April 7, 1925. 1,532,459

C. B. WHITE

WAVE MOTOR FOR PROPELLING VESSELS

Filed Feb. 19, 1924

Fig. 1.

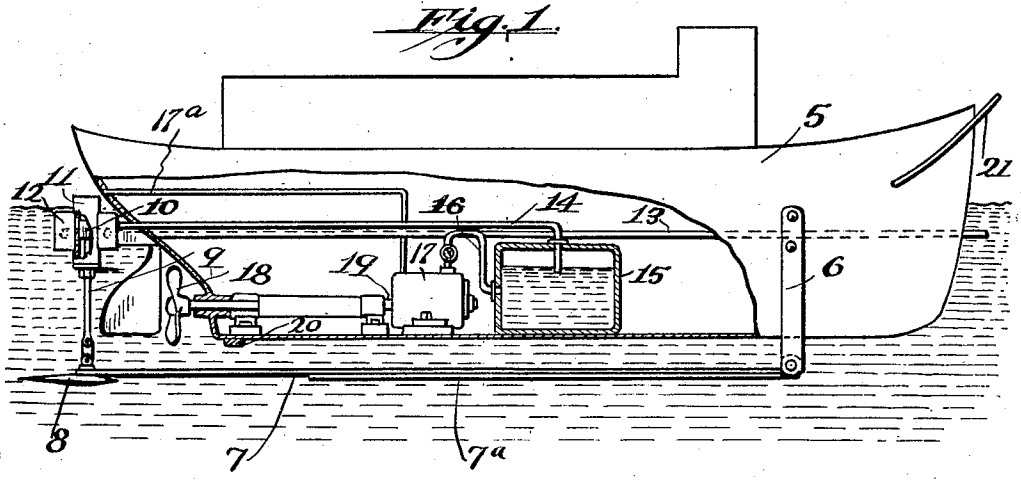


Fig. 2.

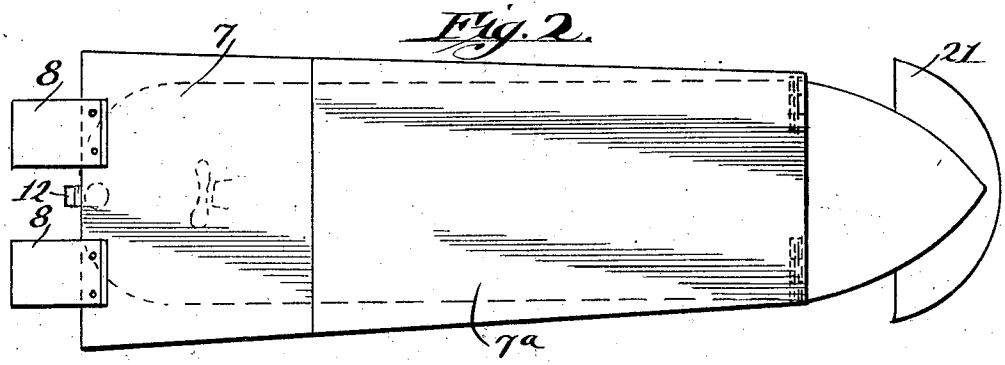
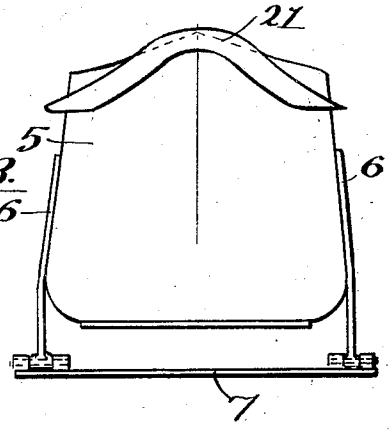


Fig. 3.



Inventor:
CLARENCE B WHITE.
By Hazard and Miller
Attorneys

Patented Apr. 7, 1925. 1,532,459

UNITED STATES PATENT OFFICE.

CLARENCE B. WHITE, OF LOS ANGELES, CALIFORNIA.

WAVE MOTOR FOR PROPELLING VESSELS.

Application filed February 19, 1924. Serial No. 693,750.

To all whom it may concern:

Be it known that I, CLARENCE B. WHITE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Wave Motors for Propelling Vessels, of which the following is a specification.

This invention relates to wave motors, and more particularly it relates to wave motors for propelling vessels or boats.

An object of this invention is the provision of means whereby the power of waves may be utilized for propelling, or at least assisting in propelling, a boat.

With the foregoing object in view, together with such other objects and advantages as may subsequently appear, my invention consists in the construction and arrangement of parts hereinafter described and claimed and illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of a boat, partly broken away to show interior mechanism, the boat being associated with the mechanism of my invention which includes a plane below the bottom of the boat.

Fig. 2 is a bottom plan view of Fig. 1.

Fig. 3 is a front end view of Fig. 1, looking at the bow of the boat.

Referring to the drawings for a more detailed description thereof, the numeral 5 indicates a boat, to the opposite sides of which are secured vertical members 6 which extend below the bottom of the boat and to the lower ends of which is hinged a plane 7, which comprises a reinforcing portion 7a. The plane 7 has an area depending upon the wave power which is desired to be utilized; such area may in general be equal to the area of the deck of the boat.

The rear end of the plane 7 is provided with a plurality of rearwardly tapering members 8, which are preferably made of wood, and more particularly of spruce, and are provided for the purpose of assisting the rising properties of the boat. The rear end of the plane 7 is rotatably connected to a piston rod 9 of a piston 10 which works reciprocally in a cyinder 11 of a pump 12, which has an intake pipe 13 preferably extending to and beyond the forward end of the boat and into the water surrounding the boat. The pump 12 has an outlet pipe 14 which leads into a tank 15 which has an outlet pipe 16 which leads into a water turbine 17 which rotates a propeller 18 through a shaft 19. Water is discharged from the water turbine 17 through a discharge pipe 17a.

The action of the waves causes an up and down movement of the boat and of the plane 7, and during such movement the plane 7 has a vertical movement relative to the boat, swinging from its hinged end.

When the piston 10 moves downwardly relative to the cylinder 11, water is drawn into and through the pipe 13, and when the piston 10 is moved upwardly relative to the cylinder by the action of the waves on the rear end of the plane 7, water is pumped by the pump 12 into the pipe 14, from which it enters the tank 15 and flows therefrom into the pipe 16 and thence into the water turbine 17 causing the blades of the latter to rotate and the blades of the turbine turn the propeller 18, which causes the boat to be propelled.

The relative movement of the boat 5 and the plane 7 may cause the latter to come into contact towards the rear end of the plane 7 and to diminish the impact I provide a cushion 20 which may be of any suitable resilient material, such, for example, as rubber.

In connection with my device I provide a shield 21 attached to and projecting beyond and above the bow of the boat, and this shield acts as a protection against unusually large waves and prevents the same from flowing over the deck and submerging the boat.

It will thus be seen that I have provided in combination a boat having a propeller and containing a water turbine adapted to rotate the propeller, a pump for pumping water into the turbine which pump is adapted to draw water from the outside of the boat and a plane connected to the piston of the pump, the plane being spaced below the bottom of the boat and rotatably connected relative thereto.

While I have herein described one form of my invention, modifications thereof may be devised without departing from the spirit thereof, and it is to be understood that such modifications come within the scope of this invention.

What is claimed is:

1. In combination, a boat, a propeller therefor, a water turbine adapted to rotate said propeller a pump for pumping water into said turbine, said pump being adapted

to draw water from the exterior of said boat, said pump having a piston, a plane connected to said piston, said plane being spaced below said boat and pivotally connected relative thereto.

2. In combination, a boat, a propeller therefor, a water turbine adapted to rotate said propeller, a pump for pumping water into said turbine, said pump being adapted to draw water from the exterior of said boat, said pump having a piston, a plane connected to said piston, said plane being spaced below said boat and pivotally connected relative thereto, said plane having tapered extensions at its rear end.

3. In combination, a boat, a propeller therefor, a water turbine adapted to rotate said propeller, a pump for pumping water into said turbine, said pump being adapted to draw water from the exterior of said boat said pump having a piston, a plane connected to said piston, said plane being spaced below said boat and pivotally connected relative thereto, said plane having tapered extensions at its rear end and a shield extending in front of and above the forward end of the deck of the boat.

4. In combination, a boat, a propeller therefor, a water turbine adapted to rotate said propeller, a pump for pumping water into said turbine, a water supply for said pump, said pump having a piston, a plane connected to said piston, said plane being spaced below said boat and pivotally connected relative thereto.

5. In combination, a boat, a propeller therefor, a water turbine adapted to rotate said propeller, a pump for pumping water into said turbine, a water supply for said pump, said pump having a piston, a plane connected to said piston, said plane being spaced below said boat and pivotally connected relative thereto, said plane having tapered extensions at its rear end.

6. In combination, a boat, a propeller therefor, a water turbine adapted to rotate said propeller, a pump for pumping water into said turbine, a water supply for said pump, said pump having a piston, a plane connected to said piston, said plane being spaced below said boat and pivotally connected relative thereto, said plane having tapered extensions at its rear end and a shield extending in front of and above the forward end of the deck of the boat.

In testimony whereof I have signed my name to this specification.

CLARENCE B. WHITE.