

No. 620,311.

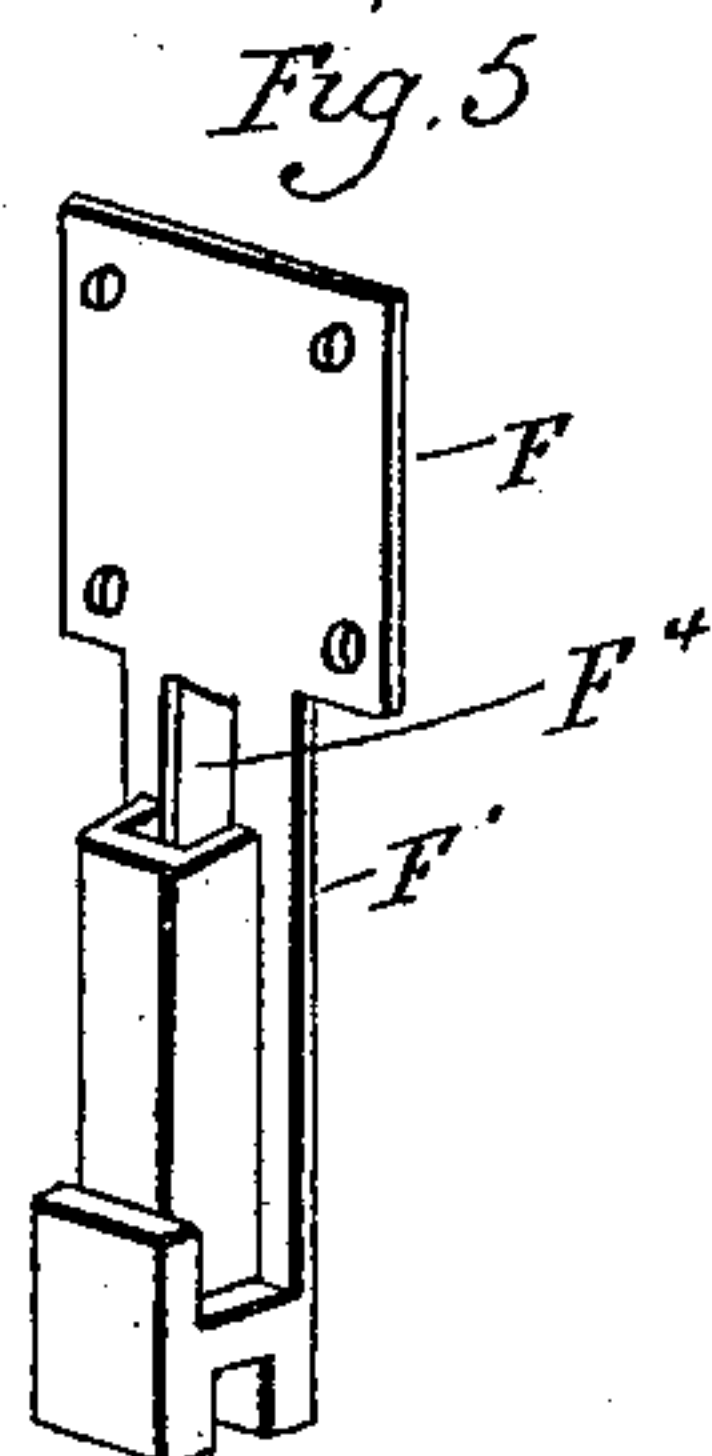
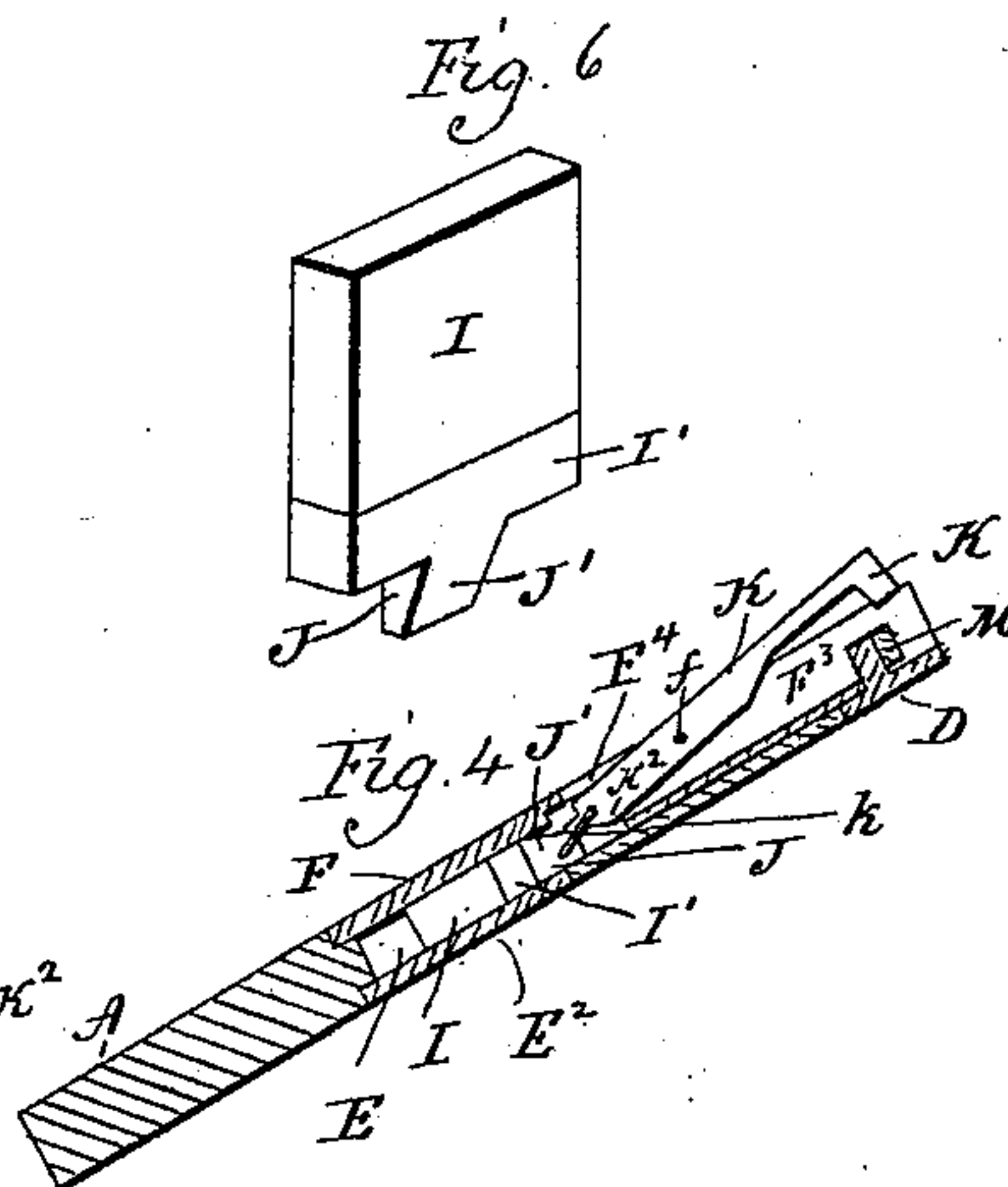
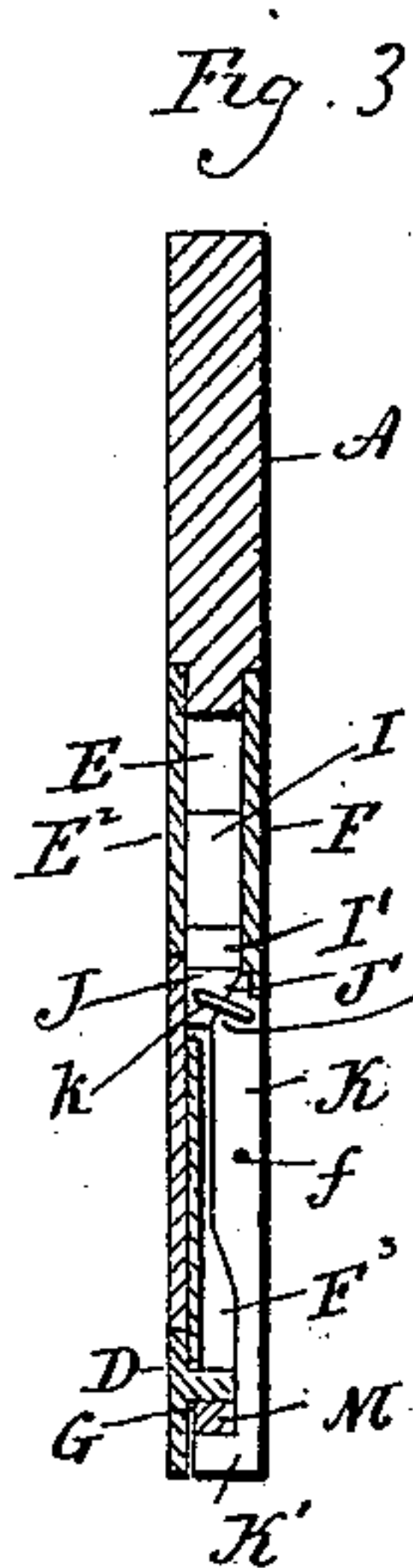
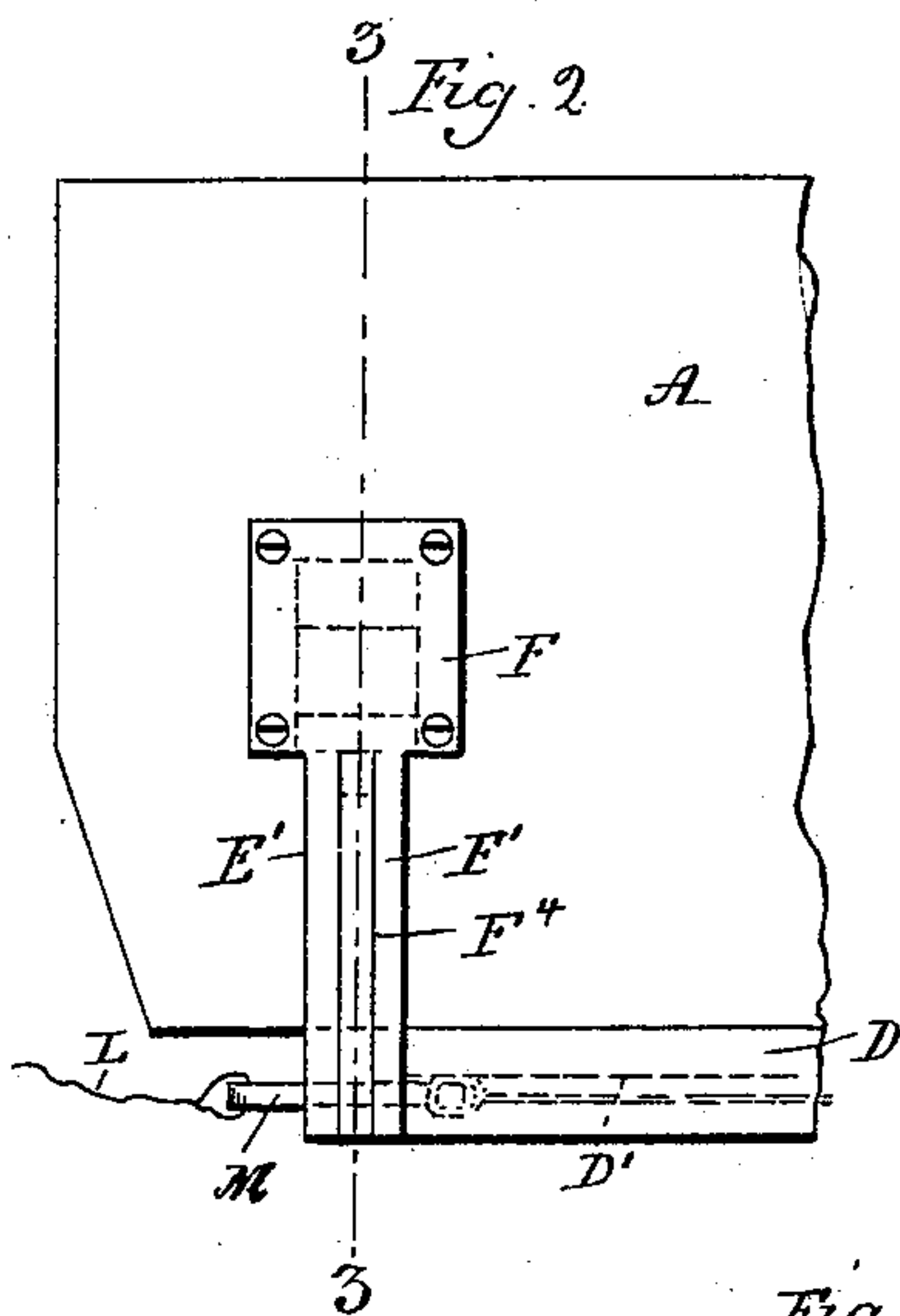
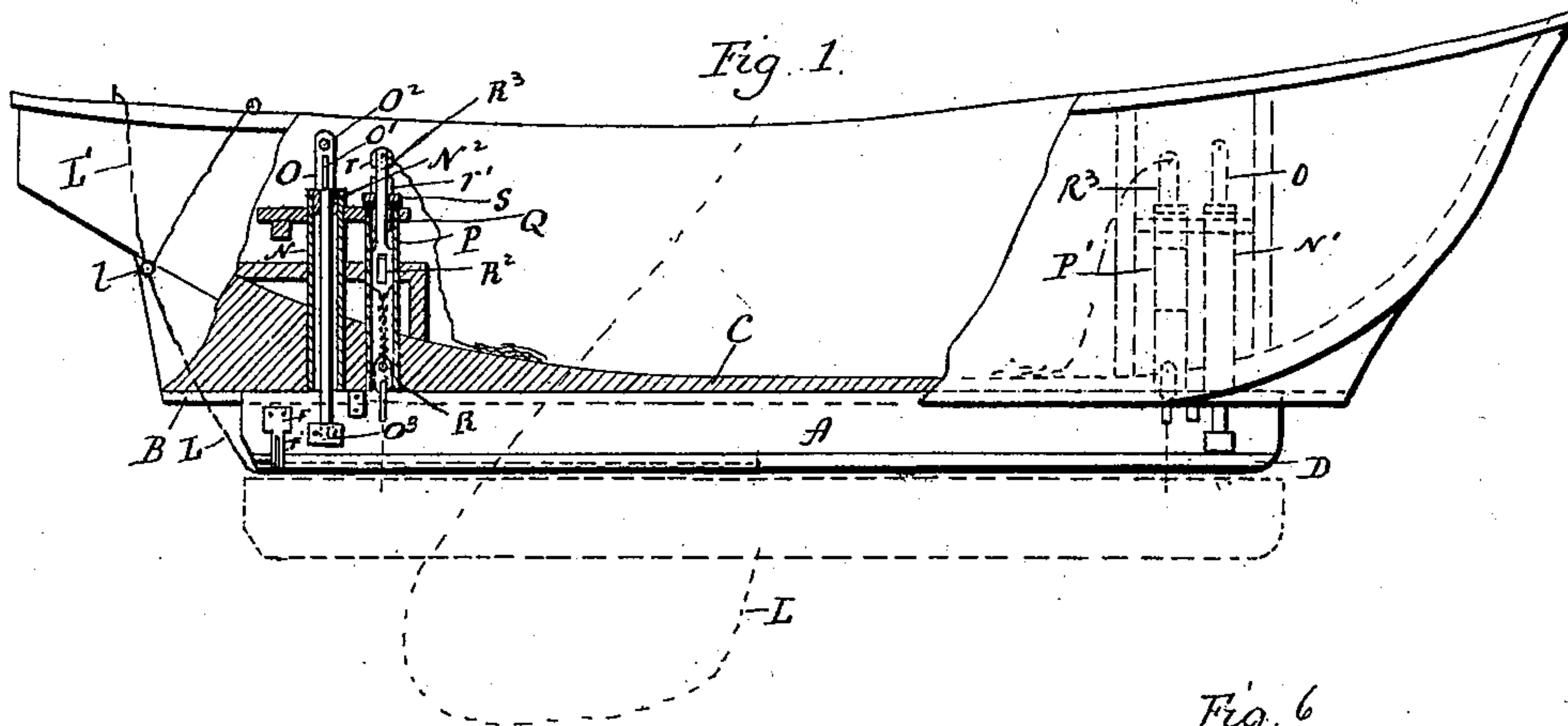
Patented Feb. 28, 1899.

C. S. HAMILTON.
PORTABLE CENTERBOARD FOR BOATS.

(Application filed June 27, 1898.)

(No Model.)

3 Sheets—Sheet 1.



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UNITED STATES PATENT OFFICE.

CHARLES S. HAMILTON, OF NEW HAVEN, CONNECTICUT.

PORTABLE CENTERBOARD FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 620,311, dated February 28, 1899.

Application filed June 27, 1898. Serial No. 684,531. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. HAMILTON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in Centerboards or Portable Keels for Boats; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and
10 exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view, partially in section, of a boat having my improved centerboard or
15 portable keel applied thereto; Fig. 2, a side view of the rear end of the centerboard, enlarged; Fig. 3, a sectional view on line 3 3 of Fig. 2; Fig. 4, a similar view with the board in a partly-inverted position; Fig. 5, a per-
20 spective view of the latch housing and plate detached; Fig. 6, an enlarged perspective view of the latch-operating slide detached; Fig. 7, a sectional view illustrating the devices for holding the board in position; Fig.
25 8, a view, partially in elevation and partially in section, of the brace or clamp rod; Fig. 9, a perspective view of the upper end of the clamp-rod tube; Fig. 10, a top view of the clamp-rod thimble; Fig. 11, a sectional view
30 thereof; Fig. 12, a perspective view of the coupling interlocking washer; Fig. 13, a sectional view of the coupling-tube thimble; Fig. 14, a top view of the same; Fig. 15, a side view of the coupling-head and swivel;
35 Fig. 16, a view, partially in side elevation and partially in section, illustrating a combined coupling and brace rod; Fig. 17, a transverse section of the same; Fig. 18, a transverse section through the coupling-tube, illus-
40 trating the device for drawing the coupling member upward through the coupling-tube; Fig. 19, a broken sectional view of the same, enlarged; Fig. 20, a sectional view of the lower end of the float, illustrating the connection be-
45 tween the hook therein and the coupling-key.

This invention relates to an improvement in centerboards or portable keels for boats and to devices for shipping and unshipping the board.

50 The object of this invention is to provide a portable board or keel which may be sus-

ended in line with the center of the boat and so arrange the connections and operating devices that the board shall always be under control; and it consists in the construction
55 and combinations of parts, as will be hereinafter described, and particularly recited in the claims.

The board A is of the desired length and thickness and adapted to be entered into a
60 channel B in the shoe or shallow keel C of the boat. To the lower edge of the board is secured a shoe or strip D of iron, in the lower edge of which is a slot D', extending from about the longitudinal center through the
65 rear end of the said strip. In the rear end of the centerboard A is a rectangular opening E, and on the starboard side is a groove E', extending downward from the opening or chamber E through the bottom of the board.
70 In the port side of the board and so as to close that side of the opening E is secured a plate E², and over the opening on the starboard side is placed a plate F, having an arm F' extending downward through the groove E' to
75 a point in line with the lower edge of the strip D, into which it is mortised, the lower end of the arm having a groove G corresponding to the groove D' in the strip D. In the face of the arm F' is a slot F⁴. Within the chamber
80 E is a sliding block I, the upper portion of which is preferably of lead and the lower part of brass, and depending from the lower brass portion I' is a tongue J, formed with a beveled face J', adapted to pass into the hole F⁴. To
85 the tongue J a latch K is connected by a link k, the said latch being hung in the housing F³ upon a pivot f. The upper inner edge of the said latch is beveled corresponding to the bevel of the tongue J, and the nose K' of the
90 latch projects inward at a point slightly below the inner edge of the groove G and so as to leave a space above the nose of the latch. When the board is held in a vertical position, the sliding block I, bearing downward, forces
95 the nose K' of the latch inward, as shown in Fig. 3; but if the board be inverted or its lower edge raised above the horizontal position, as shown in Fig. 4, the sliding block I, moving in the chamber E, will draw the upper
100 end of the latch inward and throw the nose K' thereof outward and so clear the groove G.

Fixed to the centerboard at the inner end of the groove D' is a chain, wire, or other suitable line L of suitable length to be passed on board the boat, and to this line is connected a link M, corresponding in width to the width of the groove G, so as to set therein and stand between the top of the groove and the nose K' of the latch K, by which the link is held in position and so as to hold the line L in the groove G. In this line is an eye l to which a line L' is attached and so that the line may be drawn aft and taut and close to the side of the boat, so as to present no obstruction to the boat in the water.

At convenient points fore and aft and preferably through the thwarts, so as to be supported thereby, I arrange vertical tubes N N', which extend downward through the keel or shoe of the boat and open into the channel B thereof, and in the upper edge of each tube is a bayonet-slot n. Extending through each of the tubes N N' is a brace or clamp rod O, each formed on opposite sides at its upper end with lateral wings O' and each furnished at its upper end with a handle and adapted to pass into the tubes through thimbles N². Each of the thimbles N² is formed with a top flange N³ to rest on the upper end of the tube, and in opposite sides of each thimble are grooves n', corresponding to the wings O' and so that when turned into alinement therewith the rods may be moved downward through the thimbles. In one side of each thimble is an outwardly-extending pin n², adapted to enter the slots n, whereby the thimbles may be interlocked with the upper end of the tubes N N'. The lower end of each rod is bifurcated and the fingers O² adapted to pass on opposite sides of the centerboard A and into sockets O³, located on the sides thereof and so that the centerboard will be firmly held in a vertical position. On each rod below the wings O' is a short pin or stud o, adapted to arrest the upward movement of the clamp-rod O unless said pin shall be turned into line with the grooves n'.

Adjacent to the tubes N are similarly-arranged tubes P P', in the upper end of each of which is placed a thimble Q, similar to the thimble N² except that the slots or grooves q in the opposite sides of its central opening gradually increase in width toward the lower end, as clearly shown in Fig. 13. Extending through each of the tubes P P' is a connection to the centerboard, which connection consists of a link R, chain or rod R', swivel R², and head R³, to the top of which a cord R⁴ is attached having at its outer end a key R⁵. On opposite sides of the head R³ are wings r r', arranged in line with each other and adapted to set into notches s in the top of a washer S, which is adapted to rest on the top of the thimble Q or to pass through a slot S', formed in the said washer at right angles to the notches s and so that either the wings r or r' may rest in the notches s and

so hold the head in position or be turned into alinement with the slot S', so as to drop through the tube P. The cord or line R⁴ may be of such a length as to permit the centerboard to be taken on board the boat without allowing the key R⁵ to pass through the tube P, although for the purposes of properly stowing the board away I prefer to allow the key to pass through the tube and escape at the bottom when the centerboard is removed.

To ship the board, the key and the connections to the board are first drawn up through the tube P by a hook and line dropped downward through the tube and grappled from the side of the boat by a boat-hook or by devices hereinafter described, and as the tubes P P' open over the center of the channel in the keel it follows that as they are drawn upward the centerboard will be drawn into the said channel, and when drawn up the washer S is turned so as to bring the notches s beneath the wings r, which hold the head in its elevated position. When the centerboard is thus located, the clamp-rods O are forced downward, so that the fingers O² pass on opposite sides of the centerboard and into the sockets O³ thereon, and when thus located the wings O' stand in the notches n' in the thimbles N², and the rods are thereby held against turning. When it is desired to unship the board, the line L' is cast off and the clamp-rods are drawn upward until the wings O' are drawn out of the notches n' in the thimble N². The clamp-rods are then rotated to bring the lower ends of the wings upon the upper ends of the thimble. When the centerboard is thus released, the heads R³ will be turned to bring the wings r r' in line with the slot S' and so that the said connection to the board may pass downward through the tubes P P'. When thus released, the board A will drop by force of gravity, and the line L, being held in the groove G by the latch K, will cause the board to be tilted into a horizontal position, as shown in Fig. 4, and so that the block I will slide in the chamber E and throw the nose K' of the latch K outward, thus releasing the link M, and thereby freeing the line L, which, being secured to the center of the board, enables the board to be drawn directly inward or secured to the throat-halyards and easily lifted on deck. In case of larger vessels, however, some means for drawing the key and intermediate connections to the centerboard upward through the tubes P is necessary, and for this purpose I preferably employ a lifting-rod composed of a pipe T, closed at the lower end by a plug T', through which is a small passage t, and this plug T' is connected with a similar plug T², fixed in the upper end of an intermediate pipe T³, and in this plug T² is a passage t', corresponding to and in line with the passage t in the plug T'. Extending through the pipes T T³ is a line U, which is connected with a long wire hook V, which extends into a float W, said float being formed

from a short piece of pipe corresponding in diameter to the diameter of the pipes T^3 and closed at its upper end by a tapered plug W^1 , adapted to enter and close the lower end of the pipe T^3 , the lower end of the float being closed by a cork plug W^2 . The line U is drawn taut through the handle T^4 at the end of the pipe T and so as to hold the sections in line with each other, and in this position they are passed downward through the tube P , as shown in Fig. 18. When the lower end of the upper pipe T is below the keel, the cord U is released and the float and the intermediate pipe T^3 will rise, and when partially elevated the float will detach itself from the lower end of the pipe T^3 and rise to the surface of the water, where it may be readily grasped from the vessel. The plug W^2 is then removed and the hook V drawn outward and engaged with an eye r^2 in the end of the key R^5 , as shown in Fig. 20, and the key drawn into the float W . The float is then cast overboard and, filling with water, will at once sink, carrying with it the line R^4 . The pipe T^3 , also filling with water when the float is removed, will fall into a vertical position and the three sections be brought into vertical alinement, so that the device may be drawn up through the tube P and with it the line R . When this line R is secured, the centerboard is cast off and drawn under the boat and into position, as before described, where it is held by the clamping-rods O .

It will be understood that before shipping the centerboard the link M in the line L will be engaged by the latch K . When in position, the line L is drawn rearward and connected with the line L' , as before described.

In approaching shoal water the brace-rods O may be lifted out of engagement with the centerboard and the head R^3 dropped downward until the wings r' engage with the notches s' , in which position the centerboard will have passed out of the channel B in the keel, and owing to the flexible connection will be allowed to freely swing to the right or left or may be drawn into a horizontal position by the line L . It will thus be seen that the board is always under control and may be shipped and unshipped.

Although I have shown and described two clamp-rods, which are preferably employed, it may be found that with small boats one clamp-rod will be sufficient to securely hold the board in position. While I prefer the flexible coupling and the clamp-rods for the reason that with such a construction the board may be allowed to swing into a horizontal position when approaching shoal water, the clamp-rod may be dispensed with, and instead of a flexible coupling, as before described, I may employ a rod X , the lower end of which is bifurcated and the fingers X' X' entered into channels X^2 , formed on the opposite sides of the board A and secured therein by a bolt or screw X^3 , the said chan-

nel increasing in width above and below the screw to allow the rod a certain amount of swinging movement. To the upper ends of the rods X heads Y are screwed or coupled, so that they may be turned independent of the rods, and on opposite sides of this head are wings y , corresponding to the wings r in the head previously described, and these wings are adapted to rest upon the top of a thimble Y' , corresponding to the thimble N^2 and so that only one vertical tube will be required at each end of the board. To the heads Y lines are secured by which they are drawn upward through the vertically-arranged tubes.

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

1. The combination with a boat having a longitudinal channel in its shoe or keel, of vertically-arranged tubes opening into said channel, a centerboard adapted to enter said channel, connections secured to said board and adapted to be passed upward through said tubes, and a vertically-arranged clamp-rod adapted to engage with the upper edge of said board, substantially as described.

2. The combination with a boat having a longitudinal channel in its shoe or keel, of vertically-arranged tubes opening into said channel, thimbles in the upper ends of said tubes, a centerboard adapted to enter said channel, and connections secured to said board and adapted to pass upward through said tubes, and comprising heads with laterally-projecting wings for engagement with grooved washers which rest on the upper ends of said thimbles, substantially as described.

3. The combination with a boat having a longitudinal channel in its shoe or keel, of a centerboard adapted to be entered into and held in said channel, said board formed with a groove in its lower edge extending from the center thereof rearward, a line fixed at the inner end of said groove, and a latch at the outer end of said groove adapted to hold the line therein, substantially as described.

4. The combination with a boat having a longitudinal channel in its shoe or keel, of a centerboard adapted to be entered into and held in the said channel, said board formed with a groove in its lower edge extending from the center thereof rearward, a line fixed at the inner end of said groove, a latch at the outer end of said groove adapted to hold the line therein, and a sliding block connected with said latch, and adapted to throw the nose of said latch outward when the lower edge of said board is raised above the horizontal, substantially as described.

5. The combination with a boat having a longitudinal channel in its shoe or keel, of vertically-arranged tubes opening into said channel, a movable centerboard adapted to enter said channel, and a placing device consisting of two pipes hinged together, a float

adapted to close the lower end of the lower
pipe, a line extending through said pipes and
into said float, and a hook secured to the
lower end of said line for engagement with a
5 key connected to the centerboard, said pipes
and float being adapted to be passed through
one of said tubes.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

CHARLES S. HAMILTON.

Witnesses:

LILLIAN D. KELSEY,

FRED. C. EARLE.