A. HOZLAK.

SUBMARINE VESSEL ATTACHMENT.

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1,411,102. Patented Mar. 28, 1922.

Fig. 1.

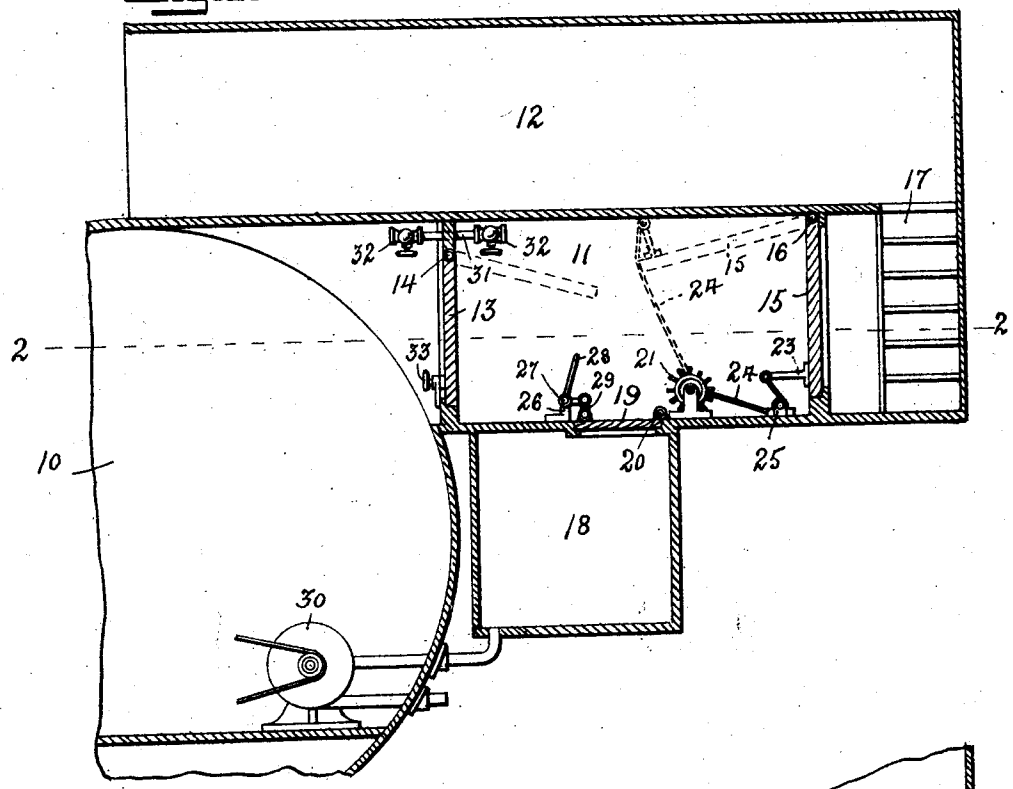
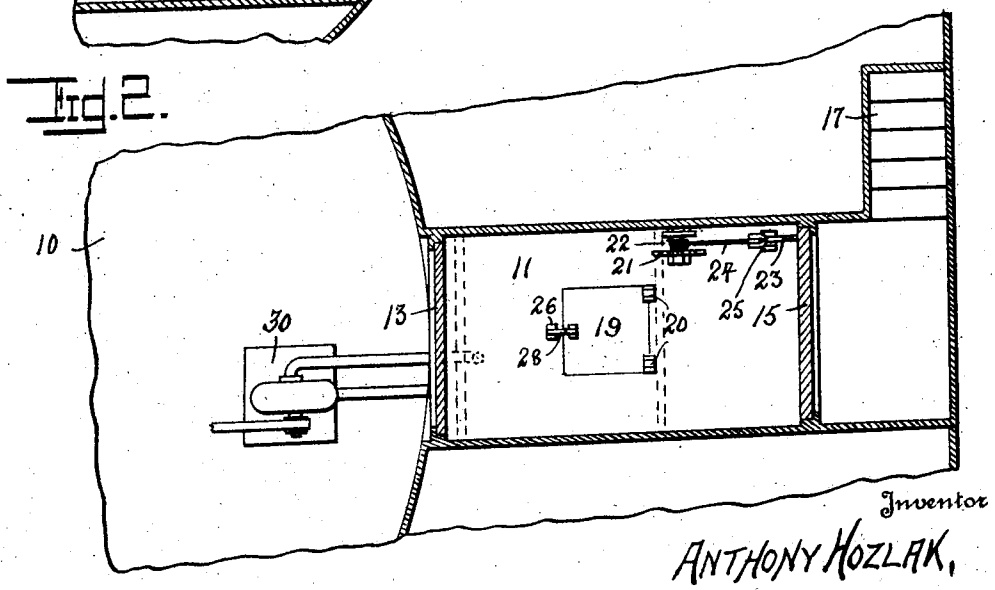


Fig. 2.



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SUBMARINE-VESSEL ATTACHMENT.

1,411,102. Specification of Letters Patent. Patented Mar. 28, 1922.

Application filed December 17, 1920. Serial No. 431,430.

To all whom it may concern:

Be it known that I, ANTHONY HOZLAK, a citizen of the United States, residing at Nanticoke, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in a Submarine-Vessel Attachment, of which the following is a specification.

This invention relates to improvements in attachments to submarine vessels, and has for one of its objects to provide a simply constructed device whereby the passage from and to the body of the vessel while submerged, is facilitated.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claim, and in the drawings illustrative of the preferred embodiment of the invention.

Figure 1 is a sectional elevation of a portion of the body of a submarine vessel including the passages or chambers through which the operator leaves or enters the hull of the vessel with the improvements embodied therein.

Fig. 2 is a section on the line 2—2 of Fig. 1.

The hull or body of the vessel is represented at 10, the inner outlet and inlet chamber at 11 and the outer chamber at 12. The inner chamber 11 is in communication with the interior of the hull with a door 13 closing the opening and swinging into the inner chamber on hinges 14. The chamber 11 is provided with another door 15 intermediate its ends and hinged at 16 to swing into the chamber, and between the chambers 11 and 12 is a stairway or ladder 17 to enable a person to pass to the upper chamber which opens upon the exterior of the body or hull.

Below the chamber 11 is a tank or holder 18, and between the tank and chamber 11 is an opening covered by a closure 19 hinged at 20 to the floor of the chamber and opening into the chamber.

Mounted upon one of the walls of the chamber 11 is a windlass represented as a whole at 21 and including a winding drum 22, and extending from the door 15 is an arm 23.

A pull cable 24 is attached at one end to the arm 23 and at the other end to the drum 22, and passes over a suitable guide pulley 25 in its passage from the arm to the drum.

By this arrangement a strong force may be applied to the door 15 to close the same against the water pressure from the outer side.

Mounted on the floor of the chamber 11 is a standard 26, and pivoted at 27 on the standard is a lever arm 28. Pivoted at its ends respectively to the lever 28 and door 19, is a link 29.

By this means the door 19 may be forcibly opened against the pressure of the water in the chamber 11, as will be obvious.

Extending through the wall in which the door 13 is disposed is a pipe 31 having valves 32 at the ends, one within the chamber 11 and the other within the body 10 of the vessel, and operative from the chamber and from within the vessel, to enable the pressure in the chamber to be controlled as desired.

The door 13 is also provided with a latch device represented at 33 to lock the door in closed position when required.

In operating the improved device a diver when desiring to leave the submarine vessel, first opens the door 13 and enters the chamber 11, it being understood that the door 15 has been previously closed. The door 13 is then closed and the door 15 opened and the diver passes up the stairway 17 into the chamber 12. The chamber 12, as shown opens upon the outer deck of the submarine vessel. When returning to the submarine vessel, the operator passes through the chamber 12 and into the chamber 11 and the door 15 forcibly closed by actuating the windlass 21—22, against the pressure of the water in the chamber 12.

To remove the water from the chamber 11, the door 19 is forcibly opened by actuating the lever 28, thus permitting the water to pass from the chamber 11 into the tank 18. When the chamber 11 is free from the accumulated water, the lever 28 is again actuated to close the door 19. The operator then opens the door 13 and passes into the body of the vessel.

Any suitable pump device, for instance a centrifugal pump indicated at 30, may be employed to empty the tank 18 ready for the next operation.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification, but it will be understood that any modifications within the scope of the claim may be made in the

construction without departing from the principle of the invention or sacrificing any of its advantages.

I claim:

In a submarine vessel, a chamber extending from the vessel, an inner door providing communication between the chamber and the hull of the vessel, an outer door leading from the chamber, a cable guide pulley located relatively close to the outer door, an arm extending from the outer door, a pull cable connected to said arm and leading over said guide pulley, and means for applying strain to said pull cable to forcibly close said inner door and hold it closed.

In testimony whereof, I affix my signature hereto.

ANTHONY HOZLAK.