A. C. ZIEBELL.

HYDROPLANE.

APPLICATION FILED APR. 2, 1920.

1,364,470.

Patented Jan. 4, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

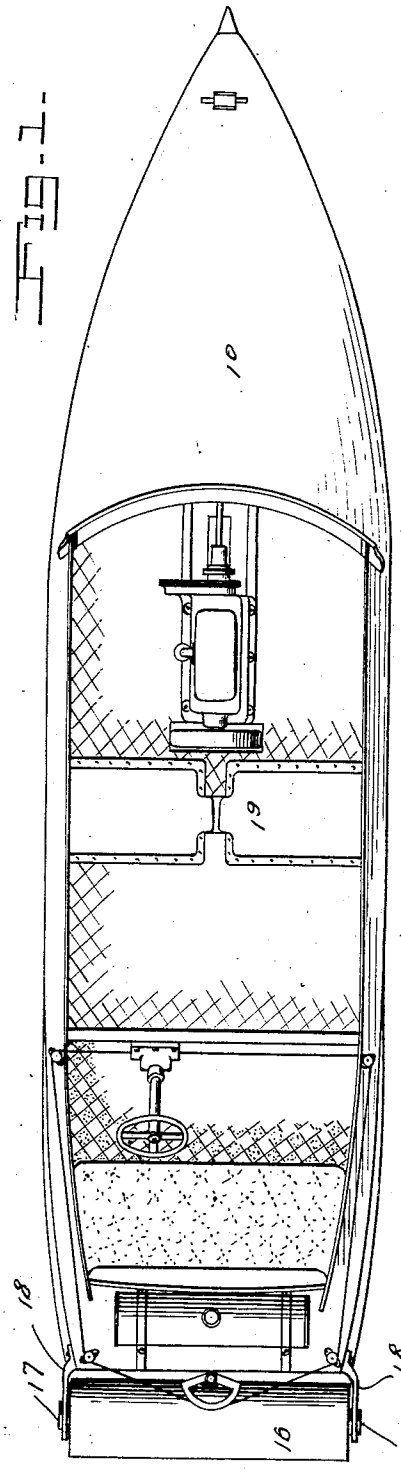
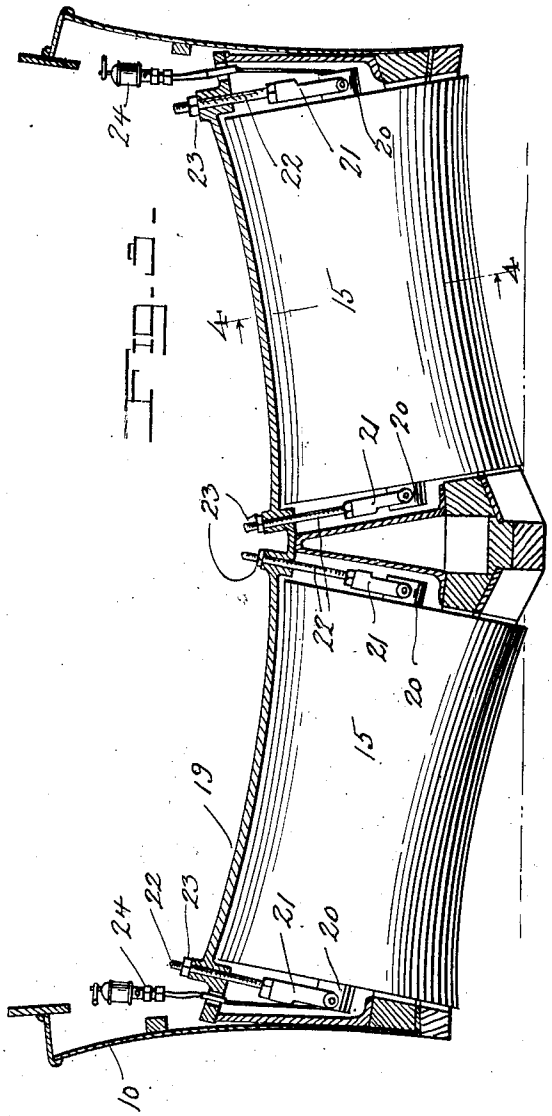


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 2.

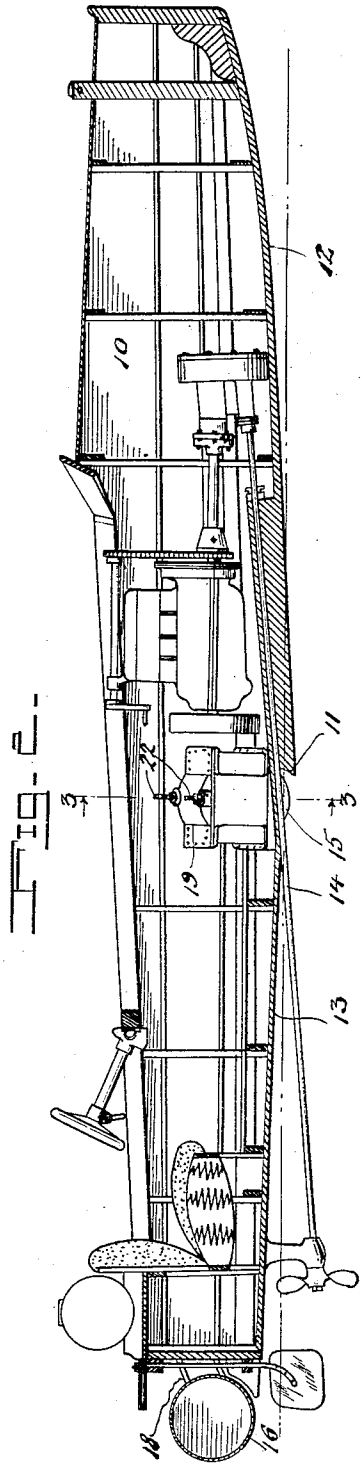


Fig. 3.

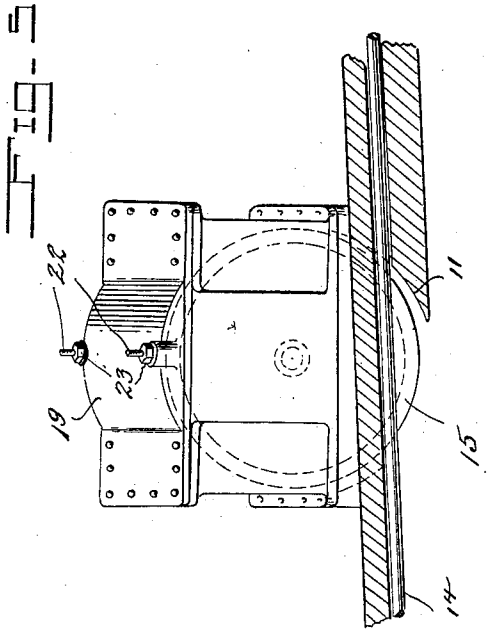
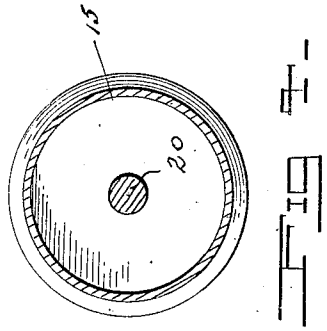


Fig. 4.



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ARTHUR C. ZIEBELL, OF OSHKOSH, WISCONSIN.

HYDROPLANE.

1,364,470. Specification of Letters Patent. Patented Jan. 4, 1921.

Application filed April 2, 1920. Serial No. 370,770.

To all whom it may concern:

Be it known that I, ARTHUR C. ZIEBELL, a citizen of the United States, residing at Oshkosh, in the county of Winnebago and State of Wisconsin, have invented new and useful Improvements in Hydroplanes, of which the following is a specification.

This invention relates to high speed boats known as hydro-planes, and its object is to provide the hull of the same with rollers to reduce to a minimum the friction with the water, and thus increase the speed of the boat by the diminished resistance to its progress through the water.

The object stated is attained by means of a novel combination and arrangement of anti-friction rollers to be hereinafter described in detail and claimed, and in order that the invention may be better understood, reference is had to the accompanying drawings forming a part of this specification.

In the drawings,

Figure 1 is a plan view of the boat; Fig. 2 is a central longitudinal section thereof; Fig. 3 is an enlarged cross-section on the line 3—3 of Fig. 2; Fig. 4 is a cross-section on the line 4—4 of Fig. 3, and Fig. 5 is an enlarged detail view of a roller support.

Referring specifically to the drawings, the hull 10 of the boat has its bottom stepped, as shown at 11, dividing the same into fore and aft portions 12 and 13, respectively. The propeller shaft 14 emerges from the hull bottom at the step 11. The drawings, illustrate in a conventional manner the power plant of the boat, the steering gear and other necessary parts, and as these are immaterial to the invention they need not be described.

Immediately back of the step 11, the hull 10 is provided with a pair of anti-friction rollers 15 set transversely and projecting slightly from the hull bottom, as shown in Figs. 2 and 5. A single anti-friction roller 16 is also positioned astern of the hull, its shaft 17 being supported by bearing bracket arms 18 secured to the hull sides and extending rearwardly.

The fore rollers 15 are partly incased in a housing 19 built into the hull 10 and closed at the top and sides to prevent the entry of water into the hull, the housing however being open at the bottom to allow the rollers to protrude.

Each roller 15 is hollow and air-tight, and runs freely on a shaft 20 projecting from its ends. To the projecting ends of the shaft are connected hangers 21 having screw threaded stems 22 which pass through the top of the housing 19 as shown in Fig. 3. By means of these hangers, the rollers may be adjusted vertically, and they are held in adjusted position by nuts 23 screwed on the upper ends of the stems 22. Lubricators 24 are provided for the roller shafts 20.

The boat, when in motion, runs on the rollers 15 and 16, so that the resistance to its progress through the water is reduced to a minimum, and its speed is increased.

The invention is shown applied to a boat having its hull provided with a single step, but on boats having more than one step, a corresponding number of rollers 15 will be used.

I claim:

1. The combination with the hull of a hydro-plane; of anti-friction rollers positioned transversely and amidships of the hull, and protruding from the bottom thereof, and an anti-friction roller positioned transversely astern of the hull.

2. The combination with the hull of a hydro-plane; of vertically adjustable anti-friction rollers positioned transversely and amidships of the hull, and protruding from the bottom thereof.

3. The combination with the hull of a hydro-plane having a stepped bottom; of anti-friction rollers positioned transversely of the hull behind the step and vertically adjustable.

4. The combination with the hull of a hydro-plane having a stepped bottom; of anti-friction rollers positioned transversely of the hull behind the step, and an anti-friction roller positioned transversely astern of the hull.

In testimony whereof I affix my signature.

ARTHUR C. ZIEBELL.