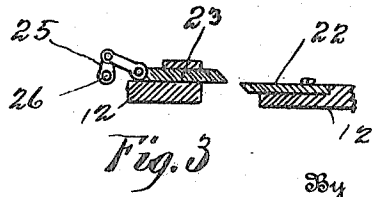
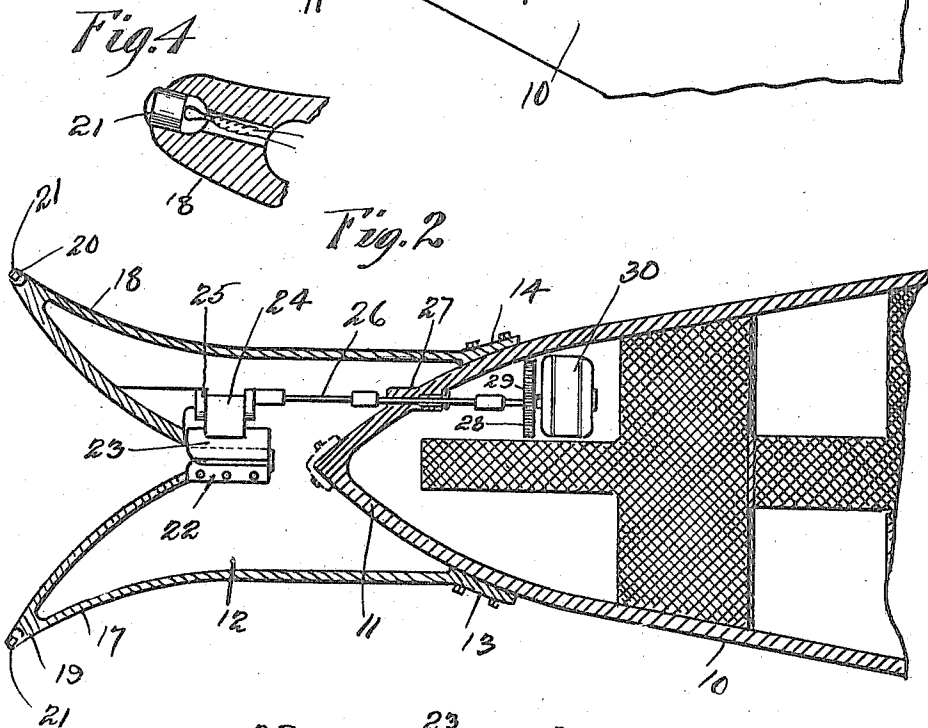
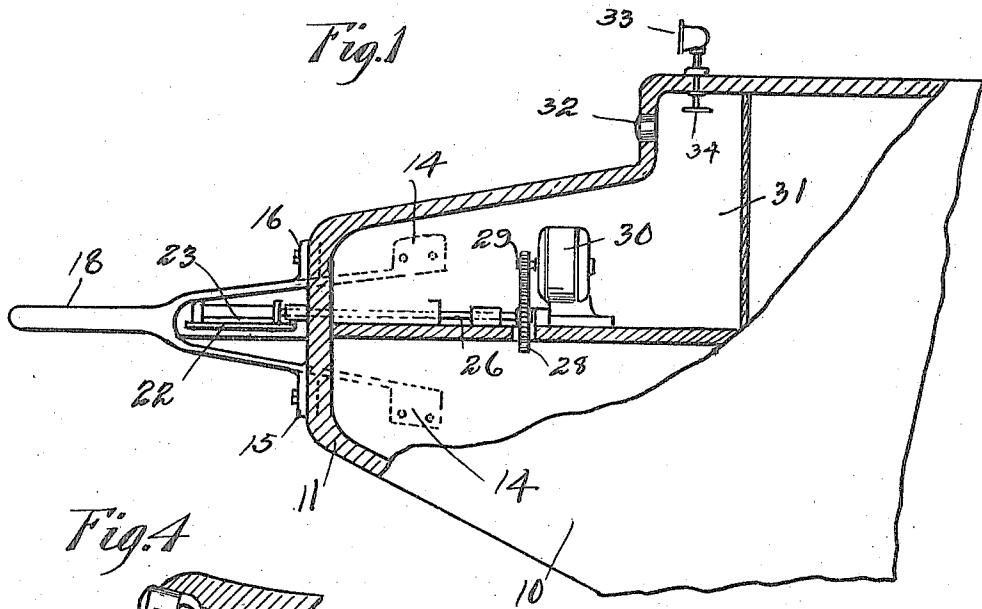


J. E. JOHANNESSEN & O. A. WAAGE.  
 MINE CABLE CUTTING MECHANISM.  
 APPLICATION FILED FEB. 23, 1917.

1,263,898.

Patented Apr. 23, 1918.



Witnessed.  
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# UNITED STATES PATENT OFFICE.

JOHAN E. JOHANNESSEN, OF BROOKLYN, AND OSBORNE A. WAAGE, OF NEW YORK, N. Y.,  
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## MINE-CABLE-CUTTING MECHANISM.

1,263,898.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that we, JOHAN E. JOHANNESSEN, a citizen of the United States, and OSBORNE A. WAAGE, a subject of the King of Norway, and residents of Brooklyn, county of Kings, State of New York, and New York city, in the county of Kings and State of New York, respectively, have invented certain new and useful Improvements in Mine-Cable-Cutting Mechanism, of which the following is a specification.

This invention relates to an attachment to vessels for cutting the anchor cables of floating explosive mines such as those used in times of war.

The object of this invention is to provide an apparatus adapted to be connected to the outside of the bow of a vessel more particularly to vessels of the submarine type, the same including a pair of mechanically operated shears for severing the anchor cables of the mines.

A further object of this invention is to provide search lights or illuminating devices in the cable guiding means for illuminating the water ahead of the vessel so that the mines and their cables may be more readily located.

The invention further consists in the provision of means whereby the mine cutting apparatus may be detachably connected to the bow of the vessel if desired so that the same may be removed when not required.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a side elevation partly in section showing the forward end of a submarine vessel and illustrating my improved cable shearing apparatus attached to the bow thereof.

Fig. 2 is a plan view showing a portion of the bow of the vessel in section and my improved apparatus connected thereto.

Fig. 3 is a sectional end view of the cutting shears showing the crank action by which one is reciprocated.

Fig. 4 is an enlarged view of a portion of one of the guide arms showing the electric search light in the end thereof.

Referring to the drawings, 10 designates

the hull of the vessel, that herein illustrated 55  
being of the submarine type.

The frame 12 which is provided for carrying the mine cable cutting apparatus, is preferably made in a hollow shell form adapted to be bolted at 13 and 14 on either side of the bow, and also at 15 and 16 near the stem, 60  
whereby this frame is securely attached in position to the vessel. The outer end of this frame comprises two diverging arms 17 and 18 forming an open mouth-shaped device 65  
for engaging the vertically disposed anchoring cables and conducting them to the cutters presently described.

The outer ends 19 and 20 of these arms are provided with lenses 21 through which 70  
light is thrown ahead by suitable electric lamps into the water to illuminate the same for a distance in front of the ship, so that the mines and their anchoring cables may be readily located and the ship guided to en- 75  
gage these cables between the extending arms.

Located at the junction of these two arms is a fixed cutter blade 22 bolted to the frame 12, and sliding upon this fixed blade and 80  
coöperating therewith is the movable cutting blade 23 which is connected by a strap 24 to the crank 25, which crank is driven through the shaft 26.

This crank-shaft 26 is connected to the 85  
crank 25 and extends through the bearing 27 into the interior of the vessel. To the inner end of this shaft is connected a large gear 28 meshing with the small gear 29, the latter being driven by an electric motor 30 90  
whereby when this motor is energized the cutting blade 23 is caused to reciprocate rapidly and so caused to sever a cable or other object which may pass in between it and the fixed blade. 95

In operating our mine cable cutting apparatus, the operator stands in the room 31 at the bow of the ship and looks through the glass bull's-eye 32. The water in front of the ship is illuminated both by the lights 100  
21 in the ends of the arms 17 and 18 and also by the search light 33, the operating handle 34 of which extends down into the hull within easy reach whereby the lamp 105  
may be moved about in order to throw the light in the direction desired. If a mine cable is seen directly ahead it is engaged by the extending arms and guided between

the blades of the continually operating shears and severed releasing the mine which at once floats to the surface and is secured by another accompanying ship.

5 When the mine is seen either to the right or to the left the direction is at once communicated by signal to the helmsman who guides the ship to engage the same.

10 By bolting the frame 12 to the ship the mine cutting apparatus may be removed when not required.

We have illustrated one means whereby our invention may be carried out, but we do not wish to limit ourselves to this specific construction as various changes in shape and form of the several features may be necessary. We, therefore, desire it to be understood that we reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined by the appended claims:

20 1. In a device of the character described, a frame fixed to the bow of a vessel, a pair of cable-cutting shears comprising one fixed and one reciprocating plate mounted in said frame, a crank shaft for operating said reciprocating plate extending within the hull of the vessel, a motor within the vessel

geared to said shaft for actuating said reciprocating shear plate, and a pair of forwardly extending guiding arms diverging from said frame for engaging and leading to the shears the cable to be cut.

2. In a device of the character described, a frame fixed to the bow of a vessel, a pair of cable-cutting shears comprising one fixed and one reciprocating plate mounted in said frame, a crank shaft for operating said reciprocating plate extending within the hull of the vessel, a motor also within the hull geared to said shaft for actuating said reciprocating shear plate, a pair of forwardly extending guiding arms diverging from said frame for engaging and leading to the shears the cable to be cut, and a search-light incased within the walls of the frame work at the end of each arm for illuminating the water in advance of the vessel.

In testimony whereof we affix our signatures in presence of a witness.

JOHAN E. JOHANNESSEN.  
OSBORNE A. WAAGE.

Witness:

HOWARD E. BARLOW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."