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FLOATING BARRIER

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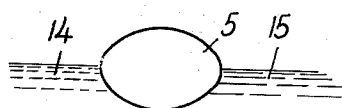
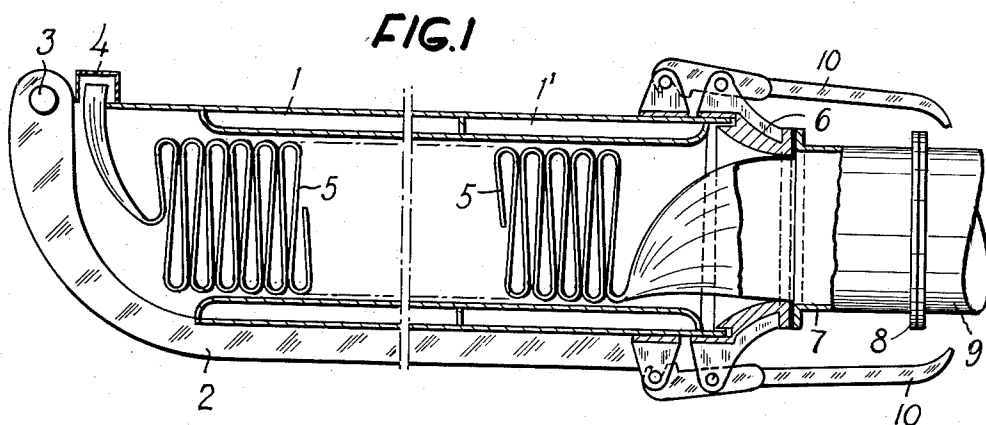


**FIG. 2**

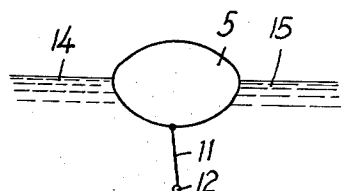


**FIG. 3**

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1

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## FLOATING BARRIER

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3 Claims. (Cl. 61—1)

When oil is spilled or otherwise let out on the water in harbours, water-ways or in other places, endeavours are usually made to screen off or to confine it by means of booms or other floating barriers with a view to ringing in the oil to prevent its spreading and to facilitate collecting and utilization of the same.

The present invention has for its object a method to provide an improved contrivance for the purpose in view, that is to say a floating barrier, which is easily kept in readiness and permits of being quickly launched.

The method according to the invention is characterized in that a hose kept in a state of readiness is laid out on the water surface, and is filled, in immediate connection thereto, with a highly liquid fluid, preferably foam, which keeps the hose floating on the water surface.

A contrivance for carrying out the method according to the invention is distinguished by a floating body and by a magazine connected thereto for a hose folded up into a state of readiness, said hose being provided with a connection for the supply of a highly liquid agent, preferably foam, through the pressing of which into the hose the latter is being filled.

The hose may be secured at one end thereof to the magazine with the floating body, while the other end thereof runs in an extensible manner out of the magazine. In its state of readiness, the outer end of the hose is preferably held secured to the magazine by means of a coupling device, which is disconnected when the contrivance is to be launched.

The invention will be explained more closely with reference to the accompanying drawing, which is a diagrammatic representation of an example of embodiment. Fig. 1 shows the contrivance in longitudinal section, whereas Figs. 2 and 3 show cross sections through the developed hose according to a couple of different embodiments.

In the drawing, the floating body is shown in the form of a boat 1 with a keel 2. The floating body may be double-bottomed or provided with watertight bulkheads 1' so as to be unsinkable. In the front part thereof it may be adapted at 3 for having towing means connected thereto. The floating body serves as a magazine for a folded-up hose 5, the inner end of which is attached in the front part of the contrivance, where it opens into an outlet 4, which is made as a safety valve. Located in the rear portion of the floating body is a coupling 6, which merges rearwardly into a pipe member 7 provided with a flange 8, or a quick coupling for being connected to a supply conduit for a highly liquid medium, such as foam of any of the types used for fire-extinction. The characteristic of such a foam is that it is a highly liquid material having gas bubbles entrapped therein. Handles 10 are associated with the coupling, said handles permitting disconnection of the coupling from the floating body. The outer end of the hose 5 opens into the pipe member 7 of the coupling and is secured therein.

On the lower side of the hose there may be provided a

2

keel-like appendage of fabric or the like with sinkers secured therein, said sinkers being adapted to keep the hose in a suitable position on the water surface.

When the contrivance is used, the floating body with the folded-up hose in the magazine is carried down to the shore, or is taken out in a craft of any kind to the place of the spilled-out oil. The pipe member 7 of the coupling is connected by means of the flange 8 to a supply conduit 9. The coupling 6 is disconnected by means of the handles 10, so that the floating body becomes free, whereupon the floating body is let down in the desired place on the water. Filling liquid for foam from the conduit 9 flows under pressure into the hose which is then unfolded from the rear portion of the floating body and is filled while the fore end of the hose remains secured in the floating body, which latter is moved forwardly during the filling of the hose. When the hose is filled for the whole of its length, the filling liquid is forced out through the outlet 4 located in the front portion of the floating body, the ejected liquid thus indicating that the hose is entirely unfolded and filled. The supply of the filling liquid may then be interrupted by the closure of a suitable valve in the inlet, whereupon the outlet is automatically closed.

Suitable means may be provided for the steering of the floating body during the launching thereof, so that the unfolded hose will ring in the region on the water surface where oil has been spilled out. The steering may be effected by the floating body itself or by means of a line from a motorboat or row-boat.

The hose may also be laid out in another way by the floating body with the hose magazine being placed in the stern of a craft such as a dinghy or row-boat. The inlet portion of the hose is connected on the shore or in some other craft to a fire hose from a foam generator. The boat is then rowed out to a suitable place, while the hose is being unfolded from the magazine and caused to float as a string behind the boat. When the whole hose has been laid out, the floating body with its magazine is thrown into the water and anchored, preferably with the aid of a grapnel. The foam generator may be started at a suitable time, so that the hose becomes filled as soon as it has been laid out. A hose of a diameter of 12" may then be filled at a rate of about 20 m./min., whereby a hose of a length of 100 m. may be filled in about 5 minutes. The outlet 4, with which the hose communicates, may be used to deposit a protecting coating of foam on the water surface inside the hose to protect the latter should the oil catch fire.

The hose may be made from various materials such as neoprene-impregnated nylon fabric, a hose of a diameter of 12" and of a length of 100 m. and provided at both ends thereof with standard couplings of 63 mm. not then weighing more than 18 kg., while occupying in its folded-up state a space of 0.5 x 0.5 x 0.4 m. The hose may also be made from a flame-resistive material such as a glass fibre fabric.

In connection with the last-described laying-out method the floating body need not be made in the form of a boat. Here, a suitable embodiment takes the form of a magazine for the hose with a foldable head wall and a removable cover. The magazine is provided with a floating tank of sufficient buoyancy and with a connection for the supply of foam to the hose and with selective outlet openings for depositing a foam layer on the water surface. A securing means for a grapnel with a line pertaining thereto is also provided.

The specific weight of the hose and the filling agent is adapted so that the unfolded hose will float at a suitable level, as shown in Figs. 2 and 3, where the oil layer is designated by 14 and 15 denotes the water surface outside the region screened off by the hose.

3

## What I claim is:

1. A contrivance for laying out a floating barrier on a water surface comprising a floating body formed as a magazine, a hose folded up in said magazine to a state of readiness, one end of said hose being secured to said magazine, a coupling secured to the other end of said hose for connection to a source of foam constituted by a highly liquid material having stabilized gas bubbles entrapped therein, and means detachably connecting said coupling to said magazine.

2. A contrivance according to claim 1, in which one or more outlets are provided at or in the proximity of that end of the hose which is secured to the magazine.

3. A contrivance according to claim 1, in which an outlet in the form of a safety valve is provided at or in the proximity of that end of the hose which is secured to the magazine.

4

## References Cited in the file of this patent

## UNITED STATES PATENTS

|           |                |               |
|-----------|----------------|---------------|
| 1,205,033 | Seely          | Nov. 14, 1916 |
| 1,256,398 | Vogel          | Feb. 12, 1918 |
| 1,415,351 | Howard et al.  | May 9, 1922   |
| 1,453,918 | Clark          | May 1, 1923   |
| 2,240,567 | Meacham et al. | May 6, 1941   |
| 2,366,140 | Alderfer       | Dec. 26, 1944 |
| 2,367,141 | Rosenblum      | Jan. 9, 1945  |
| 2,660,194 | Hoffman        | Nov. 24, 1953 |
| 2,682,151 | Simpson et al. | June 29, 1954 |
| 2,684,341 | Anspen et al.  | July 20, 1954 |
| 2,710,978 | Alderfer       | June 21, 1955 |
| 2,719,752 | Dodge          | Oct. 4, 1955  |