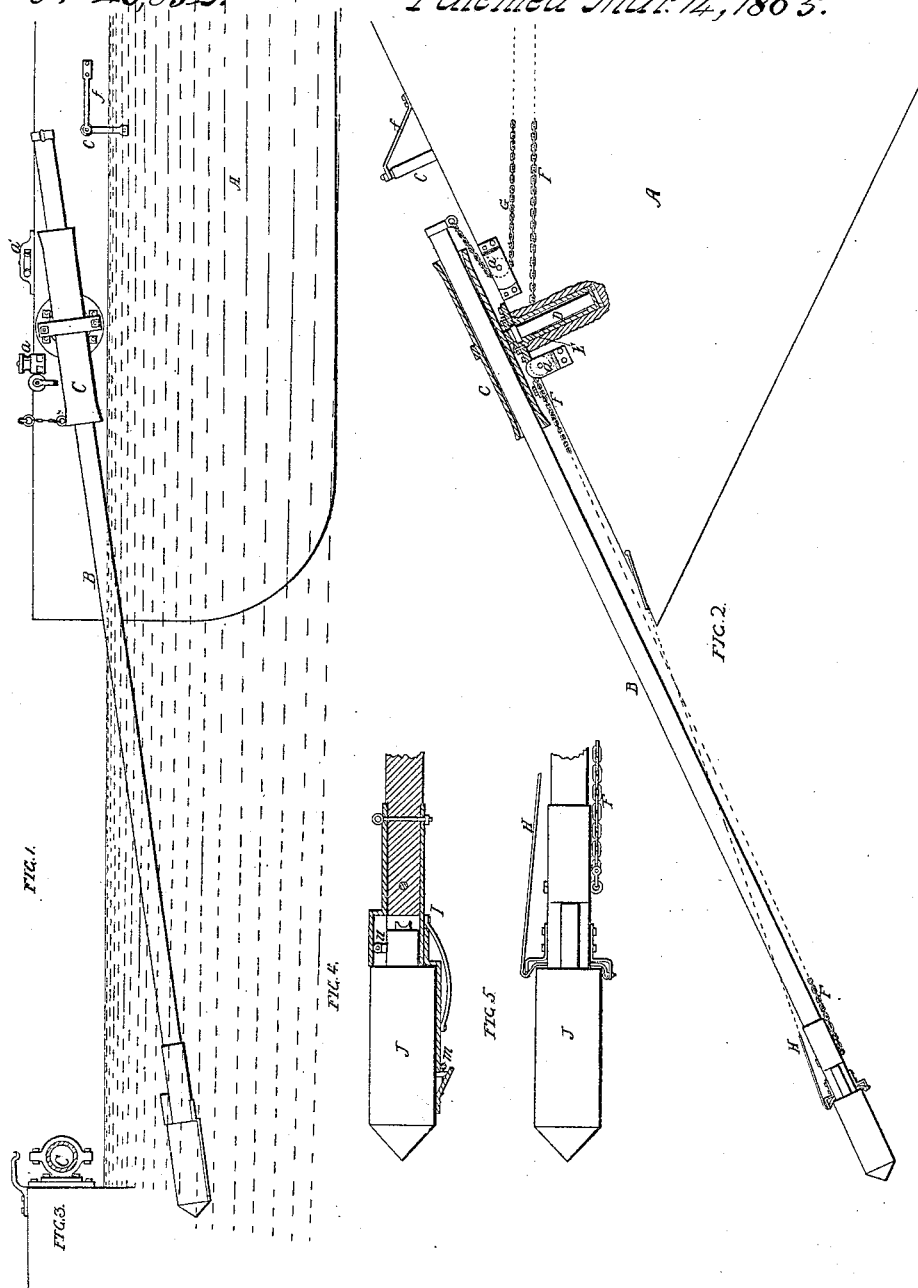


Wood & Lay.
 Submarine Torpedo App's.
 N^o 46,852.
 Patented Mar. 14, 1865.



Witnesses
 Wm. H. Hill
 T. J. Delany

Inventors
 Henry Clowson
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UNITED STATES PATENT OFFICE.

WILLIAM W. W. WOOD AND JOHN L. LAY, OF BUFFALO, NEW YORK, AS-
SIGNORS TO DONALD MCKAY, OF EAST BOSTON, MASSACHUSETTS.

IMPROVED APPARATUS FOR CARRYING AND EXPLODING SUBMARINE TORPEDOES, &c.

Specification forming part of Letters Patent No. 46,852, dated March 14, 1865.

To all whom it may concern:

Be it known that we, WM. W. W. WOOD, chief engineer United States Navy, and JOHN L. LAY, first assistant engineer United States Navy, have invented certain Apparatus for Carrying and Exploding Submarine Shells or Torpedoes; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention consists of a spar for holding at the end a torpedo, a sleeve for the reception of the spar, and a shaft or trunnion attached to the sleeve, the whole being constructed and applied to a vessel, substantially as described hereinafter, and the spar being controlled by ropes or chains, substantially as described hereinafter, that it can be made to carry a torpedo outward from the vessel, submerge the same, and can be drawn back prior to the explosion of the torpedo.

In order to enable others to construct and operate our invention, we will now proceed to describe the manner of making and using the same.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a side view of our apparatus for carrying and exploding submarine shells or torpedoes; Fig. 2, a plan view; Fig. 3, a detached view of part of the apparatus; and Figs. 4 and 5, views drawn to an enlarged scale, and representing the socket for holding and apparatus for releasing the torpedo.

Similar letters refer to similar parts throughout the several views.

A represents the forward portion of one of the United States light-draft monitors, to several of which our apparatus has been applied, or it may be supposed to represent the bows of any ordinary vessel.

B is a long spar, fitting in the sleeve C, and arranged to slide to and fro freely therein.

D is a trunnion or shaft secured to the sleeve, and arranged to turn in a chamber or socket, E, which is let into and firmly secured to one side of the vessel. A chain or rope, F, is attached to the spar B near the outer end of the same, and passes to the guide-pulley a, and thence to a barrel situated in the hold of the vessel. Another chain or rope G is se-

cured to the inner end of the spar B, passes round a guide-pulley, a', and thence to the barrel, which is driven by a small engine, the chains and chain-barrel being so arranged that by reversing the latter the spar may be drawn inward or projected outward at pleasure.

The socket I at the end of the spar for holding the torpedo J, and the manner of releasing and exploding the same, are the same as described in our application for a patent for apparatus for carrying and exploding torpedoes as attached to picket-boats or steam-launches, the description being so full and complete in the said application that repetition here will be unnecessary.

When the spar is not required for use, it is drawn inward, occupies a position alongside the vessel, and rests on a roller, e, which is arranged to turn on a pin projecting from the vessel.

When the spar has to be used, the torpedo is placed in the socket, the spar projected outward, the chain permitting its outer end to fall, and the torpedo to be submerged to the desired depth, while the sleeve C accommodates itself to the movement of the spar.

When the spar approaches the limit of its outward movement, a cord, H, which is secured to the vessel, becomes tight, in consequence of which the pin m is withdrawn, the torpedo being thereby unlocked from the socket and at liberty to be pushed therefrom by the further tightening of the cord H, as described in our aforesaid application.

The moment the torpedo is released the spar B is drawn inward to its former position alongside the vessel, and the latter is at the same time backed. In the meantime the released torpedo assumes a vertical position, and owing to its buoyancy rises until it comes in contact with the enemy's vessel; the operator then pulls a lanyard attached to the pin n, thereby withdrawing the same and permitting a weight in the torpedo to fall on a cap charged with detonate, which explodes the shell.

It should be understood that the torpedo used in connection with the above-described apparatus is similar in construction to that for which Letters Patent have recently been allowed to us.

We claim as our invention and desire to secure by Letters Patent—

1. The spar B, sleeve C, and its shaft D, constructed and applied to a vessel substantially as and for the purpose herein set forth.

2. The guided chains or ropes G and F, in combination with the said spar B and movable sleeve C, the whole being arranged and operating substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WM. W. W. WOOD.
JOHN L. LAY.

Witnesses:

W. H. FIELD,
C. A. JACKSON, Jr.