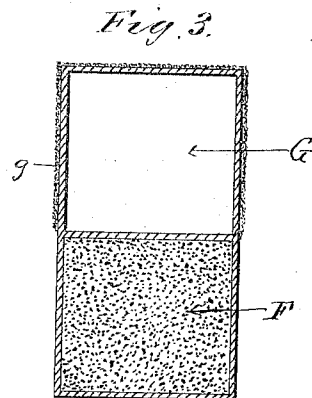
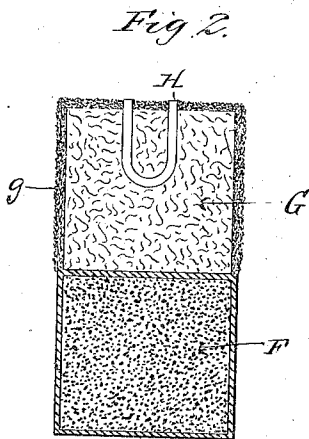
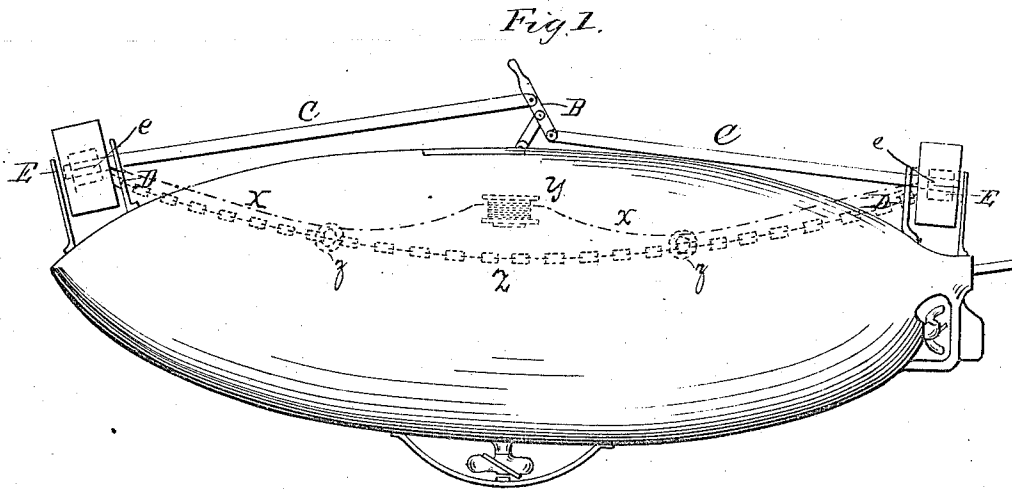


(No Model.)

J. H. L. TUCK.
MARINE TORPEDO.

No. 297,648.

Patented Apr. 29, 1884.



Witnesses
Jm R. Stuart
J. L. Lumbard.

Inventor
Josiah H. L. Tuck,
By M. Kalb,
Attorney

UNITED STATES PATENT OFFICE.

JOSIAH H. L. TUCK, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO THE
SUBMARINE MONITOR COMPANY, OF NEW YORK, N. Y.

MARINE TORPEDO.

SPECIFICATION forming part of Letters Patent No. 297,648, dated April 29, 1884.

Application filed March 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH H. L. TUCK, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Torpedoes for Submarine and other Uses; 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.

My invention relates to torpedoes for submarine and other uses.

The torpedo herein described was in most of its features embodied in an application for patent on a submarine boat filed by me on the 16th day of June, 1883, and designated by serial number 98,300.

The following description explains the nature of my said invention and the manner in which I construct and apply the same.

The accompanying drawings form a part of this specification and illustrate my invention.

Figure 1 shows in side elevation the outline of a ship for submarine use with my torpedo and holding and releasing means applied. Fig. 2 is a detail of the torpedo with a cork float, magnet, and adhesive covering. Fig. 3 is a detail of the torpedo with an air or gas chamber substituted for the cork float.

A is the vessel, B a compound lever, and C C bars extending therefrom to the front and rear ends of the vessel. D D are frames or supports for the torpedoes E E. These torpedoes E are formed with an end or chamber, F, for the explosive, and a float or buoyant end, G. This float end G may be formed either of cork or some analogous material, as shown in Fig. 2, or with an air or gas chamber, as shown in Fig. 3, to give them buoyancy and cause them to rise and bear against the under side of a vessel or other structure. To cause the torpedoes to stick or cling more tenaciously to such structure, and to cling or stick to surfaces that are considerably inclined or even vertical, I coat the float end with a coating of some adhesive material which will keep about the right consistency

in water to readily stick and adhere to any substance or surface. This coating is marked g, and is shown upon both forms of float in Figs. 2 and 3. I also provide the float end of the explosive with a magnet, H, as shown in Fig. 2. This will cause the explosive to attach itself to any iron or steel surface—as the iron bottom of a ship or an iron band thereon—and cling for hours, regardless of the action of the water.

The torpedoes are held together by a chain or cable, Z, and are connected by an electric wire, X, to a battery (not shown) in the boat. Insulators z are attached to the chain or cable Z, and the wire X passes round them and extends onto a reel, Y, and thence onto the battery, which is not shown. The two torpedoes are held at a distance apart, as hereinafter explained, on bow and stern of boat, and are coupled together by the chain or cable Z, in order that as they rise under a vessel or other structure they may be as far apart as possible, so that they will be the more certain to come into contact with the said structure, and still be kept from floating too far from each other by the connecting-chain, which also furnishes the support for the insulators. On the side of the torpedo is provided a bracket or other holding means, c.

In use the torpedoes are placed in the receiving frames or brackets D D on the top near the ends of the boat. The bars C C enter through the frame D and have their ends in the brackets c in the torpedoes, and as long as they thus press upon the torpedoes the latter are held in place in the frames. The bars C C are attached to the lever B on its opposite arms, and are thereby operated together. This compound lever B is placed alongside of the opening of the water-lock, (for which see my previous application, hereinbefore alluded to,) and the operator takes hold of it, and by throwing it into the position opposite to that shown in the drawings thereby withdraws both bars C C at once and liberates the torpedoes E E, which rise of their own buoyancy and will attach themselves to a vessel or other object, as hereinbefore explained.

Having thus described my invention, what

I desire to claim and secure by Letters Patent is—

1. A torpedo having a float portion coated with adhesive material and provided with a magnet, substantially as set forth.
2. In a buoyant torpedo, the combination, with the magazine, of a superposed buoyant chamber or float and a coating of some adhesive material applied thereto, whereby the tor-

pedo will adhere to any object with which it may come in contact, substantially as described.

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

JOSIAH H. L. TUCK.

Witnesses:

E. D. GRANT,
WM. H. SEARS.