W. A. STEVENSON.

SAFETY DEVICE FOR SUBMARINE BOATS.

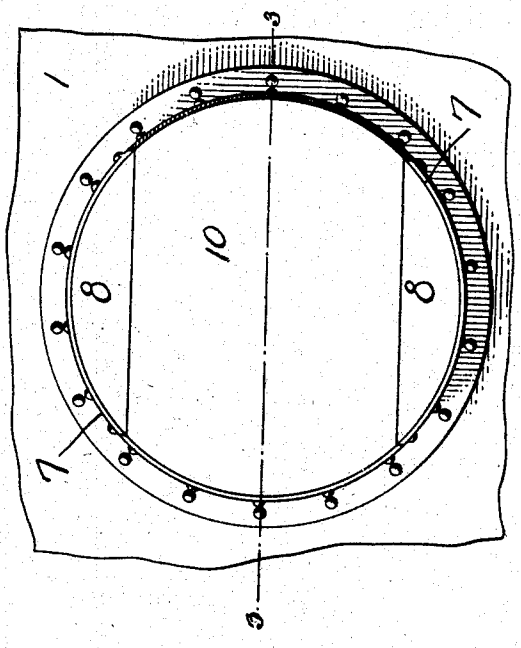
APPLICATION FILED OCT. 6, 1909.

952,379.

Patented Mar. 15, 1910.

2 SHEETS—SHEET 1.

Fig. 2.



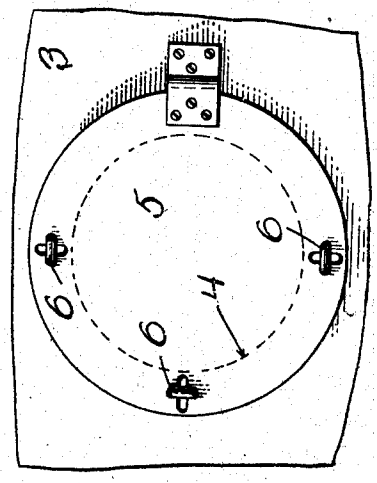
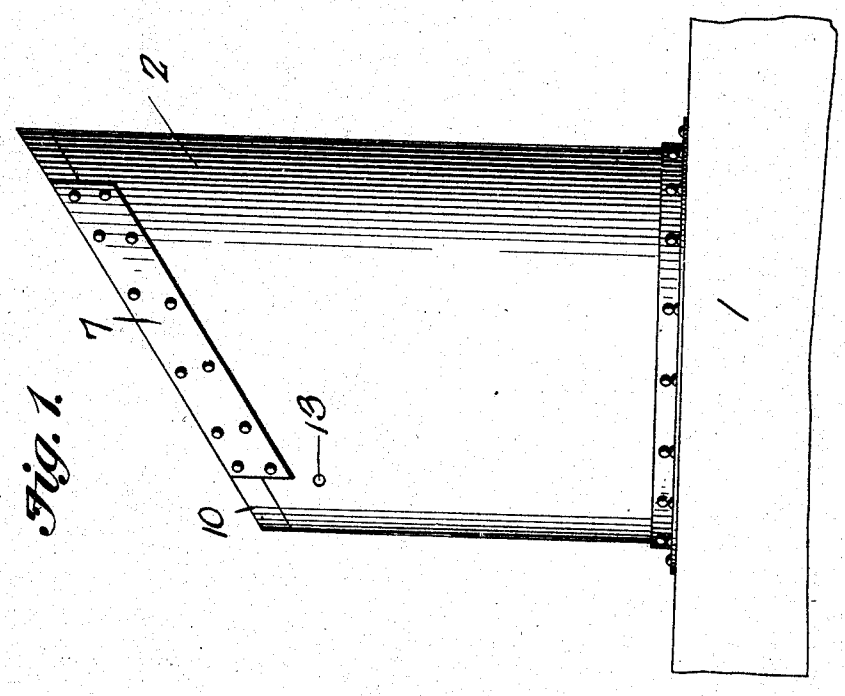


Fig. 5.

Fig. 1.



Witnesses

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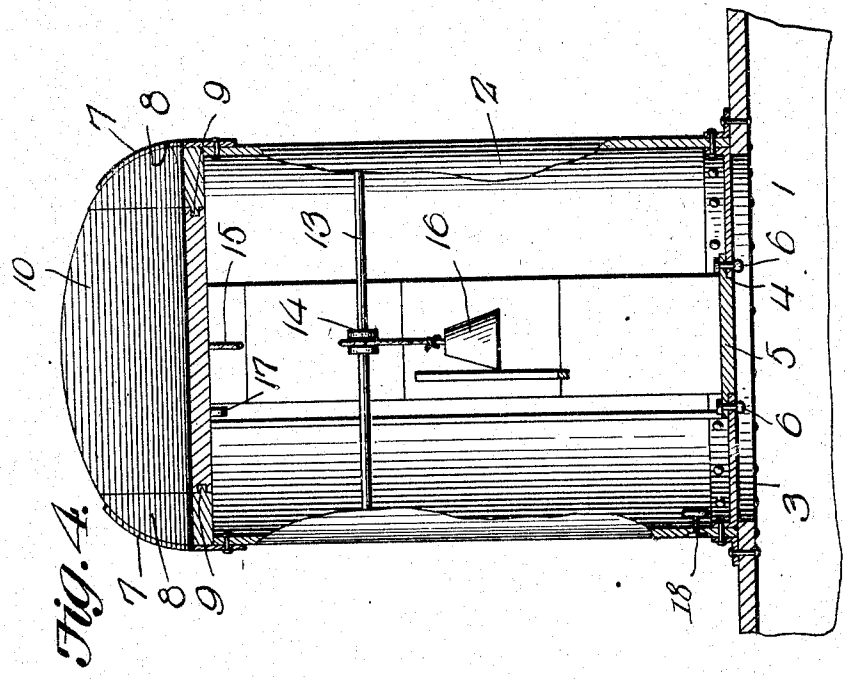

Fig. 4.

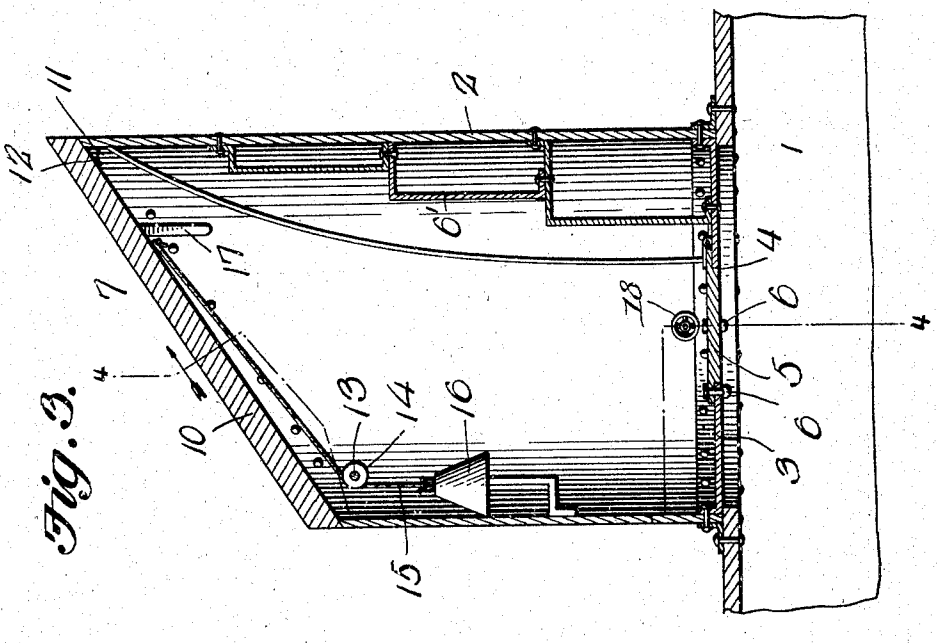

Fig. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM A. STEVENSON, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-THIRD TO GEORGE FITZBURGER AND ONE-THIRD TO CHRISTIAN H. FITZBURGER, BOTH OF BALTIMORE, MARYLAND.

SAFETY DEVICE FOR SUBMARINE BOATS.

952,379. Specification of Letters Patent. **Patented Mar. 15, 1910.**

Application filed October 6, 1909. Serial No. 521,245.

To all whom it may concern:

Be it known that I, WILLIAM A. STEVENSON, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented new and useful Improvements in Safety Devices for Submarine Boats, of which the following is a specification.

This invention relates to safety devices for submarine boats, and an object of the invention is to provide effective, simple and novel means whereby the entire crew of the vessel can make a safe escape should the vessel become disabled while beneath the water.

The invention is designed for use upon any form of submarine boat and embodies preferably a tubular member in which is located at one end a manhole and manhole cover, the other end of the said tube being provided with a closure or cover which can be automatically moved to its open position, after the tube has become filled with water. Each member of the crew will be equipped with a suitably constructed suit with sufficient air to remain under water for a considerable length of time.

The above mentioned and other objects are attained by the construction, combination and arrangement of parts, as disclosed on the drawings, set forth in this specification, and particularly pointed out in the appended claims.

In the drawings, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a side elevation of a portion of a submarine boat showing my improved safety device applied thereto. Fig. 2 is a detail top plan view of the same. Fig. 3 is a vertical section taken on the line 3—3 of Fig. 2. Fig. 4 is a section elevation taken on the line 4—4 of Fig. 3. Fig. 5 is a detail bottom plan view of the manhole.

Referring now more particularly to the drawings, there is shown a portion of a submarine boat 1 upon which is mounted my safety device which comprises a tube 2 at the bottom of which is a metal member 3 in which is formed a manhole 4 which is adapted to be closed by a cover 5. The cover 5 is preferably hinged to the member 3 and as shown, the said member 3 carries a suitable number of turn-buttons or keys 6 which are adapted for locking engagement with the cover 5 to hold it in its closed position. The tube is provided therewithin with a stairway 6′ which extends throughout its length as shown.

The upper end of the tower is inclined downwardly and rearwardly and the head 7 is formed with spaced portions 8 whose inner faces are provided with guide ribs or flanges 9. These ribs are operatively fitted in correspondingly formed grooves in the side edges of a cover 10. A latch member 11 is secured at the upper end of the tube and is adapted for engagement with a keeper 12 upon the cover 10 to hold the said cover in its closed position. A shaft or rod 13 is mounted in the tube and revolubly supported thereupon is a pulley or equivalent revoluble element 14 over which is guided a cable 15. This cable has one end secured to the cover 10 and its other end is connected with a weight 16. A stop 17 extends from the cover 10 and is adapted to be engaged by the shaft 13 to limit the sliding movement in one direction of the said cover and to prevent its being misplaced when moved to its open position.

The tube of my improved safety device is provided with what may be termed a sea-valve 18. In operation of the device, assuming the vessel to be disabled and submerged beneath the water the crew makes its escape by way of the manhole 4 into the tube 2, after which the manhole is again closed. After the crew has made its escape to the tube the valve 18 is opened allowing the water to entirely fill the tube, after which the latch member is released manually. After the latch member has been released the tension of the weight 16 will be sufficient to automatically move the cover 10 to its open position, at which time the crew can effectively make its escape.

The device is such that the crew of the vessel can make its escape without flooding or otherwise injuring the vessel.

The structure is extremely simple and may be applied to submarine boats of any construction.

It may be stated that each member of the crew of the vessel can be equipped with a suitable suit of well known construction

which will enable him to remain beneath the water for a considerable length of time.

I claim:—

1. A submarine boat having a manhole formed therein and provided with a water tight cover, a tube extending outwardly of the said manhole, a sliding cover for normally closing the outer end of the tube, a water inlet valve adapted for operation to fill the tube with water from the outside when the boat is submerged, and means adapted to move the cover to its open position after the tube has been filled with water.

2. A submarine boat having a manhole, a cover for normally closing the manhole, a hollow tube extending outwardly from the said manhole, a water inlet valve carried by the tube, a sliding cover at the outer end of the tube for normally closing said end, a latch member engageable with the cover to hold it against sliding movement, a movable weight, and connections between the said movable weight and the cover for moving the latter to its open position upon release therefrom of the said latch member.

3. A vessel having a manhole and a removable cover therefor, a hollow tube extending from the vessel in line with the manhole, a movable cover normally closing the outer end of the tube, a water inlet valve operatively connected with the tube, a latch member for holding the cover of the tube normally in closed position, and weight means connected with the cover of the tube for moving it to open position upon release of the said latch member from the cover.

4. A safety device for submarine boats comprising a tube, said tube being disposed directly in line with the manhole of the boat, an angularly disposed sliding cover for closing the outer end of the tube, means normally closing communication between the tube and the boat, a water inlet valve operatively connected with the tube, a latch member engaging the sliding cover to hold it against movement, and movable means operating upon release of the latch member to move the cover of the tube to its open position.

5. A submarine boat having a manhole and provided with an outwardly extending tube which extends directly in line with the manhole, a cover for closing the manhole, a cover movable in a plane with the outer end of the tube, a latch member for engaging the cover to hold it normally in closed position, means for introducing water from the outside into the tube, and movable means operated upon release of the latch member to move the cover of the tube to its open position.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. STEVENSON.

Witnesses:

JOHN L. FLETCHER,

JAMES O. KOEHL.