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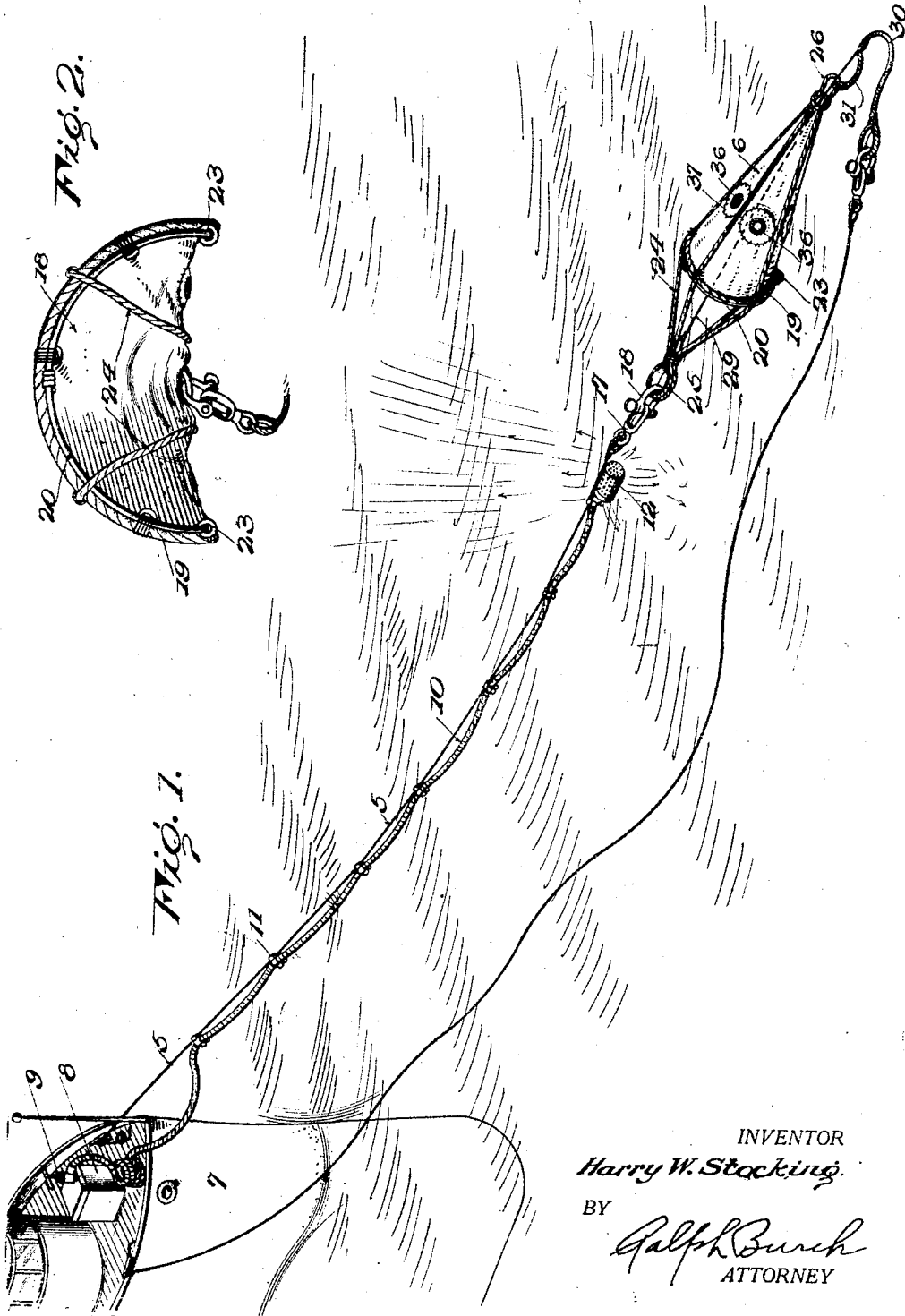
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H. W. STOCKING

OIL DISTRIBUTING APPARATUS

Filed March 4, 1924

2 Sheets-Sheet 1



INVENTOR
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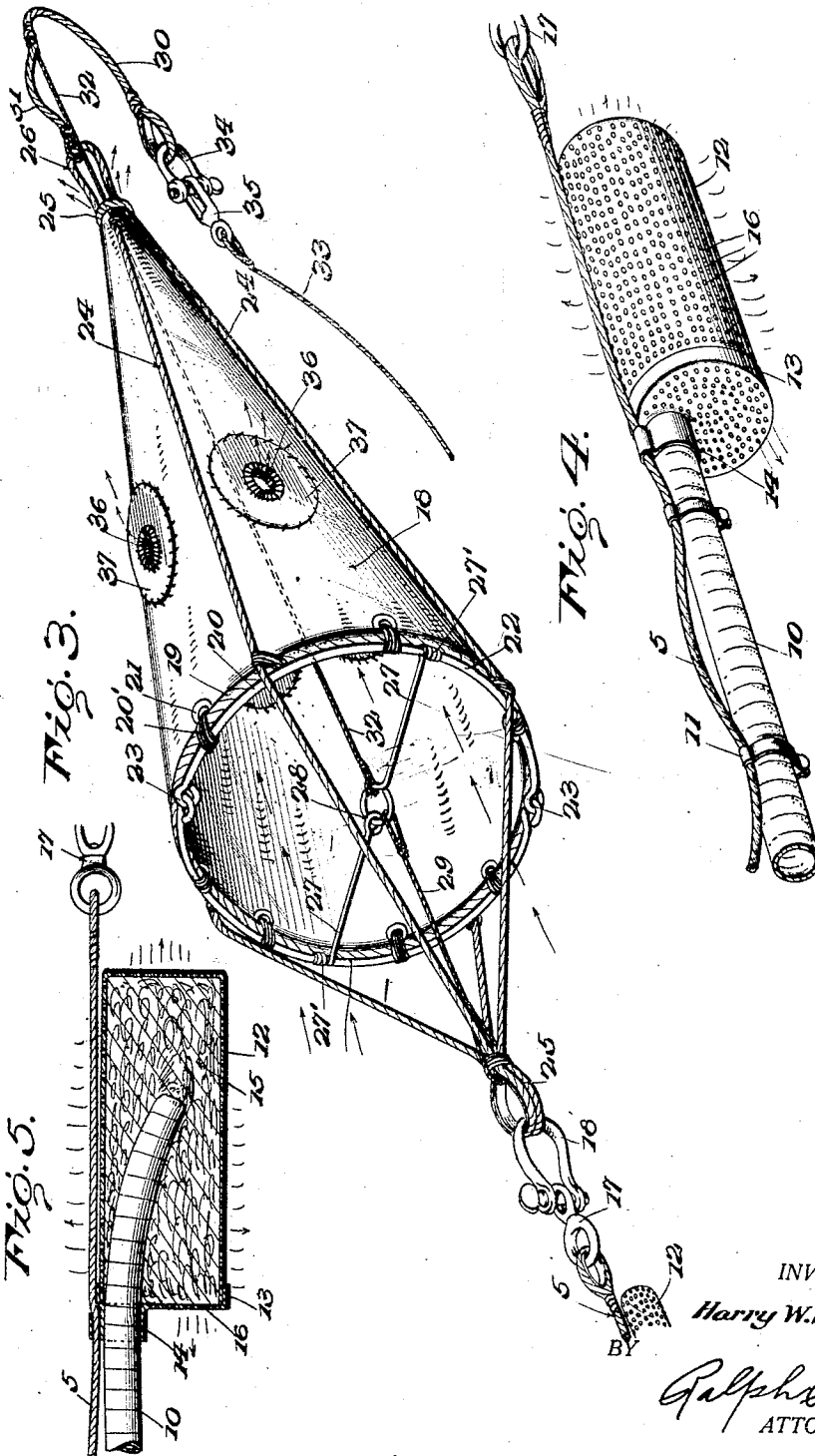
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INVENTOR

Harry W. Stocking

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UNITED STATES PATENT OFFICE.

HARRY W. STOCKING, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF FORTY-NINE ONE-HUNDREDTHS TO JOHN McKENNA, OF HOBOKEN, NEW JERSEY.

OIL-DISTRIBUTING APPARATUS.

Application filed March 4, 1924. Serial No. 696,763.

To all whom it may concern:

Be it known that HARRY W. STOCKING, citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, has invented certain new and useful Improvements in Oil-Distributing Apparatus, of which the following is a specification.

My invention relates to oil-distributing apparatus specially designed for use with marine vessels.

When vessels are at sea and the safety of the vessel is endangered by the roughness of the sea, it is customary to pour oil into the water to calm the sea or employ a sea-drag which by reason of its resistance will help to retain the head of the vessel windward and it is an object of my invention to provide a combine sea-drag and oil-distributor having extensible means for spreading the oil over a large area of the sea, at any desired distance, so as to measurably calm the sea before it reaches the position of the vessel.

A further object of the invention is to provide a sea-drag of collapsible structure having means for automatically opening and closing the same, facilitating the launching and removal of the apparatus.

Another object of the invention is to provide apparatus of the above-mentioned character which is simple and durable in construction, reliable and efficient in operation, and inexpensive to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1, is an illustrative view showing the position of the apparatus when in use,

Figure 2, is a front elevation showing the sea-drag collapsed,

Figure 3, is a perspective view of the sea-drag,

Figure 4, is a detail view of the oil-distributor, and,

Figure 5, is a detail view of the oil-distributor in longitudinal section.

Referring to the drawings, wherein for the purpose of illustration I have shown a preferred embodiment of my invention, the

numeral 5 denotes a hawser which connects the sea-drag 6 with the vessel 7. A suitable supply tank 8 having a force pump 9 is carried by the vessel and a flexible oil-conducting pipe 10, leading from the supply tank is suspended from the hawser 5, by detachable clips 11 arranged in spaced relation. As the hawser is let out from the vessel the conducting pipe 10 is carried with it, to any desired distance. When not in use the hawser and conducting pipe may be separated and wound upon a reel or otherwise suitably disposed of. As more clearly shown in Figs. 4 and 5, a tubular chamber or nozzle 12, of larger diameter than the conducting pipe, is connected to the discharge end thereof, being closed at both ends. The nozzle is provided at one end with a removable cap 13 to permit the nozzle to be packed with oakum 15 or other suitable material. The discharge end of the pipe 10 passes through an opening 14 in the cap 13, and the sides and ends of the nozzle have a series of perforations 16, through which the oil is discharged and spread upon the water.

The sea-drag 6, as more clearly illustrated in Fig. 3, is connected to the hawser 5 through the medium of the swivel 17 and U-clamp 18 and supports the nozzle and conducting pipe in operative position, as well as through its resistance retains the head of the vessel to the wind. It consists of a cone-shaped canvas bag 18, open at both ends, the larger end or mouth of the bag being encircled by a rope ring 19 to which a folding ring or hoop 20 is secured by fastenings 20' passing through eyelets 21. The folding hoop 20 is made of semi-circular sections 22 having their ends joined together by the hinge connections 23, thus permitting the mouth of the bag to collapse. The sides of the bag are supported and reinforced by the longitudinally extending stay ropes 24, arranged in spaced relation and the ends of the ropes extend beyond the mouth of the bag and converge together having their free extremities formed into a loop 25 which connects the bag with the U-clamp 18. The smaller end of the bag is reinforced by a rope collar 25, and the ends of two of the stay ropes 24 extend beyond the collar being united to form the loop 26, the purpose of which will be hereinafter set forth.

It will be observed that when the sea-drag is cast into the water it will be collapsed and to insure its opening a pair of oppositely disposed stretcher arms 27 are pivotally joined to the sections 22 of the hoop 20, intermediate their ends, as at 27'. The inner ends of the stretcher arms are pivotally joined together by hooks 28, the pivotal connection being disposed axially of the bag. When the bag is collapsed the stretcher arms are folded within the bag and to move the arms to a substantially horizontal or operative position, an opening line 29 is connected to hook 28 of one of the arms, having its opposite end connected to the loop 25. Thus, it will be seen that by pulling the hawser, the opening line will spread the stretcher arms until the stay ropes are drawn taut, when the pull on the opening line is released, thereby retaining the stretcher arms in a spread or operative position.

In order to collapse the drag when withdrawing the apparatus from the water, a trip line 30 is provided having its end divided into two strands, one of the strands 31 being connected to the loop 26 at the smaller end of the bag and the strand 32 which extends through the smaller end of the bag, to the hook 28 of the stretcher arm. When the bag is open, it will be seen that the strand 31 is slack and a pull on the trip line will collapse the bag before the strand 31 is drawn taut. The trip line in turn is connected to the safety line 33 through the medium of the U-clamp 34 and swivel 35. The opposite end of the safety line is attached to the vessel and serves as a means for operating the trip line to collapse the bag and for removing the drag from the water. In order to release the pressure of the water against the inside of the bag, to an appreciable extent, a series of circumferential openings 36 are provided and these are reinforced by metal rings and another layer of canvas, as at 37. The openings also serve to guide the drag along a straight course, so it will not rotate.

In use, when the sea-drag is cast into the water from the bow of the ship, a pull on the hawser will cause the opening line 29 to raise the stretcher arms 27, spreading the bag to an open position. As the hawser is let out the oil conducting pipe 10 is connected thereto by detachable clips, the nozzle of the pipe being positioned adjacent the mouth of the bag. It is apparent, the drag in moving through the water by reason of its resistance will throw the water to each side of the drag, spreading the oil discharged from the nozzle of the oil-conducting pipe. The drag will retain the discharge pipe at any desired distance from the vessel and also keeps the head of the vessel windward. To remove the apparatus from the water a pull is exerted on the safety line 33 which in turn will pull the trip line 30,

tripping the stretcher arms and collapsing the bag, so that it may be easily pulled through the water back to the vessel.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that certain changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In apparatus for distributing oil, the combination of a tank, a flexible pipe extending therefrom, a sea-drag supporting said pipe at a remote distance from the vessel, and a nozzle at the discharge end of said pipe in axial alinement with said drag whereby the water thrown to the side of the drag will spread the oil discharged from the nozzle.

2. In a sea-drag, a collapsible bag, a foldable hoop surrounding the mouth of said bag, a hawser connecting said bag with the vessel, stretcher arms for opening said hoop, means for moving and retaining said stretcher arms in an operative position, and means for tripping said arms to collapse said hoop.

3. In a sea-drag, a collapsible bag open at both ends, a hawser, a foldable hoop surrounding the mouth of said bag, a plurality of stay ropes supporting and connecting said bag and hoop with said hawser and means for opening said hoop, said stay ropes controlling said opening means.

4. In a sea-drag, a collapsible bag, a foldable hoop surrounding the mouth of said bag, a hawser connecting said bag with the vessel, stretcher arms for opening said hoop, means for moving and retaining said stretcher arms in an operative position, and a trip and safety line for collapsing said hoop and removing said bag from the water.

5. In apparatus for distributing oil, the combination of a tank, a flexible pipe extending therefrom, a nozzle at the discharge end of said pipe, a hawser supporting said pipe and nozzle, and a sea-drag connected to said hawser and disposed beyond said nozzle, said sea-drag having a series of openings in its sides and end to guide it through the water.

6. Apparatus for distributing oil including a tank, a flexible conducting pipe extending from said tank, a hawser supporting said pipe, and a discharge nozzle having a series of perforations through its ends and sides, said conducting pipe extending through one end of said nozzle, having its free end disposed centrally thereof.

7. In apparatus for distributing oil, the combination of a tank, a flexible conducting pipe extending from said tank having

a discharge nozzle, a hawser supporting said conducting pipe, and a sea-drag connected to the end of said hawser, said nozzle being disposed adjacent and in axial alinement with the mouth of said sea-drag.

8. A sea-drag comprising a collapsible bag open at both ends, a foldable hoop surrounding the mouth of said bag, stretcher arms connected to opposite sides of said hoop and pivotally connected together, a hawser, stay ropes connecting said bag with said hawser, and means for spreading said stretcher arms to open the mouth of said bag having connection with said stay ropes.

9. A sea-drag comprising a collapsible bag open at both ends, a foldable hoop surrounding the mouth of said bag, stretcher arms connected to opposite sides of said hoop and pivotally joined together at their free ends, stay ropes extending longitudinally of the bag having their ends extended beyond the mouth of the bag and converging together, a hawser connected to the ends of said stay ropes, and a central rope establishing connection between the stay ropes and stretcher arms adapted to spread the latter to open the mouth of the bag when the stay ropes are drawn taut.

10. A sea-drag comprising a collapsible bag open at both ends, a foldable hoop surrounding the mouth of said bag, stretcher arms connected to opposite sides of said

hoop and pivotally joined together at their free ends, stay ropes extending longitudinally of the bag having their ends extended beyond the mouth of the bag and converging together, a hawser connected to the ends of said stay ropes, and a central rope establishing connection between said stay ropes and stretcher arms adapted to spread the latter to open the bag when the stay ropes are drawn taut, and a trip and safety line entering through the opposite end of said bag and extending longitudinally thereof, being connected with said stretcher arms whereby the same may be collapsed to close the bag.

11. In apparatus for distributing oil, the combination of a tank, a conducting pipe extending from said tank having a discharge nozzle, a hawser supporting said pipe, and a collapsible sea-drag connected to the end of said hawser, said nozzle being disposed adjacent to and within the circumference of the mouth of said sea-drag when open.

12. In apparatus for distributing oil, the combination of a tank, a conducting pipe extending therefrom, a sea-drag supporting said pipe at a remote distance from the vessel and a nozzle at the discharge end of said pipe in alinement with the mouth of said sea-drag.

In testimony whereof I affix my signature.
HARRY W. STOCKING.