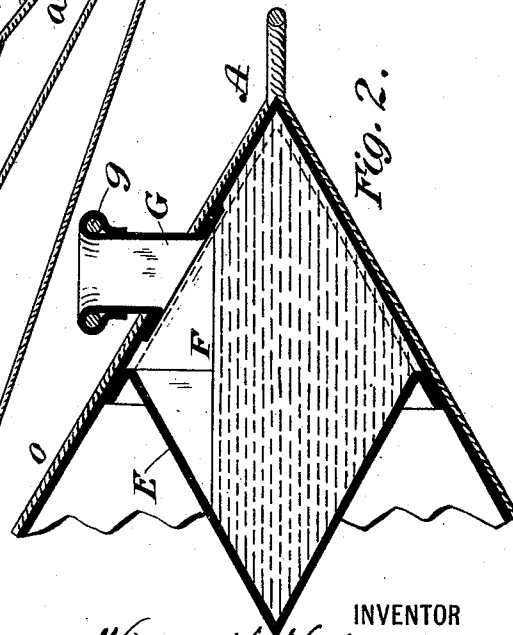
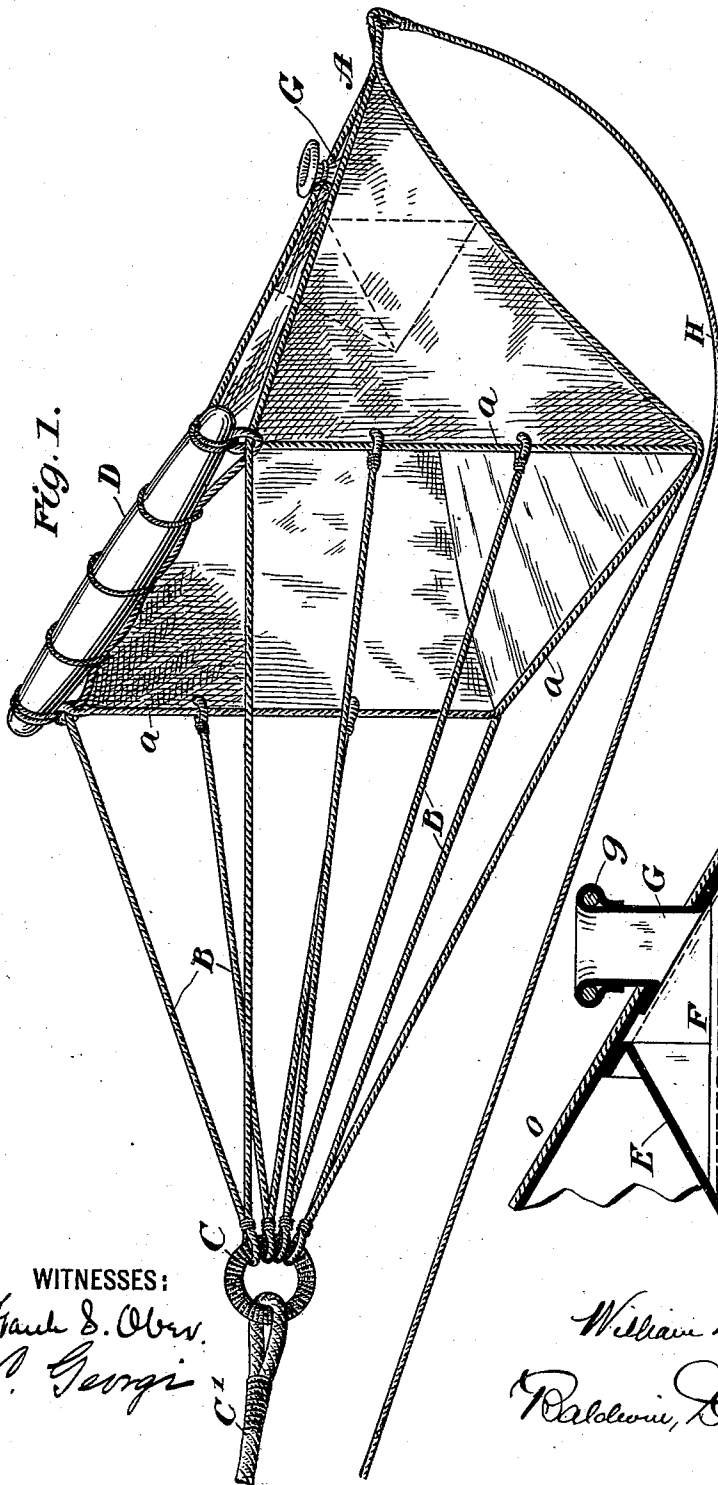


(No Model.)

W. H. HART.
MARINE DRAG.

No. 578,562.

Patented Mar. 9, 1897.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM H. HART, OF BROOKLYN, NEW YORK.

MARINE DRAG.

SPECIFICATION forming part of Letters Patent No. 578,562, dated March 9, 1897.

Application filed May 20, 1896. Serial No. 592,270. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HART, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Marine Drags, of which the following is a specification.

In Letters Patent of the United States No. 332,898, granted to me December 22, 1885, I have shown a marine drag in some respects resembling that disclosed herein. In the drag of that patent the three sides of the open mouth below the floating spar have, respectively, attached thereto straight stiff rods, the rods being loosely connected at the ends with each other and with the spar. I have discovered, however, that a drag quite as efficient may be made with a flexible mouth below the spar, and therefore I purpose strengthening it by a rope running around the four sides of the open mouth. This affords a secure means of lashing the drag to the spar and for the connection of the stay ropes or braces and at the same time insures such flexibility that the drag may be folded and rolled upon the spar in such convenient form that it is only necessary to cast it overboard for it to become unrolled from the spar. The weight or draft of the column of water entering the drag immediately distends it and holds it firmly open. The drags constructed in accordance with my prior patent were more or less cumbersome because of the rigid bars at the edges of the mouth, and these bars also prevented the compact stowage of the drag and tended to wear and cut the canvas.

Another feature of my present invention consists in combining with the drag an oil-receptacle which may be filled before the drag is cast overboard. The oil will filter through the web or fibers of the canvas and very gradually distribute itself upon the surface of the water. In carrying out this part of my invention I prefer to locate the oil-chamber at the angle or apex of the drag, but I do not limit myself to this construction. The chamber may be formed by a partition placed across the interior of the drag at any suitable point. One side of the angular chamber thus produced is provided with an outlet, which may be a canvas tube properly secured in the wall of the chamber. Through

such tube the oil may be readily poured into the chamber and the opening may then be closed merely by tying a cord or light rope around the collapsible canvas tube. I prefer to place in the outer end of the tube a stiff ring which will hold it open during the pouring of the oil, but that will not interfere with the tying of the tube to close the chamber.

In the accompanying drawings, Figure 1 is a perspective view of my improved drag; and Fig. 2 is a longitudinal section of the apex or rear end, showing the oil-chamber.

I prefer that the drag shall be rectangular in cross-section when distended and pyramidal in shape, that is to say, I prefer to form it with four triangular sides culminating at a point or apex A. Around the four sides of the open mouth is stitched or otherwise secured a rope *a*, and to this rope are attached any desired number of stay or brace lines B, converging upon a ring C, to which the cable C' is attached. Along the upper edge of the open mouth is lashed a spar D.

In the particular construction illustrated the oil-chamber F is formed by placing a partition E, of canvas, across the interior of the drag. This partition is, however, preferably not a mere flat piece of canvas, but is of pyramidal or other shape corresponding with the shape of the end of the drag, and when distended by the contained oil its apex points in the opposite direction from the apex of the drag. With such a construction the pressure of the water in the drag exerted against the partition will force it against the oil in the chamber F and gradually expel the oil through the fiber or web of the canvas or such special aperture for its exit as may be provided. When all the oil has been thus expelled, the partition E will lie within the end of the drag as a lining thereto. I do not limit myself to this special construction, as, so far as I am aware, I am the first to combine an oil-chamber with a drag of this general character. I prefer, however, that the oil-chamber shall be of such a character that the pressure of the water shall act upon a flexible wall thereof in such manner as to expel the oil as described. For instance, the chamber might be formed by making any one of the walls of the drag double, the two layers forming the chamber, or the oil-receptacle might be an

independent flexible bag and be secured within the interior of the drag. In an aperture in one wall of the oil-chamber is secured a tube G, which may be of canvas, and in the
5 outer end of which I prefer to place a stiff ring g for the purpose already stated. When the chamber F has been filled with oil, the tube G may be tied, as indicated in Fig. 1. As in my prior patent, I attach a tripping-line
10 H to the rear end or apex of the drag. Of course the cross-section of the drag may be varied, but I prefer that in general shape it shall be pyramidal with any desired number of flat faces; but of course it might be conical
15 and circular in cross-section.

I claim as my invention—

1. A marine drag having an open mouth and flexible walls of canvas capable of being distended by the pressure of the water when
20 put overboard, an oil-chamber constituting a permanent part of the drag formed within the interior thereof and having a flexible wall against which the pressure of the water act-

ing within the drag is exerted to expel the oil from the oil-chamber.

2. A marine drag tapering from the mouth to the end and having therein an oil-chamber whose walls are porous and against one of the flexible walls of which the pressure of the water within the drag is exerted.

3. A marine drag tapering from the mouth to the rear end and having a flexible transverse partition therein of approximately the shape and dimensions of the drag between such partition and the end thereof, whereby
35 the pressure of the water within the drag is exerted upon the partition to gradually force the flexible partition back into the end of the drag forming the oil-chamber to thereby expel the oil therefrom.

In testimony whereof I have hereunto subscribed my name.

WILLIAM H. HART.

Witnesses:

FRANK S. OBER,
CATHARINE GEORGI.