

(No Model.)

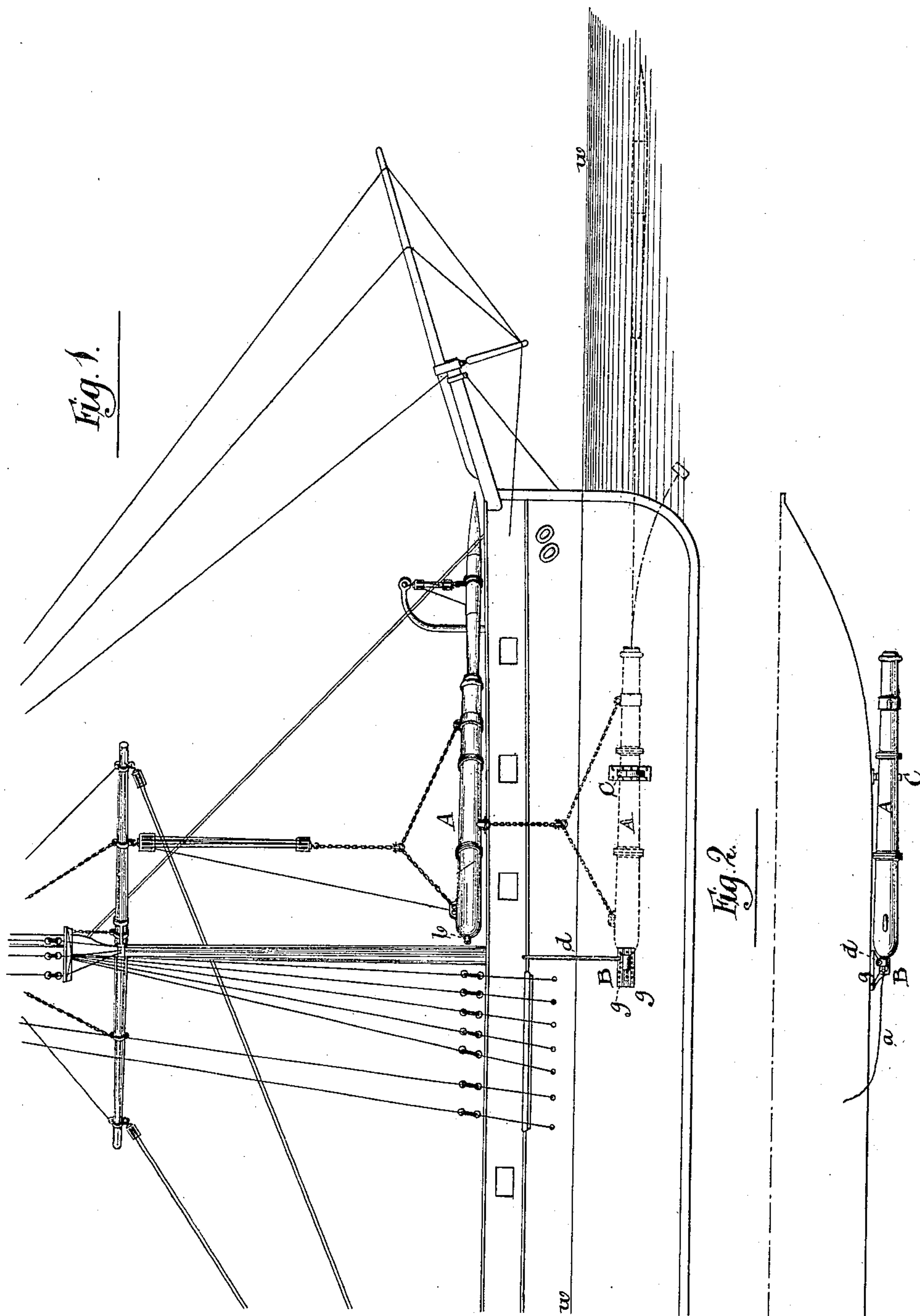
2 Sheets—Sheet 1.

J. ERICSSON.

MEANS FOR ADAPTING SUBMARINE GUNS TO SHIPS.

No. 245,364.

Patented Aug. 9, 1881.



Witnesses:-

Wm. Lloyd Garrison
Louis M. Whithead.

Inventor:—

Inventor:-
John Ericsson
Lybri & Harney
Brown & Brown.

(No Model.)

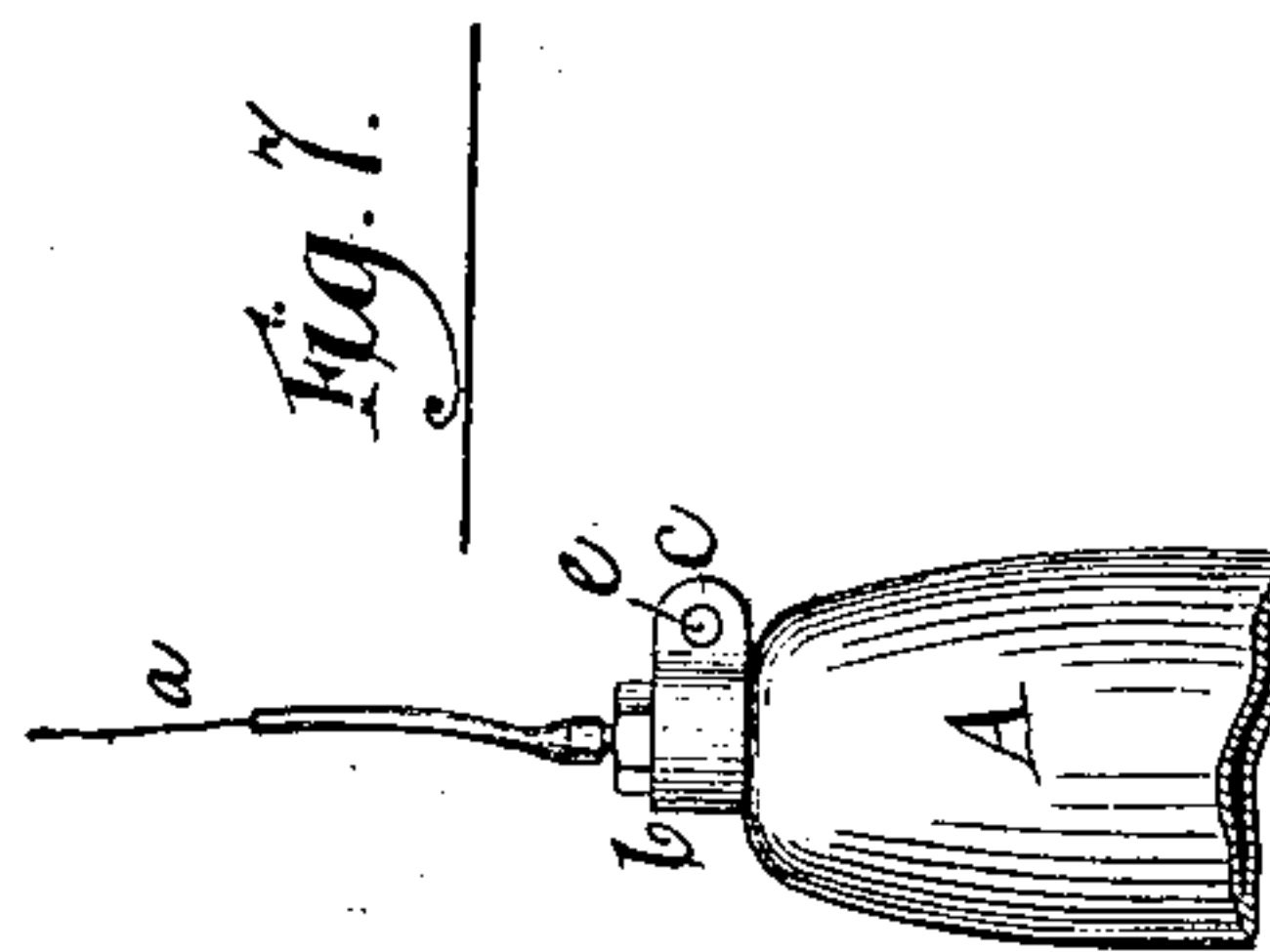
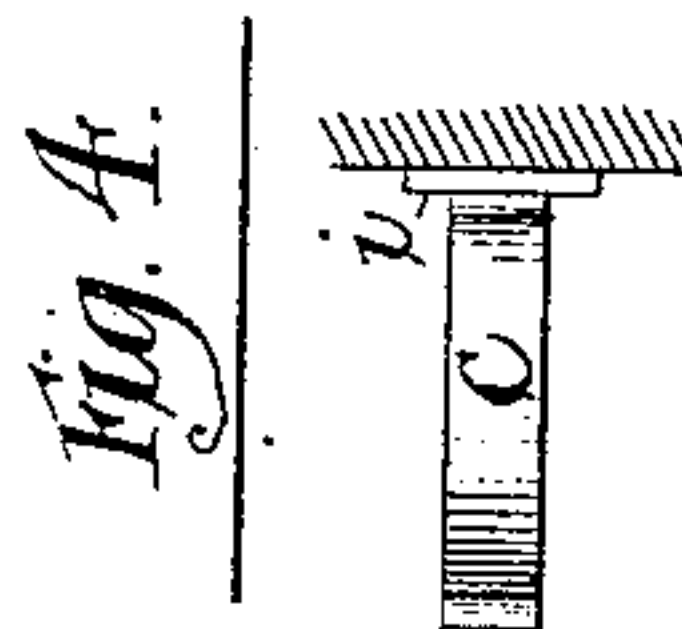
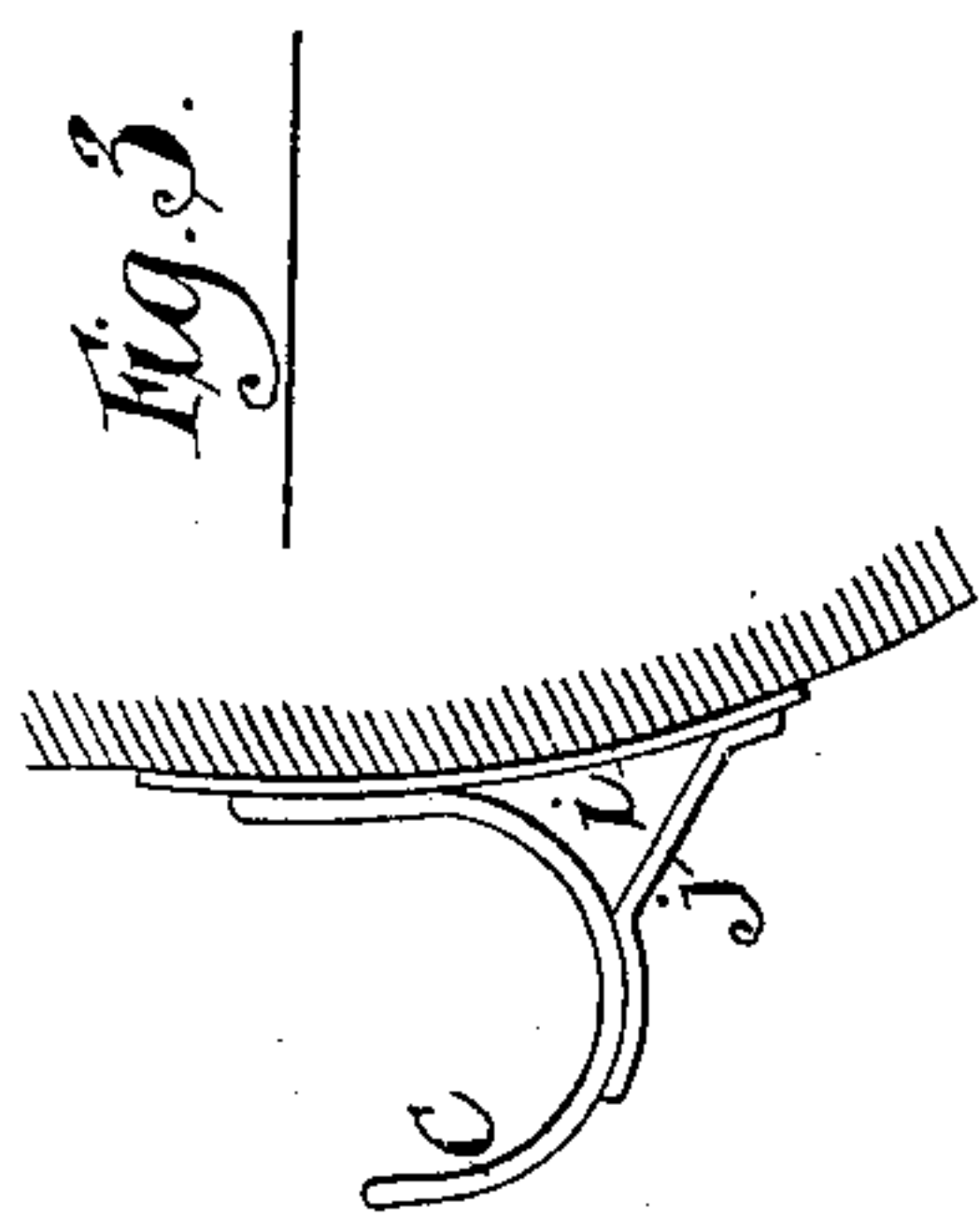
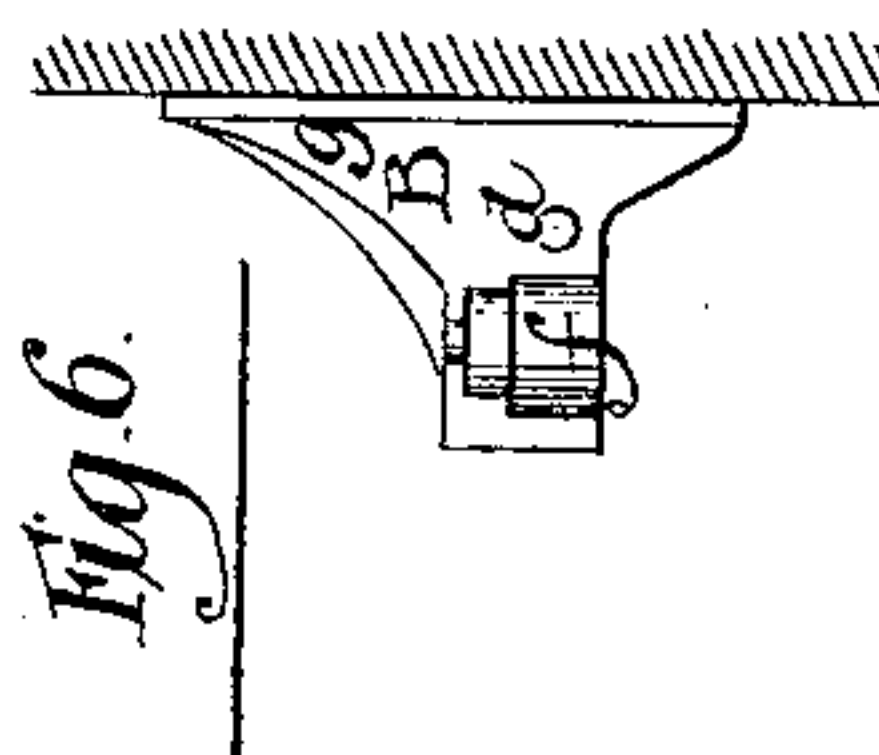
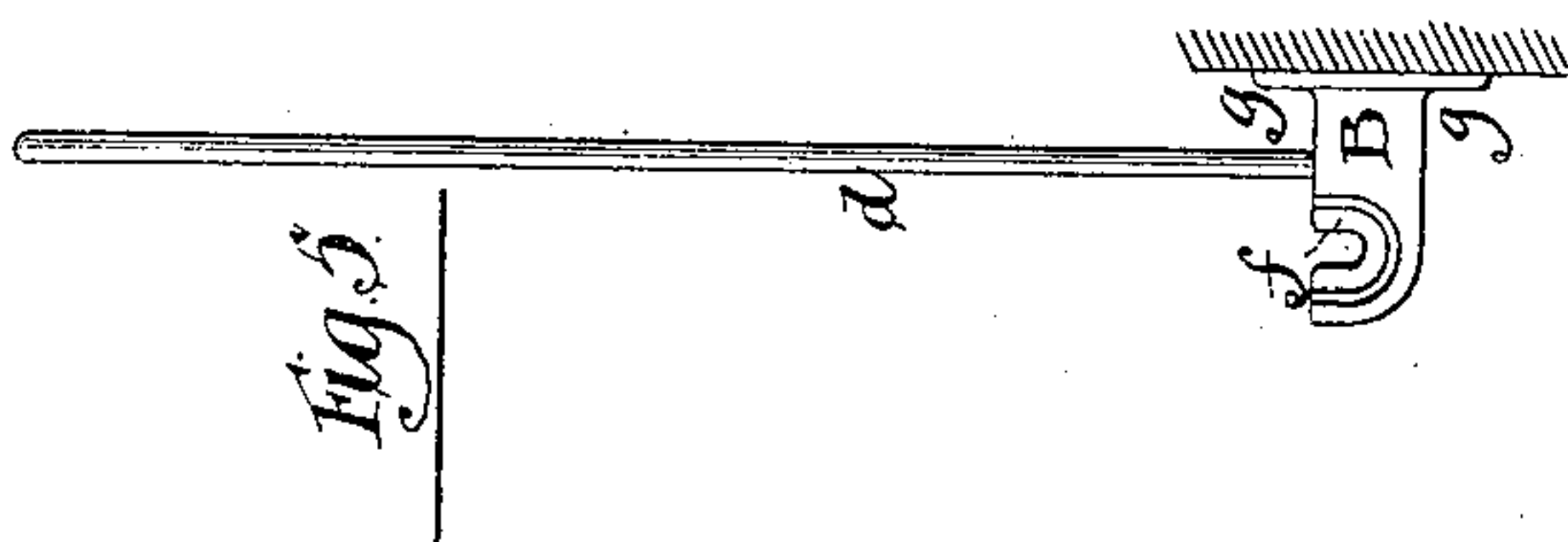
2 Sheets—Sheet 2.

J. ERICSSON.

MEANS FOR ADAPTING SUBMARINE GUNS TO SHIPS.

No. 245,364.

Patented Aug. 9, 1881.



Witnesses:-
Thos. M. Hayes
Louis M. Whitehead.

Inventor:-
John Ericsson
by Thos. M. Hayes
Brown & Brown.

UNITED STATES PATENT OFFICE.

JOHN ERICSSON, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO CORNELIUS H. DELAMATER AND GEORGE H. ROBINSON, BOTH OF SAME PLACE.

MEANS FOR ADAPTING SUBMARINE GUNS TO SHIPS.

SPECIFICATION forming part of Letters Patent No. 245,364, dated August 9, 1881.

Application filed May 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN ERICSSON, of the city and county of New York, in the State of New York, have invented certain new and useful Improvements in Means for Adapting Submarine Guns to Ships and other Vessels, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to afford greater convenience for the projecting of torpedoes under water from guns on ordinary ships or vessels by providing for loading the gun on the deck of the vessel, and afterward so placing and supporting it upon the exterior of the vessel below the water-line as to enable it to be accurately sighted and fired.

The invention consists in a muzzle-support, applied and secured to the exterior of the vessel below the water-line, for supporting the forward part of the gun, a breech-support or recoil-block, of novel construction, hereinafter described, similarly applied and secured, for supporting the breech of the gun and sustaining the recoil, and a guide, which is attached to and projects upward from said recoil-block above the water-line, for the purpose of entering an eye provided on the breech of the gun and guiding the gun to its bearings while suspended by the tackle which is employed to place it overboard for firing and to bring it on board again for reloading.

Figure 1 in the drawings is a side view of the forward portion of a ship to which my invention is applied, showing the method of hoisting and placing the gun. Fig. 2 is a half-plan of the vessel, showing the gun in place on the exterior of its side. Fig. 3 is a front view of the muzzle-support. Fig. 4 is a plan of the same. Fig. 5 is a front view of the recoil-block and guide. Fig. 6 is a top view of the same. Fig. 7 is a top view of the breech of the gun.

The gun A, to be employed in carrying out this invention, is preferably a muzzle-loader, and is to be fired by means of an electric spark through a conducting-wire, *a*, inserted through the breech-pin *b*, and it is intended to have applied to the muzzle, after loading, a suitable valve for the purpose of excluding water from its bore when it is placed overboard, and keeping water excluded therefrom until the discharge of the torpedo or projectile, which in

its discharge carries away the said valve. The kind of valve which I prefer to use for this purpose is part of the subject-matter of another application of mine for Letters Patent filed at the same time as this application, and therefore does not need to be here particularly described.

On one side of the breech-pin *b*, or of the breech of the gun, there is a laterally-projecting lug, *c*, in which there is the eye *e*, hereinbefore mentioned, (shown best in Fig. 7,) which is to receive the guide *d* on the breech-support or recoil-block B. The recoil-block B is composed of a strong casting or forging of iron, having provided in it an open seat, *f*, adapted to receive the breech-pin *b*, or the rear portion of the breech of the gun, and having flanges *g*, through which it is bolted to the exterior of the side of the ship, as shown in Fig. 1, at a suitable distance below the water-line *w*. On the inner side of the seat *f* there is secured in this breech-support or recoil-block the upright guide, consisting of a rod, *d*, which is long enough to project a considerable distance upward above the water-line when the vessel is loaded.

C is the muzzle-support, consisting of an open hook-shaped iron, having its interior of a form to receive and fit the exterior of the gun near or at a suitable distance from the muzzle, with a flange, *i*, through which it is to be bolted to the exterior of the side of the vessel, and with an under brace, *j*, which connects it with the said flange.

The breech-support or recoil-block B and the muzzle-support C are so arranged that the axis of the gun supported upon them is parallel with the longitudinal center of the vessel, and that when the vessel is on an even keel the said axis will be horizontal. This arrangement will enable the gun to be sighted by sights on the deck of the vessel, due allowance being made for the distance of the gun from and its position relatively to these sights.

The gun may be placed on the supports B C after loading and brought back on deck, after firing, by any suitable hoisting-tackle, such as is used on board ship—such, for instance, as that shown in Fig. 1 of the drawings, which represents in full lines the act of inserting the projectile into the gun, and shows in dotted lines the gun lowered onto the said supports.

I will remark that a movable brace may be employed to connect the upper end of the guide-rod *d* with the side of the vessel and brace it thereto, such brace to be removed from the guide-rod only at the time of placing and lowering the gun thereon. To fire the projecting charge of the gun thus placed on supports outside the vessel below the water-line, an electric spark from a battery or other suitable apparatus on board the vessel will be used, the wires for conveying the electric current to the charge or firing-fuse being inclosed in a flexible tube of india-rubber or other suitable material.

Instead of the guide-rod *d* a chain or rope may be employed as a guide for the same purpose, the lower end of such chain or rope being secured to the recoil-block, and the upper end being secured in any suitable manner on board the vessel. Such a chain or rope would pass through the eye *e* on the gun and be the full equivalent of the rod *d*.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a ship or other vessel and a gun, of a breech-support, B, containing an open seat, *f*, adapted to receive within it the breech of the gun and to sustain the same against recoil, and an open muzzle-support, C, said supports being both attached to the exterior of the vessel, substantially as herein described.

2. The combination, with a ship or other vessel and a gun provided with an eye in its breech, of a breech-support secured to the outside of the vessel and containing an open seat for the breech of the gun and a guide attached to the said breech-support and adapted to pass through the said eye on the breech of the gun, substantially as herein described.

J. ERICSSON.

Witnesses:

S. W. TAYLOR,
FREDK. HAYNES.