(No Model.)

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A. P. S. MILLER.

TORPEDO BOAT.

No. 364,364. Patented June 7, 1887.

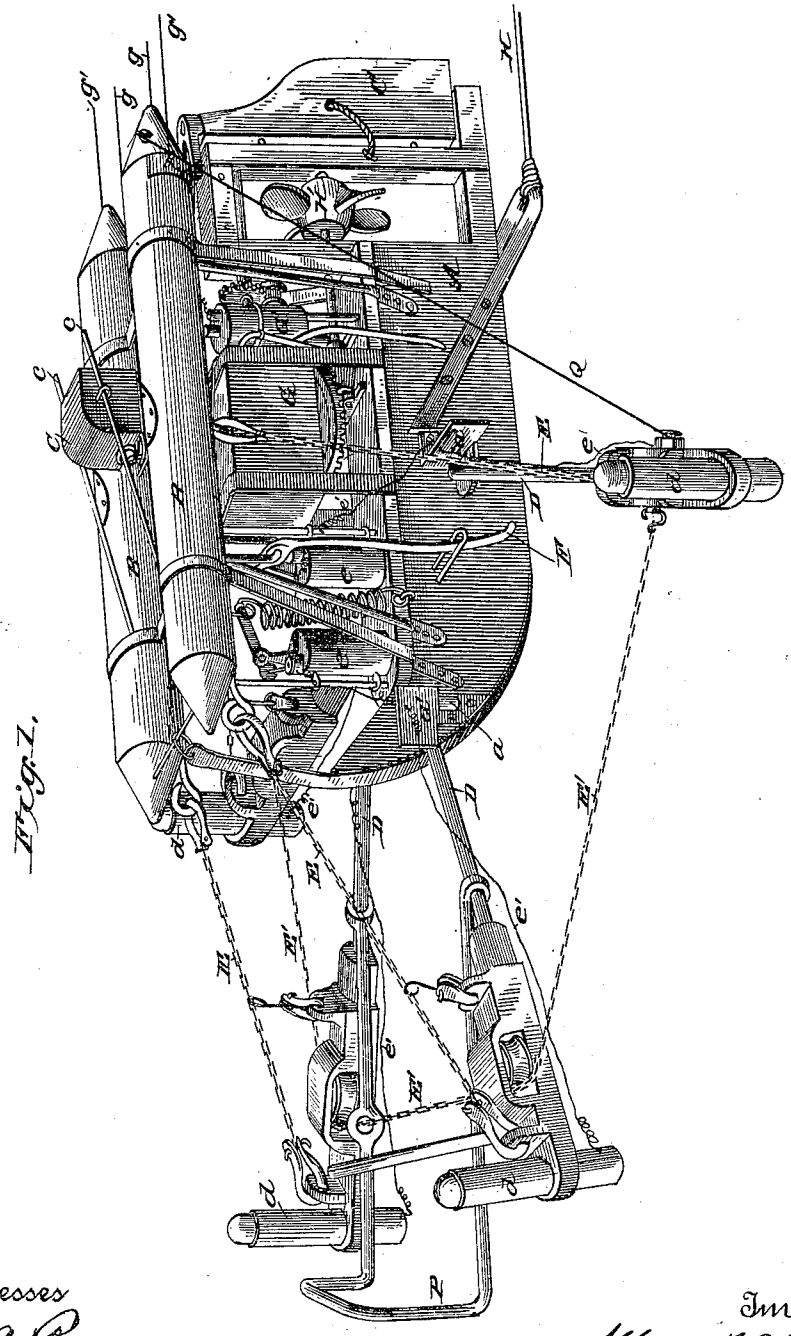


Fig. 1.

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(No Model.) 6 Sheets—Sheet 2.

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TORPEDO BOAT.

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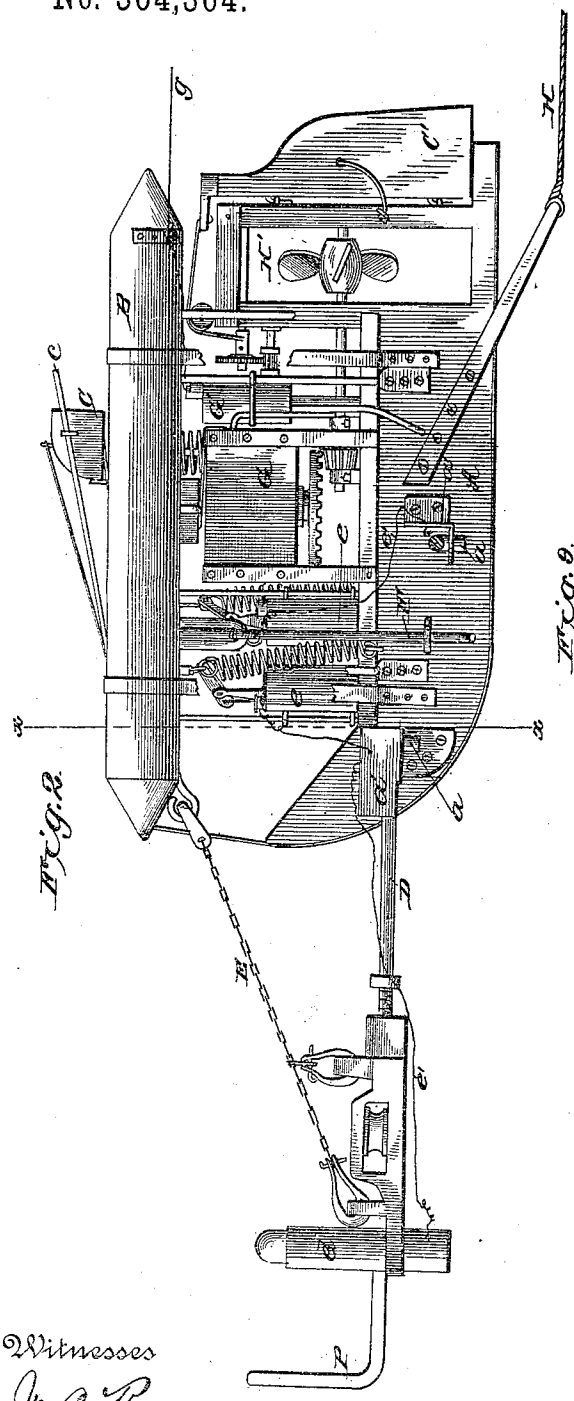


Fig. 2.

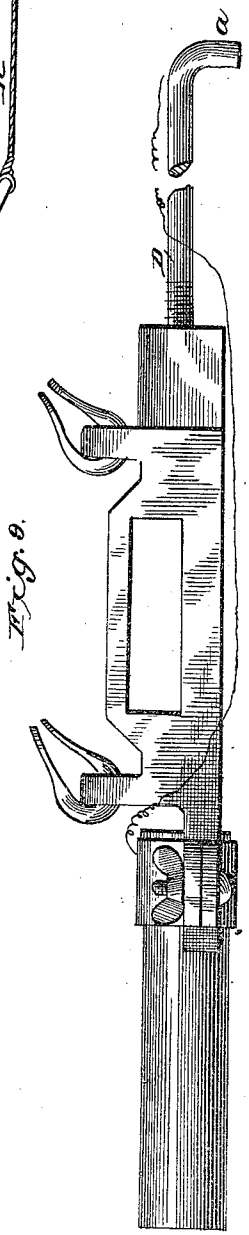


Fig. 3.

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Fig. 3.

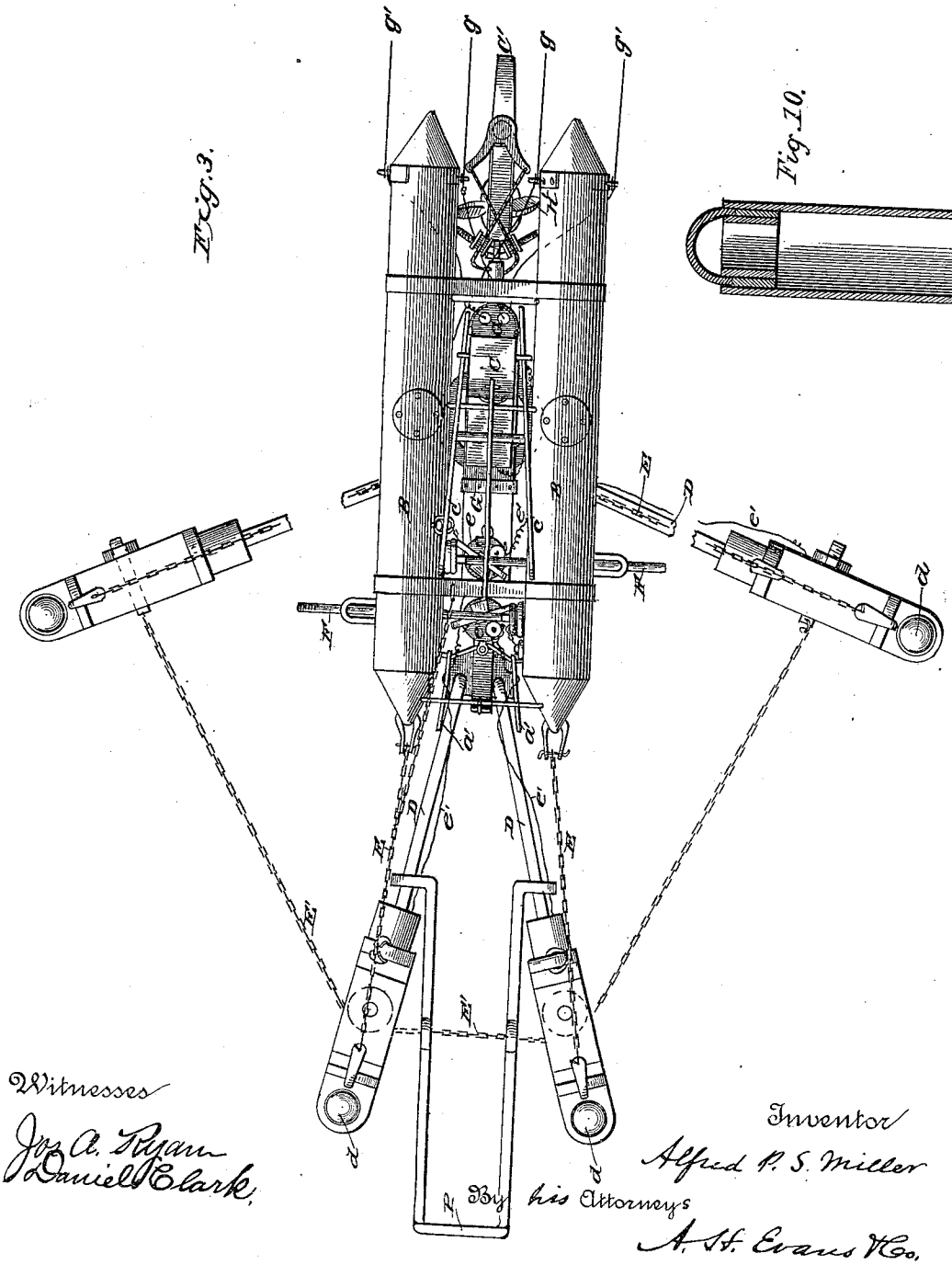


Fig. 10.

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Fig. 4.

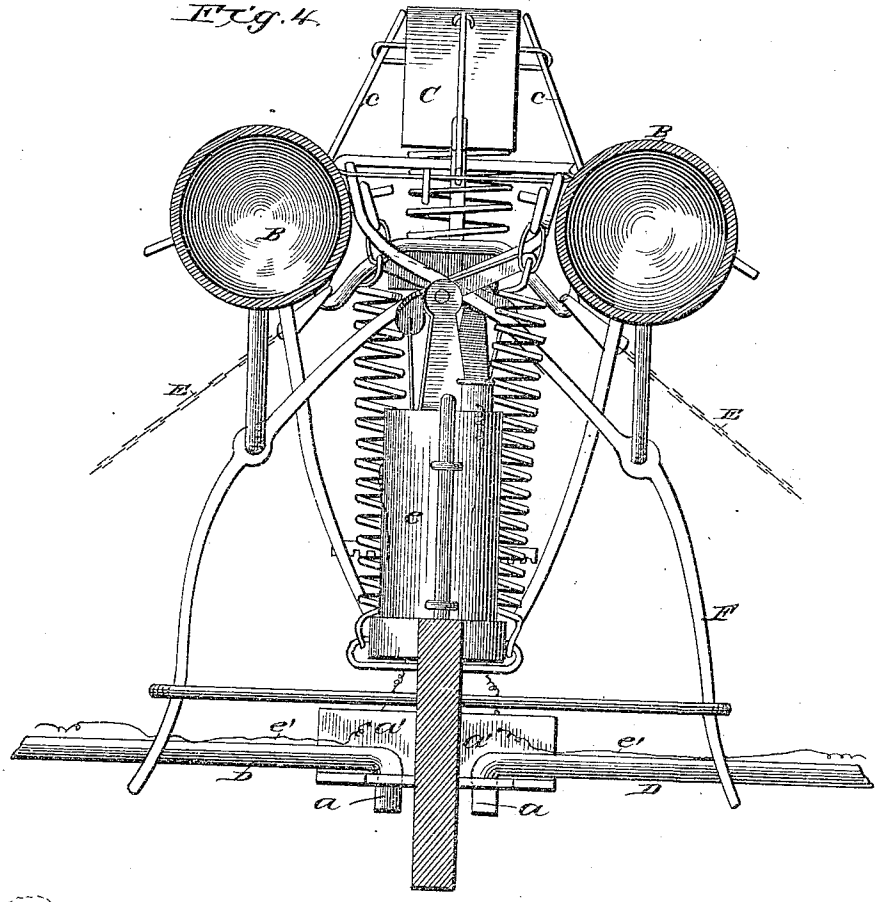
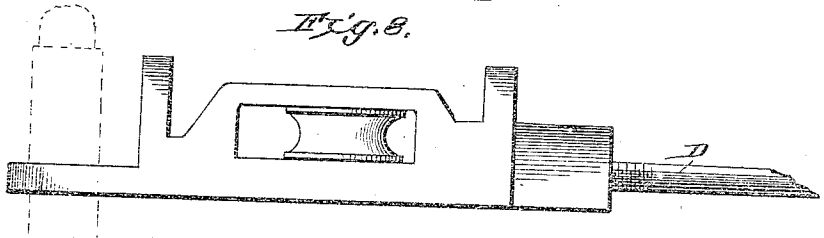


Fig. 8.



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TORPEDO BOAT.

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Fig. 5.

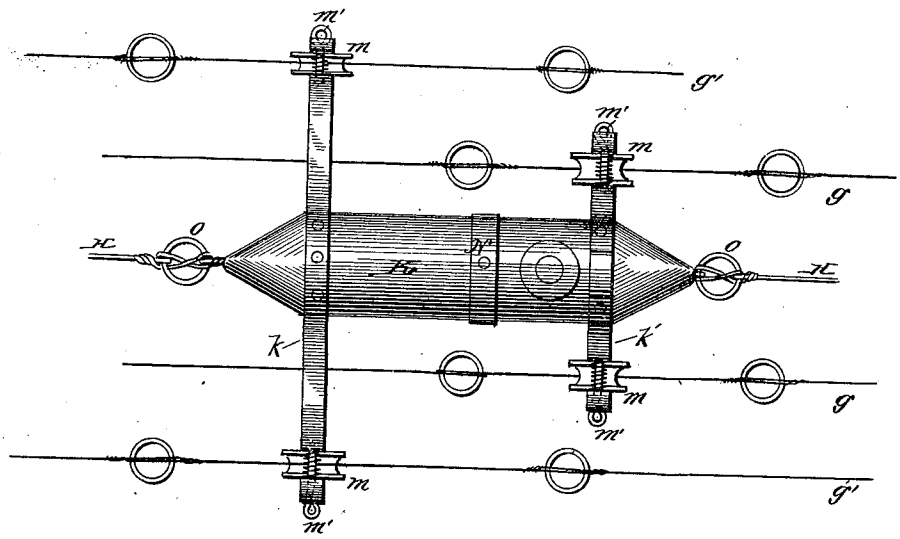
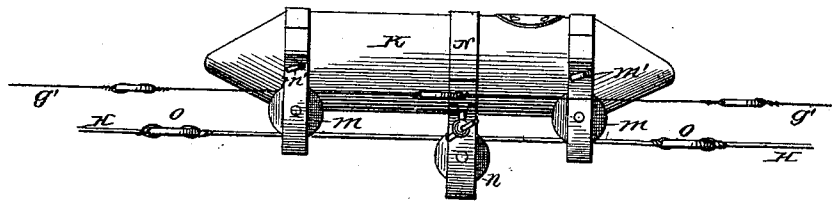


Fig. 6.



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TORPEDO BOAT.

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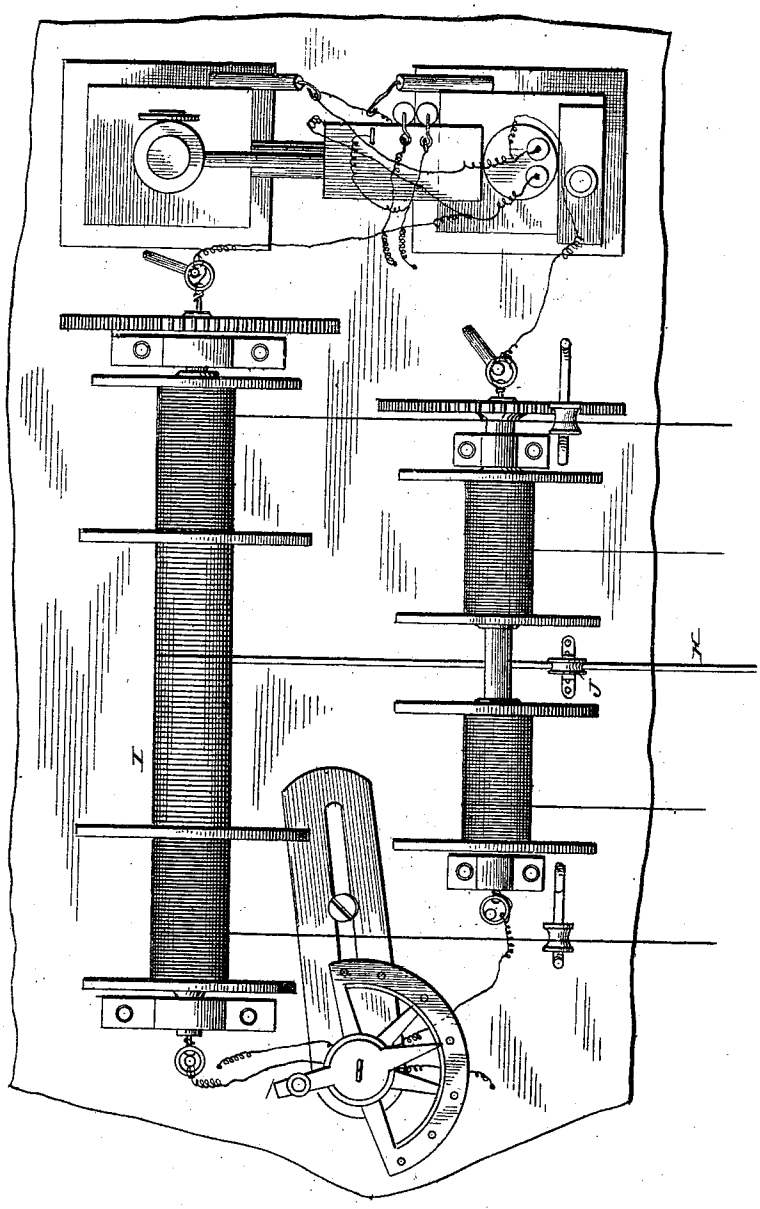


Fig. 7.

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UNITED STATES PATENT OFFICE.

ALFRED P. S. MILLER, OF NEW YORK, N. Y.

TORPEDO-BOAT.

SPECIFICATION forming part of Letters Patent No. 364,364, dated June 7, 1887.

Application filed September 27, 1886. Serial No. 214,634. (No model.)

To all whom it may concern:

Be it known that I, ALFRED P. S. MILLER, a citizen of the United States, residing in New York, in the State of New York, have invented a new and useful Improvement in Torpedo-Carriers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved torpedo-carrier with torpedoes in position. Fig. 2 is a side view of the same. Fig. 3 is a plan view of the same. Fig. 4 is a cross-section on *x x* of Fig. 2. Fig. 5 is a detached view of the wire buoy. Fig. 6 is a side view of the same. Fig. 7 is a plan view of the reeling-machine. Fig. 8 is a side view of one of the arms D detached. Fig. 9 is the same with the torpedo in position to explode horizontally. Fig. 10 is a section of a torpedo-shell.

My present invention relates to a means for sending out torpedoes from a ship or from a shore, and directing them to a particular point where it is desired to explode them, even if the said point be miles distant; and it consists in the several combinations of devices hereinafter explained and claimed.

To enable others skilled in the art to make and use my invention, I will proceed to describe the exact manner in which I have carried it out.

In the drawings, A represents the frame-work of a small vessel, provided with the floats or buoys B B and the rudder C'. The frame A is tightly boarded up, so as to exclude the water from the inclosed machinery, and allowing the vessel to sink to or just above the center of the floats B, thus concealing the vessel from an enemy's view.

To enable the operator on shipboard or shore to keep track of the carrier as it speeds on its course, I attach an electric or other suitable light, C, just above and between the floats, with the hood constructed to show the light only in the direction of the stern, and to be seen only by the operator or steersman on shipboard or on shore. This light C is seated on a coil-spring, and is attached to the floats by means of swinging rods *c c*, which will readily yield to the pressure of the waves and allow the light to descend between the floats, and rise again when relieved from the passing pressure. By means of this light the operator is enabled to keep the carrier in plain view, and to steer it in any direction by means of the rudder C', as will be hereinafter explained.

Around the bow of the carrier are secured the arms D, on the outer ends of which are placed the torpedo *d*, as shown in Fig. 1. These arms D are attached to the vessel by means of the bent portion *a*, passing into suitable sockets secured to the vessel, the sockets being provided with flanges *a'*, to limit the swing of the arms D, and prevent the torpedoes being brought into dangerous proximity with the vessel A. On the outer ends of the arms are openings suitable for receiving and holding the torpedoes ready for explosion.

The arms D are further secured to the vessel by means of the brace-chains E, as shown in Figs. 1 and 2, and they are connected together by the chain E', the extreme ends of which are secured to the two side arms, as shown in Fig. 3, and passing through sheaves in the other two arms virtually binds the arms together, for a purpose I will now explain. If a ship be under sail or moving and should strike the chain E on either the port or starboard bow of the carrier, the result would be to cause all the arms to close under the ship's side, and to enable the operator to explode the four torpedoes with effect, and the same result would be produced by a ship coming in direct contact with the carrier's bow, as it would force back the sliding spring P, which engages the chain E' immediately in front, and carrying back the chain would necessarily bring all the torpedoes under the ship's side, as shown in Fig. 3. A weak cord, Q, may be secured at one end to any convenient part of the stern of the carrier, and the other end be fastened to the arm D, as shown in Fig. 1. The effect of this would be to temporarily resist the yielding of the chain E', and then to snap or break, causing the arms to jump together with a kind of spring. This cord, however, is not essential to the successful operation of my carrier, and may be dispensed with; but I have arranged for an automatic discharge of the torpedoes by having the outside arms in swinging to the front to come in contact with the levers F, which causes a discharge of elec-

tricity from the batteries *e e*, and through properly-arranged conductors *e' e'* the torpedoes are exploded. (See Figs. 1 and 3.)

By placing electric batteries on the carrier the torpedoes can be exploded independently of the battery on shipboard or on shore.

Near the center of the vessel A is secured a motor, G, of any approved design, to be operated by means of electricity, by which motor the propeller H' is driven. In the rear of the motor G, I secure an electric engine, G' for operating and controlling the rudder C'. This engine as well as the motor G, is under the control of operator or engineer on shipboard by means of proper metallic connections, *g g* and *g' g'*, and proper electrical machinery on shipboard.

H is the wire connecting the carrier with the ship or shore, and this wire is coiled on the drum I, which is revolved by steam-power. This wire H is paid out to suit the movements of the carrier as it leaves the ship, and is again wound up to bring the carrier back to the ship. The wire H as it passes from and to the reel I is caused to pass under the friction-pulley J, whereby it is prevented from interfering with other wires. On the wire H, I place at predetermined intervals a float or buoy, K, to sustain the weight of the wires as they are paid out and as the carrier moves away. To these floats are secured the cross-arms *k* and *k'*, carrying loops in which are secured friction-pulleys *m*, over which the wires *g g* and *g' g'* pass, and where these wires are held in position by the spring-pins *m'*. Around the center of each float is also a metallic band, N, to which is secured a friction-pulley, *n*, over which passes the cord H, on which are secured rings *o*, or other convenient means to hold the floats in place and at proper distances apart on the wire. The wires *g g* and *g' g'* are provided with similar rings, to hold the length of these wires properly distributed over the space to be covered.

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

1. As an improvement in torpedo-carriers, a series of swinging arms attached to a vessel or frame and carrying the torpedo in their outer ends, in combination with flexible connections uniting each of said arms, whereby the latter approach each other when the connections are depressed, substantially as and for the purpose specified.

2. The frame A, having the rudder C' and the floats B in the upper part of said frame, in combination with swinging arms secured to the front and sides of the frame and carrying the torpedoes in their outer ends, a flexible connection uniting said arms, and guides for limiting the swinging movements of the arms, substantially as herein described.

3. In a torpedo-carrier, the swinging arms secured to the frame or vessel and carrying the torpedoes in their outer ends, in combination with a flexible connection, E', uniting said arms, and a spring, P, engaging the connection and arms and projecting forward of the latter, whereby the arms are drawn together upon the depression of said spring, substantially as herein described.

4. The vessel or frame having complementary steering and firing mechanism, in combination with the floats B, mounted in the top of said frame, the swinging torpedo-carrying arms, and a hood or reflector, C, above and between said floats, substantially as herein described.

5. The frame A, having complementary steering and firing mechanism, in combination with the floats B in the top of said frame, a reflector or hood above and between said floats and mounted upon a yielding seat, and the arms connecting the reflector with said floats, substantially as herein described.

6. The wire H, connecting the frame with the shore or ship, in combination with the floats K, for supporting said wire, the cross-arms *k k'*, and the pulleys *m* in said arms, over which adjacent wires pass, substantially as herein described.

7. The floats K, having the cross-arms *k* and *k'*, with the pulleys *m*, in combination with the wires *g g* and *g' g'*, connecting-wire H, and the torpedo-carrier, all constructed to operate substantially as and for the purpose set forth.

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