No. 841,961. PATENTED JAN. 22, 1907.

J. F. GRAY.

MARINE VESSEL.

APPLICATION FILED MAR. 27, 1906.

3 SHEETS—SHEET 1.

FIG. 1

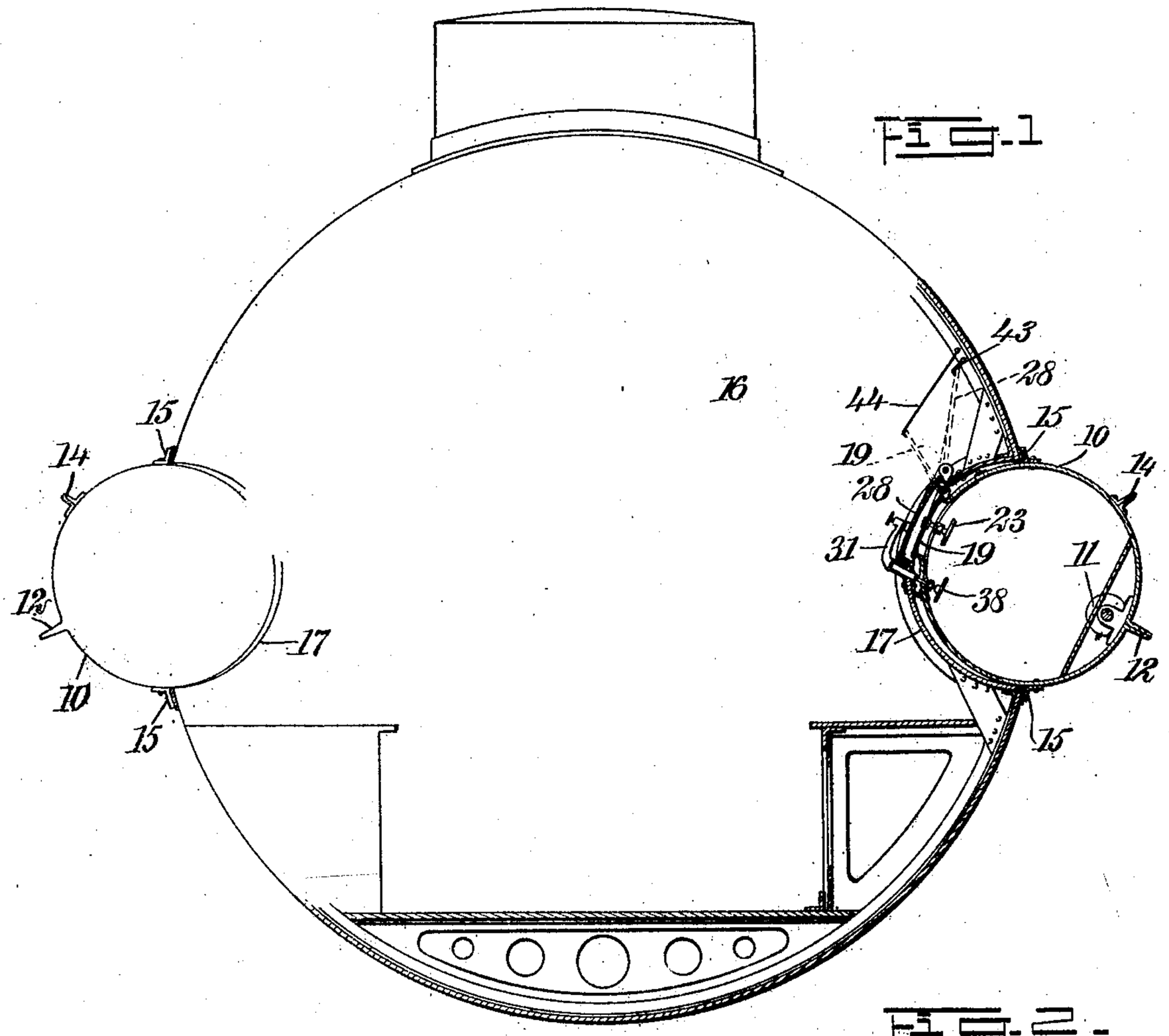
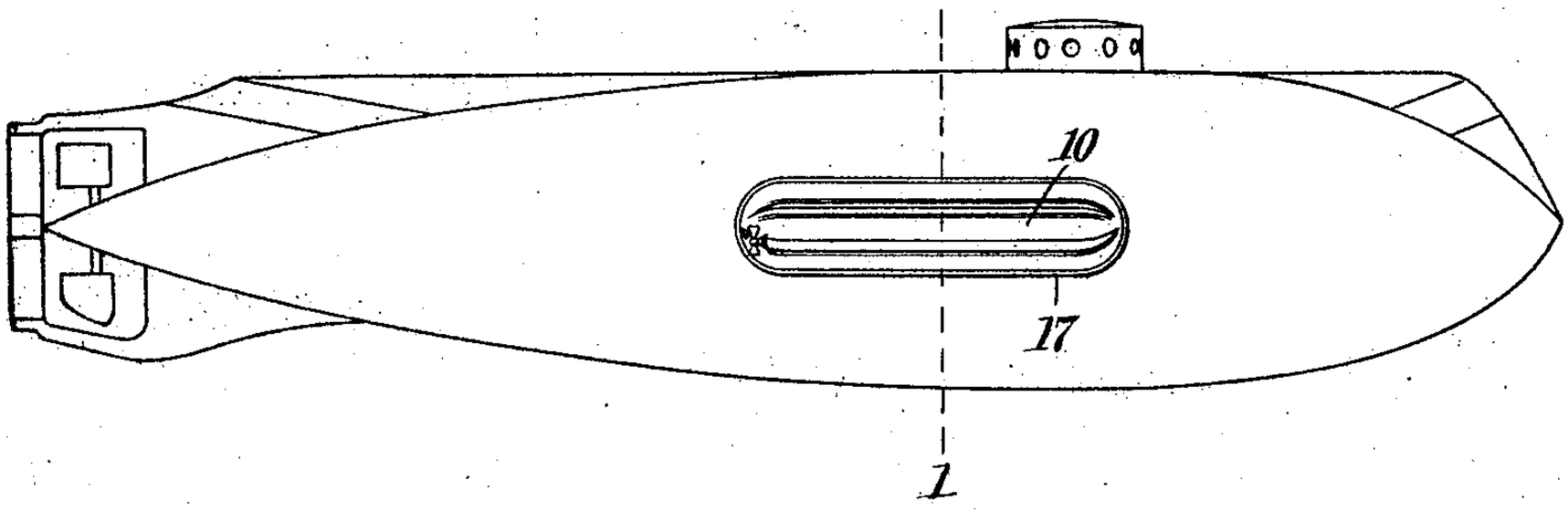


FIG. 2



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3 SHEETS—SHEET 2.

FIG. 3.

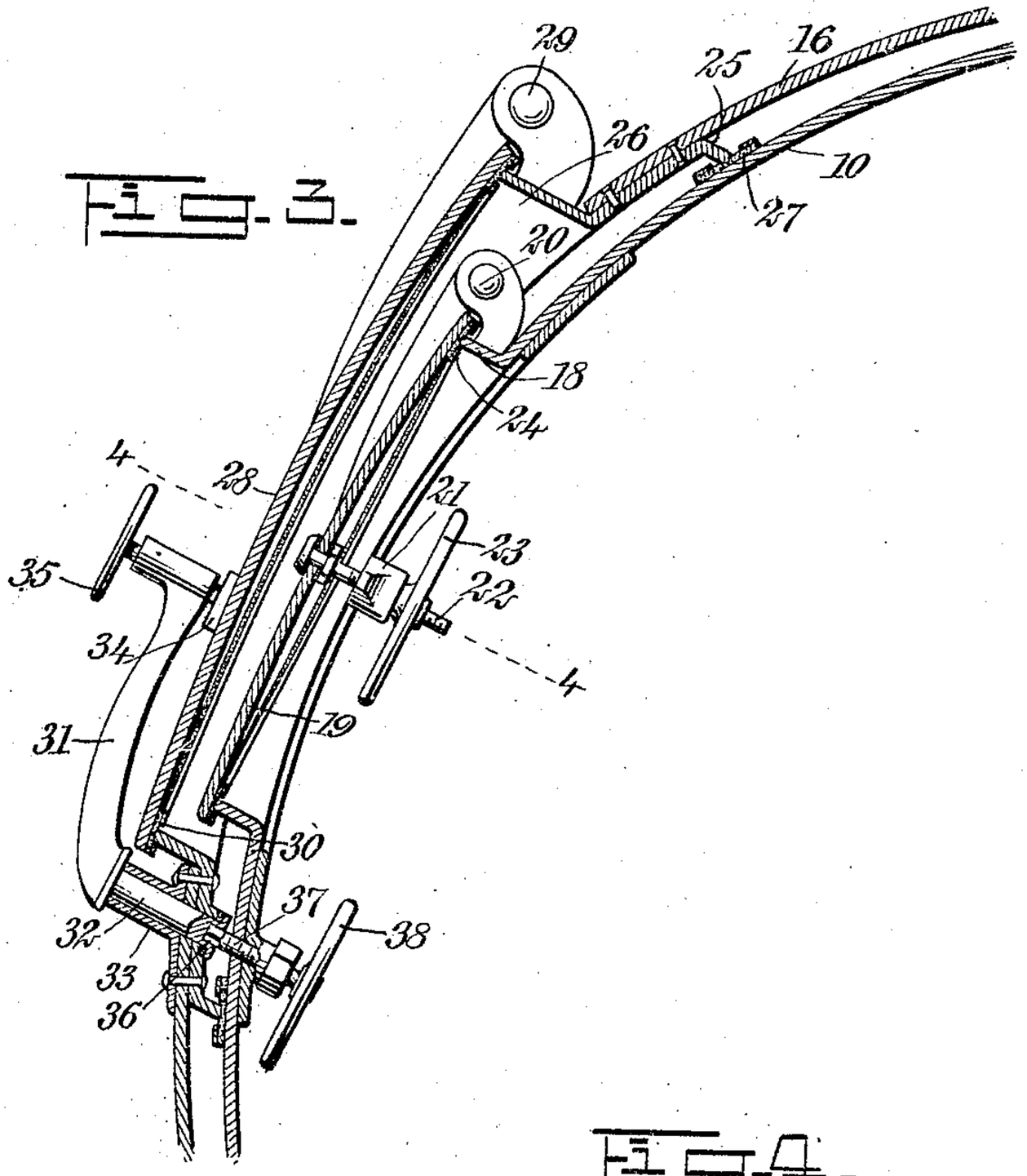
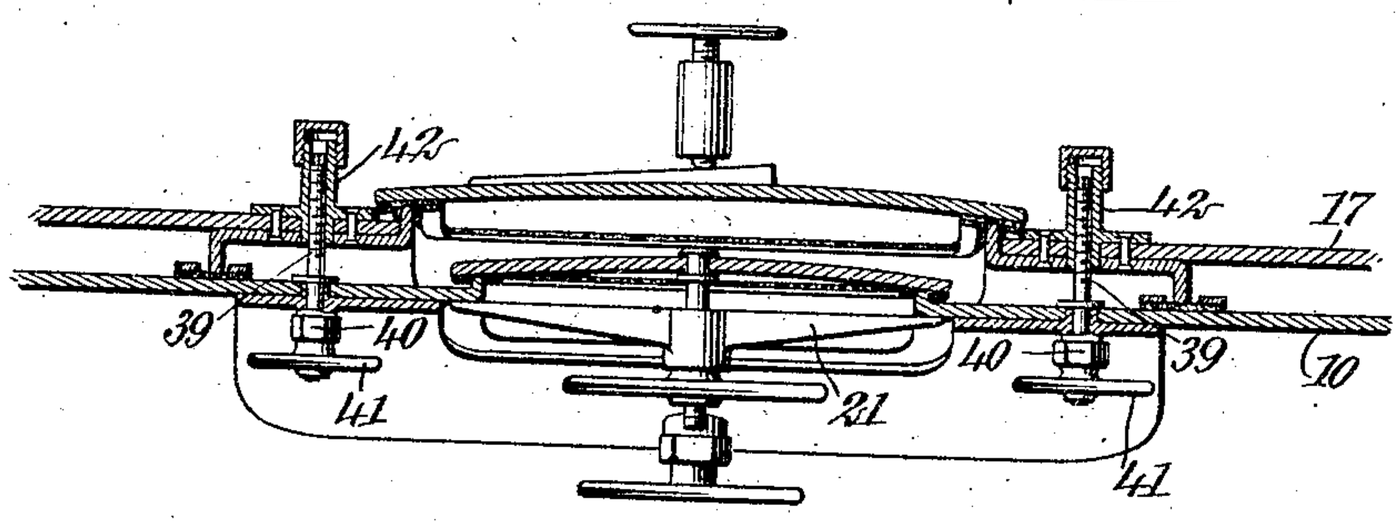


FIG. 4.



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3 SHEETS—SHEET 3.

Fig. 4.

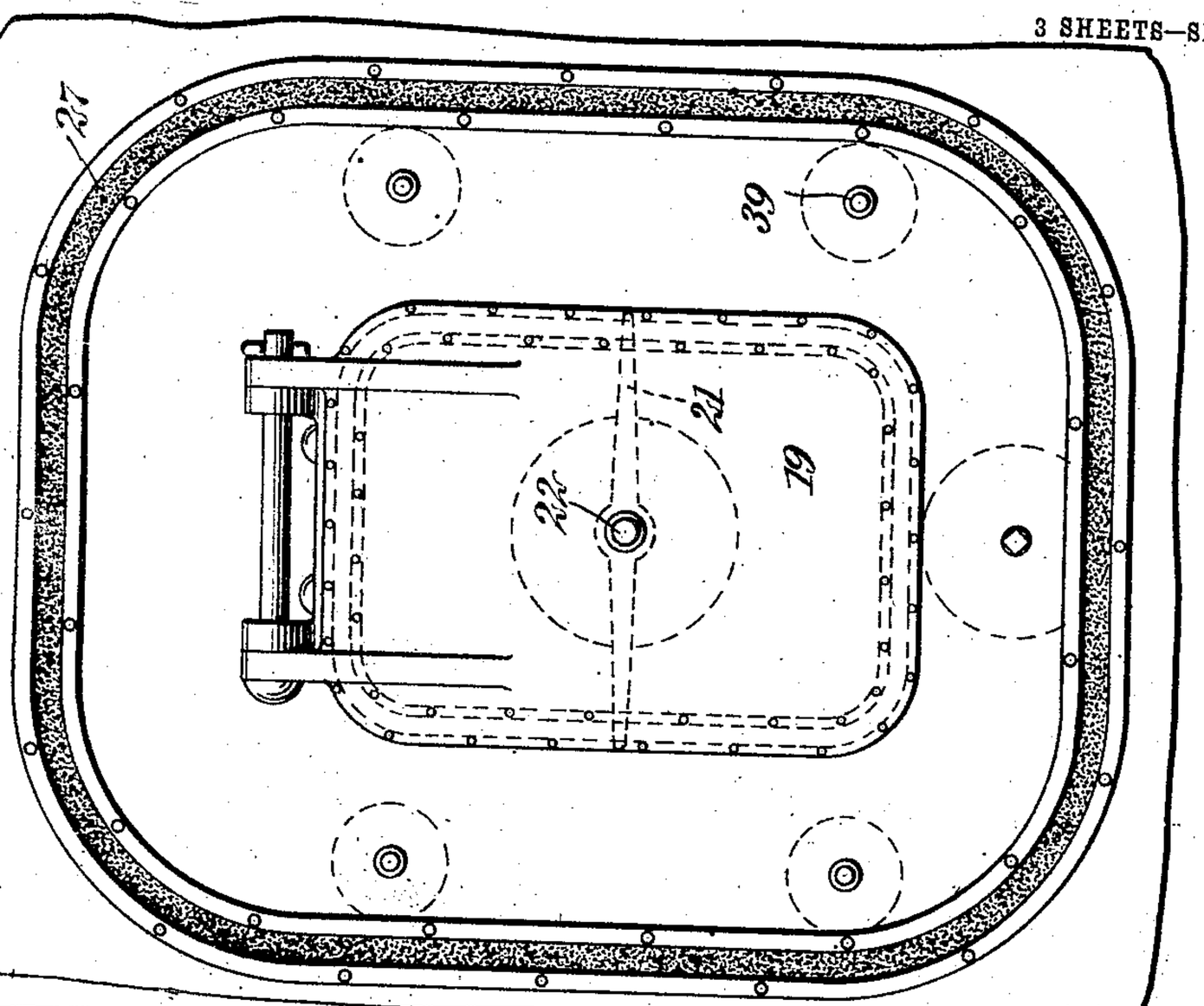
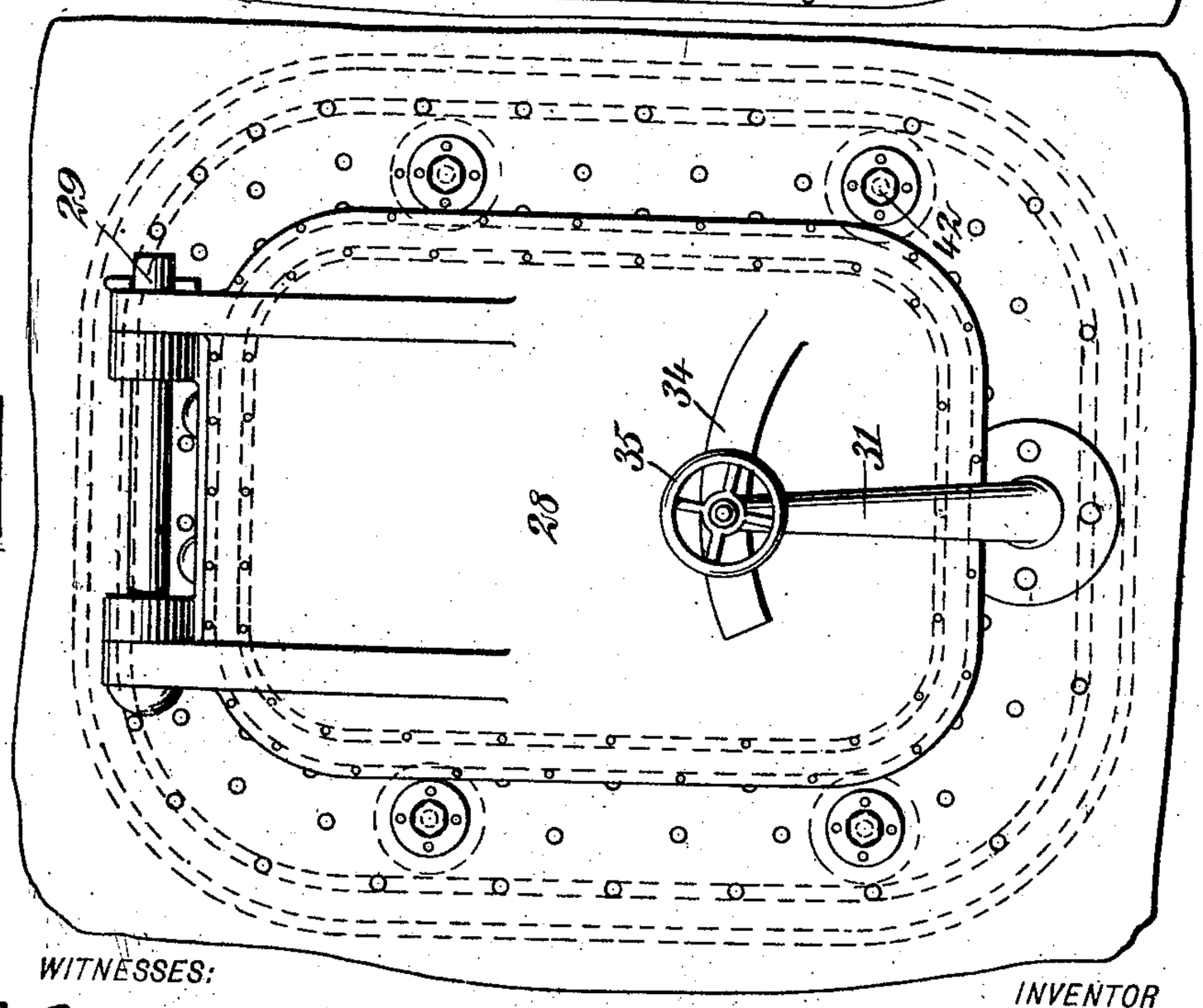


Fig. 5.



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MARINE VESSEL.

No. 841,961. Specification of Letters Patent. Patented Jan. 22, 1907.

Application filed March 27, 1906. Serial No. 308,233.

To all whom it may concern:

Be it known that I, JOHN F. GRAY, a citizen of the United States, and a resident of Portsmouth, in the county of Rockingham and State of New Hampshire, have invented a new and useful Improvement in Marine Vessels, of which the following is a full, clear, and exact description.

The invention relates to an improvement in marine vessels and in life-boats for attachment thereto.

Primarily, my invention resides in certain novel features which enable me to utilize a completely-inclosed life-boat and to connect the same with the larger vessel in such a manner that a person may enter or leave the life-boat without opening it either to the outer air or to the water should the life-boat and larger vessel be submerged or partly submerged. This enables me to provide a life-boat completely inclosed, and which may be, if desired, operated as a submarine and to allow persons to enter the life-boat even after the wreckage of the larger vessel without in any way opening the life-boat to the surrounding air or water, as the case may be, after which the life-boat may be sealed and disconnected from the larger vessel, the life-boat being fitted with propelling means and such other equipment as will render it self-sustaining.

The invention involves various other features of major or minor importance, all of which will be fully set forth hereinafter and particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, which illustrate, as an example, one of the various ways in which my invention may be practically embodied, in which—

Figure 1 is a view with parts in section on the line 1 1 of Fig. 2, showing a typical submarine boat provided at each side with one of my life-boats and illustrating in outline the peculiar devices which I employ for facilitating communication between the two boats even during their submersion. Fig. 2 is a side elevation, on a small scale, showing a submarine boat, and illustrating the manner of housing the life-boat in a pocket in the side thereof. Fig. 3 is an enlarged sectional view showing double-manhole covers, and the devices for fastening them in place. Fig. 4 is a section on approximately the line 4 4 of Fig. 3, showing the same parts and also illustrating the screws for fastening the life-boat in place and for pushing the life-boat outward when it is to be launched. Fig. 5 is an elevational view showing the inner side of the larger vessel and illustrating the manhole-cover thereof; and Fig. 6 is an elevational view of the outer side of the life-boat showing the manhole-cover therefor and also showing the gasket for effecting water-tight connection between the life-boat and larger vessel when the life-boat is housed.

The invention is applicable to marine vessels of all types, either surface-going ships or submarines. In the drawings it is illustrated as applied to a submarine. It may, however, be applied to a ship of the usual type without in any way departing from the conventional features of the invention.

The life-boat 10 is preferably completely inclosed, and it may be, and preferably is, fitted with the usual submarine appliances, including a motor of the compressed-air type, which is illustrated conventionally at 11. The life-boat is also provided with a main keel 12, a bilge-keel 14, and two flanges 15, which serve not only as bilge-keels, but also for engagement with the sides of the larger vessel 16 when the life-boat is housed, as shown in Fig. 1. The larger vessel is provided with a pocket 17 for each life-boat, as shown in Fig. 1. The submarine boat is provided with a pocket in each side, adapting it to carry the two life-boats illustrated. These pockets are semicircular in cross-sectional form, so that the life-boats may be placed therein with the flanges 15 engaging the outer side of the vessel at the edges of the pockets, these flanges serving to limit the inward movement of the life-boat and also to prevent water from washing in between the life-boat and the walls of the pockets 17.

The construction of the life-boat is not material. It is preferably of the conventional cigar shape and may be made of metal or of metal and wood combined, as desired. Neither is the equipment of the life-boat material. It may be provided with any desired means of propulsion and any interior arrangement.

I provide means allowing free communication between the interiors of the vessel 16 and the boat 10 without at any time opening either the vessel or the boat to the surrounding water, thus allowing the life-boat

to be manned and launched from the larger boat while both are completely submerged. These devices are shown best in Figs. 3 to 6.

As shown in Fig. 3, the life-boat 10 is provided with a manhole or hatch surrounded by a coaming 18, and the hatch or manhole is provided with a cover 19, which is hinged outside of the life-boat, as at 20, and provided with a yoke 21, engaging the inner side of the life-boat and connected by a screw 22 and wheel 23 with the cover 19, by which means the cover may be clamped down firmly on the coaming, effecting, with the assistance of a gasket 24, of rubber or other material, an absolutely hermetic joint. The vessel is provided within the pocket 17 with a coaming 25, which surrounds the manhole or hatch in the walls of the pocket, which manhole or hatch is also provided with a coaming 26. The coaming 25 projects outward and the coaming 26 inward, and preferably they are both formed of an integral metal plate which is riveted or otherwise fastened to the shell of the vessel. The coaming 25 is adapted to engage a gasket 27, which is secured, as shown best in Fig. 6, to the outer side of the life-boat surrounding the cover 19. Coacting with the coaming 26 is a cover 28, which is located within the larger vessel 16 and is hinged, as at 29. Said cover is provided with a gasket 30, effecting a hermetic joint between the cover and coaming, and is adapted to be held in place by a strong-back 31. This has a shank 32, which is arranged to turn in a box 33, fastened to the inner side of the shell of the larger vessel, so that the strong-back may swing freely from the position, shown in Figs. 3 and 5 to a sidewise position in which the cover 28 will be disengaged from the strong-back. Said cover is provided on its inner surface with a wedge-shaped or inclined bead 34, and 35 indicates a screw adjustable in the free end of the strong-back and adapted to engage the bead. The outer end of the shank 32 of the strong-back is suitably packed against the outer side of the vessel and is formed with a socket 36, which is adapted to receive the angular end of a screw 37. This operates in the walls of the life-boat 10 and has a hand-wheel 38 attached thereto within the vessel, so that the strong-back may be moved in and out of operative position from within the life-boat.

39 indicates screws which are fitted to turn in bearings 40, secured to the walls of the life-boat 10, said screws having at their inner end hand-wheels 41, facilitating their operation. The screws project outward beyond the life-boat and are adapted to be received in internal socket-pieces 42, secured in the walls of the larger boat or vessel 16. These screws 39 and their coacting parts serve, therefore, the double function of drawing up the life-boat into position with the coaming 25, engaged with the basket 27 and when the life-boat is to be launched tilting it back or outward, so that it may roll from the position shown in Fig. 1 outward into the sea.

In the use of the invention in order to enter and launch the life-boat the strong-back 31 should be swung sidewise into inactive position and the cover 28 raised, as indicated by the broken lines in Fig. 1. Said cover may be held in this raised position by any desired device, this not being deemed important. Fig. 1 illustrates a hook 43 for this purpose. This having been done, the yoke 21 should be turned a quarter of a revolution, so that it will lie lengthwise in the opening or hatch in the life-boat 10, and the cover 19 may then be lifted, as is also shown by the broken lines in Fig. 1. This cover 19, the same as the cover 28, may be held raised by any desired device, a convenient means consisting in a hook, (indicated at 44 in Fig. 1.) A passage is thus freely opened between the two vessels or boats, permitting the life-boat to be loaded and adjusted, as desired.

To launch the boat, the hatch or manhole covers should be returned, the cover 19 secured by the yoke 21 and screw 22 and the strong-back 31 being turned back into active position by means of the screw 37. This, it will be seen, seals both of the manholes and renders communication between the two boats, as well as communication from either boat, impossible. The screws 39 should then be operated to force themselves out of the socket members 42, thus tilting the life-boat from the poised position (shown in Fig. 1) outward and launching it into the sea.

In returning the life-boat to its housed position the screws 39 should be reëngaged in the socket members 42 and the life-boat drawn up to engage the coaming 25 firmly with the gasket 27. As the parts take this position the screw 37 will enter the socket 36 in the shank of the strong-back, and the strong-back may then be operated to release the door 28. The yoke 31 may be turned sidewise, so as to allow the door 19 to be opened, and then the two doors or covers may be thrown open, as before, the life-boat being held firmly in place by the bolts 38, which serve also to secure the engagement between the coaming 25 and gasket 27, thus preventing leakage over either of the hatches or manholes described.

Having thus described the preferred form of my invention, what I actually claim, and desire to secure by Letters Patent, is—

1. A vessel having a pocket in the side thereof, an inclined life-boat adapted to be nested in the pocket, the vessel and life-boat having registering ports or manholes, and means for closing said manholes, said means comprising hinged doors, devices for removably holding the doors closed and means

operable within the vessel or life-boat for holding the vessel-port cover in place.

2. A vessel having a port therein, an inclosed life-boat adapted to engage the vessel and having a port registering with a port in the vessel, a cover for the port in the life-boat, means operative from the interior of the life-boat for clamping the cover in closed position, a cover for the port in the vessel, and means operative from within both the vessel and life-boat for holding the second-named cover in closed position.

3. A vessel having a port therein, an inclosed life-boat adapted to engage the vessel and having a port registering with a port in the vessel, a cover for the port in the life-boat, means operative from the interior of the life-boat for clamping the cover in closed position, a cover for the port in the vessel, and means operative from within both the vessel and life-boat for holding the second-named cover in closed position, the last-named means comprising a swivel strong-back adapted to engage the inner side of the second-named cover, and an operating device therefor located within the life-boat.

4. A marine vessel having a port therein, an inclosed life-boat adapted to engage the vessel and having a port registering with the port in the vessel, a coaming located between the life-boat and vessel and surrounding the said ports, a cover for each port and means operable within the life-boat or vessel for closing the cover of the vessel-port.

5. A marine vessel having a port therein, a cover for the port, a swivel strong-back located within the vessel and adapted to engage the cover, the strong-back having a shank projecting outside of the vessel, an inclosed life-boat having a port therein adapted to register with the port in the vessel, a cover for the port in the life-boat, means for locking the cover in closed position, and an operating device extending through the shell of the life-boat and adapted to engage the said shank of the strong-back.

6. A marine vessel having a pocket in the side thereof, said pocket being substantially semicircular in cross-section, and a life-boat lying partially within the pocket, said life-boat having flanges on the sides thereof for engaging the outer side of the vessel at the edges of the pocket, and means for forming a communication between the vessel and the life-boat.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN F. GRAY.

Witnesses:
EMILY STORERS,
JOHN H. BARTLETT.