W. H. Elliot

Submarine Battery.

No. 35,285. Patented Mar. 13, 1862.

Fig. 1.

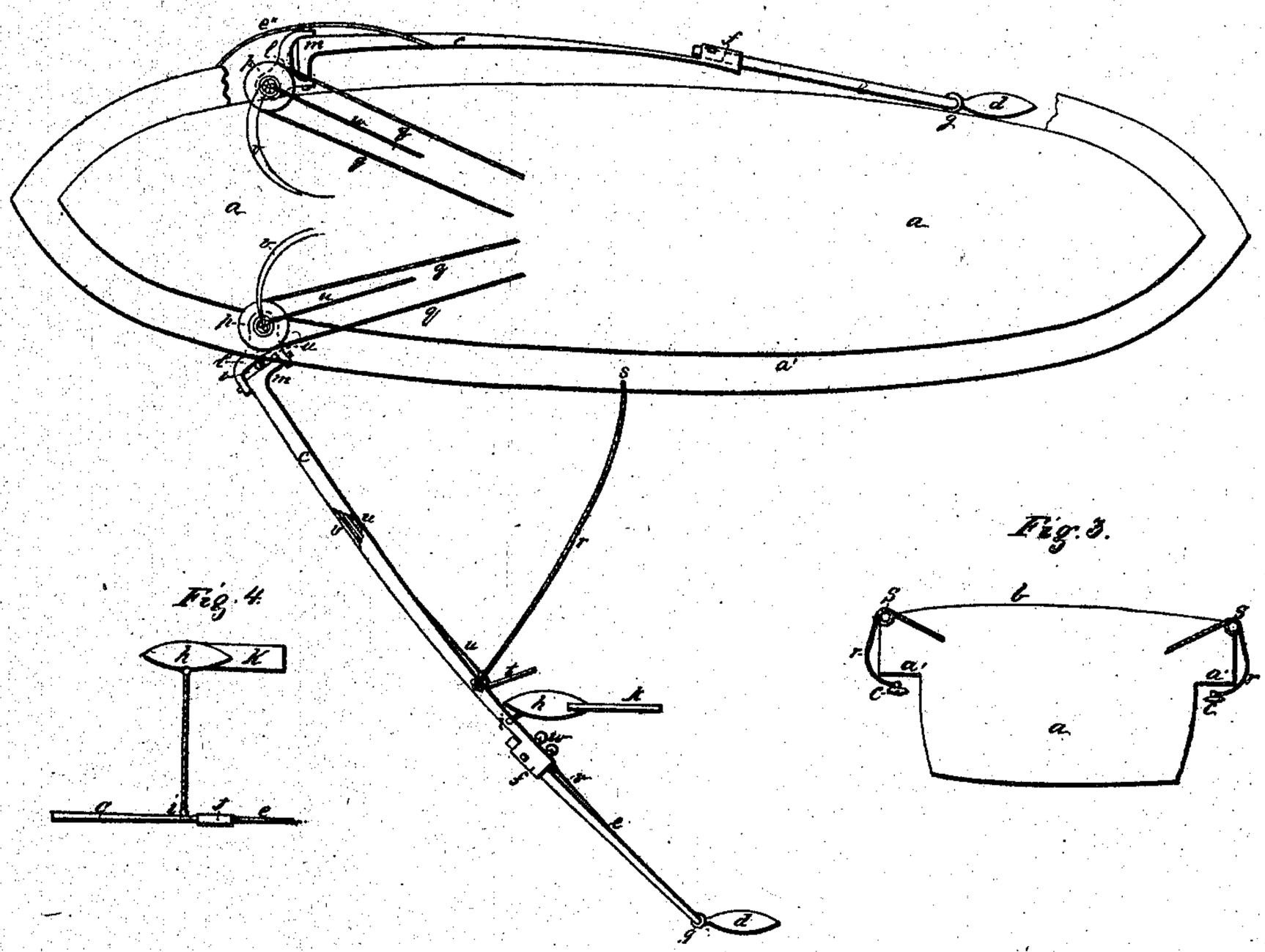
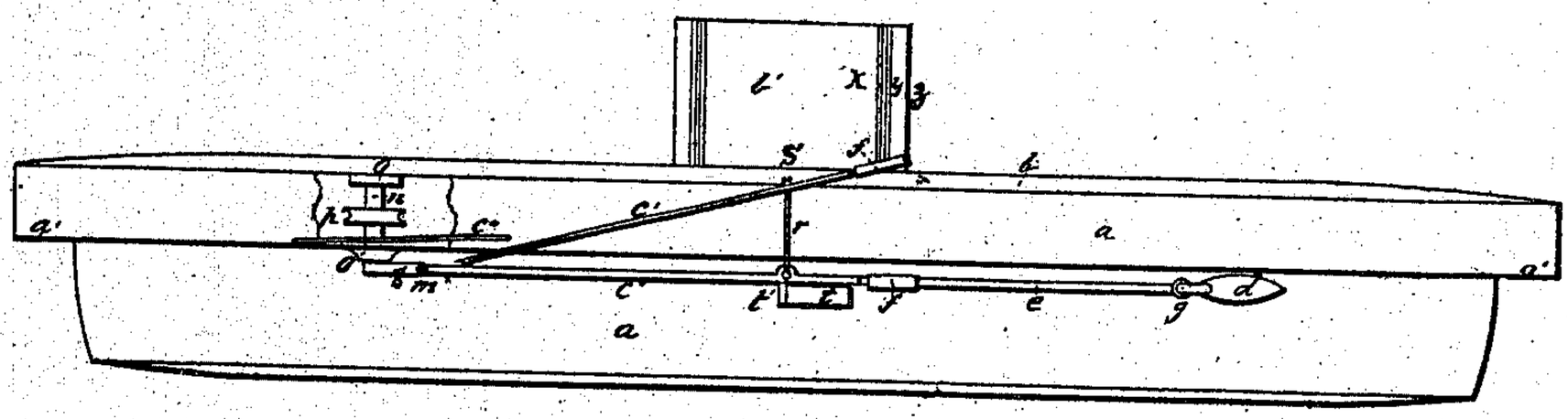


Fig. 4.

Fig. 3.

Fig. 2.



Witnesses:

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The drawing in this patent is not in print.

UNITED STATES PATENT OFFICE.

WILLIAM H. ELLIOT, OF PLATTSBURG, NEW YORK.

IMPROVEMENT IN OPERATING A SUBMARINE BATTERY CONNECTED WITH A BOAT OR OTHER VESSEL.

Specification forming part of Letters Patent No. **35,285**, dated May 13, 1862.

To all whom it may concern:

Be it known that I, WM. H. ELLIOT, of Plattsburg, in the county of Clinton, in the State of New York, have invented a new and Improved Submarine Battery; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Similar letters of reference indicate the same devices in all the figures.

To enable others skilled in the arts to comprehend, make, and use my invention, I will proceed to describe its nature, construction, and operation.

The nature of my invention consists in the employment of a magazine attached to an arm extending from a vessel under water, said arm being attached to the vessel by means of joints, so that it may receive either a lateral or vertical motion by means of suitable machinery arranged within the vessel; and it further consists in the employment of an electrical current, produced by a battery or otherwise, for the purpose of firing a battery so connected to a vessel.

Figure 1 is a horizontal section of the vessel, showing a plan of the arms with the magazines attached and a portion of the machinery for managing the arms. Fig. 2 is an elevation of the vessel, showing the position of an arm while being charged with a magazine, and also its position when charged and ready for action. Fig. 3 is a cross-section of the vessel and arms. Fig. 4 is an elevation of the float, with a portion of the arm and the chain supporting it.

a is the hulk of the vessel; *a'*, horizontal portion of the hulk, dividing the upper and mailed part from the lower part of the same; *b*, deck; *b'*, tower; *c*, arm; *c'*, position of the arm while being charged with a magazine; *c''*, guard to protect the arm; *d*, magazine; *e*, extension of the arm; *f*, joint uniting the arm with its extension; *g*, joint uniting the magazine with the extension *e*; *h*, float; *i*, chain attaching the float to the arm; *k*, tail of the float; *l*, head of the arm, attached to the upright shaft *n*; *m*, joint attaching the arm to its head; *o*, bearings of the vertical shaft *n*; *p*, wheel upon shaft *n*; *q*, chain passing around wheel *p*; *r*, chain attached to the arm and passing over pulley *s*, for raising the arm to be charged; *t*, rudder for working the arm; *t'*, joint of the rudder; *u*, chain for turning the rudder, so as to throw the arm out from the vessel; *v*, poles of the battery for firing the magazine; *w*, screws for connecting the poles at joint *f*; *x*, several plates of iron, forming the body of the tower; *y*, space to be filled with wet cotton; *z*, outer temporary shell of the tower.

The operation of my submarine battery is as follows: Before going into action the arm *c* is drawn up by chain *r* to the position represented at *c'*, Fig. 2, when it is charged by placing an extension, with a magazine attached, in the joint *f*. The arm is then dropped down by the side of the vessel and drawn through the water at a safe distance below the surface of the water. The vertical shaft *n*, wheel *p*, and head *l* are acted upon by chain *q*, in the same manner that a rudder is moved, so as to swing the arm out from the vessel to any required angle, and at the moment of passing an enemy the inner end of chain *q* is drawn upon by suitable machinery within the vessel connected with a steam-engine, so as to throw the arm out sufficiently to drag the magazine against the enemy's keel, when the magazine is fired by an electrical spark. By this means the enemy's ship is destroyed. The extension *e* is broken to pieces by the explosion, and to prevent injury to the arm *c* the joint *f* is so constructed that the extension may be driven through it without doing damage.

The poles *b* of the electric battery pass through vertical shaft *n* and arm *c*, both of which are hollow; and when the extension has been inserted in joint *f* and fastened there by means of a key or otherwise that portion of the poles attached to the extension is joined to that within the arm, by means of screws *w*, in the usual way. The extension *e* may be hollow and the poles pass through it, as well as through arm *c*, to protect them from accident.

To assist chain *q* in throwing out the arm from the vessel I attach a small rudder, *t*, to the lower side of the arm. This rudder is operated by chain *u*, which passes into the vessel through hollow vertical shaft *n* over pulleys arranged at proper places. The chain *u* would be protected from accident by passing it through hollow arm *c*.

Several floats may be attached to an arm or to its extension. One attached near the joint *g* would indicate the position of the magazine. The length of chain *i* must be varied accord-

ing to the size of the vessel to be attacked, so as to support the magazine at the required depth.

Hollow vertical shaft *n* passes into the vessel through horizontal portion *a'*, and with its bearings *o* forms a joint, which permits the arms to be moved horizontally, and at the same time forms a passage for chain *u* and poles *b*. Joint *m* permits the arm to be raised or lowered.

Suitable breast-works may be built at the side of the vessel to protect the men from rifle-balls while charging the arm.

The poles of the battery should be so arranged in connection with the machinery for moving the arm that they cannot be brought together, so as to form an electrical current only when the arm is thrown out beyond a certain angle from the side of the vessel. This would make it impossible to fire the magazine near the vessel carrying it by accident or otherwise.

Having described my invention, what I claim, and wish to have secured to me by Letters Patent, is—

1. The employment of a magazine which is controlled or governed by an arm attached to a vessel by means of joints and arranged below the surface of the water, as and for the purpose specified.

2. The employment of a float, *h*, in combination with an arm and magazine, which are attached to the vessel by means of joints, as herein set forth.

3. The employment of a rudder, *t*, in combination with an arm attached to a vessel by means of joints, as and for the purpose specified.

4. Arranging the arm *c* with the joints which attach it to the vessel in such relation to the hulk that the magazine upon its extremity may be dragged through the water at the side of the vessel when moving from place to place, as herein shown.

5. The arrangement and combination of arm *c*, joint *f*, and extension *e*, when employed in connection with a magazine, as herein set forth.

6. The employment of hollow vertical shaft *n*, in combination with arm *c* and poles *v*, as and for the purpose specified.

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Witnesses:

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