(No Model.) 2 Sheets—Sheet 1.

E. D. MOORE.

OIL PROJECTILE AND DISTRIBUTER.

No. 457,553. Patented Aug. 11, 1891.

Fig. 1.

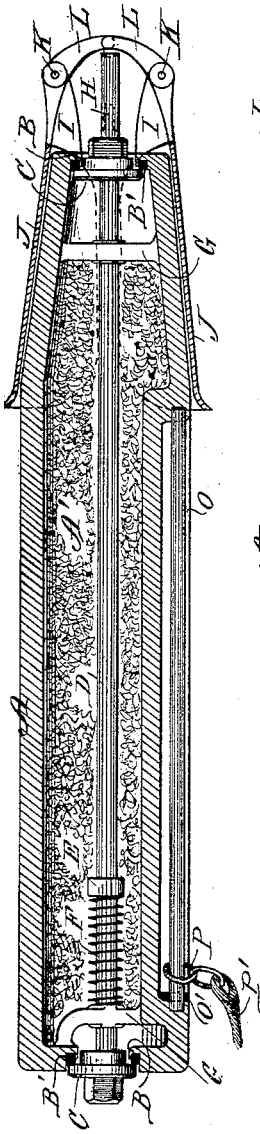


Fig. 2.

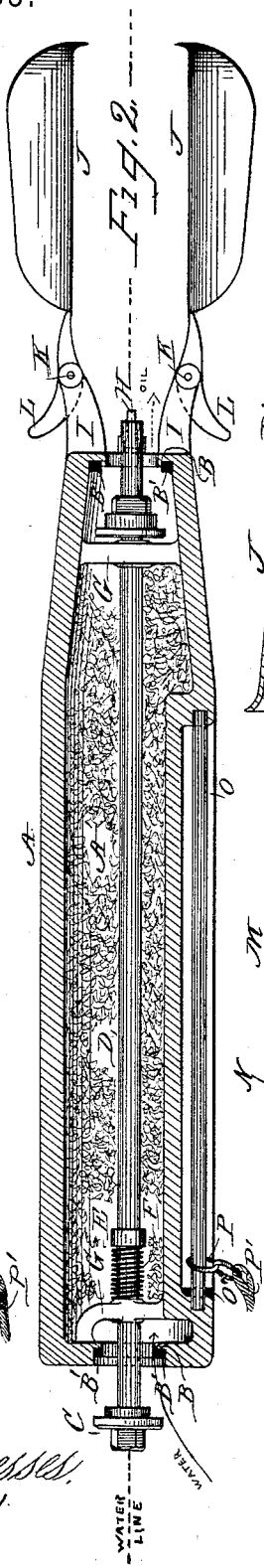


Fig. 3.

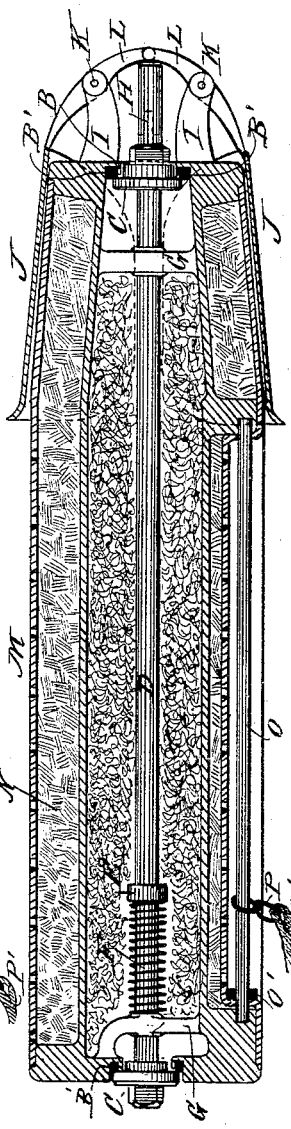
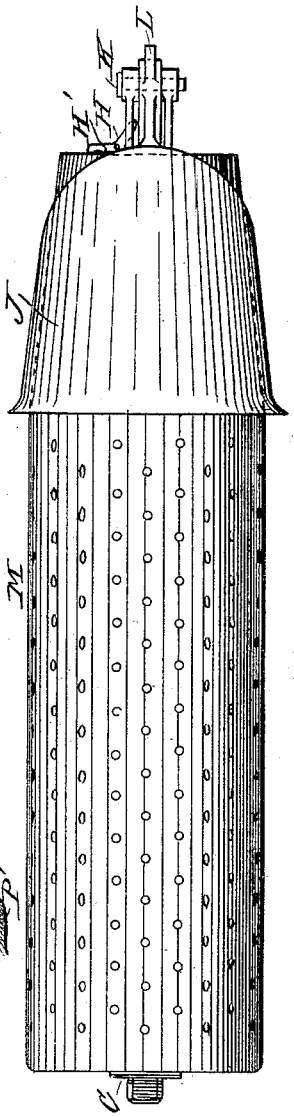


Fig. 4.



Witnesses.
L. M. Coffran
A. F. Acton

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(No Model.) 2 Sheets—Sheet 2.

E. D. MOORE.

OIL PROJECTILE AND DISTRIBUTER.

No. 457,553. Patented Aug. 11, 1891.

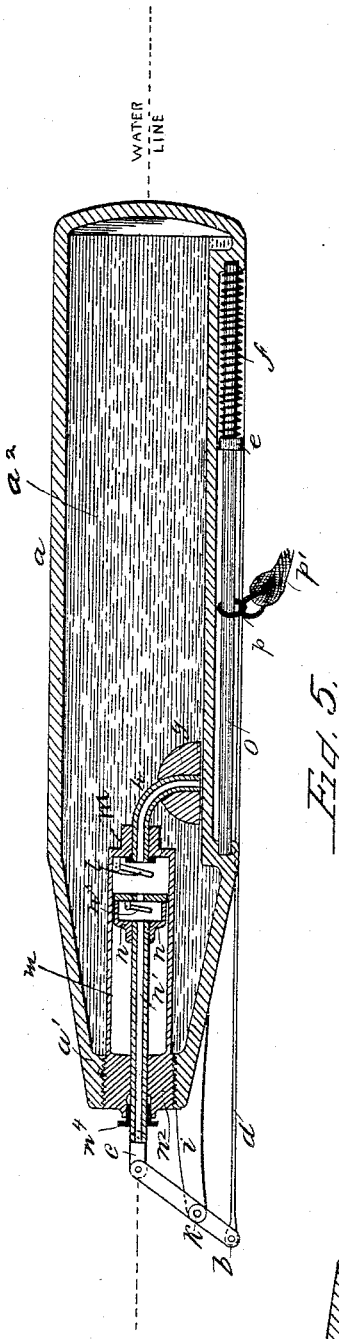

Fig. 5.

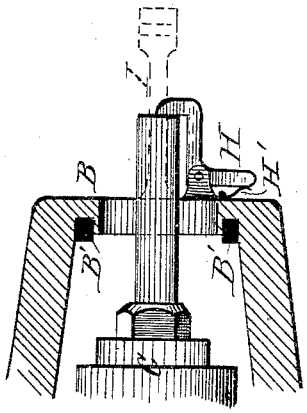

Fig. 6.

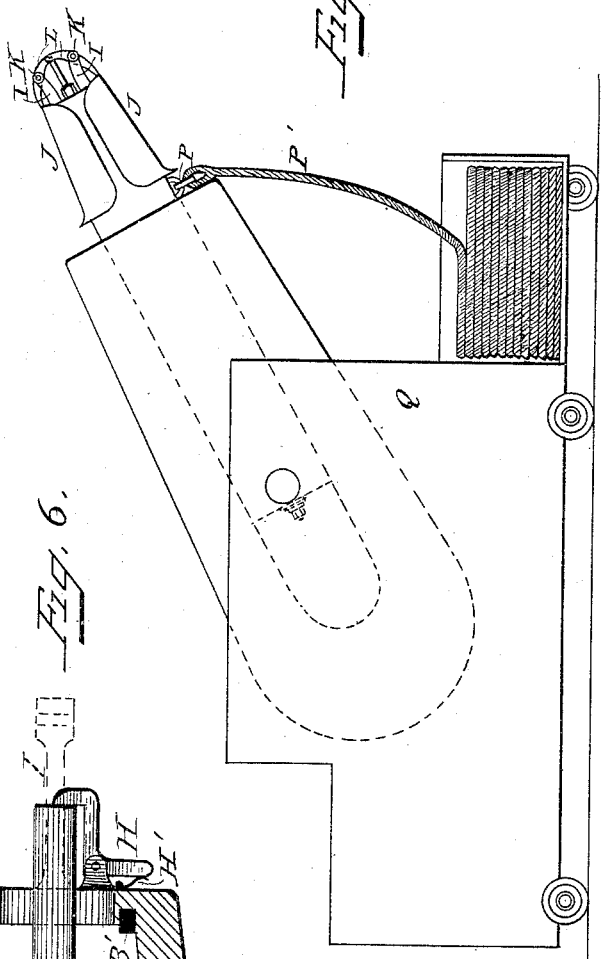

Fig. 7.

Witnesses.
L. M. Coffran.
A. F. Acton

Inventor.
Everett D. Moore,
By J. Stewart Rusk,
Attorney.

UNITED STATES PATENT OFFICE.

EVERETT D. MOORE, OF BALTIMORE, MARYLAND, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE AMERICAN OIL PROJECTILE COMPANY, OF SAME PLACE.

OIL PROJECTILE AND DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 457,553, dated August 11, 1891.

Application filed January 23, 1891. Serial No. 378,752. (No model.)

To all whom it may concern:

Be it known that I, EVERETT D. MOORE, of Baltimore, in the State of Maryland, have invented a new and useful Oil Projectile and Distributer, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to improvements in means or apparatus for saving life and property during storms in harbors, along the coast, or at open sea; and it particularly relates to the discharge of oil into the sea, whereby there is produced a smooth surface, which is not broken by the wind, as is usually the case when the surface of the sea is violently acted upon by the wind.

My invention consists of an oil projectile and distributer filled with oil and having means for permitting a discharge of oil into the sea when drawn in such a direction as to operate said means; and it further consists of an oil projectile and distributer filled with oil which is adapted to be fired or projected from a gun by any suitable means, said device being provided with means for operating its valve or valves from a distance; and it also consists of certain novel features and constructions hereinafter described, and particularly pointed out in the claims.

In the drawings which illustrate my invention, Figure 1 is a vertical central section through the projectile and distributer. Fig. 2 is a vertical central section showing the location of the parts when the distributer is being drawn through the water. Fig. 3 is a vertical section of the projectile and distributer similar to Fig. 1 with a perforated casing around the device. Fig. 4 is a side elevation of the construction shown in Fig. 3. Fig. 5 is a modification of the projectile and distributer shown in Figs. 1, 2, 3, and 4. Fig. 6 is a detail view of the catch and spring for holding the catch on the end of the valve-rod when the valves are open. Fig. 7 is a side elevation showing the projectile and distributer in position in a mortar ready to be projected.

Like letters of reference refer to like parts throughout the several views.

In order to utilize the well-known property of oil for producing a smooth surface on the water which has been broken by the action of the wind, I have constructed an oil projectile and distributer, in which A represents a shell, usually cast, and having at each end ports B with gum seats B′, which ports opening into the oil-chamber A′ are controlled by valves C, connected by valve-rod D, held in place by guides G, cast with the shell A and having brass or other suitable bushings where the rod D passes through. Upon the rod D is a collar E, against which and the rear guide G bears a spring F of sufficient tension to keep the valves in a closed position, except when the device is drawn through the water.

Upon the forward end of the projectile and distributer there is provided a catch H, held against the rod D by a spring H′, so that the catch H snaps over the end of the valve-rod D when the valves are opened by the inward movement of the rod D and keeps the said valves open during the travel of the distributer through the water.

From the front end of the shell A project standards I upon opposite sides. The wings J are swung on the pivots K at the far ends of the said standards and have the claws L bearing upon the end of the valve-rod D.

Around the shell A there is arranged, as shown in Fig. 4, a perforated casing M, and the space N between the casing M and shell A is filled with cork to assist in floating the projectile and distributer. This construction is especially useful at open sea between ships, while for coast service I deem it expedient to make the specific gravity of the apparatus such that it will sink beneath the surface of the water in order to avoid currents. This, however, is immaterial, as I shall make it so as to float or not, as may be advisable.

Upon one side of the device there is placed a rod O, ordinarily cast with a shell A and having a gum seat O′ at the rear end for the ring P to bear against when said ring is at that end. To the ring P is attached a rope P′, by means of which the distributer is drawn through the water toward the shore or ship from which projected. The oil is carried in

the oil-chamber A′ by means of sponges, cotton waste, felt, or any suitable absorbing material.

The construction shown in Fig. 5 is adapted for carrying oil in bulk, so that no sponges, felt, or cotton waste are used for absorbing the oil, and it consists of a shell *a*, having at one end an opening *a′*, leading into the oil-chamber a^2. Through the opening *a′* the chamber *m* is passed into the oil-chamber a^2, and at the end within the chamber a^2 has the suction-pipe *h* working on a swivel-joint, said suction-pipe having a weight *g* on its free end, so as to always keep said end in the oil in case of the projectile turning in the water. The other end n^2 of the chamber *m* is screw-threaded, so as to fit the threads in the opening *a′*, and thereby make a tight joint.

Within the chamber *m* works the pump-piston *n*, having attached thereto a hollow piston *n′*, sliding through the stuffing-box n^4, and has secured thereto an arm *c*, which is pivotally attached to the rocking lever *b*, swinging on a pivot *k*, mounted in standards *i*. From the other end of the lever *b* a rod *d*, pivotally mounted upon the said lever, extends rearwardly and is secured to to the collar *e*, sliding on the rod *o*. Against the collar *e* a spring *f* bears, so as to keep the end of the lever *b*, to which the rod *d* is secured, in a forward position and the piston *n* in an inward position. The rings *p* and the rope *p′* slide along the rod *o*, and when the distributer is being drawn through the water bear against at each pull of the rope *p′* the collar *e*, and when the rope is slackened the spring *f* throws the collar, and with it the rod *d*, forward and the piston *n* inward. The pulling and slacking of the rope actuates through the intervening mechanism the pump, so that the oil is drawn from the chamber a^2 through the suction-pipe *h* into the chamber *m* by the forward movement of the piston *n*, and as the piston *n* is returned by the action of the spring *f* the oil passes through the port in the piston controlled by the valve n^3 and out through the hollow piston-rod to the water. The valve *l* controls the flow of the oil to the chamber *m* from the chamber a^2 through the suction-pipe *h*.

The subject-matter just described, and which is shown in Fig. 5 of the drawings, is not claimed herein, but forms the subject-matter of a separate application, a division of this application, filed March 11, 1891, Serial No. 384,536.

The operation is as follows: In cases of necessity the projectile and distributer is placed in a mortar Q or other suitable device and discharged therefrom by powder, compressed air, or any suitable means toward the ship in distress, carrying with it the rope P′ and rings P. When the projectile strikes the water, the rope is pulled toward the shore or ship from which it is projected or fired, the ring P running back along the rod O to its gum seat O′, so that the water against which the device is pulled passing under the wings J throws them forward, as shown in Fig. 2, throws the valve-rod inward, and opens the valves, so that the water rushing in at the rear end drives the oil out through the front of the distributer between the wings J to the water. These wings J are preferably of sheet metal; but any other suitable material may be used. The valves are held open by the catch H, held against the end of the valve-rod by spring H′.

The operation as to the construction shown in Fig. 5 has been heretofore explained.

In case it should be impossible to throw the projectile, as for a want of a mortar or powder, the distributer could be carried by a boat as near as possible to the ship in distress and dropped overboard and operated by persons at a distance or in the boat, so that as the surface became smooth by means of the discharged oil the distressed ship could be approached with safety and the people and property transferred to the shore or other ship, so that my invention is not only a projectile and distributer, but also a distributer adapted to throw oil into the sea when being drawn through the water.

The device could also be used by a ship in the case of a storm by projecting the device ahead and then drawing it back toward the ship, so as to make a smooth surface on the water, through which the ship could sail.

I do not wish to confine myself to the exact constructions shown, as the same may be varied without departing from the spirit of my invention; but I intend to claim, broadly, an oil-projectile adapted to be placed in a suitable projecting device and to be projected therefrom and to discharge oil as it moves or is drawn through the water after said projection, for there has never been, so far as I am aware, such an apparatus as set forth in this application.

Having thus ascertained and described the nature of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An oil projectile and distributer adapted to be projected from a suitable projecting device, means for controlling the flow of oil therefrom, and a rope or its equivalent secured to said projectile and distributer for drawing the distributer through the water after the said projection, so as to operate said means and discharge the oil into the water, for the purpose set forth.

2. An oil projectile and distributer adapted to be projected to a distance by a suitable projecting device and having an oil-exit port controlled by a valve, in combination with a rope or its equivalent secured to said projectile and distributer for drawing the distributer through the water after the said projection, so as to operate said valve and discharge the oil into the water, for the purpose set forth.

3. An oil projectile and distributer adapted to be projected to a distance by a suitable projecting device, valves for controlling the

flow of oil therefrom after the projection, and means secured to said projectile and distributer for drawing the distributer through the water, so as to operate said valves and to cause the oil to pass to the water, for the purpose set forth.

4. An oil projectile and distributer adapted to be projected from a suitable projecting device, a valve controlling the flow of oil therefrom after the projection, and means secured to said projectile and distributer, extending to the place from which the projectile was thrown, for drawing the distributer through the water, so as to operate said valves and cause the oil to pass to the water, for the purpose set forth.

5. An oil projectile and distributer adapted to be projected to a distance by a suitable projecting device and having ports controlled by valves, and means secured to said projectile and distributer, operated at a distance after the said projection, for drawing the distributer through the water, so as to operate said valves and cause the oil to pass to the water, for the purpose set forth.

6. An oil projectile and distributer adapted to be projected to a distance by a suitable projecting device and provided with means for controlling the flow of oil to the water after the said projection, and a rope secured to said projectile and distributer for operating said means after the projection, so as to cause the oil to pass to the water, for the purpose set forth.

7. An oil projectile and distributer adapted to be projected to a distance by a suitable projecting device, said projectile provided with inlet and outlet valves operated by the action of the surrounding water as the distributer is drawn back through the water by means of a rope secured to the distributer and extending to the place from which the projectile was thrown, for the purpose set forth.

8. An oil projectile and distributer adapted to be projected to a distance by a suitable projecting device, said projectile and distributer having secured thereto a rope or its equivalent for drawing the distributer through the water after the projection, so as to cause a discharge of oil, said rope extending from the distributer to the place from which the projectile was thrown and toward which the distributer is drawn, for the purpose set forth.

9. An oil-distributer having water-inlet and oil-outlet valves, said valves connected to wings on the distributer, and means for operating said wings, for the purpose set forth.

10. An oil-distributer having water-inlet and oil-outlet valves, said valves connected by a valve-rod to wings on the distributer, and means for operating said wings to open said valves, for the purpose set forth.

11. An oil-distributer having inlet and outlet valves, said valves connected by a valve-rod to operating-wings on the distributer, and a rope connected at one end to the distributer and at its other end to the vessel or shore, adapted to operate said wings and valves, for the purpose set forth.

12. An oil-distributer having water-inlet and oil-outlet valves, said valves connected by a valve-rod to wings on the distributer, and means at a distance for operating said wings to open said valves and to draw the distributer through the water, for the purpose set forth.

13. An oil-distributer provided with outlet and inlet valves, a valve-rod connected to said valves, and means at a distance for operating said rod to open said valves and to draw the distributer through the water, for the purpose set forth.

14. In an oil-distributer adapted to be projected either from a gun or by the hand, the combination of the inlet and outlet valves, the valve-rod connected to the valves and movable or hinged wings bearing upon one end of said rod, and connections between the vessel or shore and the distributer for operating said wings, for the purpose set forth.

15. An oil-distributer having an oil-chamber and an oil-exit port controlled by a valve, and means for operating said valve from a distance, in combination with a perforated casing surrounding the shell of the distributer, the space between the imperforate shell of the distributer and the perforated casing being filled with cork or its equivalent, for the purpose set forth.

16. A projectile and distributer containing oil and adapted to be projected to a distance and having a valve controlling its oil-exit port, and means for operating said valve from a distance after said projection, in combination with a perforated casing surrounding the shell of the distributer, the space between the shell and perforated casing being filled with cork or its equivalent, for the purpose set forth.

17. A projectile and distributer containing oil and adapted to be projected to a distance and having water-inlet and oil-outlet ports controlled by valves, and means for operating said valves from a distance after said projection, in combination with a perforated casing surrounding the shell of the distributer, the space between the shell and casing being filled with cork or its equivalent, for the purpose set forth.

18. An oil-distributer consisting of the shell, the standards, the wings pivoted thereon, the upper ends of the wings bearing upon the end of a valve-rod carrying the inlet and outlet valves, in combination with means for operating said valves from a distance, for the purpose set forth.

19. An oil-distributer having the shell, the standards, the wings pivoted thereon, the upper ends of the wings bearing upon the end of a valve-rod carrying the inlet and outlet valves, in combination with a spring-catch adapted to snap over the end of the valve-rod to prevent the valves from closing, and means for operating said valves, for the purpose set forth.

20. An oil-distributer having a spring-catch on one end adapted to snap over the end of a valve-rod carrying valves to prevent the valves from closing, and means for operating said valves, for the purpose set forth.

21. An oil projectile and distributer having the shell, the standards, the wings pivoted thereon, and the claws at the upper ends of the wings, in combination with a valve-rod carrying valves and adapted to be operated by the claws on the wings bearing upon said rod, for the purpose set forth.

22. An oil projectile and distributer having the shell, the standards, the wings pivoted thereon, and claws at the upper ends of the wings, adapted to bear upon the end of a valve-rod carrying the inlet and outlet valves, so as to operate the same, in combination with a spring-catch adapted to snap over the end of the valve-rod, so as to prevent the valves from closing, for the purpose set forth.

23. An oil projectile and distributer adapted to be projected to a distance, having a catch on one end adapted to snap over the end of a valve-rod carrying valves to prevent the valves from closing, and means for operating said valves, for the purpose set forth.

24. An oil-distributer having an oil chamber and ports controlled by valves, in combination with a rod for receiving a ring, to which is attached a rope for pulling the distributer through the water, for the purpose set forth.

25. An oil projectile and distributer adapted to be projected to a distance and having valves controlling the ports, in combination with a rod adapted to receive a ring running along said rod, to which ring is attached a rope for pulling the projectile and distributer through the water after the said projection, for the purpose set forth.

26. An oil projectile and distributer adapted to be projected to a distance and having ports controlled by valves, in combination with a rod adapted to receive a ring running along said rod from end to end, to which ring is attached a rope for pulling the said distributer through the water after the said projection, for the purpose set forth.

27. An oil projectile and distributer adapted to be projected to a distance and having an oil-exit port controlled by a valve and means for operating said valve to allow a discharge, in combination with a ring secured to said distributer, to which ring is attached a rope for drawing the said distributer through the water.

28. An oil projectile and distributer having an oil-chamber and suitable absorbing material for absorbing the oil and having an outlet-port controlled by a valve, in combination with a ring secured to said distributer, to which ring is attached a rope for drawing the distributer through the water after the said projection.

29. An oil projectile and distributer adapted to be projected from a suitable projecting device and provided with valves operated by suitable means, and means for discharging the oil by drawing the distributer through the water after the said projection, for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 20th day of January, A. D. 1891.

EVERETT D. MOORE.

Witnesses:
ELIJAH I. BOND,
H. G. FAUT, Jr.