J. E. LANGSTAFF.

BOAT HULL.

APPLICATION FILED MAR. 20, 1916.

1,195,035. Patented Aug. 15, 1916.

Fig. 1.

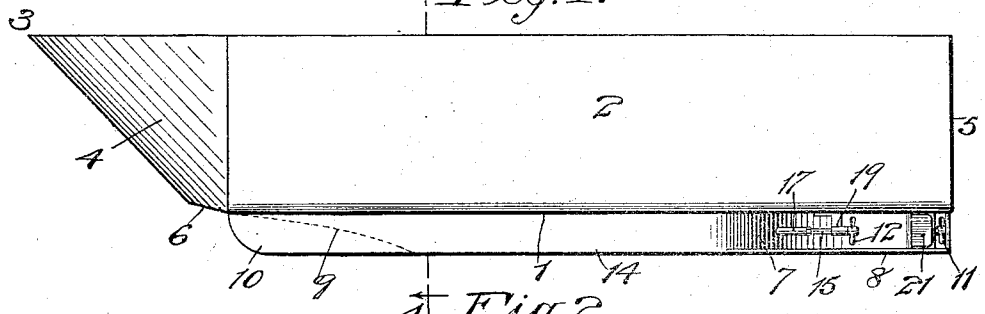


Fig. 2.

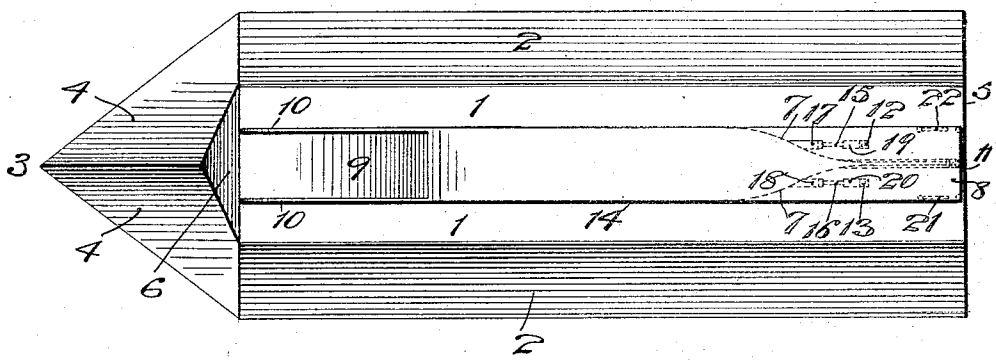


Fig. 3.

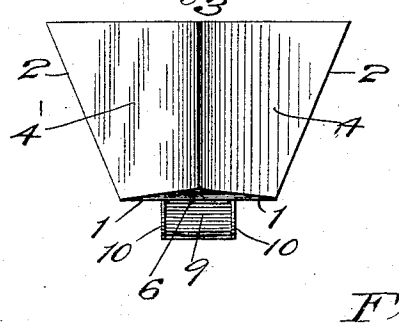


Fig. 4.

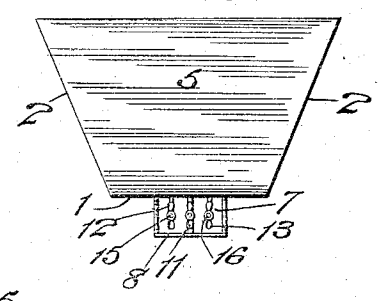
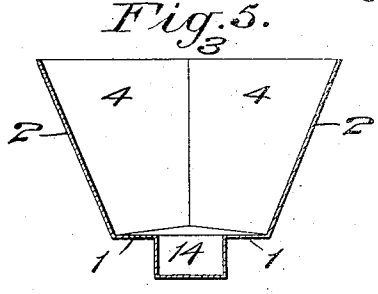


Fig. 5.



Witness:-
Hyperion Berry

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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BOAT-HULL.

1,195,035. Specification of Letters Patent. Patented Aug. 15, 1916.

Application filed March 20, 1916. Serial No. 85,413.

To all whom it may concern:

Be it known that I, JOHN ELLIOT LANGSTAFF, a citizen of the United States, and resident of the borough of Brooklyn, in the city and State of New York, have invented a new and useful Improvement in Boat-Hulls, of which the following is a specification.

My invention relates to boat hulls and more particularly to hulls so shaped that they will direct bodies of water into position to be best engaged by the propellers.

A further object is to provide a hull having side walls, bottoms, and channels so located and shaped that the initial displacement of the water and its passage rearwardly are effected gradually and by movements along lines which create a minimum amount of agitation upon the side walls of the vessel.

A practical embodiment of my invention is represented in the accompanying drawings, in which,

Figure 1 represents a side elevation of my improved hull. Fig. 2 represents an inverted plan view of the same. Fig. 3 represents a front elevation of the same. Fig. 4 represents a rear elevation of the same, and Fig. 5 represents a transverse section taken in the plane of the line A—A of Fig. 1.

The hull comprises a bottom, denoted by 1, upwardly diverging side walls 2, a bow 3, having upwardly diverging side walls 4 adjoining the side walls 2, and a rear wall 5. The bottom 1 extends throughout the length of the side walls 2 and has an upwardly inclined front end 6, which forms a bottom for the bow 3. The bottom 1 is also provided with a well 14 depending therefrom, in which the motive power for the vessel is located. This well 14 is provided with rearwardly converging sides 7 and a rearwardly extended bottom 8, which sides and bottom form longitudinal side channels. The front or forward end of the well 14 has an upwardly inclined bottom 9, and forwardly extended vertical side walls 10, between which bottom and side walls a bottom channel is formed.

The boat is propelled by any well known and approved means. In the present instance, I have shown propellers 11, 12, 13. The propeller 11 is mounted on a shaft journaled in a suitable bearing in the end of the converging sides 7 and between the bottom 1 and the extended bottom 8 of the well 14. The propellers 12 and 13 are mounted on shafts 15, 16, journaled in suitable bearings 17, 18, carried by the rearwardly converging side walls 7. The shafts 15 and 16 are provided with hangers 19, 20, which are mounted in the longitudinal side channels. Thus it will be seen that the propellers 12 and 13 are enabled to work to their full efficiency in the volume of solid water directed gradually into the side channels to them, while the propeller 11 is located far enough to the rear of the propellers 12 and 13, as to work to its full efficiency in the volume of water at that point.

The means for driving the shafts and propellers I have not deemed it necessary to illustrate, as it is so well known, but I point out that the propellers may be rotated in opposite directions or they may be rotated in the same direction; this being a well known mechanical expedient which serves no purpose in this invention.

Rudders 21, 22, are mounted in suitable bearings at the rear of the propellers 12, 13, and are operated for steering the boat by any well known and approved means.

It is obvious that various changes may be resorted to in the form, construction and arrangement of the several parts without departing from the spirit and scope of my invention; and hence I do not intend to be limited to the particular details herein shown and described, except as they may be specifically set forth in the claims.

What I claim is:

1. A boat hull having a bottom, upwardly diverging side walls and a well depending from said bottom, said well having rearwardly converging side channels.

2. A boat hull having a bottom, upwardly diverging side walls and a well depending from said bottom, said well having an upwardly and forwardly extended bottom channel.

3. A boat hull having a bottom, upwardly diverging side walls and a well depending from said bottom, said well having rearwardly converging side channels and an upwardly and forwardly extended bottom channel.

4. A boat hull having a bottom, upwardly diverging side walls, a well depending from said bottom, and a bow having upwardly diverging side walls and an upwardly inclined bottom.

5. A boat hull having a bottom, upwardly diverging side walls and a well depending from said bottom, said well having rearwardly converging sides and an extended bottom to form side channels.

6. A boat hull having a bottom, upwardly diverging side walls and a well depending from said bottom, the said well having an upwardly inclined bottom at its forward end and forwardly extended side walls to form a bottom channel.

7. A boat hull having a bottom, upwardly diverging side walls and a well depending from said bottom, said well having rearwardly converging sides and an extended bottom to form side channels and an upwardly inclined bottom at its forward end and forwardly extended side walls to form a bottom channel.

8. A boat hull having a bottom, upwardly diverging side walls, a well depending from said bottom, and a bow having upwardly diverging side walls and an upwardly inclined bottom, said well having rearwardly converging sides and an extended bottom to form side channels, an upwardly inclined bottom at its forward end and forwardly extended side walls to form a bottom channel.

In testimony, that I claim the foregoing as my invention, I have signed my name this 18th day of March, 1916.

JOHN ELLIOT LANGSTAFF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."