

J. H. MAY.
BOAT.

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907,073.

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Fig. 1.

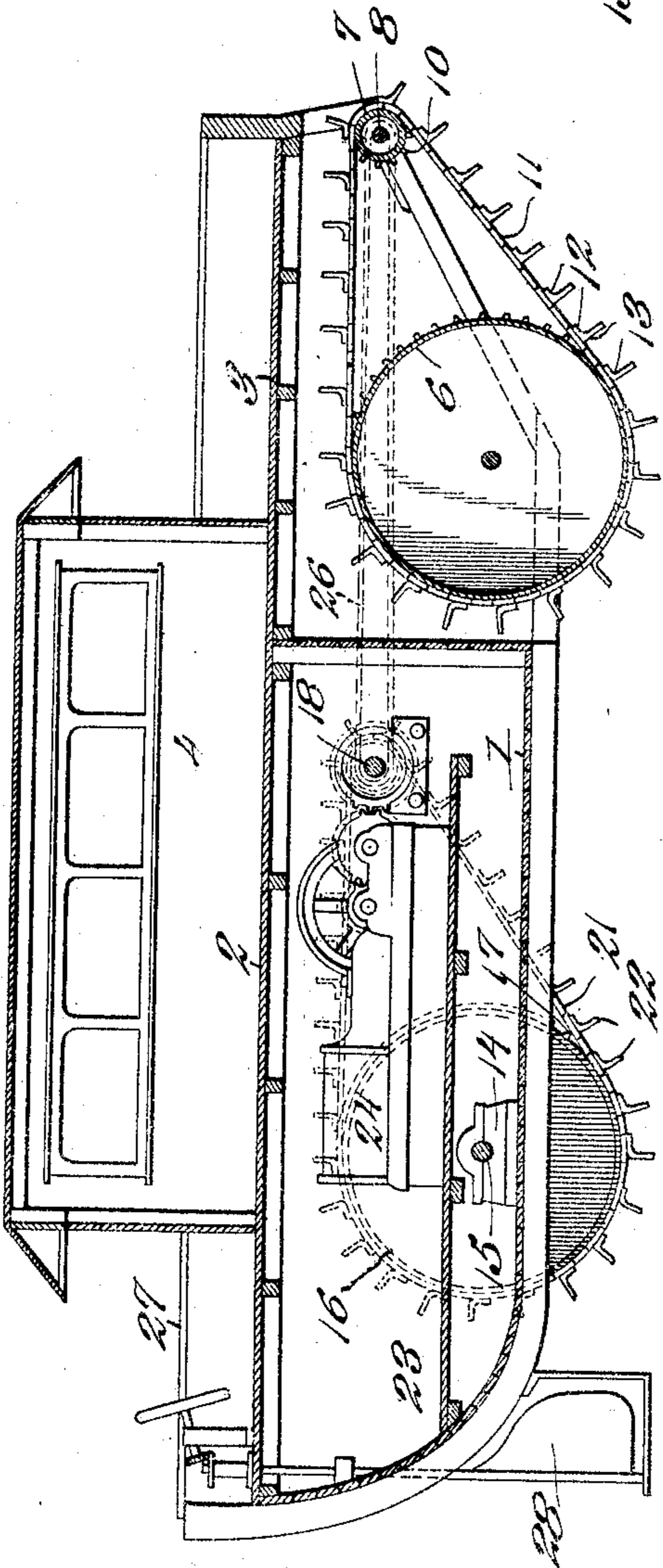


Fig. 3.

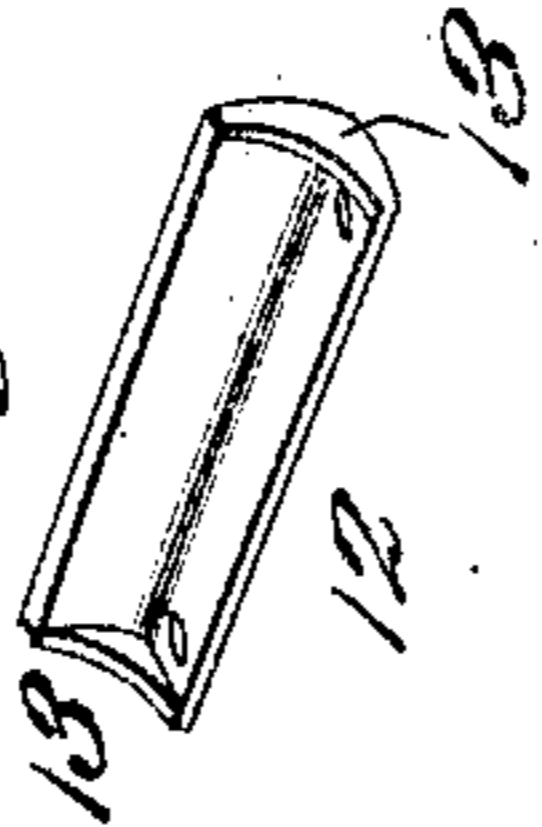
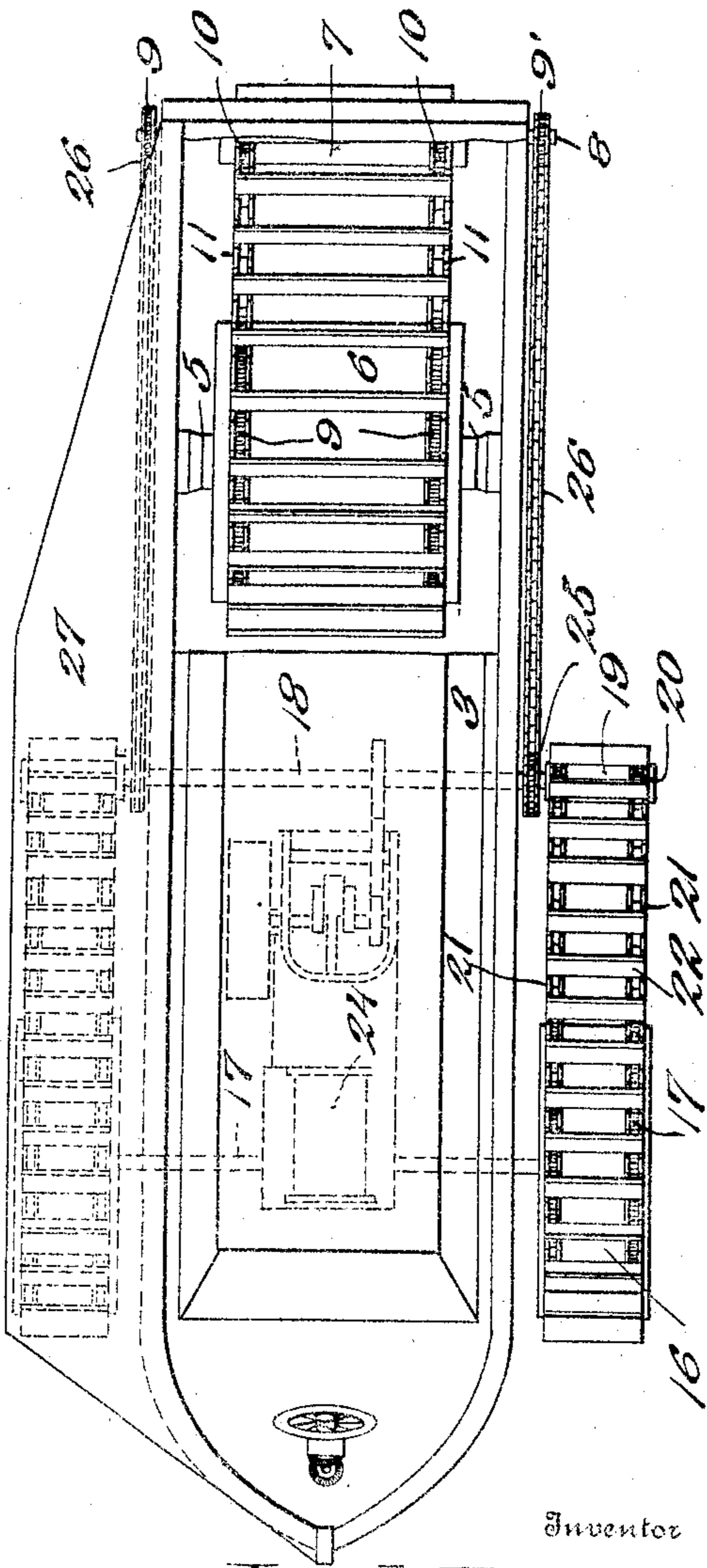


Fig. 2.



Witnesses

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BOAT.

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To all whom it may concern:

Be it known that I, JOSEPH H. MAY, a citizen of the United States, residing at Orient, in the county of Faulk and State of South Dakota, have invented new and useful Improvements in Boats, of which the following is a specification.

The invention relates to an improvement in boats, being particularly directed to a propelling mechanism as an essential part of which there is included a means for increasing the buoyancy of the boat structure.

The main object of the present invention is the provision of a propelling mechanism for boats in the construction of which there is provided an endless paddle carrier arranged for travel about a main cylindrical member, which member is of hollow airtight construction for service in increasing the buoyancy of the boat.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a longitudinal section, partly in elevation, showing a boat constructed in accordance with my invention. Fig. 2 is a plan of the same, the rear portion of the main deck being broken away. Fig. 3 is a perspective of one of the paddles.

Referring particularly to the drawings, my improvement is designed for use with a boat structure including a hull 1, of any usual or preferred form, having a main deck 2, which, in the present instance, is extended beyond the storage portion of the hull to provide an overhang 3, the main deck being arranged to support a cabin or other suitable structure in any desired or preferred manner.

Longitudinally mounted upon a shaft 5 secured beneath the overhang 3 and in the side framing timbers of the hull is a drum 6, which, for the purposes of the present invention, is a hollow airtight structure of substantial diameter. The drum 6 is of such diameter and the shaft 5 is so located with relation to the normal water line of the hull that the lower portion of the drum will be at all times below said water line. Mounted in rear of and above the drum 6 is a roller 7, the shaft 8 of which extends beyond the side timbers of the hull and is provided on each end with a sprocket wheel 9.

The respective end portions of the peripheral surface of the cylinder 6 are formed

with sprocket teeth 9, the roller 7 being similarly formed with sprocket teeth 10. The aligned sprocket teeth on the cylinder and roller engage and drive an endless sprocket chain 11, thereby providing two parallel endless sprocket chains engaging the ends of the roller and drum. The pair of sprocket chains thus provided are connected by paddles 12 shown more particularly in Fig. 3, these paddles bridging the space between the chains and being approximately equal in length to the length of the drum 6. The paddles are each constructed of a single metallic section bent into right angular form and having end members 13 to project inwardly beyond the surface of the members and thereby form in effect a pocket within the members. These members are secured transverse the chains by fastening one plate of the member to the chains so that the other plate will project at approximately a right angle from the secured plate.

Within the hull proper of the boat there is mounted in bearings 14 a shaft 15, the ends of which project beyond the sides of the hull and are each provided with a drum 16, said drums being each provided with end sprocket teeth 17, as described in connection with the drums 6. In rear of the shaft 15 and within the hull is mounted a roller shaft 18, the ends of which project beyond the sides of the hull and are provided with rollers 19 having end sprocket teeth 20, as described in connection with the roller 7. The sprocket teeth 17 of each drum and the aligned sprocket teeth 20 of each roller are connected by sprocket teeth 21, each pair of said chains being connected by paddles 22, as previously described in connection with the chains 11.

From the above description it will be understood that the rear portion of the boat is provided with a centrally arranged propelling mechanism including a drum and a roller over which pass endless carriers connected by transversely arranged paddles, while each side of the boat in advance of the rear propelling mechanism is similarly provided with a propelling mechanism identical in all respects with the rear propelling mechanism except that the parts are reduced in longitudinal dimensions. It is, of course, understood that the drums 16 of the forward propelling mechanisms are of a hollow airtight type described in connection with the drums 6, and that said drums 16 are so dis-

posed beyond the normal water line a distance similar to the extension of the drum 6.

A partition 23 is mounted within the hull to support an engine 24, which is directly geared to the roller shaft 18 of the forward propelling mechanisms, said shaft 18 immediately beyond each side of the hull being provided with sprocket wheels 25 connected by sprocket chains 26 with the sprocket wheels 9 of the rear roller shaft 8. By this construction the propelling mechanisms are simultaneously and uniformly driven through operation of the respective roller shafts.

If desired the main deck 2 may be provided with lateral extensions 27 to overlie the side propelling mechanisms, and for convenience I provide the forward or bow end of the hull with a manually controlled rudder 28, though the direction of travel of the boat may be otherwise controlled if desired. In use the proper operation of the chains 11 and 21 will force the paddles 12 longitudinally through the water and cause the boat to travel in a forward direction, it being noted in this connection, that the roller shafts of the respective propelling mechanisms are so arranged with relation to the drum shafts that the rollers, which are of materially less diameter than the drums have their upper planes in horizontal alignment with the upper planes of the drums. By this means the chains in leaving the water after drawing the paddles there-through for propelling the boat will travel at a rearward and upward incline thereby effectively discharging all the water from the paddles prior to the travel of the paddles over the driving rollers. Furthermore, the angular formation of the paddles tends to prevent the travel of water over said paddles during the driving function of the paddles, thereby increasing the effectiveness of said parts in operation.

In addition to the driving function the hollow airtight drums 6 and 16 tend to materially increase the normal buoyancy of the hull, thereby rendering the driving function more effective than would otherwise be the case.

The various parts described are to be constructed of the material and of the size best adapted for the work to be performed, neither material nor size forming any particular part of the present invention.

Having thus described the invention what is claimed as new, is:—

1. A boat having a central propelling mechanism arranged at the rear thereof, and duplicate side propelling mechanisms arranged in advance of the rear propelling mechanism, each of said propelling mechanisms comprising a hollow airtight drum adapted to project below the water line of the boat, rollers supported in rear of the drums, endless chains passing over the drums and rollers, and paddles secured to said chains.

2. A boat having a central propelling mechanism arranged at the rear thereof, duplicate side propelling mechanisms arranged in advance of the rear propelling mechanism, each of said propelling mechanisms comprising a hollow airtight drum adapted to project below the water line of the boat, rollers supported in rear of the drums, endless chains passing over the drums and rollers, and paddles secured to said chains, said paddles including a right angular member.

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

JOSEPH H. MAY.

Witnesses:

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WM. MCKAY.