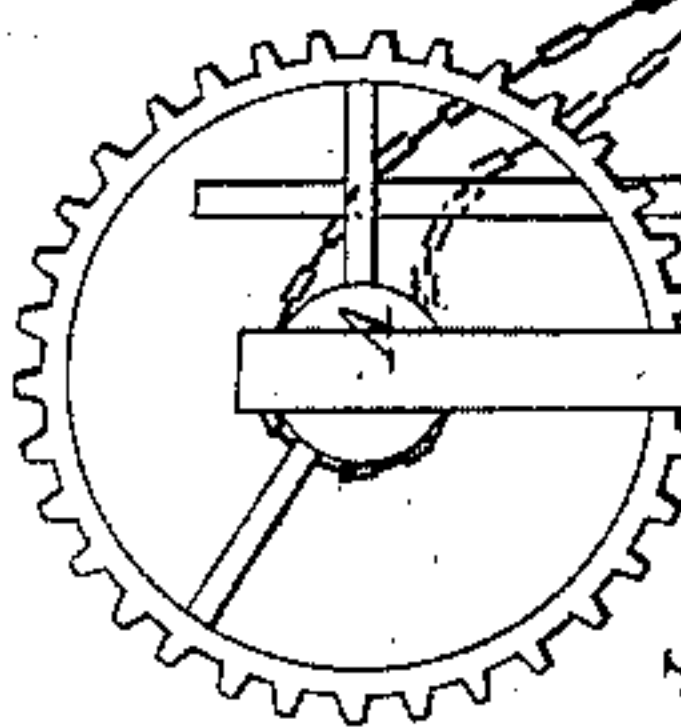


Patented Nov. 4, 1862.



John B Gauberschied

Isaac A. Hetcham

UNITED STATES PATENT OFFICE.

ISAAC A. KETCHAM, OF BROOKLYN, NEW YORK.

IMPROVED MODE OF OPERATING SUBMARINE OR FLOATING BATTERIES.

Specification forming part of Letters Patent No. 36,845, dated November 4, 1862.

To all whom it may concern:

Be it known that I, ISAAC A. KETCHAM, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Method of Operating Submarine or Floating Batteries; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, and being a front elevation of an apparatus illustrating my invention.

The subject of the said invention is a device by means of which a submerged or floating battery or any number of explosive shells may be advanced or withdrawn from a vessel or fortification and adjusted to a suitable position to be exploded at the time of the passage of an enemy's ship, either by the motion of the said ship or by a connection with the vessel or fortification from which the battery is thrown out. For this purpose I use an endless cable operated by a windlass or other suitable device within the fortification or vessel, and passing through an anchored pulley at the opposite side of the channel. The said cable carries one or more explosive shells, which are attached to it by their lower ends, while their upper ends are provided with suitable triggers attached by wires or chains to buoys, which float upon or slightly beneath the surface of the water, supporting a part of the weight of the batteries.

To enable others skilled in the art to which my invention appertains to fully understand and use the same, I will proceed to describe its construction and operation.

A represents a windlass mounted within a fortification or ship.

B is an endless cable passing around the said windlass and through an anchored pulley, C, across the channel.

D D D D represent explosive shells or batteries (of which one, two, or more may be employed) attached by their lower ends to the cable B, and at their upper ends provided with triggers of any suitable construction, which are connected by wires or chains E to buoys F, which are adapted to float upon or near to the surface of the water and support a portion of the weight of the batteries D, so as to hold them in a nearly vertical position. The said buoys may be connected by a wire or chain, G, so that a drawing force applied to any part of it will explode one or all of the batteries. H is a guide-buoy, connected to the cable B at a certain distance from the batteries.

Operation: If it be desired to destroy an enemy's vessel, or prevent its passage through the channel which the apparatus is employed to protect, the cable is run out by means of the windlass A to such a position that the buoys F and their connecting-wire will extend completely across the channel. The buoys, being slightly below the surface of the water, will not be observed by the enemy, and his ship, coming in contact with the buoys F or chain G, will draw the same in the direction in which it is moving, the first effect of which will be to draw the batteries D up under the ship's bottom, where they will be exploded by the continued motion of the vessel, and the latter thereby destroyed.

If, by reason of the width of the channel or the small size of the apparatus employed, it be impossible to cover the whole channel at once in the manner described, the position of the apparatus may be adjusted as the enemy approaches in such a manner that he cannot pass without striking it. For this purpose the guide-buoy H may be connected to the cable B, which, floating upon the surface of the water at a known distance from the batteries, but too far therefrom to convey any intelligence to the enemy, will enable those operating the battery to adjust it with sufficient accuracy to insure its action at the required moment.

It will be manifest that the apparatus may be readily drawn out of the channel to permit friendly vessels to pass, and quickly restored to position again. A pursuing or fleeing enemy may thus be stopped or destroyed, while the friendly vessel passes without injury.

If preferred, the batteries may be drawn out and in by a separate wire or chain, J, instead of by the windlass acting directly on the cable. In this case the windlass B may be dispensed with and a simple pulley substituted therefor.

Having thus described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

The combination of a battery or connected series of explosive shells, D, and endless cable B for confining and adjusting them in position, and a buoyant attachment, F G, for effecting their explosion by the action of a passing vessel, with the buoyant indicator H, the whole being constructed and arranged to operate in the manner and for the purposes specified.

Witnesses: ISAAC A. KETCHAM.
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JAMES H. GRIDLEY.