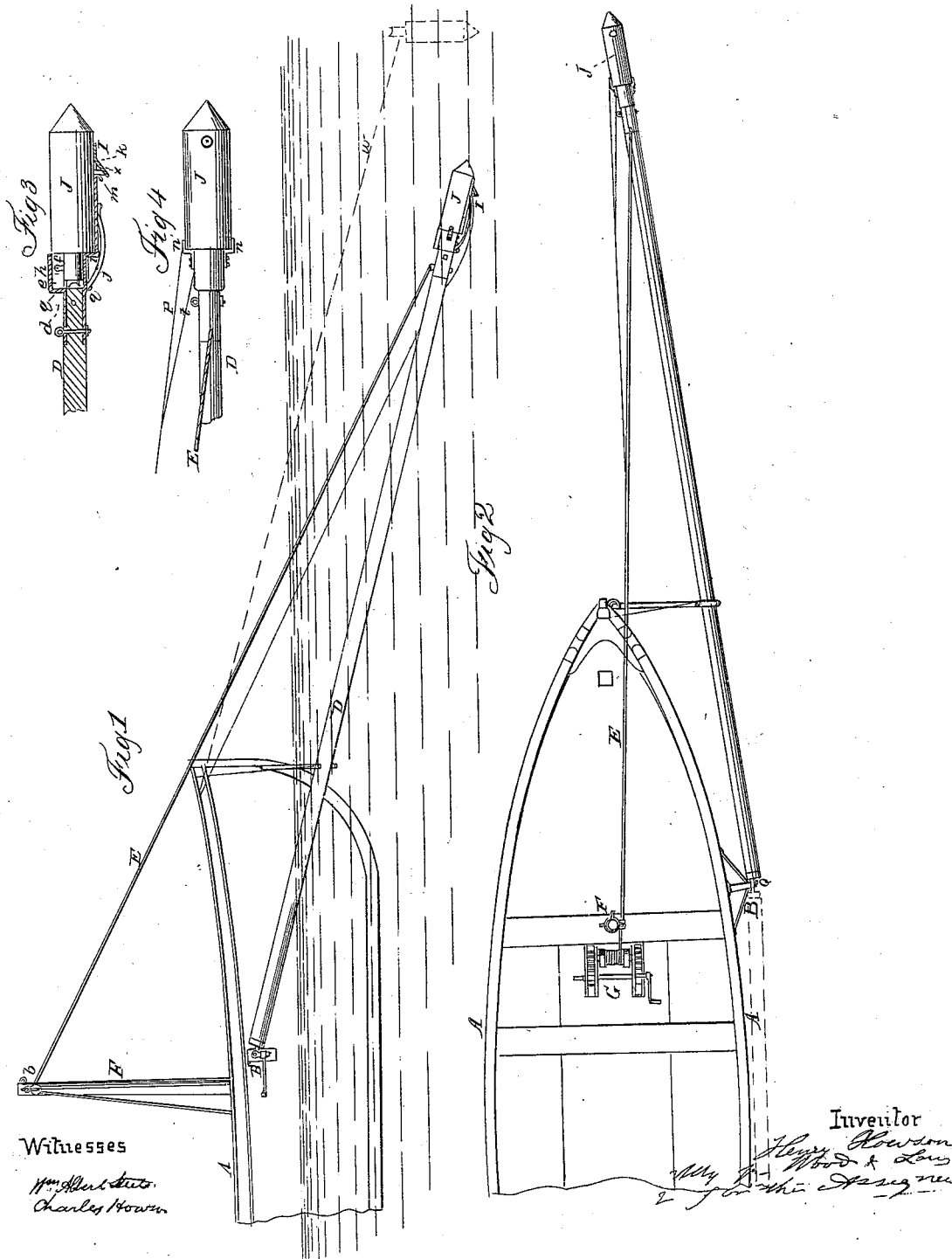


WOOD & LAY.  
Discharging Torpedoes.

No. 46,851

Patented Mar. 14, 1865.



Witnesses

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# UNITED STATES PATENT OFFICE.

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UNITED STATES NAVY, ASSIGNORS TO DONALD MCKAY, OF EAST BOS-  
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## IMPROVED PICKET-BOAT AND APPARATUS FOR DISCHARGING TORPEDOES.

Specification forming part of Letters Patent No. 46,851, dated March 14, 1865.

### *To all whom it may concern:*

Be it known that we, WILLIAM W. W. WOOD, chief engineer United States Navy, and J. 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 apparatus, fully described hereinafter, to be attached to a steam-launch or picket-boat, or other suitable vessel, for the purpose of carrying, submerging, retaining, releasing, and exploding torpedoes.

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

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a side view of the improved apparatus for carrying and exploding submarine shells or torpedoes; Fig. 2, a plan view, and Figs. 3 and 4 detached views of parts of the apparatus.

Similar letters refer to similar parts throughout the several views.

A represents the forward part of a small steamboat of the class known as "steam-launches" or "picket-boats." To the outside of the boat is secured a bracket, B, and to the latter is connected, by means of a universal joint, *a*, one end of a long spar, D. A halyard, E, is connected to the spar near the outer end of the same, and passes through a block, *b*, at the head of a mast, F, and thence down the drum of a small windlass, G, which is situated on the bottom of the boat immediately behind the mast. On the outer end of the spar D is the socket for holding one shell or torpedo, the exterior form of which will be best observed on reference to Figs. 3 and 4.

The socket in the present instance consists of a cast-iron tube, *d*, to which the end of the spar D is secured, the front end of the tube being formed into a chamber for the reception of the projecting head *f* of the shell J and for the pin *h*, by the withdrawal of which the shell is exploded. One end of a wrought-iron

plate, I, is secured to the under side of the cast-iron tube *d*, and is stayed thereto by the bent bar *j*. The shell rests on the concave upper surface of the plate I, in which is an opening for receiving the projection *k* of the shell, and through this projection passes a pin, *m*, the latter thus securing the shell to the socket.

When the above-described mechanism is not required for use, the spar is carried alongside the boat in the position shown by red lines, Fig. 2, the socket being adjacent to the stern of the boat. When the apparatus has to be used, the torpedo is placed in the socket, its projecting head occupying a position in the chamber *c*. (See Fig. 3.) A small lanyard, *p*, is secured to one of the arms *n* of the socket, passes across the head *f* of the torpedo, between lugs *q q* on the same, through a hole in the other arm, *n'*, of the socket, and thence to the vessel. A short line, *t*, is connected to the pin *m*, and attached to the lanyard *p* in such a manner that on pulling the latter the first result will be the withdrawal of the pin *m* from the projection *l* of the torpedo. A line, *w*, is also attached to the pin *h* of the torpedo, and extends to the vessel. After these lines have been properly disposed of and adjusted, the spar is swung round on its universal joint *a*, so as to project beyond the bows of the boat. The outer end of the spar is then lowered by means of the halyard E and the windlass G to the required depth and in the desired proximity to the enemy's vessel. The attendant then pulls the lanyard *p*, thereby withdrawing the pin *m*, when the torpedo is at liberty to escape from the socket, which it will do in most cases without any further pulling of the lanyard *p*; but in order to insure the escape of the torpedo from the socket it is advisable to continue to pull this lanyard, which, owing to its arrangement in respect to the arms *n* and *n'* of the socket and to the projection *f* of the torpedo, will force the latter from the socket.

Immediately after the release of the torpedo, it is the duty of the attendants to immediately lower the outer end of the spar and to back the vessel as speedily as possible, so that both may be at a safe distance from the torpedo when it is exploded.

On being released the torpedo will, owing to its peculiar internal construction, assume the vertical position shown by red lines, Fig. 1, and will rise until it comes in contact with the vessel to be destroyed. The cord *m* is then pulled, thereby withdrawing the pin *h* and permitting a weight to fall onto a cap charged with detonate, which ignites the powder in the shell.

The socket, at the point where the projection *l* of the torpedo passes through it, is provided with an inclined plane, *x*, over which the said projection readily slides when the torpedo escapes from the socket.

It may be remarked that the torpedo is of the peculiar construction described in the specification which accompanied our application for a patent (recently allowed) for submarine shells or torpedoes, and that a similar shell and apparatus similar to that described above were used in destroying the rebel ram Albemarle.

If properly managed and manned by well-drilled hands, this boat and its apparatus can be used in shallow waters on secret nocturnal expeditions against an enemy's vessels with destructive effect and with every prospect of safety to those in charge, the torpedo being such that, if properly released and exploded at the right time, and the boat be backed to a distance of but fifteen or twenty feet from the

shell, the explosion of the latter will not injure the boat or those on board.

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

1. The spar *D*, connected to a boat and controlled by tackle, substantially as described, in combination with the within-described socket, or its equivalent, for carrying and retaining a submarine shell or torpedo.

2. The socket composed of the tube *d*, its chamber *e*, and plate *I*, the whole being constructed and arranged for the reception of the torpedo, substantially as set forth.

3. The projection *k* of the torpedo, passing through an opening in the plate *I*, and the retaining and releasing pin *m*, and lanyard *t*, the whole being arranged and operating substantially as described.

4. The arms *n*, cords *n'*, of the socket, and lanyard *p*, arranged in respect to the projection *f* of the torpedo, substantially as and for the purpose set forth.

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

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

Witnesses:

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