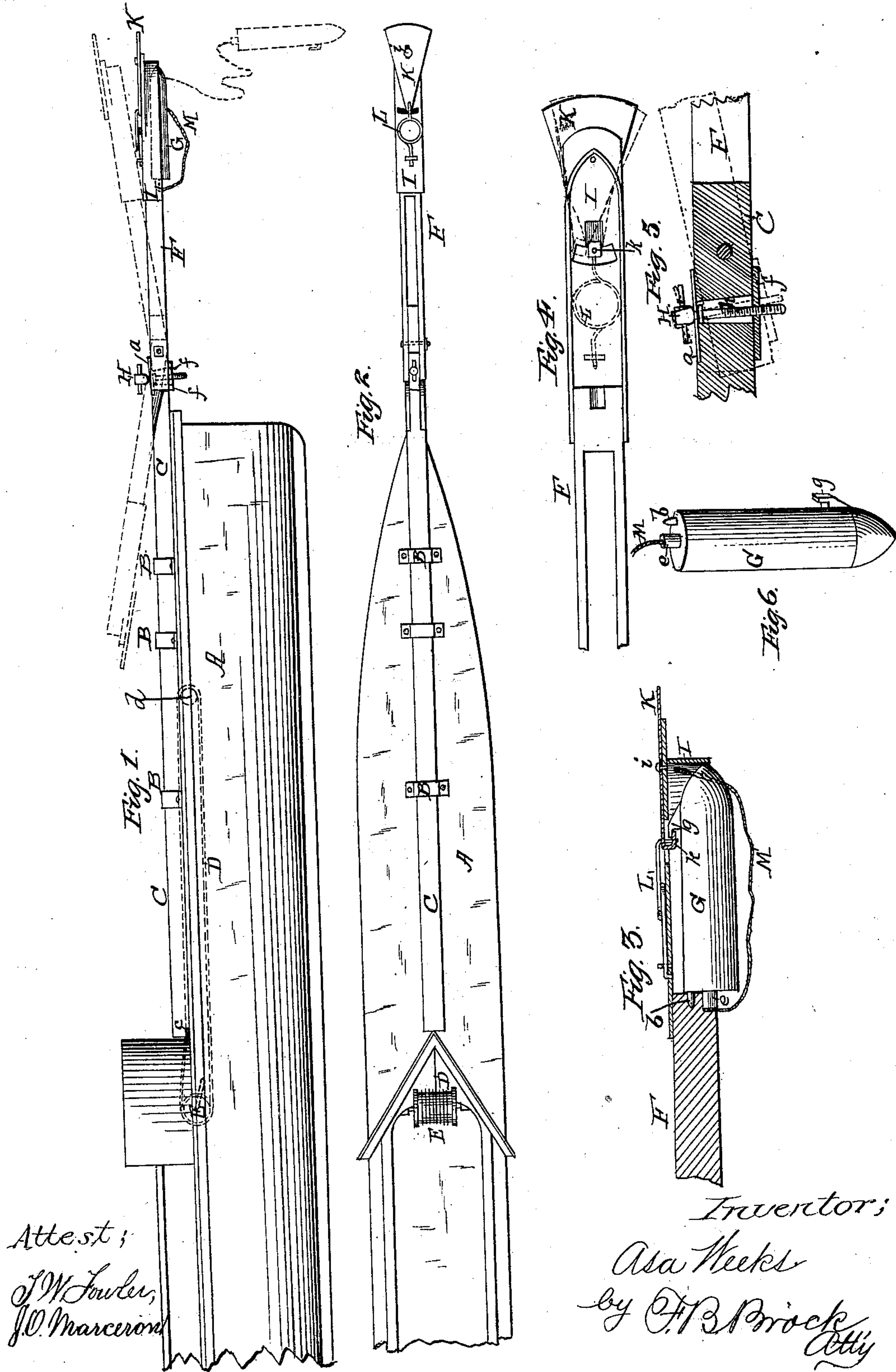


(No Model.)

A. WEEKS.
SPAR TORPEDO.

No. 273,413.

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UNITED STATES PATENT OFFICE.

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SPAR-TORPEDO.

SPECIFICATION forming part of Letters Patent No. 273,413, dated March 6, 1883.

Application filed May 10, 1882. (No model.)

To all whom it may concern :

Be it known that I, ASA WEEKS, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Torpedoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Figure 1 represents a side elevation of the front portion of a boat to which my improvement has been applied, and Fig. 2 a top view of the same. Fig. 3 represents a central vertical longitudinal section of the forward end of the torpedo-spar, showing the torpedo in place. Fig. 4 is a bottom plan of the forward end of the spar, the torpedo being removed. Fig. 5 is a detail enlarged sectional view, and Fig. 6 a perspective view, of the rocket.

This invention relates to torpedoes used in warfare.

After fully describing the construction of my improvement and the method of operation, I shall proceed to set forth in the claims the several points of novelty in its structure.

On the bow of a boat, A, of any desired construction, is secured, by means of metallic straps B, a spar, C, which is adjustable in the line of its length. This adjustment is accomplished by means of a windlass, E, or other known device suitable for the purpose, having an endless cord, D, passing over it and over a pulley, d, located near the bow of the boat. The cord D is made fast at c to the rear end of the spar C. On revolving the windlass to the right the cord is wound in over the pulley d, which forces the spar C outwardly or forwardly. It is obvious that the spar may be pulled in by turning the windlass in the opposite direction.

To the forward end of spar C is a spar, F, pivoted thereto, which carries the torpedo G and the devices for releasing and actuating the same upon contact with an obstacle. The spars C and F may be made in one rigid spar, if desired, and the adjustment of the spars dis-

pensed with; but I prefer to use a forward pivoted section, in order that said forward spar, F, may be swung backwardly upon the deck, so that the torpedo G may be conveniently placed in position upon the spar. Another advantage which results from this construction is that the outer end of spar F may be raised, so that when the boat is running in rough water, preparatory to an attack, there is no tendency of the spar dipping into the water. This latter adjustment is shown in detail in Fig. 5.

f is a plate secured to the lower inner end of the bifurcated arm of the spar F, and it is provided with an interior-threaded hole, through which works a screw, H, in a slot, h, in the spar C. This screw has no movement in the line of its length, but turns loosely in a hole in the plate a, between two shoulders on the screw-bolt. Consequently, if the screw H is a right-hand screw and it be turned to the left it will be withdrawn from the plate f, or, more properly speaking, the plate f is moved downwardly with the rearward end of the spar F, to which the plate is attached, to the position shown in dotted lines, Figs. 5, 1. Upon continuing turning the screw H to the left it disengages itself from the plate f, when the spar F may be thrown back upon its pivot on the bow of the boat. (Shown in dotted lines, Fig. 1.)

I represents a casing rigidly secured to the forward end of spar F. It is closed at its top and sides, but open at its bottom. K is the contact-plate. It is provided with a catch, k, which normally engages a lug, g, on the torpedo G. i is a pin secured to casing I. This pin passes through a slot in the contact-plate. The casing I has a segmental slot, so that the catch k of plate K may pass and have free play therein, and so that the catch may engage and disengage the lug g.

L is a spring having a constant tendency to keep the rear end or catch k of plate, K, under the lug g. The spring L, however, will allow the contact-plate K to yield to any extraordinary force in the manner hereinafter referred to. One end of spring L is rigidly attached to casing I and the other to the rear end of the contact-plate.

Besides the lug *g* as a means for support of the torpedo *G*, it is also provided with a pin, *b*, which takes in a recess in the spar. A recess is also provided for the reception of the end *e* of the firing-pin mechanism. This mechanism is similar to that shown and described by me in a pending application for an improved torpedo, filed in the United States Patent Office May 10, 1882. The firing-pin is operated by a line, *M*, attached thereto and to the forward end of the spar, and of a length sufficient to enable the torpedo, on contact of the spar, to drop down below the attacked vessel's armor or water-line before the line is straightened or taut and the firing-pin actuated. The front end of the casing *I* prevents the torpedo from sliding forwardly off from its supports. The attack is made with the "bow on." It is designed to have the spar horizontal when running upon the enemy. Contact is made by the plate *K* striking the ship's sides. If the run is made "dead on," the plate *K* will be driven backwardly (the pin *i* moving through the slot in said plate) and the catch *k* released from the lug *g* of the torpedo, when the torpedo will be precipitated, as seen in dotted lines, Fig. 1. When said torpedo reaches the end of the line *M* its firing mechanism will be operated and the torpedo exploded. Should, however, contact be made with the enemy at any angle to the sides of the attacked vessel, (say forty-five degrees,) the contact-plate *K* will be thrust sidewise, and the spring *L* will yield, in order that the catch *k* may be swung or slid laterally from under the lug *g*, and the torpedo projected in the same manner as described above.

In Fig. 4 the plate *K* is shown by dotted lines deflected by contact at an angle, so that the catch *k* will move from under the lug on the torpedo.

Instead of a percussion-fuse operated by the line *M*, the agency of electricity may be employed for the firing of the torpedo by means of a suitably-arranged electric circuit.

It will be observed that when the spar *F* is turned backwardly over the bow of the boat the casing *I* is inverted. This renders it convenient for the torpedo to be attached to the end of the spar from the deck. It also renders the spar easily accessible for repairs.

I do not wish it understood, however, that I confine my invention for use in connection with any particular spar, nor to one arranged to project in a line with the keel of the boat,

as it is obvious that differently-arranged spars may be used with good results.

What I claim is—

1. The combination of the following instrumentalities: a boat, a spar projecting from the boat above the surface of the water, a torpedo having a firing-pin, and detachably secured to the end of the spar, as described, and a cord attached at one end to the end of the spar and at the other to the firing-pin of the torpedo, whereby the torpedo, upon contact, is precipitated and fired by the pull exerted by the cord upon the firing-pin in whatever position the torpedo may fall.

2. In combination with a projecting spar, a contact plate or piece having an elongated hole or slot extending lengthwise of the spar, through which its pivotal pin passes, a catch for supporting the torpedo, and a spring which holds the catch so as to support said torpedo, except upon contact of said plate, when said spring yields to allow the contact-plate a rearward or a swinging lateral motion to either side.

3. The combination of a projecting spar having a pivoted forward section, a casing secured to the spar at its forward end, carrying a spring-plate for releasing and precipitating the torpedo upon contact, and a torpedo carried by the spar, as set forth.

4. A spar having a pivoted forward section carrying a plate having a threaded hole, in combination with a screw bolt working through said hole, whereby vertical adjustment of the spar is secured, and whereby the bolt may be withdrawn in order to swing the spar backwardly upon the deck.

5. The spar *F*, carrying casing *I*, having the contact-plate *K*, a segmental slot in the casing for the rear end of plate *K* to play in, and a spring for holding said plate normally in line with the spar, the whole constructed to act in combination, as set forth.

6. The combination of spar *F*, recessed, as described, and provided with the spring contact-plate *K*, the torpedo *G*, having lugs *b* and *g*, whereby the torpedo is detachably secured to the end of the spar.

In testimony whereof I affix my signature in presence of two witnesses.

ASA WEEKS.

Witnesses:

F. B. BROCK,
W. T. JOHNSON.