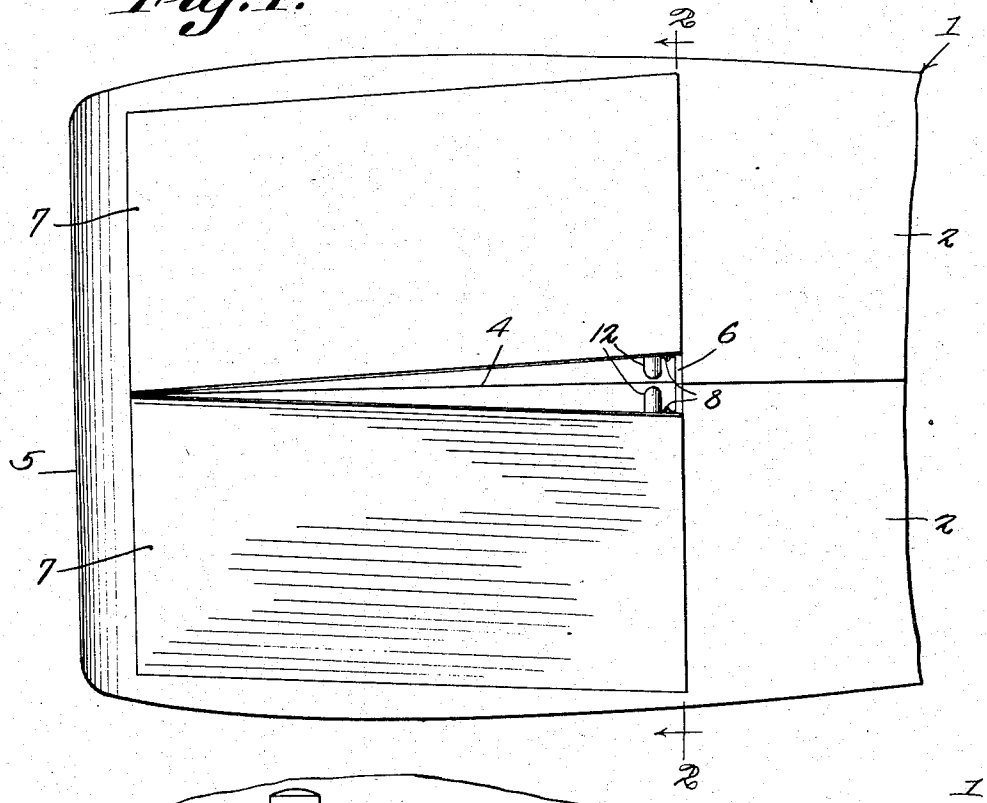
Dec. 9, 1941. W. J. STAMPFL 2,265,206

HYDROPLANE BOAT

Filed Sept. 13, 1939 2 Sheets-Sheet 1

Fig. 1.



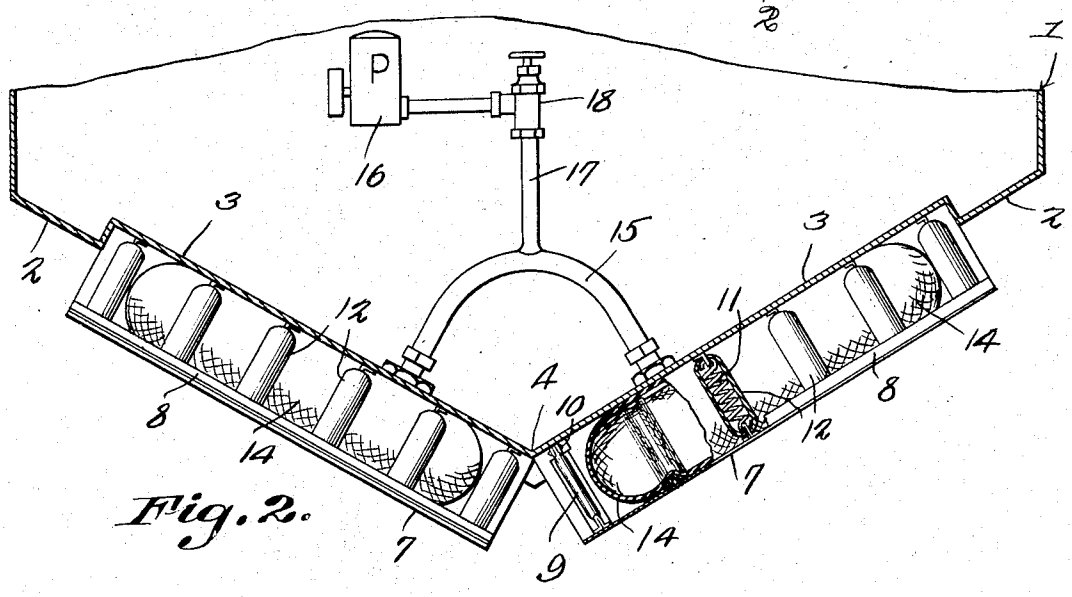


Fig. 2.

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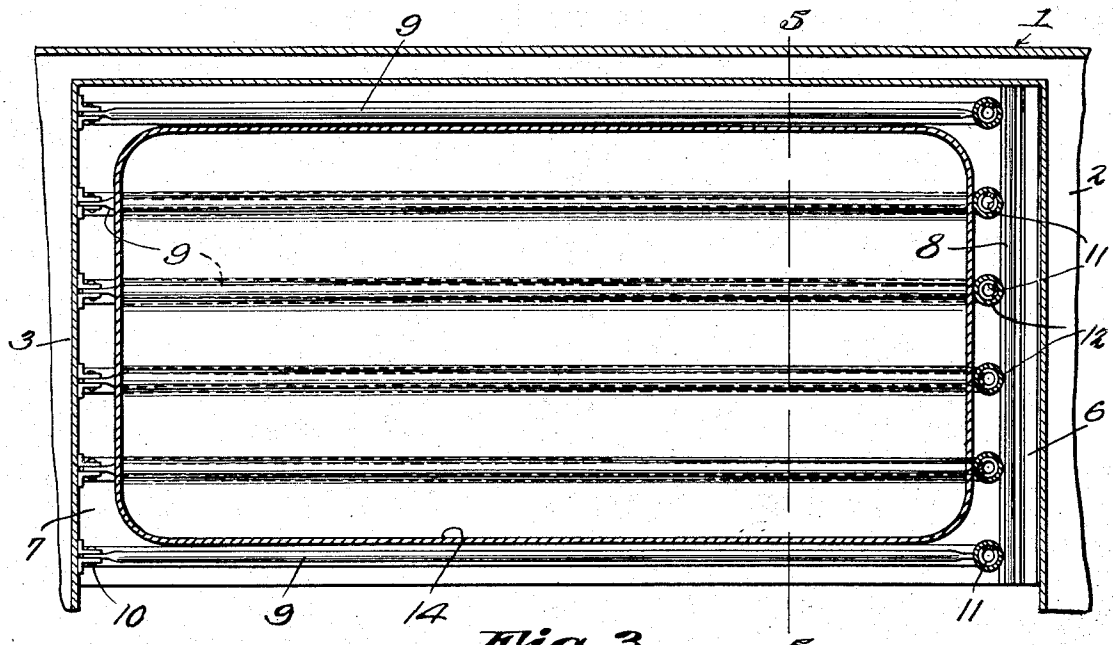


Fig. 3.

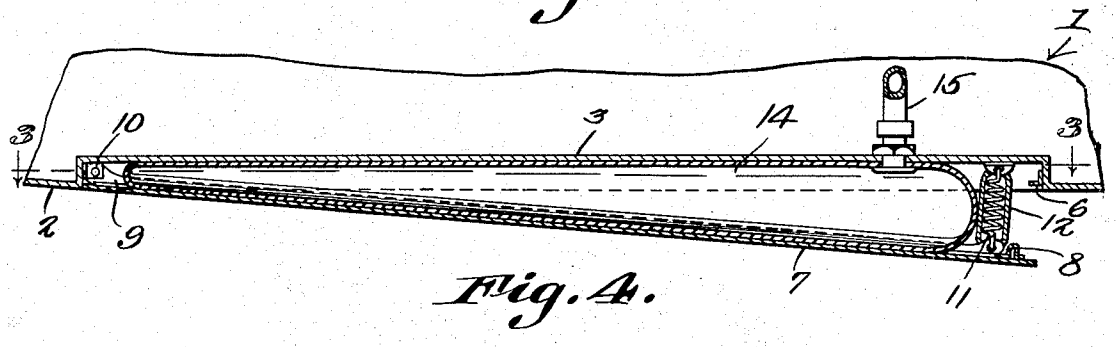
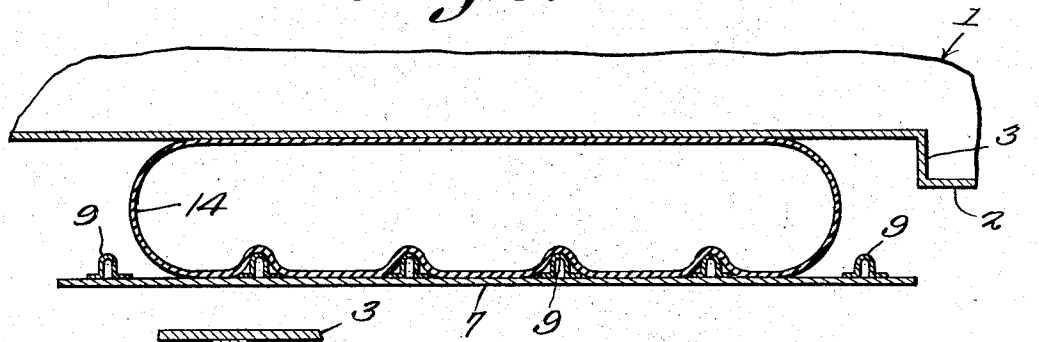


Fig. 4.

Fig. 5.



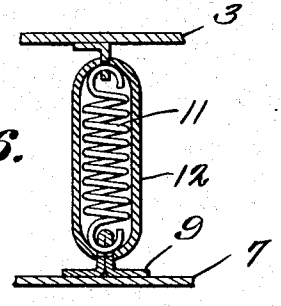


Fig. 6.

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UNITED STATES PATENT OFFICE

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HYDROPLANE BOAT

Walter J. Stampfl, Jamaica, N. Y.

Application September 13, 1939, Serial No. 294,732

1 Claim. (Cl. 114—66.5)

The device forming the subject matter of this application is a planing or take-off step for the boats of hydroplanes.

One object of the invention is to provide means whereby the planing member can be brought flush with the bottom of the hull of the boat. A further object of the invention is to provide novel means for mounting the planing member yieldably. A further object of the invention is so to mount the planing member that it will yield under landing shocks. Another object of the invention is to supply planing members located on opposite sides of the keel line and sustained by offsetting cushioning means, to avoid thwartship oscillation of the hull of the boat.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:

Fig. 1 shows, in bottom plan, a hydroplane boat wherein the device forming the subject matter of this application has been embodied, parts being broken away;

Fig. 2 is a cross section on the line 2—2 of Fig. 1;

Fig. 3 is a horizontal section on the line 3—3 of Fig. 4;

Fig. 4 is a longitudinal section;

Fig. 5 is a section on the line 5—5 of Fig. 3;

Fig. 6 is a sectional view showing one of the retracting springs and attendant parts.

The numeral 1 marks the hull of a hydroplane boat. The hull is shown as of the V-type, but that construction is not insisted upon. The bottom members 2 of the hull 1 are provided with upwardly-projecting box-like, open bottomed offsets 3, located on opposite sides of the keel line 4 and, if desired, communicating at the keel line, the offsets being disposed adjacent to the bow 5 of the boat. A stop bar 6 is located in the recess formed by the offsets 3 and is secured to the after wall of the offsets.

Fore and aft planing boards 7 are provided and, preferably, are made of metal, the word "board" being merely a convenient designating term, imposing no structural limitation. Thwartship reinforcing ribs 8 are secured to the upper surfaces of the planing boards 7, and are located adjacent to the after ends of the planing boards. Fore and aft reinforcing ribs 9 are secured to the upper surfaces of the planing boards 7, in transversely spaced relation, the fore and aft ribs 9 extending from the forward ends of the boards, back to places closely adjacent to the thwartship ribs 8. The forward ends of the fore and aft ribs 9 are flattened, and are hingedly connected at 10, to the hull 1, within the offsets 3. The after ends of the fore and aft ribs 9 are flattened, and to the flattened ends of the ribs are connected the lower ends of retractile springs 11, the upper ends of the springs being connected to the upper parts of the offsets 3. The retractile springs 11 may be housed within flexible protecting coverings 12, having resiliency.

Cushions, preferably resilient bags 14, are disposed between the planing boards 7 and the upper portions of the offsets 3. The bags 14 may be cemented or secured otherwise to the boards 7 and to the upper parts of the offsets 3. Since the fore and aft ribs 9 are engaged with the cushions 14, as shown in Fig. 5, the ribs will aid in holding the cushions 14 in place.

A manifold 15, which may be of the curved form shown in Fig. 2, is mounted at its lower ends on the upper parts of the offsets 3, the manifold being in communication with the cushioning bags 14. A pump 16 is located at any convenient place on the boat. A conduit 17 leads from the pump 16 to the intermediate portion of the manifold 15. The flow of air under pressure, from the pump 16 to the inflatable cushions 14 is regulated at the will of an operator, by a valve 18, interposed in the conduit 17, the construction being such that, by proper manipulation of the valve, the flow of air to the cushions 14 may be stopped, and it being possible, also, to let the air out of the cushions 14, by way of the valve 18.

The operation of the device will be understood readily. By means of pump pressure transmitted to the cushions 14, the planing boards 7 may be swung downwardly to any desired extent, the pull of the springs 11 being overcome. When pressure in the cushions 14 is relieved, the springs 11 will haul up the after ends of the planing boards 7, until the planing boards are flush with the bottom of the hull, the recesses of the offsets 3 accommodating the planing boards and the cushions. Upward move-

ment of the after ends of the planing boards 7 is stopped by the abutment 6.

The by-pass 15 transfers the pressure in the cushions 14. If, for example, there happens to be a heavier upward pressure on the port planing board 7 than on the starboard planing board, pressure will be transmitted from the port cushion to the starboard cushion, and to the starboard planing board, thwartship oscillation of the boat being prevented.

The device functions to promote a take-off and to decrease landing shocks.

Having thus described the invention, what is claimed is:

A hydroplane boat comprising a hull having recesses in its bottom, located on opposite sides of the keel line, planing members shaped to enter the recesses in practically flush relation to the bottom, the planing members having transversely-spaced, upstanding, fore-and-aft ribs, means assembled with the hull and with the forward portions of the ribs for mounting the planing members for up and down swinging movement, retractile springs connected to the hull and to the after portions of the ribs, means carried by the hull for stopping the upward swinging movement of the planing members responsive to the springs, inflatable bag-like cushions located in the recesses and engaged with the ribs, to aid in holding the cushions in place, a transfer connection between the cushions, means for supplying fluid under pressure to the intermediate portion of the connection, and a combined pressure-controlling and cushion-evacuating valve under the governance of an operator and interposed in the last-specified means.

WALTER J. STAMPFL.