May 16, 1950 O. I. PRIDGEN 2,507,544

MULTIPLE SCREW PROPELLED TRANSIT BOAT

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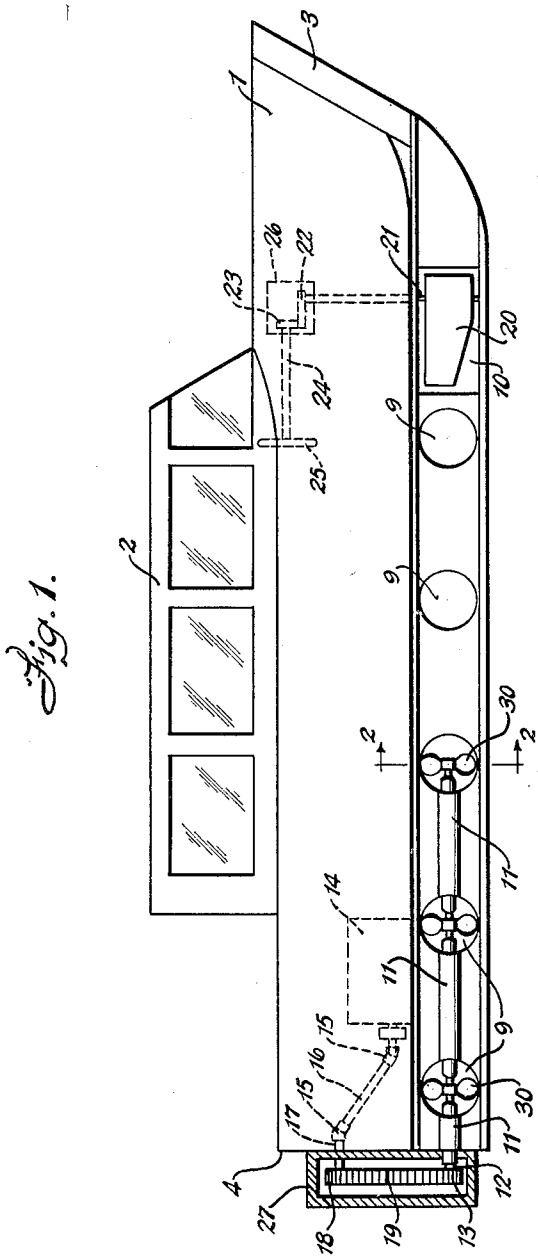


Fig. 1.

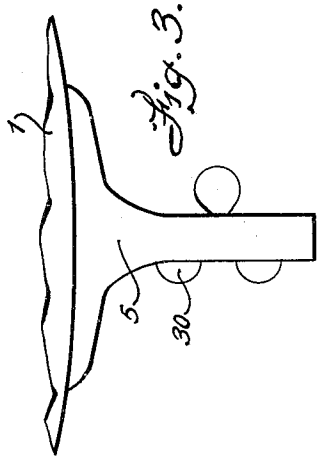


Fig. 3.

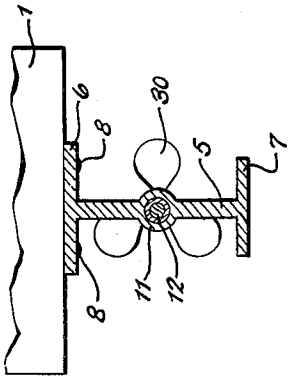


Fig. 2.

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MULTIPLE SCREW PROPELLED TRANSIT BOAT

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1 Claim. (Cl. 115—37)

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This invention relates to improvements in power propelled boats.

An object of the invention is to provide an improved motor propelled transit boat which will be formed with a plurality of interconnected spaced protected propeller blades.

Another object of the invention is to provide an improved power propelled transit or river boat which will be provided with a plurality of protected propeller blades arranged in spaced relation along the rear end of the keel portion of the boat, and the further provision of a forwardly located steering rudder.

A further object of the invention is to provide an improved transit or river boat with an inverted T-shaped deep keel extending the full length of the boat hull, and formed with a plurality of spaced apertures throughout the length of the keel, together with a plurality of interconnected propeller blades in the rear apertures and a rudder in the most forward aperture, together with power means for operating said propeller blades whereby sharp turns may be negotiated in restricted waters which could not be readily made with boats having steering rudders located at their stern ends.

Another object of the invention is to provide an improved traffic or river power operated boat which will have its ends located inside the boat hull, and interconnected spaced propeller blades and gearing from the engine to said blades located exteriorly of said hull.

A still further object of the invention is to provide an improved transit or river boat which will be highly efficient in operation, and relatively inexpensive to manufacture and produce.

Other objects will appear as the description proceeds.

In the accompanying drawings which form a part of this application,

Figure 1 is a side elevation of the improved power operated transit or river boat;

Figure 2 is a sectional view taken on the line 2—2 of Figure 1, and

Figure 3 is a rear view of a modified form of keel structure.

Like characters of reference are used throughout the following specification and the accompanying drawings to designate corresponding parts.

In carrying out the invention, there is provided an improved form of transit boat having a hull 1 provided with a superstructure or cabin 2, and a bow or stem 3 at the forward end thereof, and a stern or transom 4 at the rear end of said hull.

An I-shaped metal keel 5 having upper and

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lower arms 6 and 7, respectively, is provided and is adapted to extend the full length of the hull 1 in a central longitudinal position with respect thereto, and to be held in place by means of the bolts 8 which extend upwardly through the arm 6 and through the bottom of the hull 1, as clearly illustrated in Figure 2 of the drawings.

A plurality of round apertures 9 are formed at spaced intervals throughout the length of the body portion of the keel 5, as clearly illustrated in Figure 1 of the drawings, and a substantially rectangular shaped aperture 10 is formed through the forward end of said keel for purposes hereinafter described.

The enlarged bearing housings 11 will be provided between the stern of the boat and the rearmost aperture 9, and between the next two apertures, to receive the propeller shaft 12 upon which the three propeller blades 13 are supported to extend transversely through the said apertures 9 through the rear portion of the said keel 5. The rear end of the propeller shaft 12 will extend through the stern 4 of the boat hull 1, and will support a small gear 13 on its outer extremity.

A suitable power mechanism such as an engine 14 will be suitably mounted at the rear of the hull 1, and will be connected by means of the universal joints 15 and shaft 16 with the shaft 17 extending through the stern of the hull 1, to support a gear or socket 18 in a position to overlie the gear or socket 13. A heavy socket chain 19 will be connected between the two sprockets 13 and 18 exteriorly of the boat hull 1 and will transmit power from the engine 14 through the shafts 16 and 17 and universal joints or couplings 15 through the sprocket chain 19 to the propeller shaft 12 and to the propellers 30 to propel the boat.

It will be seen that there are a plurality of circular apertures formed at the central and forward portions of the boat keel 5, and these apertures are provided for permitting water to pass therethrough when the boat is making a turn. A rudder 20 will be mounted upon the vertical shaft 21 and will be received within the aperture 10 through the forward end of the keel 5. A gear segment 22 will be positioned upon the upper end of the shaft 21 and will mesh with the gear 23 on the forward end of the steering column 24 which terminates in the steering wheel 25 within the cabin portion 2 of the boat. A suitable gear housing 26 will be provided for protecting and supporting the interconnected gear segment 22 and the gear 23 used for operating the steering rudder 20.

A closed gear casing 27 will be secured to the

stern 4 of the hull 1 to enclose the sprockets 18 and 13 and the interconnected drive chain 19 used for transmitting power from the motor 14 to the several propellers 30.

From the foregoing description it will be seen that the propellers by being mounted in the circular openings formed at spaced intervals through the keel 5 will be protected from accidental damage due to contacting sand bars or rocks in shallow water, due to the lower outwardly extending arms 7 serving as a buffer to protect said propeller blades.

In Figure 3 of the drawings, there is illustrated a modified form of keel which may be formed of heavy wood construction rather than an I-beam of metal construction. In this form corresponding spaced apertures will be formed in which to receive the propeller blades 30 and the rudder 20 as in the preferred form of the invention herein before described.

Due to the positioning of the steering rudder in the bow portion of the hull and the adjacent apertures positioned centrally through the keel, it will be seen that a very sharp turn may be negotiated by merely turning the propeller as desired at which time the boat will start to turn and the water adjacent the keel will rush through the centrally located apertures to permit a very sharp turn to be made. The provision of the spaced propeller will provide a more positive action for propelling the boat and will further serve to more quickly turn the stern of the boat about when a turn is being made.

From the foregoing description, it will be apparent that boats formed in the herein before described manner may be used in fleets to serve the purpose of ferries or for transporting passengers from one place to another on tortuous rivers or waters where boats formed with propelling and steering means at their rear ends will have difficulty in operating.

While the preferred embodiment of the instant invention has been illustrated and described, it will be understood that it is not intended to limit the scope of the invention thereto, as many minor changes in detail of construction may be resorted to without departure from the spirit of the invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

A boat including a hull having a stem and a stern transom, an I-shaped metal keel detachably secured longitudinally to the bottom of said hull, said keel being formed with a plurality of spaced transverse circular apertures through it and a transverse rectangular aperture through its forward end, aligned bearing houses formed in said keel between its rear end and the rear circular aperture and between the next adjacent circular aperture, a propeller shaft rotatably mounted in bearings in said housings, propellers mounted on said propeller shaft for rotation in said circular apertures, a rudder mounted in said transverse rectangular aperture, a closed gear box on the rear surface of the transom of said hull, an engine in said hull, and gearing in said gear box connected respectively to the rear end of said propeller shaft and with said engine.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
47,879	Tarr	May 23, 1865
65,093	Kuhnert	May 28, 1867
203,586	Brown	May 14, 1878
778,421	Mayo et al.	Dec. 27, 1904

FOREIGN PATENTS

Number	Country	Date
168,913	Switzerland	Apr. 20, 1934