

J. D. MULLER.
MOTOR BOAT.

APPLICATION FILED JUNE 1, 1911.

Patented Oct. 15, 1912.

1,041,328.

2 SHEETS—SHEET 1.

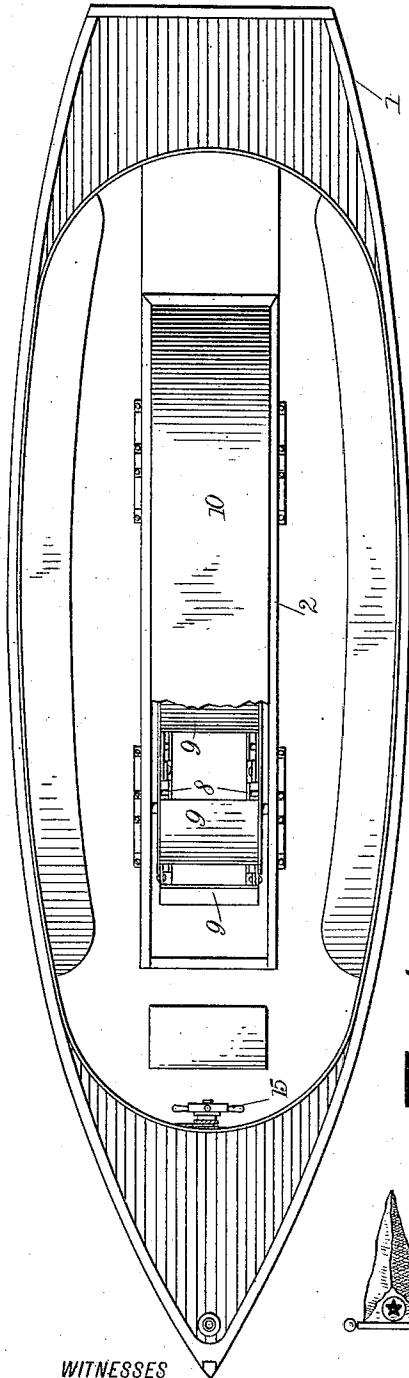


Fig. 1

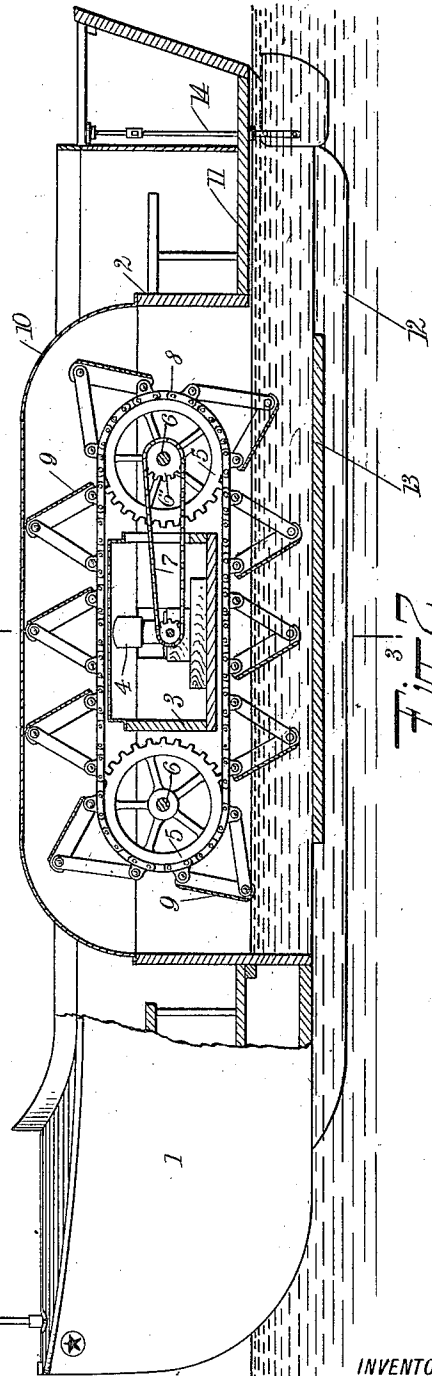


Fig. 2

WITNESSES

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INVENTOR

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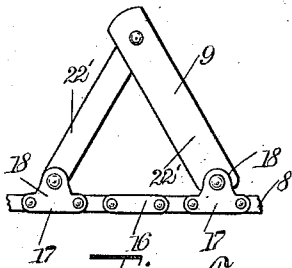
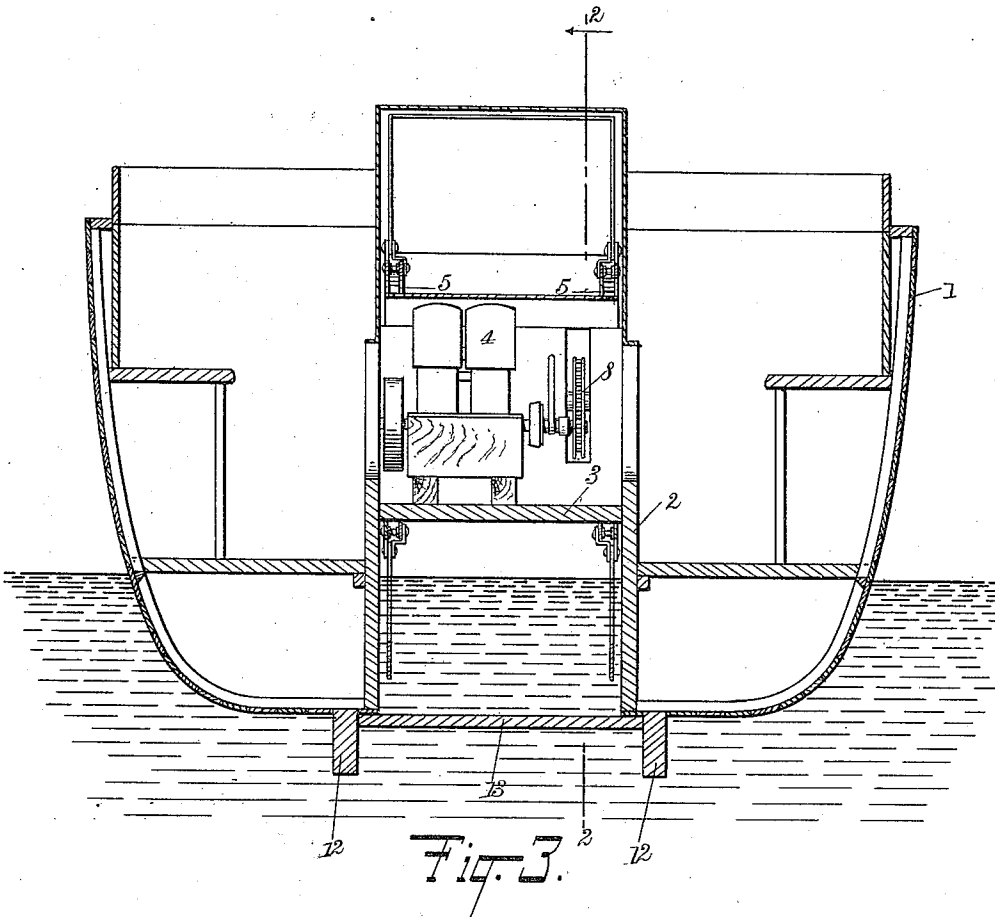
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WITNESSES

George Bamby,
Wm F. Nickel

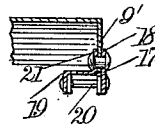


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN D. MULLER, OF NEW YORK, N. Y.

MOTOR-BOAT.

1,041,328.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed June 1, 1911. Serial No. 630,560.

To all whom it may concern:

Be it known that I, JOHN D. MULLER, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Motor-Boat, of which the following is a full, clear, and exact description.

My invention relates to motor boats, and comprises certain improvements in the apparatus for propelling the same, said improvements comprising, in effect, a series of paddle blades mounted upon an endless chain which carries said paddle blades successively into engagement with the water, to move the boat forward.

Reference is to be had to the accompanying drawings forming a part of this specification, in which the same characters of reference indicate the same parts in all the views.

Figure 1 is a top plan of my improved motor boat; Fig. 2 is a longitudinal section of the same, the bow of the boat being shown in elevation, the plane of section being indicated by the line 2—2 of Fig. 3; Fig. 3 is a vertical transverse section on the line 3—3 of Fig. 2; Fig. 4 is a side elevation of a paddle blade, showing the manner in which it is connected to the chain; and Fig. 5 is a transverse vertical section, showing the engagement of the links of the chain with the paddle blade, and the brace which is used at either end thereof.

On the drawings, 1 is the hull of a boat which is constructed with a well 2, arranged centrally of the hull at a suitable distance intermediate the ends. The walls of the well 2 support a casing 3, this casing containing the motor 4, which may be of the internal combustion type; and it will be understood that this casing is to be closed on all sides, including the top, to protect it against water which the propelling apparatus will cause to splash in all directions inside of the well when the boat is in motion.

The sides of the well 2 also provide bearings for a pair of transverse shafts 6, these shafts being arranged fore and aft of the engine casing 3, and each of these shafts carrying a pair of sprocket wheels 5. The pair of sprocket wheels 5 abaft the engine are connected to receive motion from the engine crank shaft, by means of suitable chains 7. These chains pass from a gear or pinion on the crank shaft of the engine,

to a similar gear 6' on the rear shaft 6. The fore and aft sprocket wheels 5 on each side of the well 2 are connected by means of sprocket chains 8, and these sprocket chains carry blades 9, so that, as the engine rotates, the rear sprocket wheel 5 will cause the chain to move and bring the paddle blades successively into engagement with the water beneath the boat, to propel the same. A cover is shown at 10, which closes the top of the well 2 and protects the occupants of the boat from water and spray churned up by the paddle blades when the latter are in action.

The lower edge of the well 2 at the rear thereof coincides with the level of the floor 11 of the boat 1, the floor 11 being constructed at such a distance above the bottom of the boat that it will be supported about on a level with the surface of the water, as shown on Fig. 2; and the sides of the well 2 are extended below the bottom 11, forming a trough or passage through which the water flows freely from the well 2, where it is engaged by the paddle blades under the bottom of the boat, to the stern thereof. It will thus be apparent that the water passing into the lower part of the well 2 through the open bottom thereof will pass freely backward past the stern without encountering any obstruction that would diminish the boat's rate of progress.

On either side of the well 2, beneath the bottom of the boat, is placed a longitudinal fin or keel 12. 13 is a cover which extends across the open bottom of the well 2 for a portion of the length thereof, this cover being supported along its lateral edges by the keels 12, as shown on Fig. 3. The purpose of this cover 13 is to prevent damage to the paddle blades 9 from snags or stones, or other obstructions which they might otherwise strike if the cover 13 were omitted. A sufficient space will be left between the front edge of the cover 13 and the forward lower edge of the well 2 to allow the water to flow into the well 2 to be engaged by the paddle blades 9.

A suitable rudder 14 provided at the stern of the boat is controlled by a steering wheel 15 from the bow. The blade of the rudder 14 will be located centrally of the central trough beneath the stern of the boat, through which the water passes out of the well 2 when the boat is in motion.

The construction of the sprocket chain

and the manner of attaching the propeller 9 thereto is shown on Figs. 4 and 5. Each of the chains 8 comprises parallel links having straight sides, the ends of these parallel links being riveted together in the usual way. Links 17 are also employed, having lateral projections or ears 18 on the outer side of the chains, and on the inner side of the chains are similar links 19, having projections which are bent over parallel to the pin 20 toward the outer side, and then upward to form ears 21, similar to the ears 18. The pins 20 have flanges or collars thereon adjacent their ends. The ends of these pins serve to connect links on either side of the chain pivotally together; and the flanges between the ends serve to space the links on one side of the chain from those on the other: Each of the paddle blades 9 has a flange 22 on each of its sides; and the lower edge of this flange 22 is pivoted to the ears 18 and 21, located between the same and secured by a suitable rivet. 22' is a link or bar secured to the chain 8 in the same way as the paddle blade 9, and this link 22' is pivotally connected at its outer end to the flange 22 of the paddle blade. This construction makes the paddle blade readily adjustable, allowing it to pass freely around the sprocket wheels 5, and permits it to be held by the chain 8 in suitable position when it passes down into the well 2 to do its work against the water.

It will be understood that the well 2 will be so constructed as to make the motor 4 accessible from the side thereof. For this purpose a suitable door can be arranged in one side of the well 2, if desired.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A motor boat comprising a well opening through the bottom thereof and having an outlet at the rear in the form of a trough formed beneath the stern of the boat, said trough being open at the bottom, a pair of keels fixed to the bottom of the boat along the sides of said well and said trough, a cover for the bottom of said well supported between said keels, said cover and said trough forming a channel extending from the front of said well, to permit the passage of water through said well past the stern of the boat, and means mounted in said well to engage the water to propel the boat forward,

said cover serving to protect said propelling means.

2. In a motor boat, an endless chain comprising links having laterally projecting ears located along the length of the chain on one side, links on the other side of the chain opposite the first-named links, said second-named links being bent toward the first-named links and then being again bent to form ears which are parallel with the ears on the first links, paddle blades having lateral flanges each pivotally connected to the ears on one pair of links between the same, and a connecting brace pivotally connected to a flange on the paddle blade near the outer end thereof at one end and between the ears of an adjacent pair of links at the other end.

3. A motor boat comprising a well opening through the bottom thereof and having an outlet at the rear in the form of a trough formed beneath the stern of the boat and being open at the bottom, a pair of keels fixed to the bottom of the boat along the sides of said well and said trough, a cover for the bottom of said well supported between said keels, said cover and said trough forming a channel extending from the front of said well, to permit the passage of water through said well past the stern of the boat, and an endless chain mounted in said well carrying paddle blades to engage the water to propel the boat forward, said cover serving to protect said chain and blades.

4. A motor boat comprising a well opening through the bottom thereof and having an outlet at the rear in the form of a trough beneath the stern of the boat and being open at the bottom, a pair of keels fixed to the bottom of the boat along the sides of the well and the trough, and a removable cover for the bottom of said well supported between said keels, said trough forming a channel extending from the front of said well to permit the passage of water through the well past the stern of the boat, said cover serving as a protecting shield for the bottom of said well.

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

JOHN D. MULLER.

Witnesses:

WILLIAM F. NICKEL,
JOHN P. DAVIS.