March 8, 1932. F. HOFFMAN 1,848,718

BOAT PROPELLING MECHANISM

Filed March 13, 1931

Fig. 1.

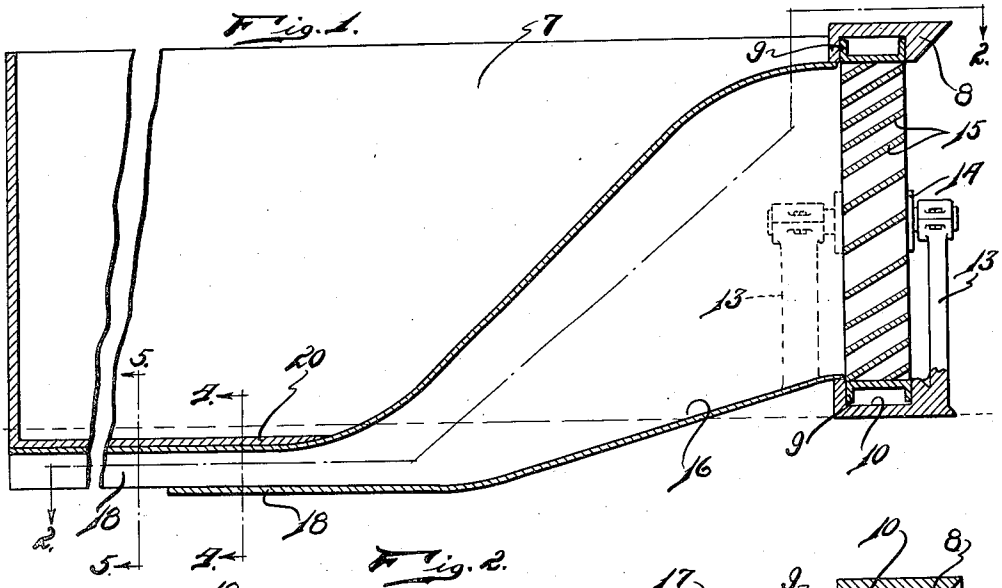


Fig. 2.

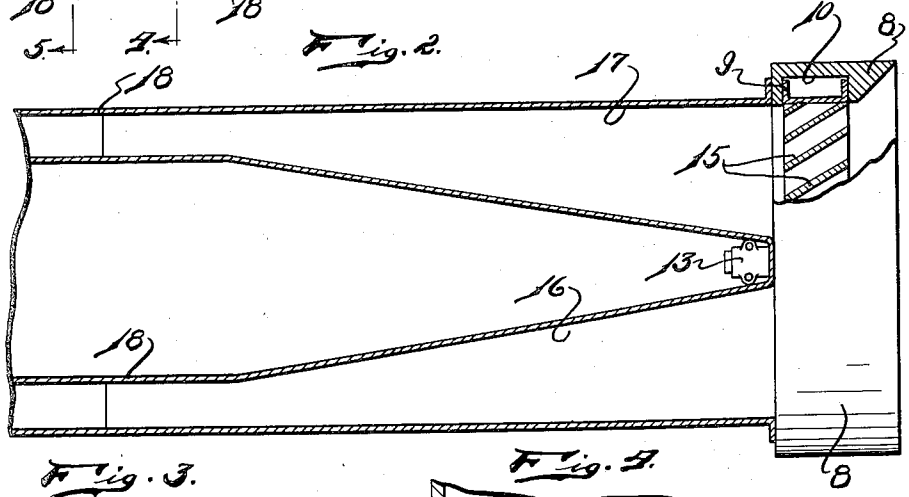


Fig. 3.

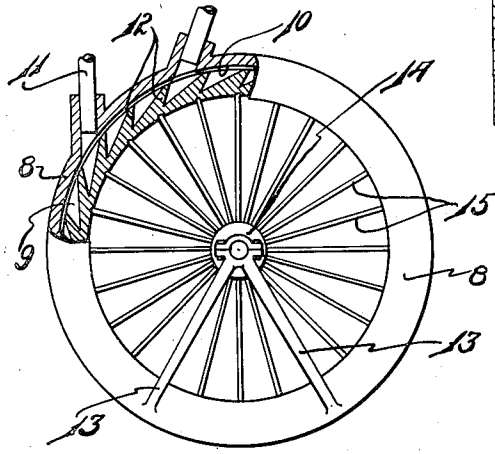


Fig. 4.

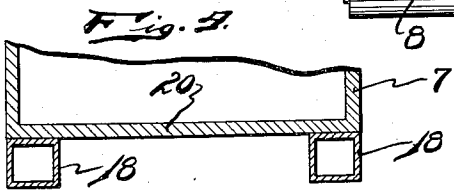
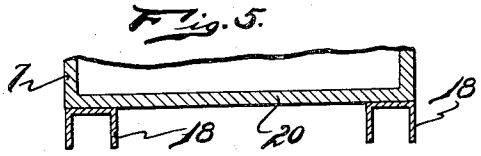


Fig. 5.



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UNITED STATES PATENT OFFICE

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BOAT PROPELLING MECHANISM

Application filed March 13, 1931. Serial No. 522,294.

My invention relates to a new and useful improvement in a boat propelling mechanism, and has for its object the provision of a mechanism of this class which may be attached to the forward portion of a boat and by means of which a rearwardly directed blast of air will serve to effect a forward propulsion of the boat.

Another object of the invention is the provision in a mechanism of this class of a construction in which the mechanism may be used for assisting in propelling the boat forwardly and also in elevating the boat so as to raise it to the surface of the water and thus reduce the resistance offered to the boat by the water.

Another object of the invention is the provision of a device of this class which will be simple in structure, economical of manufacture, and highly efficient in use.

Other objects will appear hereinafter.

Fig. 1 is a central vertical sectional view of the invention, showing it applied to a boat.

Fig. 2 is a fragmentary sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a front elevational view of the invention with parts broken away and parts shown in section.

Fig. 4 is a fragmentary sectional view of the invention taken on line 4—4 of Fig. 1.

Fig. 5 is a fragmentary sectional view taken on line 5—5 of Fig. 1.

In the drawings I have illustrated the invention used with a boat 7 having a bottom 20. Mounted on the forward side of the boat is a supporting frame 8 which embraces the channel shaped rim 9 of a wheel which is rotatably mounted on suitable standards 13. The frame 8 together with the channel shaped rim 9 provides a chamber 10 into which steam or other fluid under pressure may be led by the pipes 11 and directed against the inclined peripherally located turbine blades 12 carried by the rim 9. This rim is connected to the hub 14 by fan blades 15 so that when the fluid under pressure is directed into the space 10, the wheel will be rotated and the fan blades 15 will direct a blast of air rearwardly into the passages or compartments 16 and 17 which are secured to and projected rearwardly of the frame 8. These chamber members are reduced in cross sectional area as they proceed rearwardly as shown in Fig. 2 until they assume the squared shape shown in Fig. 4 to provide conduits or passages for conducting the blast of air rearwardly. These conduits 18 are formed at their rear ends open at the bottom so that the blast of air is directed rearwardly of the boat and downwardly against the water thus effecting through the reaction a forward propelling of the boat and a lifting effect on the boat so that in its forward movements it has a tendency to skim over the surface of the water. In this way there is provided an efficient and economical method of propelling a boat which, when operated in conjunction with the usual propelling mechanism, will considerably increase the efficiency of the propelling mechanism particularly on account of reducing the water resistance offered to the boat in its forward movement.

While I have illustrated and described the preferred form of construction of my invention, I do not wish to limit myself to the precise details of structure shown, but desire to avail myself of such variations and modifications as may come within the scope of the appended claims.

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

1. A device of the class described adapted for use with a boat having a forward end comprising: a supporting frame mounted on and embracing the forward end of said boat; a hub rotatably mounted centrally of said frame; a plurality of fan plates secured to and projecting outwardly from said hub; a rim having a channel in its periphery secured to the outer ends of said plates and forming with said frame a channel for reception of fluid under pressure.

2. A device of the class described adapted for use with a boat having a forward end comprising: a frame mounted on and framing the entire forward end of the boat; a hub rotatably mounted centrally of said frame; a channel shaped rim forming with said frame a channel for reception of fluid

under pressure; a plurality of fan plates connecting said rim and said hub; a pair of blast receiving compartments projecting rearwardly of said frame and each terminating in a conduit projecting below the forward portion of the boat, each of said conduits terminating in a portion open at the bottom.

In testimony whereof I have signed the foregoing specification.

FRANK HOFFMAN.