

No. 678,290.

Patented July 9, 1901.

A. J. TAPLIN.

PROPELLING MECHANISM FOR VESSELS.

(Application filed Oct. 22, 1900.)

(No Model.)

4 Sheets—Sheet 1.

Fig. 3. Fig. 2.

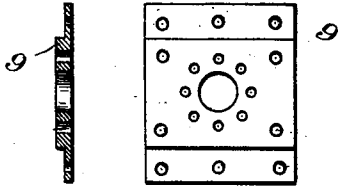


Fig. 1.

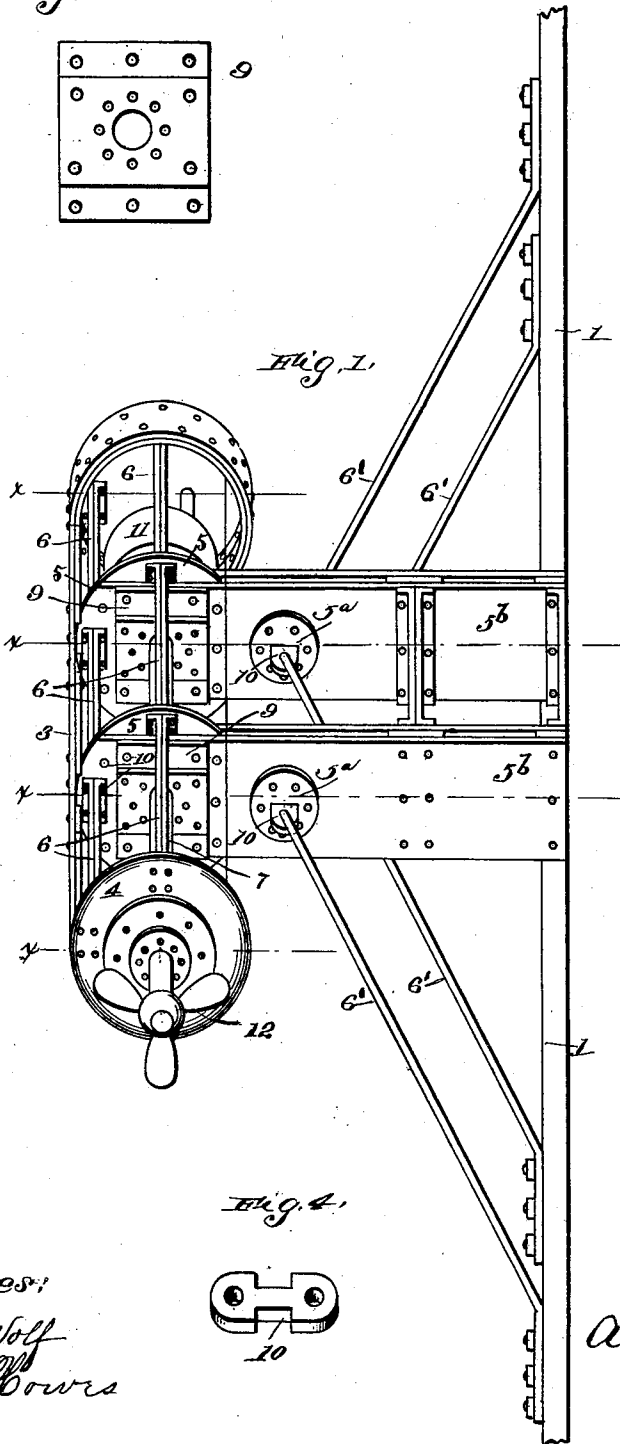


Fig. 4.



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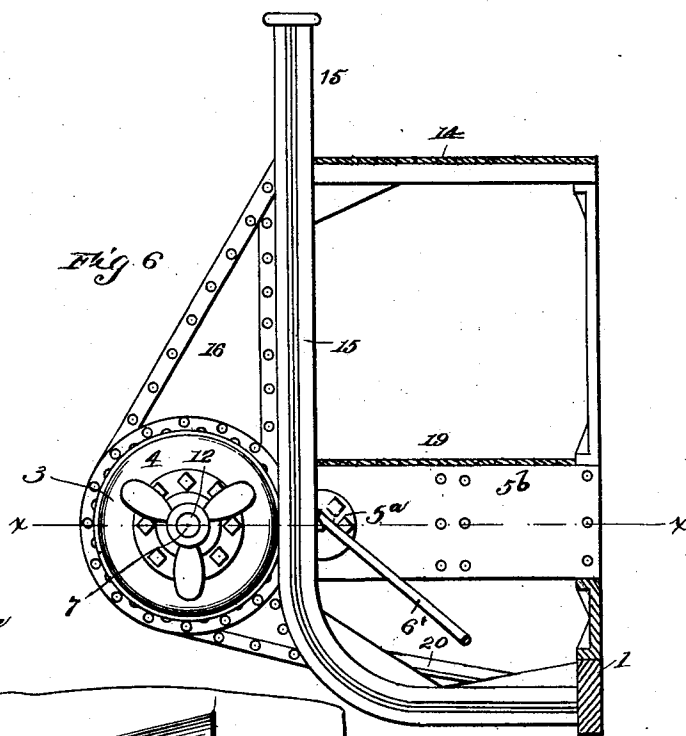
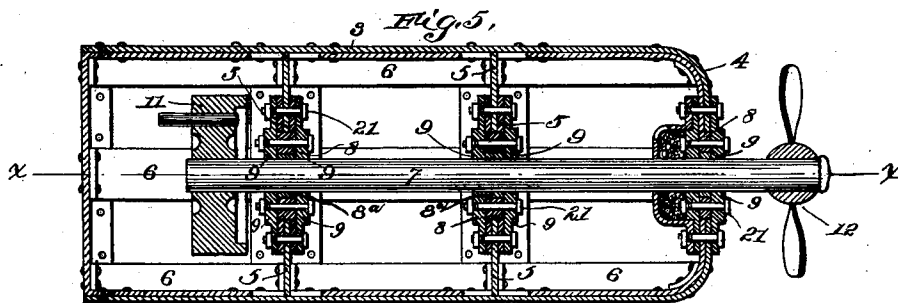
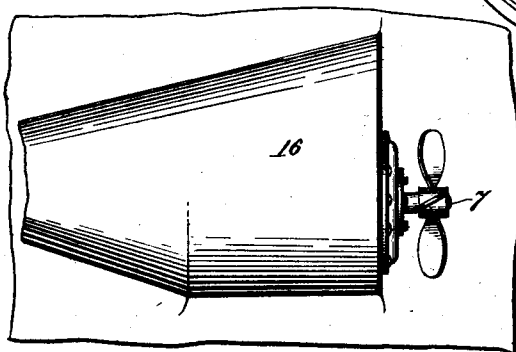


Fig. 6^a



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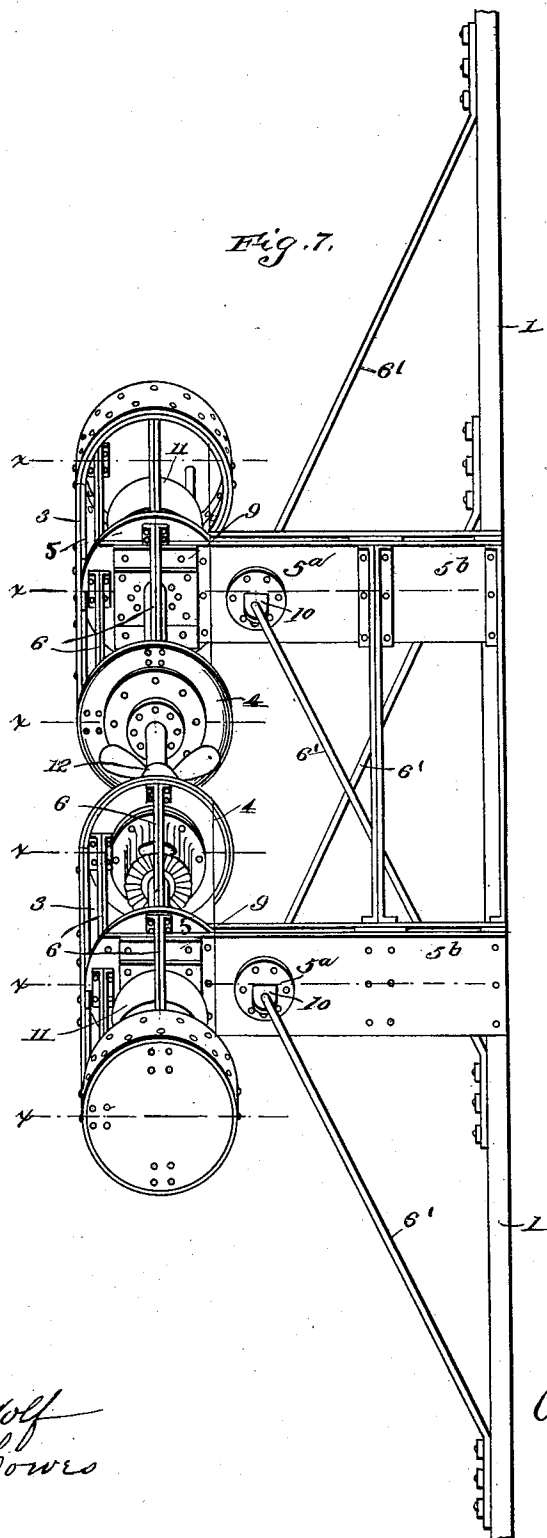
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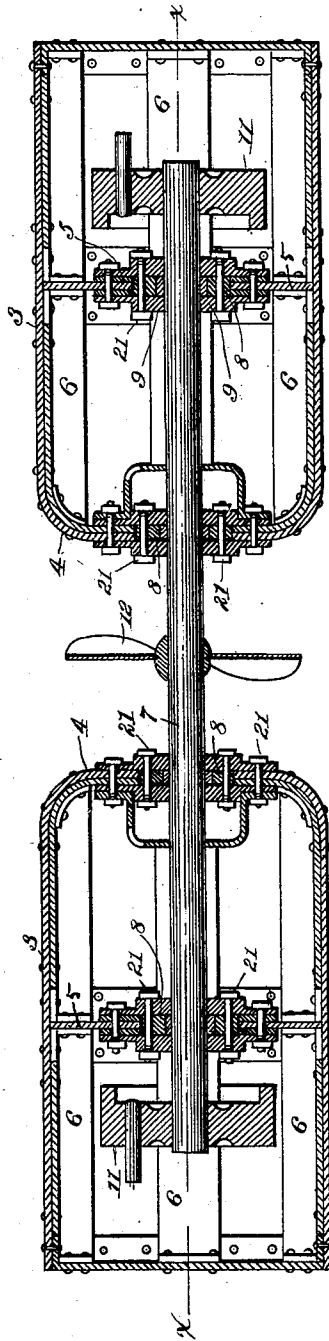
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4 Sheets—Sheet 4.

Fig. 8.



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UNITED STATES PATENT OFFICE.

ALBERT J. TAPLIN, OF VANCOUVER, CANADA.

PROPELLING MECHANISM FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 678,290, dated July 9, 1901.

Application filed October 22, 1900. Serial No. 33,869. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. TAPLIN, a citizen of the United States, residing at Vancouver, British Columbia, Canada, have invented new and useful Improvements in Propelling Mechanism for Vessels, of which the following is a specification.

My invention is an improvement in the class of vessels which are provided with propelling-screws arranged at the sides, the object being to increase speed and steering capacity of a vessel and enable it to be turned in a very short distance.

The details of construction are as hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of propelling machinery applied to the side of a vessel. Fig. 2 is a plan view of one of the plates in which a screw-shaft is supported. Fig. 3 is a cross-section of such plate. Fig. 4 is a perspective of a double-eyed bar. Fig. 5 is a lengthwise section of a cylindrical case, in which a screw-shaft is arranged and held. Fig. 6 is a sectional view of a portion of a vessel's side provided with my side propeller. Fig. 6^a is a side view illustrating the form and location of parts. Fig. 7 is a perspective view showing a form of my invention adapted and secured to a vessel's sides. Fig. 8 is a longitudinal section of parts shown in part in Fig. 7.

I locate propelling mechanism on the sides of a vessel's hull, slightly forward of the middle of her length, or, more precisely stated, I locate it a distance from the bow equal to about five-twelfths of the length of the hull and on the light line—that is to say, the water-line—when the vessel is without cargo or ballast.

As shown in Figs. 6 and 6^a, a structure 16 is built out on the side of the hull, the same constituting fore-and-aft swells and being supported by frames 15 and 20 and terminating abruptly at the rear and tapering toward the front and also upward, so as to offer minimum resistance to the water in passing through it. Within this structure or framing 16 I arrange a cylindrical casing 3, (see Figs. 1, 5, 7, and 8,) which has lengthwise frame-plates or bars 6 and annular parti-

tions or plates 5 with circular openings. The annular partitions are securely bolted to the cylinder or casing proper, 3, and a shaft 7, carrying a screw 12, passes through them and also through the end or ends 4 of the casing or casings. In Figs. 1, 5, and 6 I show a single casing 3 and shaft 7, with a screw 12 at one end, and in Figs. 7 and 8 I show two alined casings 3, spaced apart, and a shaft 7, having a screw 8 arranged between the two casings. The shaft 7 is provided with fixed collars 8^a, that rotate in contact with antifriction-rollers 8. The latter are journaled on bolts 21, that pass also through plates 9, arranged parallel and bolted to both sides of the annular partitions 5. One of said plates is shown detached in Fig. 2. It will be seen that the plates 9 are in contact with the rollers 8 and collars 8^a on both sides, and thus resist the end thrust of the shaft 7. In Figs. 1, 6, and 9 I show the athwartships beams 5^b extended and forming the thrust-receiving partitions of the casing 3 and supported by brace-rods 6', which are bolted to a heel-plate or main girder 1 of a vessel at their lower ends and attached at their upper ends to double-eyed bars 10. (See Fig. 4.) Said bars 10 have a reduced middle portion which passes through disks 5^a, which are bolted on each side of the plates 5. In Fig. 6, 15 indicates the side framing of the hull of a vessel, while 14 and 19 indicate the main deck and engine-room floor or deck, respectively.

The engine (not shown) will be connected by a pitman or connecting-rod with a wrist-pin on balance-wheels 11, keyed on the propeller-shafts 7, the said rod working through coincident lateral openings in the vessel's hull and the casing containing the propeller-shaft. But one balance-wheel is employed when a single casing 3, Fig. 5, is used; but when two casings 3 are alined, Fig. 8, then two balance-wheels 11 are employed. It will be understood that the so-called "casings" 3 may be formed as complete or inclosed cylinders or of skeleton-like construction, as shown in Figs. 1 and 7.

It is obvious the screws will be so arranged on their shafts 7 as to drive the ship forward when rotated together in one direction and in the opposite direction when rotated re-

versely and that each may be so geared as to operate independently of the other, so as to turn the ship in a circle of short radius.

What I claim is—

- 5 1. A vessel's hull provided with lateral fore-and-aft swells or extensions which are tapered or inclined forward and upward and whose wide rear portion terminates abruptly, the same being vertical or at a right angle to the adjacent portion of the hull, said swells being adapted for reception of casings containing a propeller-shaft, substantially as shown and described.
- 10 2. The combination with a vessel's hull having lateral openings and fore-and-aft swells which are open at the abrupt rear end of the casing, and a propeller-shaft arranged longitudinally in the latter, said casing being adapted for insertion in the said swells and provided with side openings coinciding with the openings in the hull, as specified.
- 15 3. A vessel's hull having lateral fore-and-aft swells which taper forward and upward, and terminate abruptly at the wide rear portion, cylinders or casings adapted to be placed and secured horizontally in said swells and their rear ends coinciding with those of the swells, propeller-shafts carrying screws and arranged axially in said casings, and having eccentric wrist-pins for application of power in a lateral direction, as shown and described.
- 20 4. A vessel's hull having lateral swells extending fore and aft, beams arranged athwartships and extending at the side of the hull for supporting said swells, and braces arranged diagonally below the swells, substantially as shown and described.
- 25 5. The combination, with lateral swells extending fore and aft on a vessel's hull and terminating abruptly at the rear, of beams arranged athwartships and extending laterally into said swells, and bearings for propeller-shafts, secured to the outer ends of said beams, and the shafts arranged in such
- 30 6. The combination, with a vessel's hull having lateral fore-and-aft swells, of athwartships beams projecting laterally into said swells, a casing containing propeller-shaft bearings and secured to said beams, braces extending diagonally to said beams and eye-bars connecting said braces with the latter, as shown and described.
- 35 7. The combination, with a vessel's hull having lateral fore-and-aft swells which are open at the rear, casings arranged in said swells and having fixed transverse partitions provided with openings, a propeller-shaft carrying a screw and having its bearings in said partitions, collars on said shaft, and plates abutting said collars, for receiving end thrust, substantially as shown and described.
- 40 8. The combination, with a vessel's hull having lateral fore-and-aft swells which are open at the rear, casings arranged in said swells and having fixed transverse partitions provided with openings, a propeller-shaft carrying a screw and extending through said partitions, antifriction-rollers arranged around the shaft, plates secured to the partitions and having bolts that serve as journals for the rollers, substantially as shown and described.
- 45 9. The combination, with a vessel's hull having lateral fore-and-aft swells which are open at the rear, casings arranged in said swells and having fixed transverse partitions provided with openings, a propeller-shaft carrying a screw and extending through the partitions, collars fixed on the shaft, antifriction-rollers arranged around and working in contact with the collars, and plates bolted to the partitions and abutting the collars and having journals for the said rollers, substantially as shown and described.

50 6. The combination, with a vessel's hull having lateral fore-and-aft swells, of athwartships beams projecting laterally into said swells, a casing containing propeller-shaft bearings and secured to said beams, braces extending diagonally to said beams and eye-bars connecting said braces with the latter, as shown and described.

55 7. The combination, with a vessel's hull having lateral fore-and-aft swells which are open at the rear, casings arranged in said swells and having fixed transverse partitions provided with openings, a propeller-shaft carrying a screw and having its bearings in said partitions, collars on said shaft, and plates abutting said collars, for receiving end thrust, substantially as shown and described.

60 8. The combination, with a vessel's hull having lateral fore-and-aft swells which are open at the rear, casings arranged in said swells and having fixed transverse partitions provided with openings, a propeller-shaft carrying a screw and extending through said partitions, antifriction-rollers arranged around the shaft, plates secured to the partitions and having bolts that serve as journals for the rollers, substantially as shown and described.

65 9. The combination, with a vessel's hull having lateral fore-and-aft swells which are open at the rear, casings arranged in said swells and having fixed transverse partitions provided with openings, a propeller-shaft carrying a screw and extending through the partitions, collars fixed on the shaft, antifriction-rollers arranged around and working in contact with the collars, and plates bolted to the partitions and abutting the collars and having journals for the said rollers, substantially as shown and described.

85 In testimony that I claim the foregoing I have hereunto set my hand this 3d day of May, 1900.

A. J. TAPLIN.

Witnesses:

JOHN WILLIAM DEWOLF,
BYRON E. ARMSTRONG.