

(No Model.)

R. PIGOTT.
CENTER BOARD.

No. 498,082.

Patented May 23, 1893.

Fig. 1.

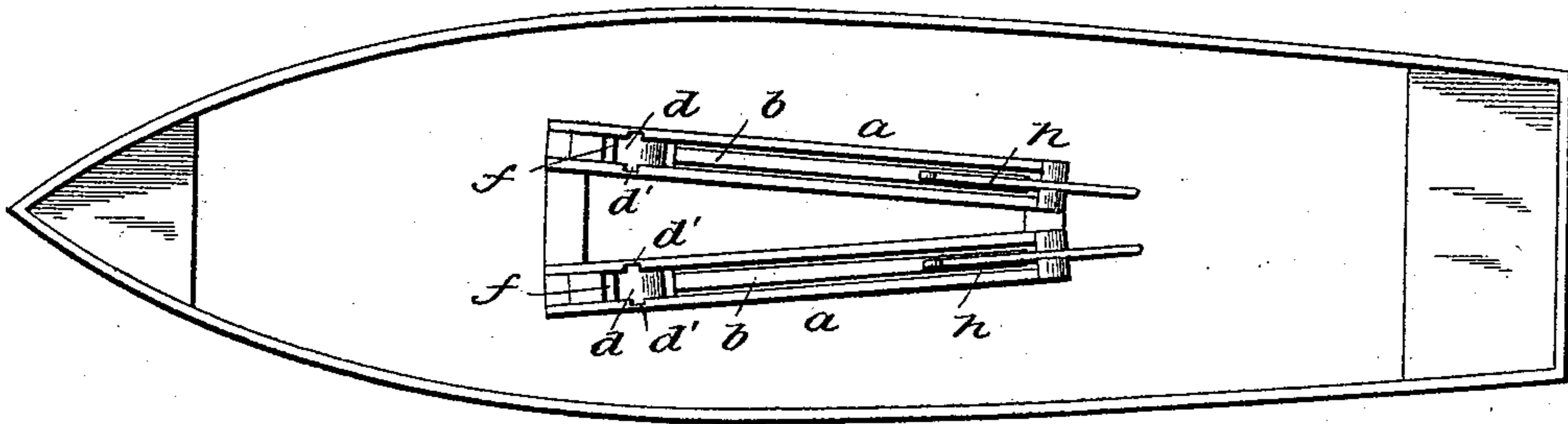


Fig. 2.

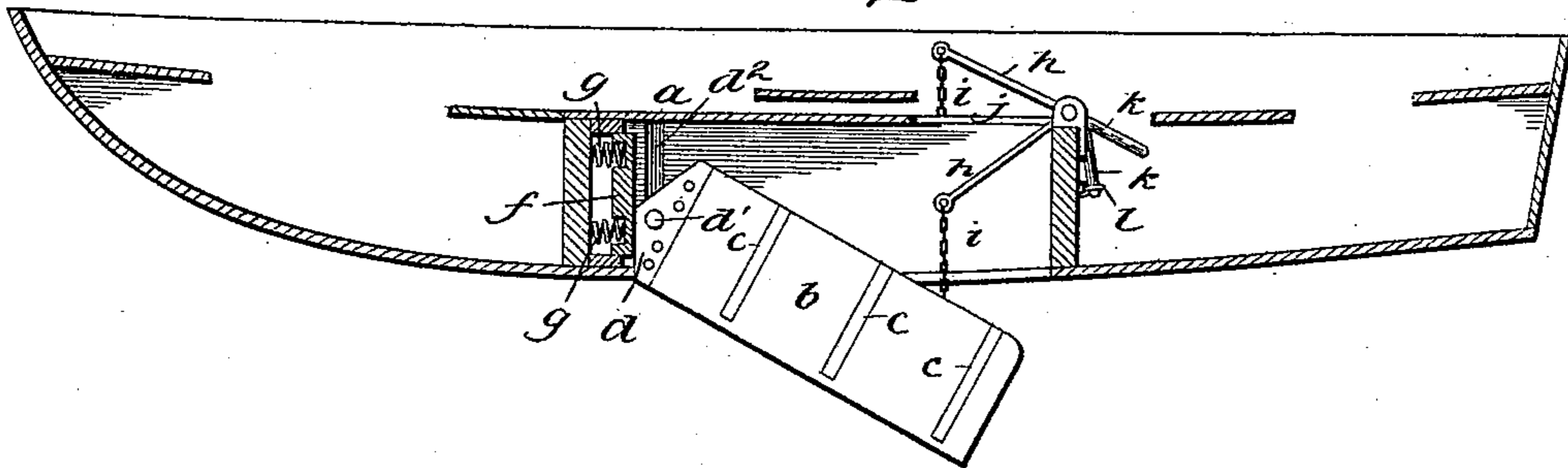


Fig. 3.

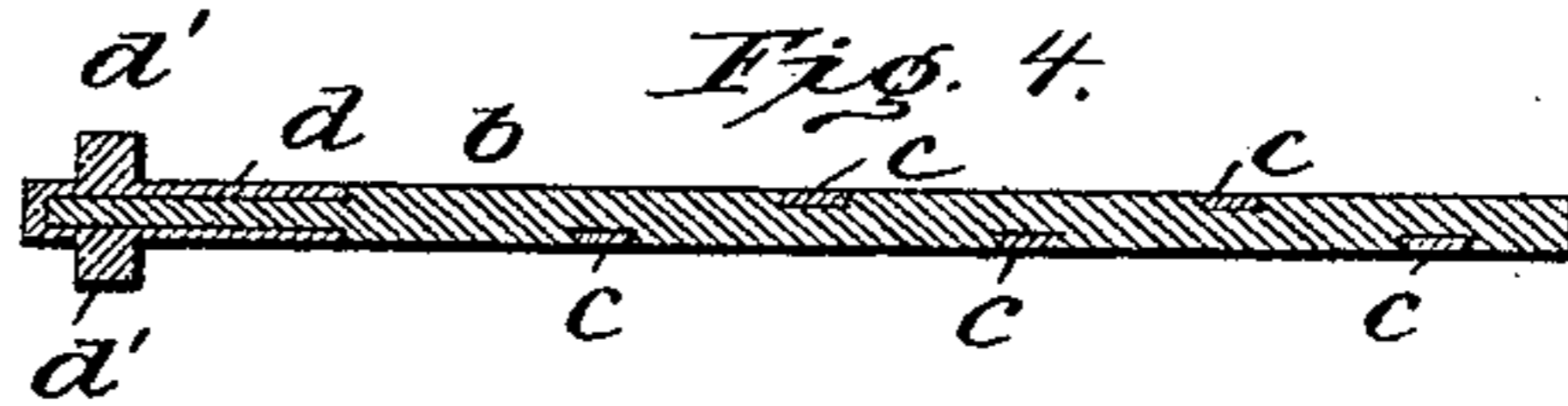
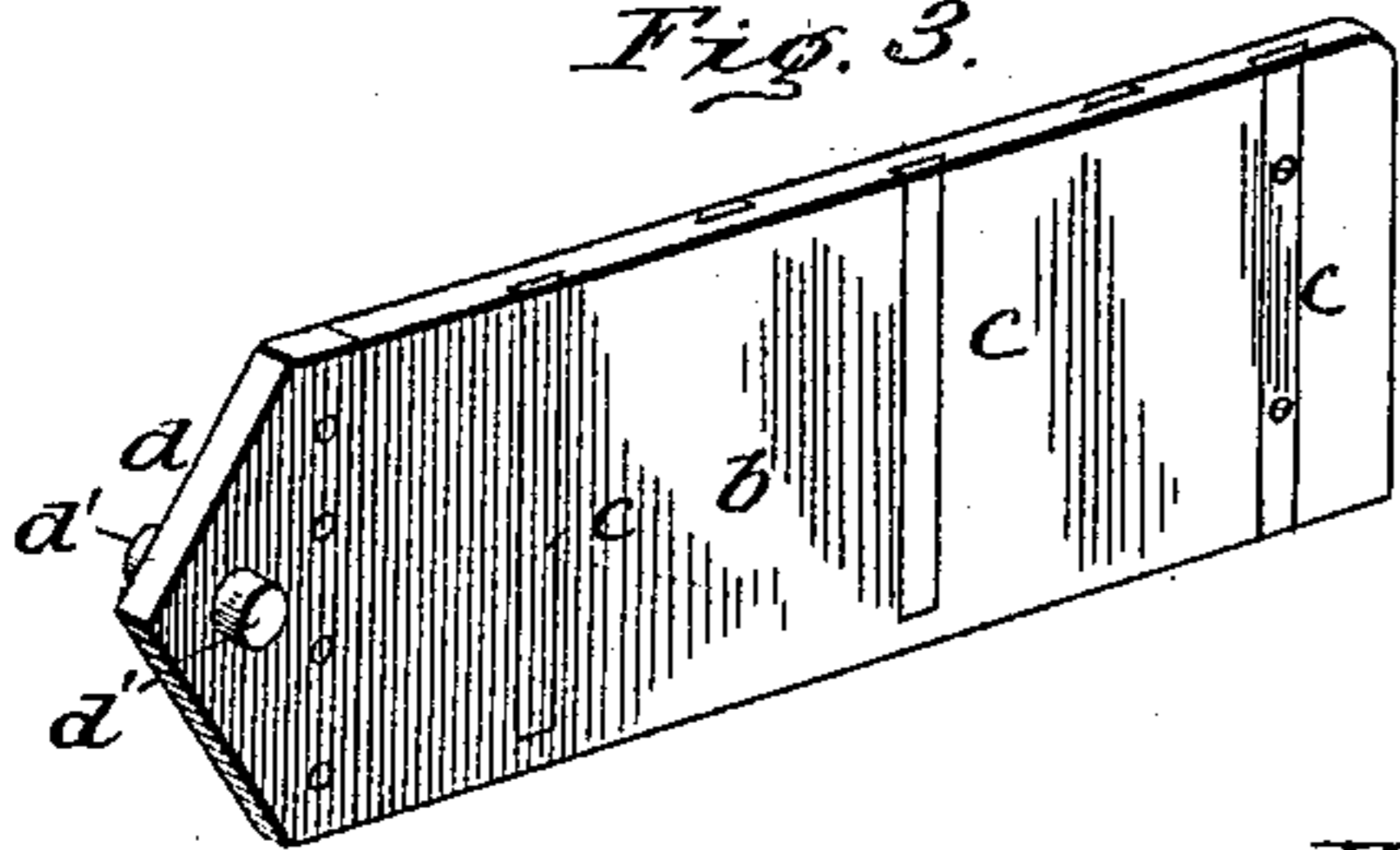
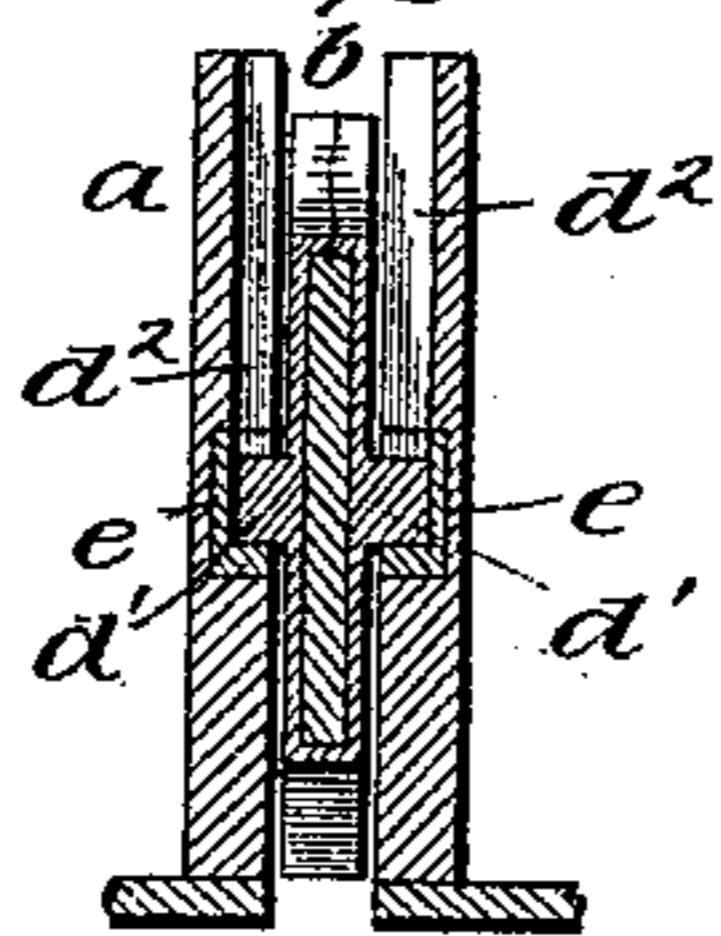


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

RALPH PIGOTT, OF STRAITS, NORTH CAROLINA.

CENTERBOARD.

SPECIFICATION forming part of Letters Patent No. 498,082, dated May 23, 1893.

Application filed November 5, 1892. Serial No. 451,091. (No model.)

To all whom it may concern:

Be it known that I, RALPH PIGOTT, a citizen of the United States, and a resident of Straits, in the county of Carteret and State of North Carolina, have invented certain new and useful Improvements in Centerboards for Sail-Boats and Vessels, of which the following is a specification.

For the purpose of counteracting the tendency of sail-boats to set to the lee-ward under the pressure of the wind, it has been proposed to use two center-boards each placed at an angle oblique to the keel. The state of the art shows that such center-boards have been placed so as to flare toward the stern, that is, they have been placed with their greatest width apart at their rear ends and flaring toward the stern. It is a fact that such arrangement of center-boards will tend to throw the boat from the wind and retard its progress through the water.

The object of my improvement is the reverse of this action, that is, to cause the boat to incline to the wind and consequently to increase its speed. I also provide a construction of wooden center-board whereby it is made durable, and mount it so as to relieve its pivots of undue strain.

In the accompanying drawings I have shown in Figure 1 a top view of a sail-boat having my improved arrangement of center-boards. Fig. 2 is a vertical section showing one of the center-boards lowered as in action. Fig. shows the center-board having re-inforcing metal stays. Fig. 4 is a section of the same; and Fig. 5 shows a vertical cross section of the center-board and its casing taken through the pivot-bearings.

Each of the two center-boards is arranged in a suitable casing *a* which rises from the bottom of the boat and is suitably connected. They stand on each side of the keel and at an oblique angle thereto and flaring toward the bow. At their front ends they stand apart about two feet and at their rear ends about one foot, and the space between the walls of each casing is only sufficient to receive and permit the free movement therein of the center-board. The size of the center-board *b* will be governed according to the size and character of the vessel. For a boat twenty feet long the center-board will be from five

to five and a half feet long. I prefer to make the center-board of a single piece of plank and to prevent it from warping and splitting I re-inforce it with iron-stays *c*, preferably of narrow plates, thick enough to render them stiff and fit them in grooves made cross-wise of the board in its opposite sides and flush with the surfaces as seen in Figs. 3 and 4. The grooves may be dovetailed and closed at their lower ends and the stays driven and held therein without fastenings. They may however, be secured by one or more screws, but they give the advantage of using a cheap plank-board of one piece.

For pivoting the board within the casing I provide a socket-casting *d* having trunnions *d'* on its opposite sides and preferably having an angular shape at the end of the board which is fitted and secured within the socket of the casting. The opposite walls of the casing are provided near their front ends with vertical grooves *d²* which are open at the top of the casing and have metal bearings *e* secured at their lower ends, and into these grooves and bearings, I place and seat the trunnions of the center-board. This gives a very convenient construction for placing and removing the boards and avoids the objection of making pivot holes in the sides of the casing. I provide a yielding bearing *f* for the pivoted end of the board and seat it in the front end of the casing so as to receive and cushion the fall of the board when let down, otherwise its pivoted end would be liable to strike with a blow of considerable force against the bottom of the boat.

I make the socket casting at its bearing end preferably in the form of a hip-roof, so that when the board is raised the bearing-block *f* will press against the upper angle of the casting and tend to hold the board steady in its casing; and when the board is lowered the under angle of the casing will be against the bearing-block and tend to hold the board steady. This cushion bearing is important also in relieving the shock which the fall of the boat would also cause upon the casing and tend to loosen its connection with the boat; and it is also important in serving to relieve the connections of the trunnion casting with the board, from the concussion which would result from the sudden fall of

the board when released from its holding device.

The yielding bearing I prefer to make of a block fitted in a recess in the end of the casing upon sustaining springs *g*, as seen in Fig. 2. For raising and holding the boards up I provide a lifting arm *h* pivoted on the rear end of the casing, one for each board, and connect it to the latter by a chain *i*, the top of the casing having a slot *j* to permit the movement of the arm in raising and lowering the board. Each arm has a handle *k* by which it can be fastened by a ring *l* on the end of the casing when the board is raised.

It will be understood that when one board is down the other is up in the casing and that by placing the board at an angle to the keel and flaring toward the bow, the boat is set to windward and is made to run much closer to the wind and thus counteract the pressure of the wind upon the sails, to carry the boat to the leeward, and increases the speed and safety of the boat.

I claim as my improvement—

1. The combination, with a sail-boat, of two separate and distinct wells open at the bottom, each having parallel sides, one on each side of the keel both standing in oblique relation to the keel, the distance between their forward ends being greater than the distance between their rearward ends, a center-board pivoted in each well at its front, whereby they are confined flaring from each other toward the bow of the boat, and means for raising the center-boards for the purpose stated.

2. A center-board for sail-boats or vessels constructed with a socket casting having trunnions and provided with metal-stays secured in transverse grooves in the opposite sides of said board, substantially as described, for the purpose stated.

3. A center-board for sail-boats or vessels constructed with a socket-casting having trunnions, in combination with the casing having grooves on its inner opposite walls and metal bearings for said trunnions, as shown and described.

4. The combination, with a sail-boat or vessel, of the center-board casings, each having an interior spring sustained-block at its forward end, and center-boards pivoted within said casings in contact with said cushioned blocks, substantially as described, for the purpose stated.

5. In a sail-boat or vessel, the center-boards constructed with transverse reinforcing metal-stays and a trunnioned socket-casting, in combination, with casings containing said center-boards, arranged on each side of the keel, flaring toward the front and having interior spring-sustained blocks arranged to cushion the pivoted end of said center-board, substantially as described.

In testimony whereof I have hereunto signed this specification in the presence of two witnesses.

RALPH PIGOTT.

Witnesses:

H. C. REASONER,
O. L. STUART.