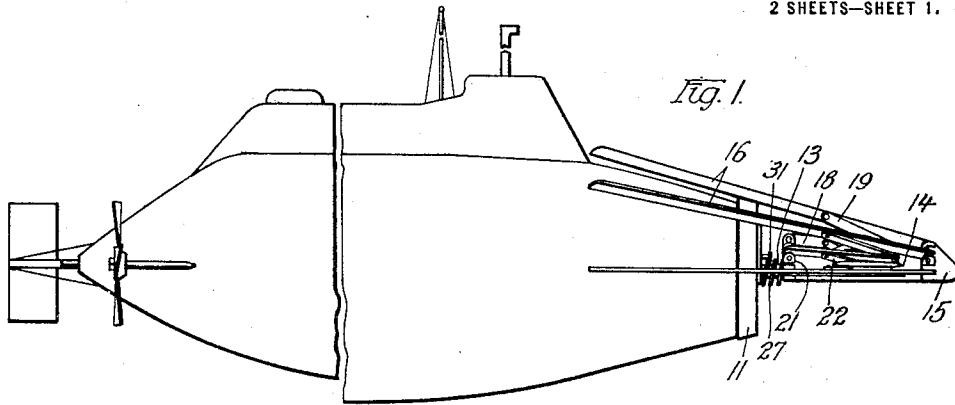
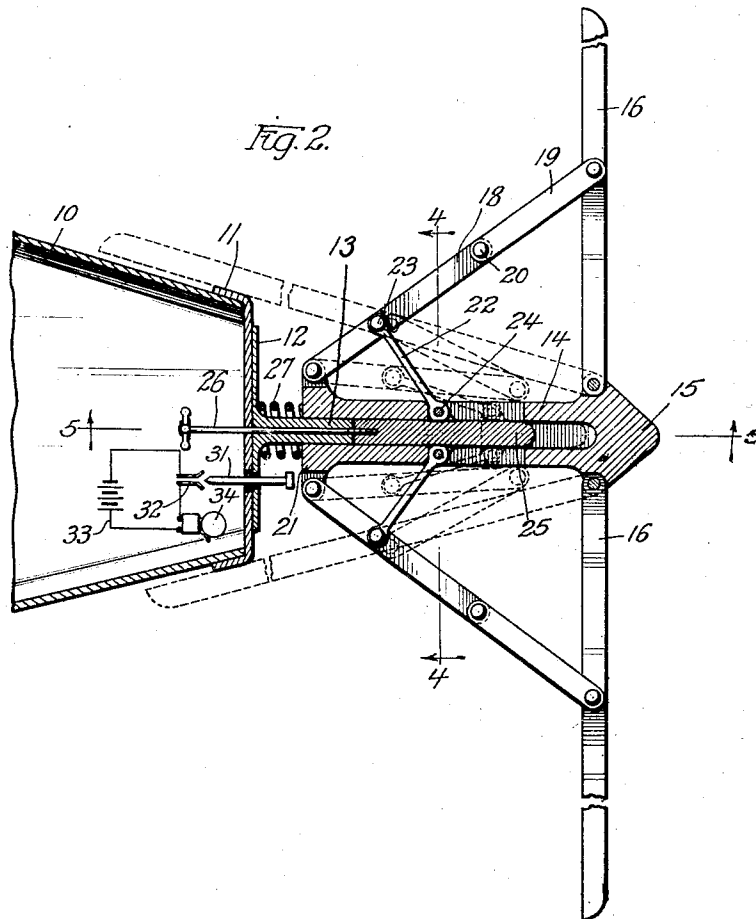


J. W. HASBURG.
SUBMARINE PROTECTING DEVICE.
APPLICATION FILED MAR. 22, 1917.

1,246,593.

Patented Nov. 13, 1917
2 SHEETS—SHEET 1.



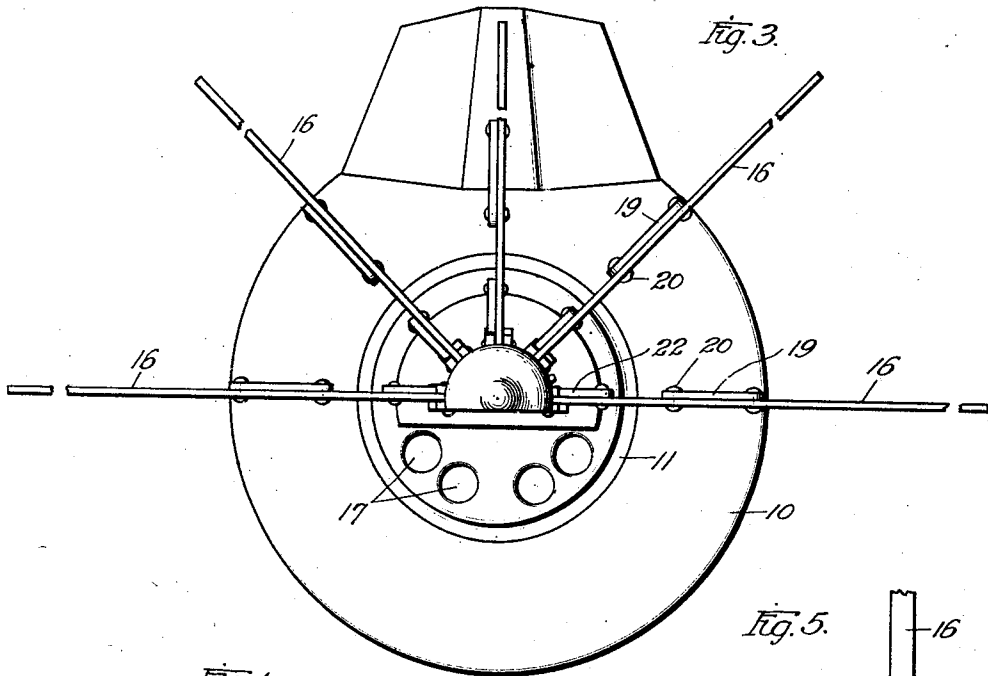
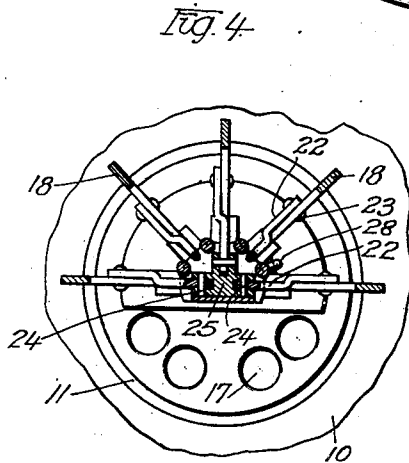
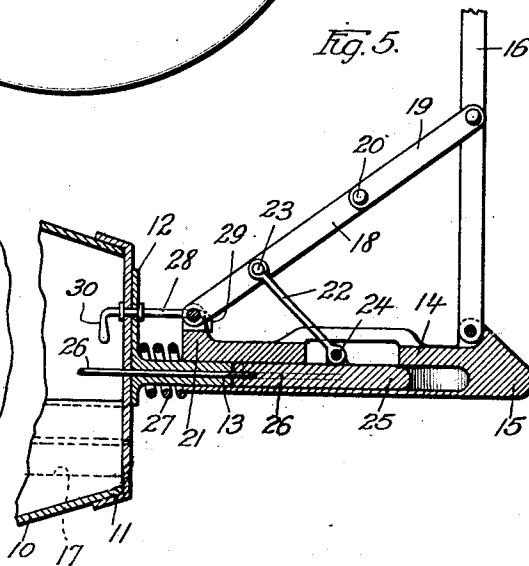
Witnesses:
Robert H. Weir
Arthur W. Caskey

Inventor
John W. Hasburg
Jonas Baird Allen
Attys:

J. W. HASBURG.
SUBMARINE PROTECTING DEVICE.
APPLICATION FILED MAR. 22, 1917.

1,246,593.

Patented Nov. 13, 1917.
2 SHEETS—SHEET 2.



Witnesses:
Robert F. Weir
Arthur W. Carlson

John W. Hasburg
Fanie Bain & Co. Attys.

UNITED STATES PATENT OFFICE.

JOHN W. HASBURG, OF CHICAGO, ILLINOIS.

SUBMARINE-PROTECTING DEVICE.

1,246,593.

Specification of Letters Patent.

Patented Nov. 13, 1917.

Application filed March 22, 1917. Serial No. 156,550.

To all whom it may concern:

Be it known that I, JOHN W. HASBURG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Submarine-Protecting Devices, of which the following is a specification.

This invention relates to an apparatus for protecting sub-marine crafts from capture.

One of the methods at present employed for disabling or capturing sub-marine vessels is to set nets, of steel chains or heavy cable, or other entanglements at advantageous points for the purpose of enmeshing a sub-marine and preventing its escape. Nets of this character are placed across channels, entrances to harbors and similar places, where sub-marines are likely to pass. In using this method of capture it is intended that the sub-marine proceeding at speed will force its way into the meshes of the net or entanglement and its projecting parts, such as the deflecting planes, propellers, rudders or conning tower, become entangled so as to prevent its escape.

The object of my invention is to provide a guard or protector carried on the forward end of such a vessel which will prevent the vessel itself from becoming entangled with traps of this character.

Other objects of my invention are to provide such a guard which will act as a fender preventing the entanglement of the craft with the net and, in the event the guard itself becomes entangled and operator within the craft may release the same so that the vessel may back away and leave its guard in the meshes of the net.

Another object of my invention is to provide such a guard which, when not in service may be folded backwardly against the sides of the vessel to offer less resistance to the water and not hamper the movements of the craft.

Other and further objects will become readily apparent to those skilled in these matters from a consideration of the following specification and drawing, wherein:

Figure 1 is a side elevation of a sub-marine craft showing my guard attached thereto and in collapsed or folded position.

Fig. 2 is a horizontal section through the bow of such a craft showing my guard in its extended position.

Fig. 3 is an end elevation of a sub-marine

craft showing my guard in extended position.

Fig. 4 is a transverse sectional view on the line 4-4 of Fig. 2, and;

Fig. 5 is a transverse vertical sectional view through the guard.

In the drawings I have illustrated an embodiment which my invention may take, a simple protector being provided for attachment to the forward end of a sub-marine craft which may be readily folded backward out of the way or can be detached in the event it becomes enmeshed in a trap or net.

It will be obvious that various modifications and changes may be made therein and that the specific form illustrated is merely suggestive of a preferred form.

Referring now to the particular embodiment illustrated the numeral 10 indicates the body of a sub-marine craft on the bow or nose section of which is secured a plate 12 carrying at its center a forwardly extending squared post 13. An internally squared tube 14 telescopes over the post 13 and is provided at its forward end with an enlarged head 15 from which radiate and to which are pivotally secured a plurality of arms 16. In the present instance I have shown five arms projecting horizontally and upwardly beyond the transverse outlines of the craft leaving beneath the horizontal section an unobstructed area to prevent interference with discharge of torpedoes from the torpedo tubes 17.

The arms 16 are foldable back against the sides of the sub-marine as indicated in Fig. 1, this movement being controlled by a series of toggle locks comprising bars 18, 19 pivoted together at their inner ends on bolts 20, the forward end of bar 19 being pivotally connected with the rod 16 and the rear end of bar 18 pivoted to a flange extension 21 on the rear end of the tube 14.

The movement of the legs 18 and 19 for extending or collapsing the guard is secured by the use of a series of rods 22 pivoted, as at 23, to the bar 18, and at their inner ends pivoted, as at 24, to a block 25, slidable within the tube 14. When the block 25 is in its rearward position, as indicated in Fig. 2, the rods 22 brace the toggles and securely lock the arms 16 in their outwardly extending position. Movement of the block 25 forwardly within the tubes 14 first breaks the toggle connections and then draws the

rod 18 inwardly collapsing the guard back against the sides of the sub-marine as indicated in dotted lines in Fig. 2.

For the purpose of operating the sliding block 25 from the interior of the craft I have axially perforated the post 13, and extended therethrough a rod 26, threaded at its forward end for engagement with the threaded opening in the slide block 25. A heavy coil spring 27 surrounds the post 13 and serves as a cushion or bumper between the nose of the craft and the rear end of tube 14.

Normally it is desirable to hold the guard in position upon the post and this is accomplished by means of a latch 28 extending through the nose of the sub-marine and carrying at its forward end a hook 29 which engages the collar 21 to retain the same upon the post. A handle 30 is provided on the end of the latch 28 within the sub-marine for actuating the same.

I have also provided an electrically actuated signal comprising a reciprocable plunger 31 extending through the nose of the sub-marine and insulated therefrom, its forward end being adapted for engagement by the collar 21 if it is forced backwardly against the coil spring 27, and its rear end serving to close contacts 32 of an electrical circuit 33 including a bell or other signal 34.

In operation the craft on approaching a danger zone extends its guard or protector by drawing inwardly upon the rod 26. As soon as the toggle has been set the rod 26 is rotated until it is disengaged from the sliding block 25, thus freeing the guard from all connection with the craft other than that provided by the latch 28. In the event the craft runs into a net or other form of trap, the forwardly extending protector will first engage the same and be forced backwardly against the bumper spring 27 closing the electrical signal circuit and warning the operator to reverse his engine. On reversal of the propeller the backward movement of the submarine will tend to draw the guard or protector away from the net or trap. In the event, however, that the guard has been im-

meshed or caught in the trap, the operator then releases the latch 28 and permits the sub-marine to back away, leaving its guard in the trap.

Whereas in the drawings I have illustrated and described a single embodiment of my invention it will be obvious to those familiar with these matters that many changes and alterations may be made therein without departing from the spirit thereof or the scope of the appended claims.

Having described my invention, what I claim is:—

1. A safety device for vessels comprising a frame secured to the bow of the vessel, means for collapsing the frame and means operable from within the vessel for detaching the frame therefrom.

2. A safety device for vessels comprising a frame secured to the bow of the vessel and extending beyond the sides thereof, means operable from within the vessel for detaching the frame therefrom, and means operable from within the vessel for collapsing the frame.

3. A safety device for sub-marine vessels comprising a post secured to the front end thereof, a frame slidable on said post and extensible transversely to project beyond the sides of the vessel, means operable from within the sub-marine to fold the frame backward against the sides thereof, and releasable means for retaining the frame upon the post.

4. A safety device for sub-marine vessels comprising a post secured to the front end thereof, a frame slidable on said post and extensible transversely to project beyond the sides of the vessel, a spring interposed between the frame and the vessel to resiliently hold the frame in its forward position, means for releasing the frame from the post, and means operable on the rearward movement of the frame against the spring for initiating a signal within the vessel.

In testimony whereof I hereunto set my hand.

JOHN W. HASBURG.