

No. 876,777.

PATENTED JAN. 14, 1908.

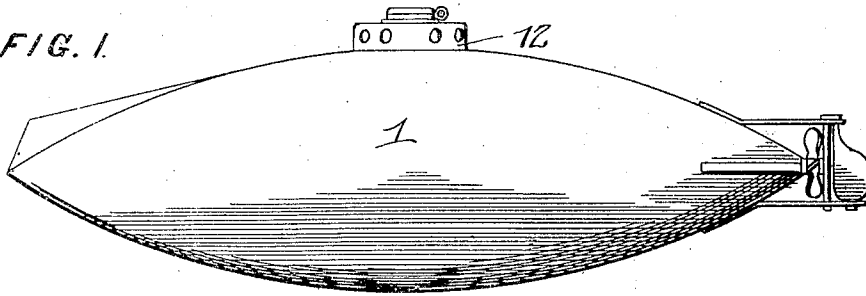
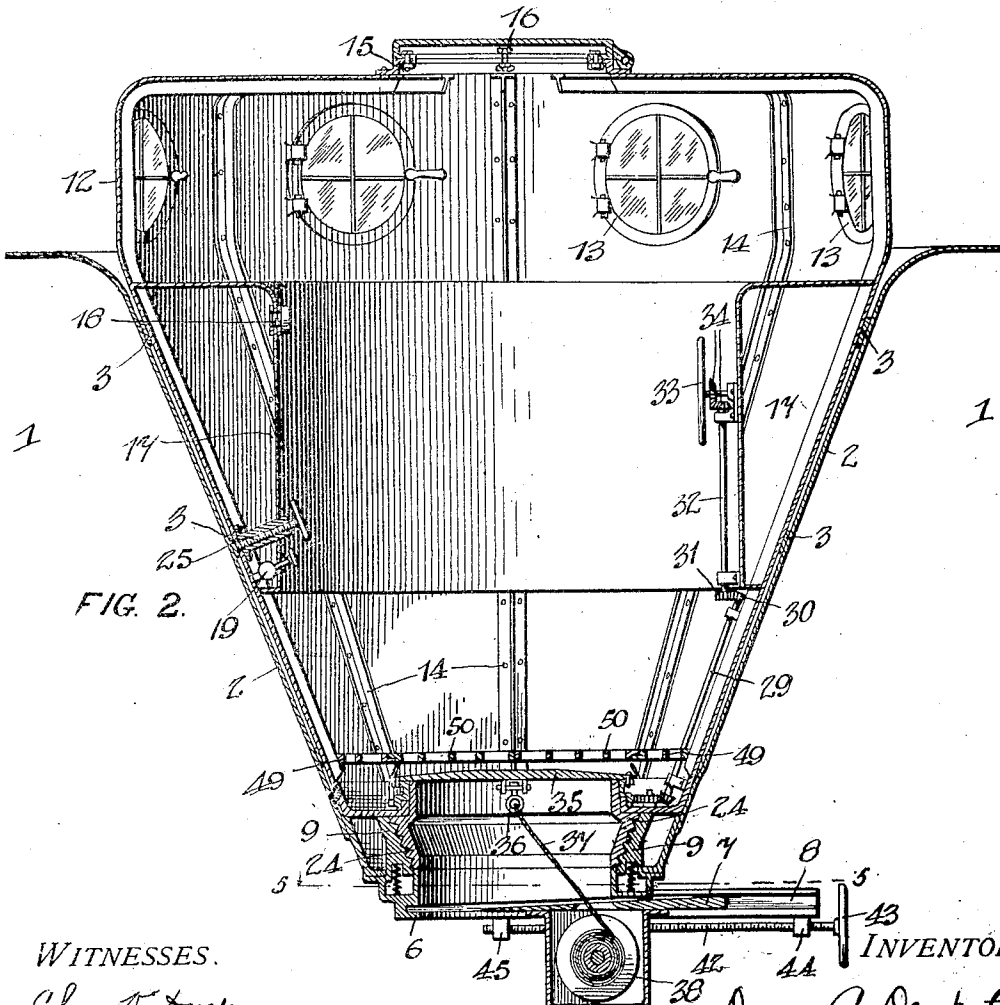
D. A. DEMPSTER.

MEANS FOR EFFECTING ESCAPE OF OCCUPANTS FROM SUNKEN VESSELS.

APPLICATION FILED JUNE 12, 1907.

28 SHEETS—SHEET 1

FIG. 1.



WITNESSES.

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2 SHEETS--SHEET 2.

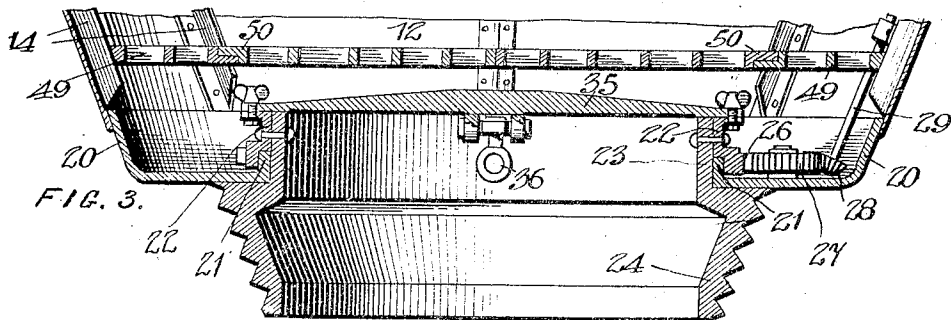
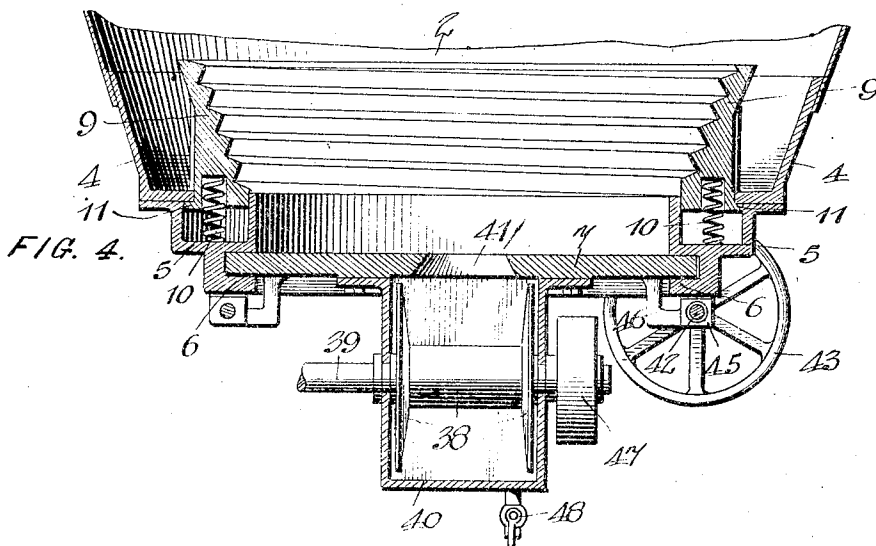


FIG. 5.

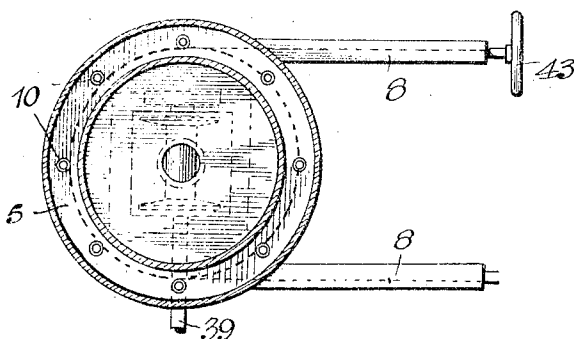
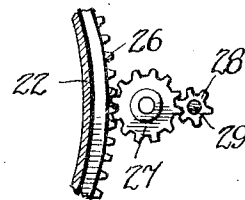


FIG. 6.



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UNITED STATES PATENT OFFICE.

DON ACKER DEMPSTER, OF LOS ANGELES, CALIFORNIA.

MEANS FOR EFFECTING ESCAPE OF OCCUPANTS FROM SUNKEN VESSELS.

No. 378,777.

Specification of Letters Patent.

Patented Jan. 14, 1902.

Application filed June 12, 1907. Serial No. 378,616.

To all whom it may concern:

Be it known that I, DON ACKER DEMPSTER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Means for Effecting Escape of Occupants from Sunken Vessels, of which the following is a specification.

My invention relates to means for effecting escape of occupants from sunken submarine boats and particularly contemplates the provision of a vessel normally carried by the boat, with novel means for receiving occupants therein from the said boat and for releasing the same from said boat when it is desired.

My invention contemplates further the provision of an improved means of escapement comprising a buoy shaped vessel constructed to be released from a sunken boat and to rise to the surface of the water, and to be so connected within the boat as to form a conning tower when associated therewith.

My invention further contemplates the provision of novel means, in connection with the escapement vessel, for drawing the same downward after its ascension to the surface of the water, to again lock the same in its normal position within the sunken boat, without allowing the outside water entering the said boat.

My invention further resides specifically in the following features of construction, arrangement and operation which will be hereinafter described with reference to the accompanying drawings in which like numerals are used to designate like parts and in which,

Figure 1 is an elevation of a submarine boat showing my improvements attached thereto, Fig. 2 is a vertical sectional view of my improved escapement vessel, the portion of the boat designed to receive the same and their associated mechanisms, Fig. 3 is an enlarged vertical sectional view through the lower portion of my improved escapement vessel, Fig. 4 is a similar view through the lower portion of the socket formed within the boat for the reception of the escapement vessel, Fig. 5 is a horizontal sectional view on the line 5—5 of Fig. 2, and Fig. 6 is a detail sectional view of parts to be hereinafter specifically referred to.

In the practical embodiment of my invention I provide a submarine boat or the like, 1

with a socket portion or container 2 built therein and forming an inwardly extending conical shell having circumferential strips 3 arranged upon its surface exposed to the water outside the boat 1. The socket 2 is provided with an annular casting 4 at the lower reduced end thereof, to which casting is rigidly secured a downwardly extending annular socket 5 having guides 6 extending downwardly therefrom and forming guides for a sliding gate 7, said guides 6 having portions 8 extending horizontally therefrom. The annular socket 5 is arranged to receive slidably therein a circular internally threaded ring nut 9 normally pressed upwardly within said socket by means of the coil springs 10 arranged therein, and further provided with an annular flange 11 arranged beneath the inwardly extending edge of the casting 4 to prevent entire removal of said nut 9.

The escapement vessel comprises an inverted cone shaped sheet metal structure 12 arranged to fit within the socket or container 2 and having a portion extending upwardly and exteriorly therefrom provided with windows 13. Thus the vessel 12 may be used as a conning tower when connected within the boat 1 as shown in Fig. 2. The vessel 12 is provided interiorly with a plurality of brace beams 14 extending longitudinally thereof, and with an exit opening 15 normally closed by a cap 16 having an inwardly bent circumferential edge to be bolted adjacent said exit opening 15, interiorly of the vessel 12. The vessel 12 is further provided centrally with an annular air chamber 17 having a removable screw plug 18 for the admission or emission of air, and with a valve 19 communicating therein through the casing of the vessel 12 for the admission of water when said vessel is at the surface and preparatory to drawing the same downwardly within the boat. The vessel 12 is further provided at its lower reduced end with a circular casting 20, terminating upon its inner circumferential edge in an upwardly extending flange 21. Mounted therein to rotate about the flange 21 is an upwardly extending ring 22 to which is rigidly secured a circumferential casting 23 rotatively arranged within the flange 21 and having the exteriorly threaded screw portion 24 integral therewith. The screw 24 is adapted to be screwed within the threaded nut 9 by suitable means within the vessel 12 as hereinafter described, and inasmuch as a ready

engagement between said nut 9 and said screw portion 24 could not be had should the entire turret 12 be revolved with said nut 9. I provide a threaded rod 25 arranged through the casing of said turret and adapted to be screwed outwardly from within said turret to engage one of the circular strips 3 extending from the surface of the socket 2 to prevent rotation of said turret 12. To rapidly rotate the screw 24 I provide the annular ring 22 with a toothed portion 26 engaged by a spur wheel 27 rotatively supported within the casting 20, which spur wheel receives its rotation from a bevel gear 28 arranged at the lower end of the slanting shaft 29 extending upwardly and arranged in suitable bearings upon the inner surface of the casing of the vessel 12. The shaft 29 is provided with a similar bevel gear 30 at its upper end arranged with and rotated by the gear wheel 31 at the lower end of a vertical shaft 32 mounted in bearings upon the casing of the air chamber 17 and rotated by means of a hand wheel 33 through the medium of bevel gears 34.

Tightly bolted upon the upper portions of the casting 23 and the ring 22 is a water tight cover 35 having an eye-bolt 36 swiveled in bearings at its lower face, from which extends a cable or the like 37 wound about a drum 38, mounted upon a rotatable shaft 39 within a water tight chamber 40. The chamber 40 is mounted upon the lower face of the sliding gate 7, the cable 37 being arranged through an opening 41 in said gate, said gate being slidably arranged within the guide 6, as previously described, beneath and adapted to enter and tightly close the circular opening inside the socket 5 carrying the nut 9. Said gate 7 is preferably slightly beveled to more readily form a water tight joint and is moved within said guide 6 and the extending portions 8 by means of a threaded shaft 42 operated by hand wheel 43, and threadedly arranged through a bearing 44 extending from one of the portions 8 of the guides 6, the forward end of said shaft 42 being longitudinally immovably secured within a socket 45 interiorly arranged with an arm 46 of the sliding gate 7.

The operation of the device I will now describe from the position of the device shown in Fig. 2. The sliding gate 7 being partially removed from under the opening. From this position the hand wheel 43 will be operated until said gate 7 is moved rearwardly to allow the person to climb through the opening within the socket portion 5 and the screw portion 24, it being understood that when the cover 35 is open, the person or persons desiring to ascend to the surface from the boat 1 will then climb within the vessel 12 and securely bolt the cover 35 in position, while the persons remaining within the boat 1 will again operate the hand wheel 43 to

tightly reclose the sliding gate 7. When this has been done the person within the vessel 12 will then operate the hand wheel 33; transmitting rotation thereby to the ring 22 and screw portion 24 and unscrewing the same from the nut 9. The vessel 12 will then immediately rise to the surface of the water by virtue of its buoyancy maintained by the air chamber 17, and when at the surface the person or persons will escape by means of the opening 15 if they so desire. If, however, the ascension to the surface is only temporary and the person or persons wish to again descend the cover 16 is again bolted in position from the inside and the vessel 12 drawn downwardly within the socket 2 after the air chamber 17 has been exhausted by means of the removable plug 18 and filled with water by means of the valve 19. To draw the vessel 12 downwardly from the surface it is necessary to couple a rotating portion of the driving apparatus of the boat 1 to a pulley or the like mounted on a shaft 39 to rotate the drum 38 and wind the cable 37 thereupon, the vessel 12 when entering the socket 2 being secured therein by means of the screw 24 and the nut 9 as previously described by operating the hand wheel 33. It will be seen that the space within the screw 24 and the socket 5 will receive a certain amount of water when the vessel is secured within the socket, but this water may be allowed to drain through the opening 41 into the chamber 40 from where it may be drawn off by means of a cock 48.

The vessel 12 may for convenience be further provided with a permanent grating platform 49 upon which the occupants may stand. Said grating however being provided with a removable section large enough to enable the cover 35 to be lifted and the occupants to enter the vessel.

Having thus described my invention, I claim,

1. In combination with a submarine boat a turret adapted to contain the occupants of the boat, a conning tower superposed on said turret, said turret having a threaded portion for engagement with a correspondingly threaded socket of said boat when said turret is held from movement, one of said threaded portions being slidably mounted to move toward and away from the other of said threaded portions and means for rotating the other of said threaded portions, substantially as described.

2. In a device of the character described, the combination with a submarine boat having a socket portion built therein, of a releasable vessel arranged therein having a threaded portion for engagement with a correspondingly threaded portion of said socket when said vessel is immovably held therein, one of said threaded portions being slidably mounted to move toward and away from the other

of said threaded portions and means for rotating the other of said threaded portions, substantially as described.

3. In a device of the character described, the combination with a submarine boat having a socket portion built therein provided with an opening therethrough, of a releasable vessel for engagement within said socket having interiorly locked entrance and exit openings, a sliding gate mounted below said socket portion to close said opening therethrough, a cable attached to said vessel and extending through said gate, a water-tight chamber secured upon said gate below the opening therethrough and means for operating said cable to draw said vessel within said socket, substantially as described.

4. In combination with a submarine boat, a turret adapted to contain the occupants of the boat, a conning tower superposed on said turret, said turret having a threaded portion for engagement with a correspondingly threaded socket of said boat when said turret is held from movement therein, means for holding said turret immovably therein, one of said threaded portions being slidably mounted to move toward and away from the

other of said threaded portions and means for rotating the other of said threaded portions, substantially as described.

5. In combination with a submarine boat having a socket portion built therein, a turret adapted to contain the occupants of the boat, said turret being constructed to engage within said socket portion and having a portion thereof projecting beyond the surface of said boat to form a conning tower, said turret having a threaded portion for engagement with a correspondingly threaded portion of said socket when said turret is held from movement therein, means for holding said turret from movement within said socket, one of said threaded portions being slidably mounted to move toward and away from the other of said threaded portions and means for rotating the other of said threaded portions, substantially as described.

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

DON ACKER DEMPSTER.

Witnesses:

C. L. PARKER,
MYRON G. CLEAR.