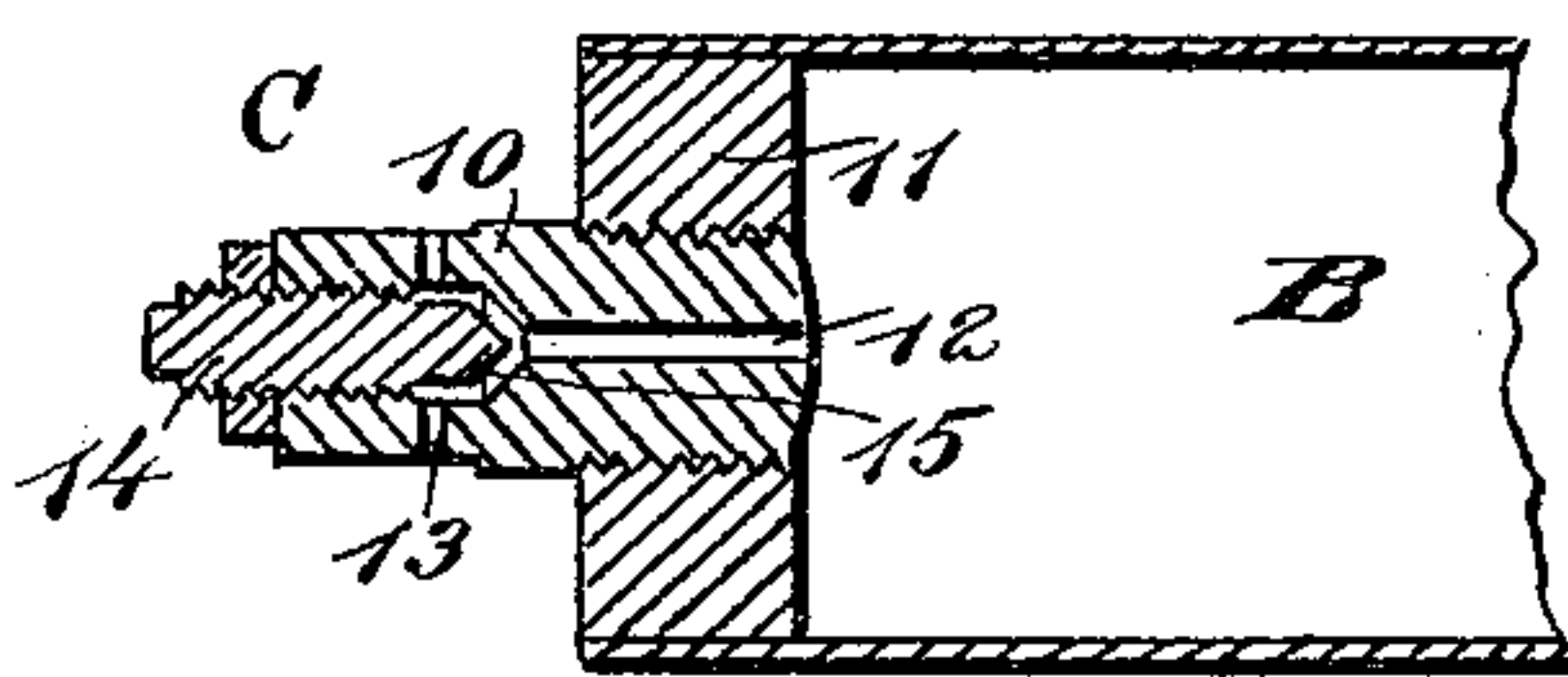


Fig. 6.

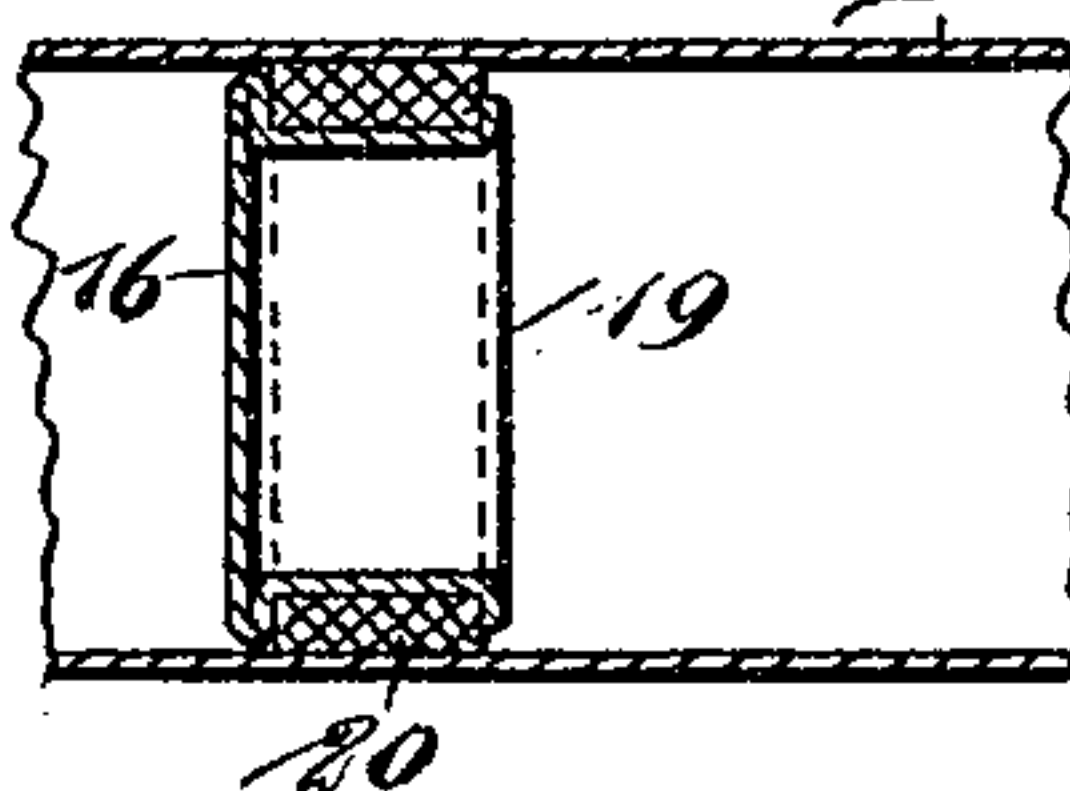
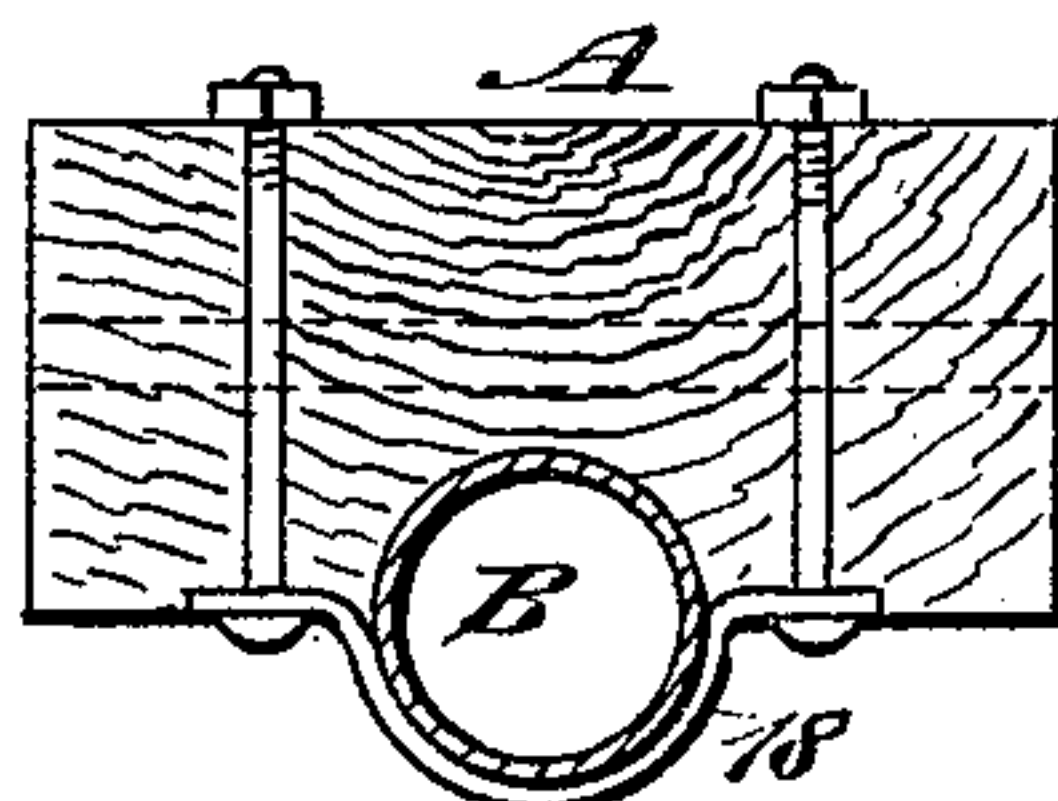


Fig. 4.



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DEVICE FOR DISTRIBUTING OIL UPON WATER.

SPECIFICATION forming part of Letters Patent No. 481,818, dated August 30, 1892.

Application filed January 6, 1892. Serial No. 417,181. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY I. PRESCOTT, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved
5 Device for Distributing Oil upon the Water, of which the following is a full, clear, and exact description.

My invention relates to a device adapted to be connected with a vessel and to distrib-
10 ute oil upon the water in the event of a storm to allay or to modify the force of the waves; and its object is to provide a device of simple, durable, and economic construction, wherein the waves will act upon a piston contained in
15 the device and through that medium regulate the amount of oil to be distributed.

Another object of the invention is to construct the device in a manner whereby a valve will control the outlet of the oil, which valve
20 may be manipulated to feed more or less of the oil forced to it by pressure from the piston above referred to.

The invention consists in the novel construction and combination of the several parts,
25 as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of refer-
30 ence indicate corresponding parts in all the views.

Figure 1 is a plan view of the device, illustrated as attached to a vessel and in operative position. Fig. 2 is a central vertical section
35 through the device, the water-line being shown in dotted lines. Fig. 3 is a plan view of the device on a larger scale than shown in Fig. 1. Fig. 4 is a transverse section taken on the line 4 4 of Fig. 3. Fig. 5 is a horizontal section through
40 one end of the oil-chamber and the valve controlling the amount of oil to be distributed; and Fig. 6 is a horizontal section through the opposite end of the oil-chamber and the piston, which is adapted to act upon the oil, be-
45 ing in its turn acted upon by the waves.

It is an established fact that if oil is deposited upon the surface of water it will distribute itself in the form of a thin film and reduce the violence of heavy seas. In order
50 to obtain the best results, it is necessary that the oil should be delivered continuously and evenly far to the windward of the ship in

connection with which the device or apparatus is to be employed, and the apparatus or device containing the oil must be so arranged
55 that water cannot enter the oil-chamber, otherwise the oil will thicken in cold weather and lose a great per cent. of its effectiveness.

It is further necessary that the device or apparatus should be of such a character that it
60 may be used in all of the evolutions wherein a ship may be placed in a dangerous position by reason of heavy seas, such as running, sailing free, close-hauled, lying to, lying to under the lee of a drag, wearing, towing,
65 launching, and hoisting in boats, &c.

The device which I employ to obtain the above-named results consists of a body A, constructed of material adapted to readily float—as, for instance, wood, cork, or a com-
70 bination of such materials. Upon the under side of this float or body-section A a tube B is secured, the said tube being adapted to extend, practically, from one end of the float or body to the other. In constructing the float
75 or body the under surface thereof at its ends is beveled. The tube B acts as an oil-chamber and it is adapted to contain oil. At the rear end of the tube a valve C is located. This valve, in connection with a suitable head,
80 is adapted to thoroughly close the rear end of the tube. One form of valve is shown in Fig. 5; but I desire it to be understood that any valve adapted for the purpose may be employed. This valve consists of a body por-
85 tion 10, which is screwed into or otherwise secured to a head 11, located at the rear end of the oil tube or chamber B. The body-section of the valve is provided with a longitudinal channel 12 in direct communication with
90 the interior of the tube and with a number of branch channels 13 communicating with the channel 12 and extending through the exterior or peripheral surface of the body in the rear of the head. These channels may
95 be opened so as to permit the discharge of the contents of the tube, or may be closed so as to entirely shut off the supply or partially stop the supply through the medium of a stem
100 14, screwed into the body or otherwise attached thereto in a manner whereby its inner end may be withdrawn from contact with the walls of a chamber 15, contained in the body, with which all of the channels 12 and 13 are in connec-

tion, or whereby the stem may be made to engage with the walls of this chamber and thereby close all of the channels.

At or near the front end of the tube B a piston 16 is located, capable of sliding the length of the tube. This piston is adapted to fit so snugly within the tube that oil cannot escape from the front end thereof. The tube may be opened to the extent of its entire area at its front end—that is, forward of the piston—or an auxiliary tube 17 may be located at the front of the device in direct communication with the oil tube or chamber, as is best shown in Fig. 2. In the latter event the auxiliary tube 17 is of less interior diameter than the interior diameter of the tube proper.

In attaching the oil tube or chamber B to the body of the device or apparatus straps 18 may be employed or any equivalent of said straps, and the piston 16 may be of any approved construction. Ordinarily it consists of a casting or shell 19, of circular form, open at its rear and provided with flanges at its periphery, adapted to clamp and maintain in connection with its body a packing-ring 20, of rubber, leather, or equivalent material, the said ring being adapted to come in close engagement with the inner face of the oil tube or chamber, as is best shown in Fig. 6.

When ready for use, the piston (or what may be termed the "plunger") 16 is placed close to the forward or open end of the oil tube or chamber B, the space between it and the valve within the chamber being filled with oil. In action the water enters the forward end of the tube and the valve being properly set to permit of the outflow of oil the water pushes the piston or plunger rearward and forces the oil outward through the valve-opening.

In order to deliver the oil to windward of the ship, it is necessary that the distributor be towed in such a manner as to follow a course parallel to that of the ship and remain in a position off the weather-bow, as shown in Fig. 1. To accomplish this, a tow-line 21 is rove through a hole in the after end of the body or float A and then through a thimble 22, turned in or attached to a bridle 23, which bridle is rove through an aperture or hole in the forward end of the float, as is shown in Fig. 1, and from thence the tow-line 21 is carried to the cat-head, jib-boom, or rail. The tow-line should always be made fast forward, except when the ship lies broadside to the wind and in the direction of the trough of the sea, drifting bodily to leeward, in which case the apparatus should be attached to the stern of the vessel.

In a rough cross-sea, when the ship takes on a violent compound pitching and rolling motion, it is necessary to bend a heavy weight 24—such as the deep-sea lead—into a bight of the tow-line three or four fathoms from the end secured to the ship to prevent the line from being parted by a sudden jerk.

I do not claim, broadly, an oil-distributor consisting of an oil-chamber and a float, the oil-chamber having a regulable aperture for the ingress of water and egress of oil, as I am aware that such a device is old.

The prime feature of my invention consists in the means for separating the water from the oil in connection with a float and oil-chamber, thereby increasing the efficiency of the device over those heretofore in operation.

The invention further consists in the manner of constructing the float so that it may remain in its proper position upon the surface of the water, and also of the means of towing, by reason of which the float is kept to windward of the ship, and of a weight on the tow-line, serving as a governor.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An apparatus for distributing oil on water, comprising a buoyant oil-chamber having an opening at each end and a piston in the oil-chamber, adapted to be acted upon by the waves and separating the oil from the water, substantially as described.

2. In an oil-distributing apparatus, the combination, with a float and an oil-chamber carried by the float, having openings for the ingress of water and for the egress of oil, of a valve regulating the outflow of the oil and a piston located within the oil-chamber to be acted upon by the waves and separating the oil from the waves or water, as and for the purpose set forth.

3. In an oil-distributing apparatus, the combination, with a float and an oil-chamber attached to the float, the forward end of the oil-chamber and the float being beveled, the said chamber being provided with a valve at one end regulating the outflow of the oil and a piston or plunger at the opposite end to be acted upon by the waves and separating the oil from the water, of a means, substantially as shown and described, for attaching the apparatus to a vessel, as and for the purpose set forth.

4. In an oil-distributing apparatus, the combination, with a float and an oil-chamber, the latter being provided with an egress-opening, of a plunger or piston located at one end of the oil-chamber, the said plunger or piston being adapted to be acted upon by the waves, as and for the purpose set forth.

5. In a device or apparatus for the distribution of oil upon the water, the combination, with an oil-chamber open at one end and having an egress opening at the other end, of a piston located within the oil-chamber at the open end, separating the oil from the water and adapted to be acted upon by the waves, as and for the purpose set forth.

6. In an apparatus for distributing oil upon the water, the combination, with a float, an oil-chamber carried by the float and provided with a valve-controlled egress-opening, and a plunger to be acted upon by the waves

and separating the oil from the water, of a tow-line and bridle connected with the apparatus, the tow-line being controlled by a weight-governor, as and for the purpose 5 specified.

7. The combination, with an apparatus adapted to distribute oil upon the water, of a tow-line and bridle attached to the device,

and a weight-governor secured to the tow-line between its point of attachment and the distributor, substantially as shown and described.

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Witnesses:

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