(No Model.) 2 Sheets—Sheet 1.

J. SCHEUBECK.

SUBMARINE VESSEL.

No. 575,907. Patented Jan. 26, 1897.

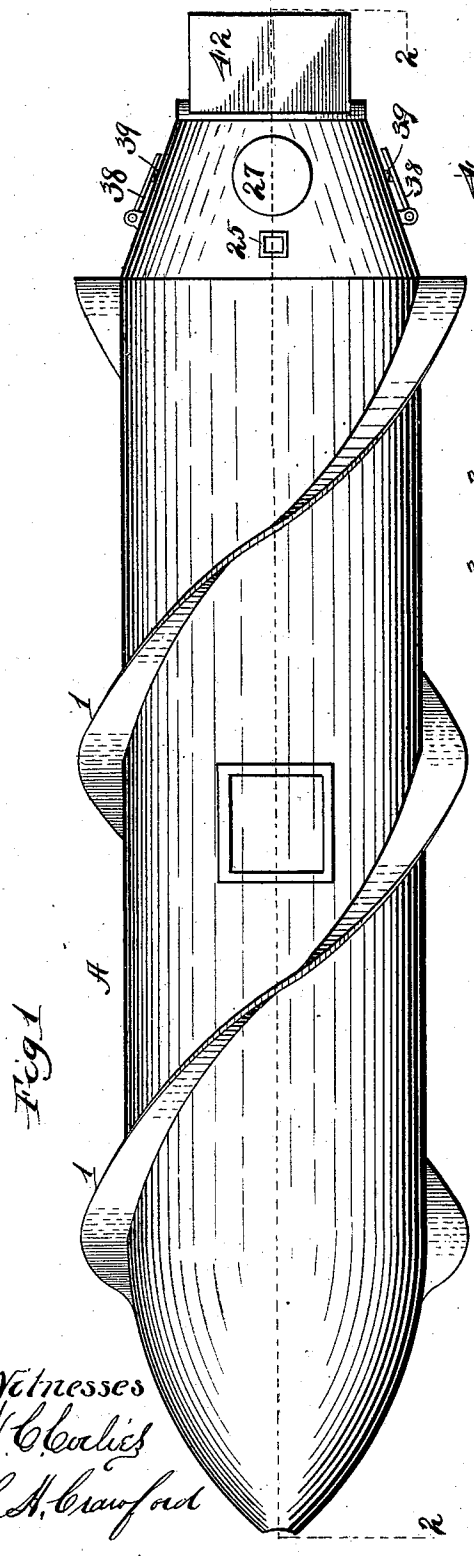

Fig. 1.

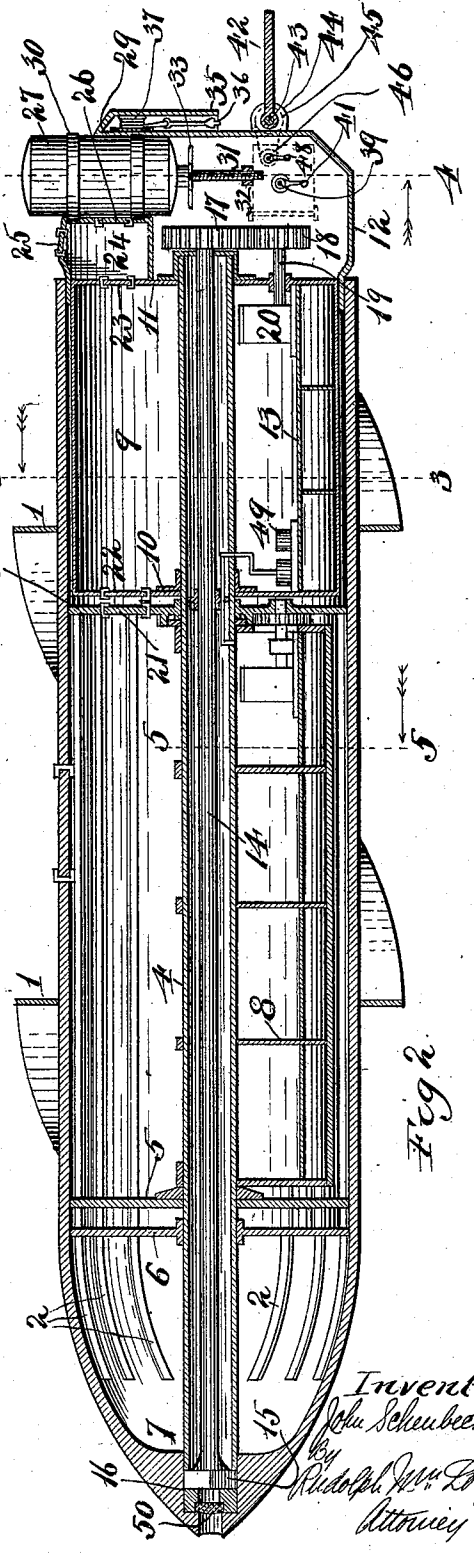

Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

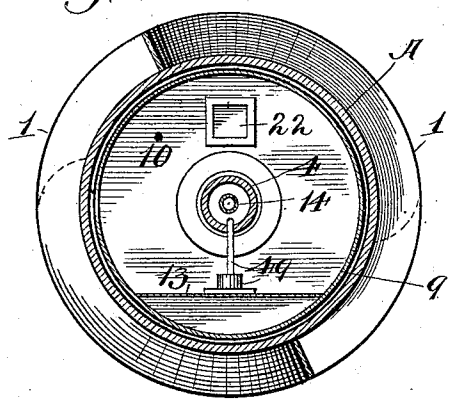
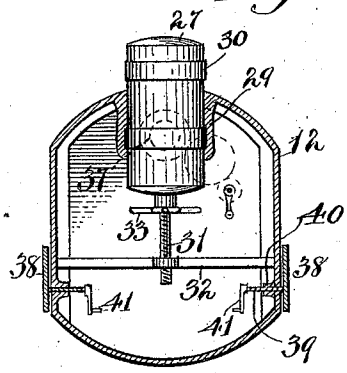


Fig. 4



A Fig. 5.

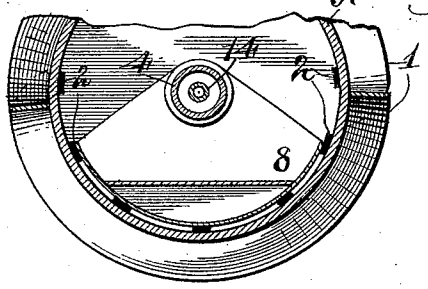


Fig. 6.

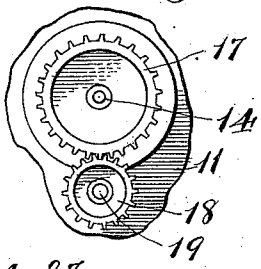
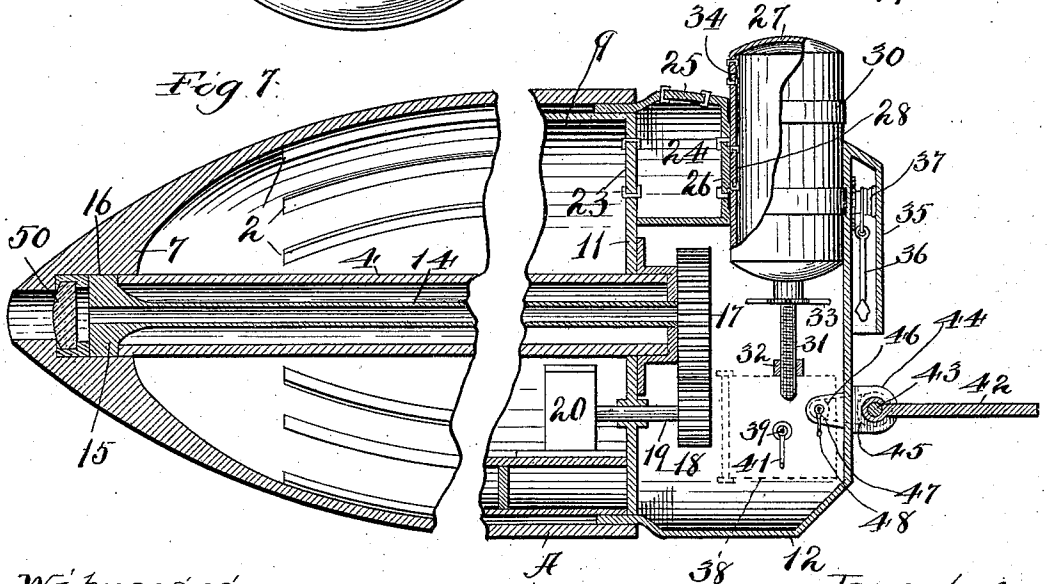


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN SCHEUBECK, OF CHICAGO, ILLINOIS.

SUBMARINE VESSEL.

SPECIFICATION forming part of Letters Patent No. 575,907, dated January 26, 1897.

Application filed March 9, 1896. Serial No. 582,450. (No model.)

To all whom it may concern:

Be it known that I, JOHN SCHEUBECK, 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 Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a novel construction in a submarine vessel, the object being to provide a craft of this description which is simple and durable in construction, of high speed, and which can be easily handled; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a top plan view of a vessel constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section of the same, taken on the line 2 2 of Fig. 1. Fig. 3 is a vertical transverse section taken on the line 3 3 of Fig. 2. Fig. 4 is a vertical transverse section of the same, taken on the line 4 4 of Fig. 2. Fig. 5 is a vertical transverse section taken on the line 5 5 of Fig. 2. Fig. 6 is a detail rear elevation of the gearing for driving the main shaft. Fig. 7 is a detail vertical longitudinal section, with a portion broken away, on an enlarged scale.

Referring now to said drawings, A indicates the outer shell or casing of a vessel constructed in accordance with my invention, which is preferably made of heavy boiler-iron, which is reduced at its forward end to form the prow. Secured to the outer face of said cylindrical shell or casing A are a plurality of spiral blades 1, which form the propeller by means of which said shell A, so to say, screws itself through the water. To the interior face of said shell A, I provide a series of ribs 2, which extend from a point within the prow portion to a partition 3 near the rear end thereof. The said ribs will obviously greatly increase the strength of said shell A and prevent its becoming indented through a collision. Mounted in bearings within said shell A is a tube 4 of large diameter, which is mounted in bearings in said partition 3 and in the forward partitions 5 and 6 and in the forwardmost portion 7 of the prow. Mounted upon said tube 4 between said partitions 3 and 5 is a box or receptacle 8, which is adapted to hold propelling energy of any description, such as storage batteries or oil, by which the motor is propelled. Said receptacle 8 is immovably mounted upon said tube 5 and by its weight prevents the same from turning. Rigidly mounted upon said tube 4 behind said partition 3 is a cylindrical shell or casing 9, which is independent of said shell A, which is adapted to revolve around the same. Said casing 9 is provided with a forward partition 10, adjacent said partition 3, and a rear wall or partition 11, which divides the same from a rearward extension 12 thereof, in which all the operating mechanism for handling the vessel is situated. Said casing 11 is provided with a floor 13, the space beneath which is divided into compartments which are adapted to contain storage batteries or other propelling energy, also to ballast the same and hold said casing and said tube 4 against rotation.

Mounted in bearings within the tube 4 is a hollow shaft 14, which is screwed at its forward end to a nut or square block 15, situated in a recess 16 in the portion 7 of the prow. The rear end of said shaft 14 extends beyond the rear end of said tube 4 and is provided with a cog-wheel 17, which intermeshes with a pinion 18 on the drive-shaft 19 of the motor 20, situated within said casing 9, by means of which said shaft 14 is caused to rotate, thus causing the rotation of the shell A, which will obviously cause the latter to propel itself through the water.

The partition 3 is provided with a trap-door 21, which is adapted to be brought opposite a trap-door 22 in the wall or partition 10 when it is desired to enter the forward portion of the vessel.

The wall or partition 11 is provided with a trap-door 23, which leads into a chamber 24 in the rearward extension 12. Said chamber 24 is also provided with a trap-door 25 in its upper wall, by means of which entrance is gained to the vessel. A trap-door 26 leads

from said chamber 24 into a vertically-movable cylinder 27 through a trap-door 28 in the same, which forms the pilot-house. Said cylinder 27 fits into a sleeve 29, extending downwardly from the upper wall of said rearward extension 12, which is provided with packing-rings 30 to provide a water-tight joint. Pivotally mounted in the lower end portion of said cylinder 27 is a screw 31, which is adapted to enter a screw-threaded opening in a cross-bar 32, situated below said cylinder, and is provided with a hand-wheel 33 to turn the same. It will be obvious that by turning said hand-wheel 33 the said cylinder must be raised or lowered, as desired. It is my intention when it is desired to run under water, after sighting a ship which it is desired to ram, to lower said cylinder 27 to bring its top on a level with said upper wall of said rearward extension 12, so as to offer as little resistance as possible to the water. Said cylinder 27 is provided with a window or port-hole 34, through which the pilot looks. Mounted upon the rear end of said rearward extension 12 is an anchor-box 35, which is adapted to contain an anchor 36, pending from a cable secured to a windlass 37 in the upper end of said anchor-box, by means of which said anchor may be raised and lowered. Pivoted to each side of said rearward extension 12 is a rudder 38, which is adapted to be operated by a screw-threaded shaft 39, passing through a screw-threaded sleeve 40 on the side walls of said rearward extension 12, which is provided with a crank-handle 41, by means of which said shaft is turned to cause it to move outwardly and press said rollers outwardly from the sides of said rearward extension 12, by means of which the vessel will obviously be steered in any desired direction. Pivoted to the rear wall of said rearward extension 12 is a rudder 42, having a horizontal plane, which is mounted upon a shaft 43, mounted in bearings in two rearwardly-extending cases 44, within which sprocket-wheels are securely mounted upon said shaft and geared by means of a sprocket-chain 45 to a sprocket-pinion 46, mounted upon a shaft 47, mounted in bearings within said rearward extension 12 and provided with a crank-handle 48, by means of which the plane of said rudder is turned to any desired angle, according as it desired that said vessel should move upwardly or downwardly in the water.

It will of course be understood that the details of the construction of parts for manipulating my device can be changed or varied in any manner to bring the same under perfect control, as the devices herein shown and described are but crude and simple and are shown only to give a clear understanding of the desired manner of manipulating the vessel.

Mounted within the casing 9 is an air-pump 49, by means of which compressed air is forced into the forward portion of the shell A, which may act as a reservoir for the air-supply for the crew while said vessel is running under the water.

The shaft 14 is preferably hollow, as I propose to use the same as a telescope while the vessel is running under water, and to this end I have provided an opening in the portion 7 of the prow, in which a glass or lens 50 is mounted.

I claim as my invention—

1. In a submarine vessel, an outer shell or casing provided with spiral propeller-blades, a tube rotatably mounted within said outer shell or casing, an inner casing rigidly mounted upon said tube adjacent the rear end thereof, a hollow shaft rotatably mounted within said tube and rigidly secured to said outer casing at its forward end, a motor within said inner casing, gearing between said motor and said hollow shaft, and a receptacle for the propelling energy pendent from said tube at about its middle portion and rigid with relation thereto.

2. In a submarine vessel, a hollow shaft rigidly connected with an outer casing provided with spiral propeller-blades, an opening in said outer casing adjacent the point at which said hollow shaft is connected therewith and in alinement with the opening in said shaft, and a lens fitted to said opening in said outer casing.

3. In a submarine vessel, an outer shell or casing provided with spiral propeller-blades on its outer face, a tube mounted in bearings within said outer shell and carrying a casing containing the drive mechanism, a drive-shaft mounted in bearings within said tube and secured at its outward end to said outer casing, and gearing between said drive-shaft and said drive mechanism.

4. In a submarine vessel, an outer shell provided with spiral propeller-blades on its outer face, a tube mounted in bearings within said shell, a casing mounted upon said tube and adapted to contain the drive mechanism, a hollow shaft mounted in bearings within said tube and secured at its forward end to said outer casing, an opening in the prow of said outer casing in alinement with the opening in said shaft, a glass or lens mounted within said opening in said prow, and gearing between said shaft and said drive mechanism.

5. In a submarine vessel an outer shell provided with spiral propeller-blades on its outer face, a tube mounted in bearings within said outer shell, a casing mounted upon said tube within said outer shell or casing and movable with relation thereto, a drive-shaft mounted in bearings within said tube and secured at its forward end to said outer shell, gearing between said drive-shaft and a motor situated within said inner casing, and a rearward extension upon said inner casing pro-

vided with rudders on each side thereof for steering said vessel in a horizontal plane, a rudder having a horizontal plane mounted upon the rear end of said rearward extension and adapted to steer said vessel in a vertical plane, means for operating said rudders, an anchor-box and windlass mounted upon said rearward extension, means for operating said windlass, and a vertically-movable pilot-house mounted within said rearward extension.

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

JOHN SCHEUBECK.

Witnesses:
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E. J. BOILEAU.