H. E. ROTTMER.

BOAT DETACHING APPLIANCE.

APPLICATION FILED APR. 6, 1907.

998,263. Patented July 18, 1911.

Fig. 1.

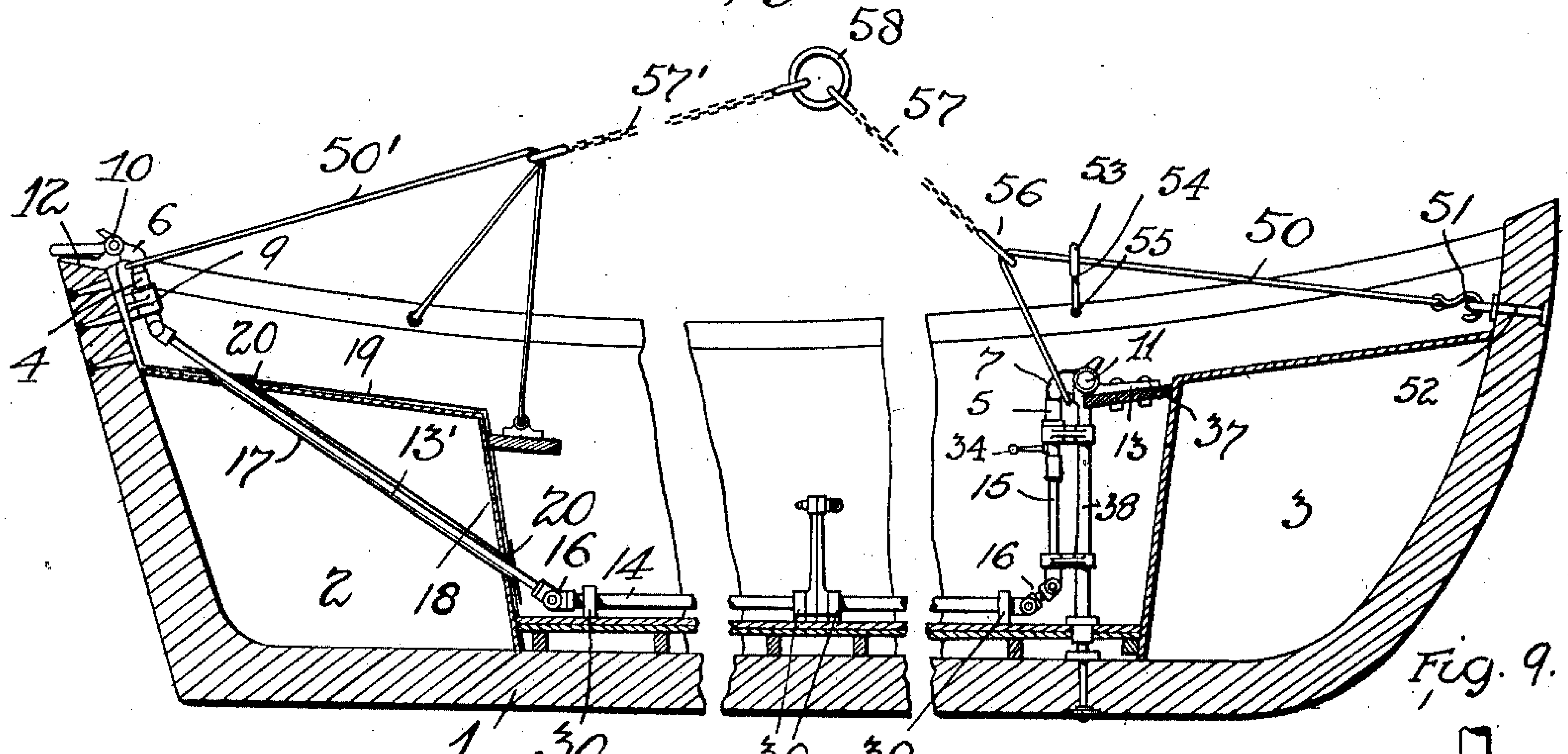


Fig. 6.

Fig. 4.

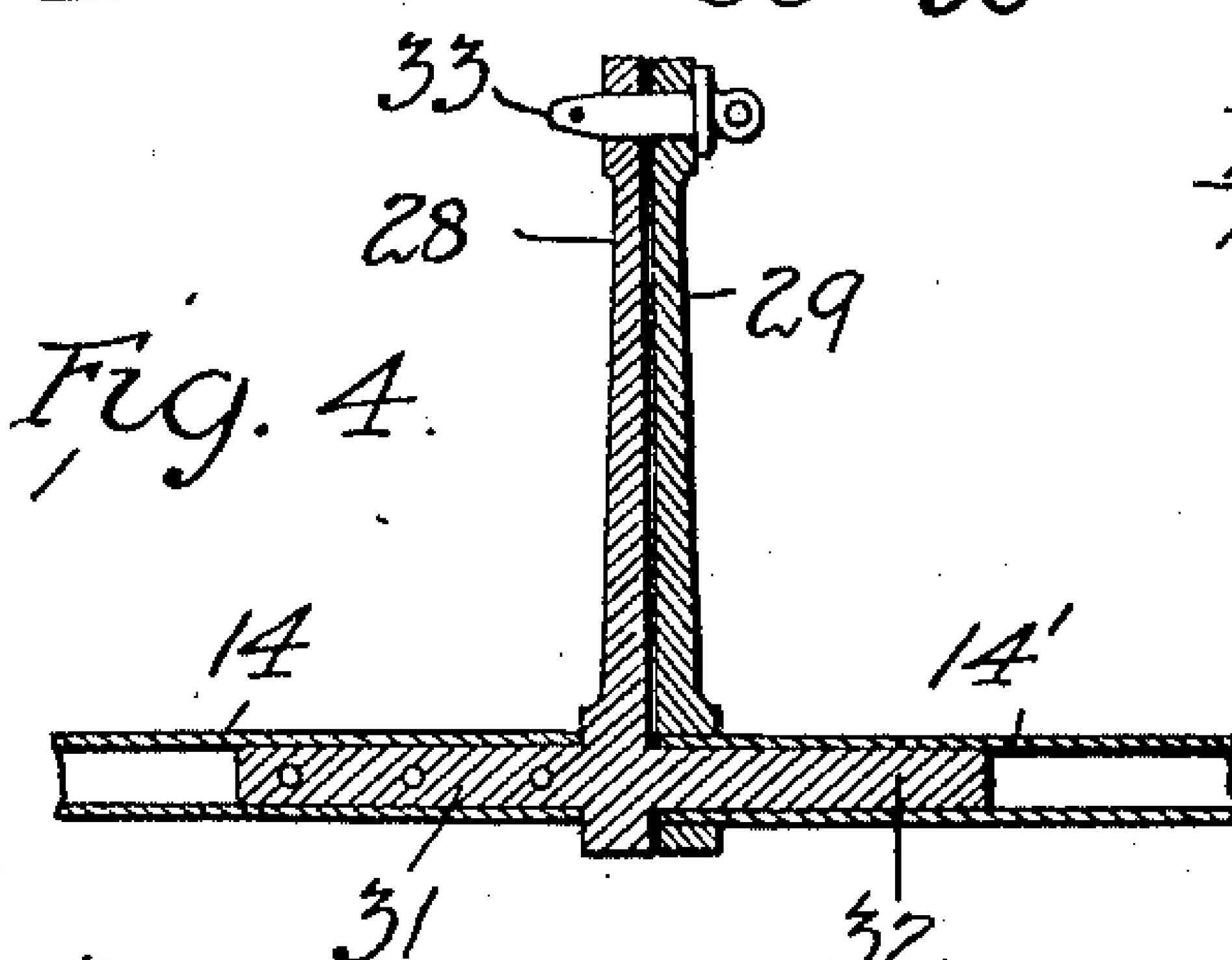


Fig. 8.

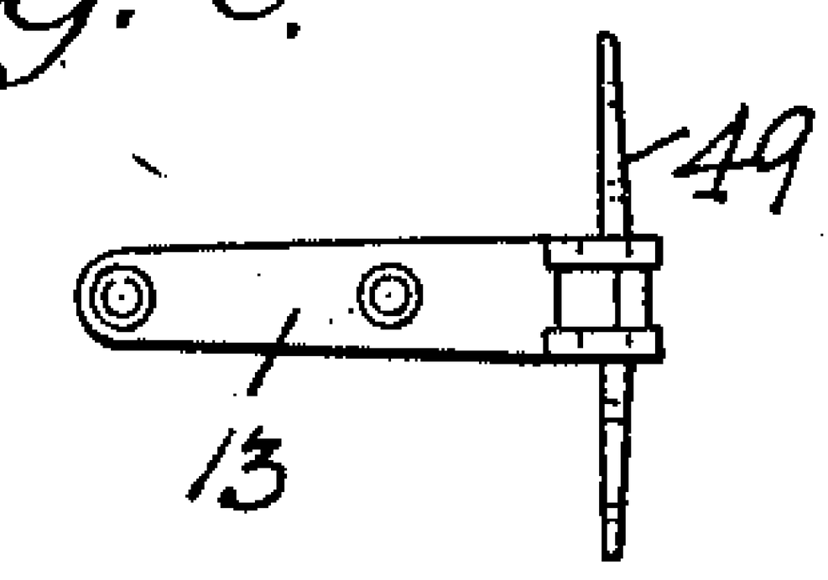


Fig. 9.

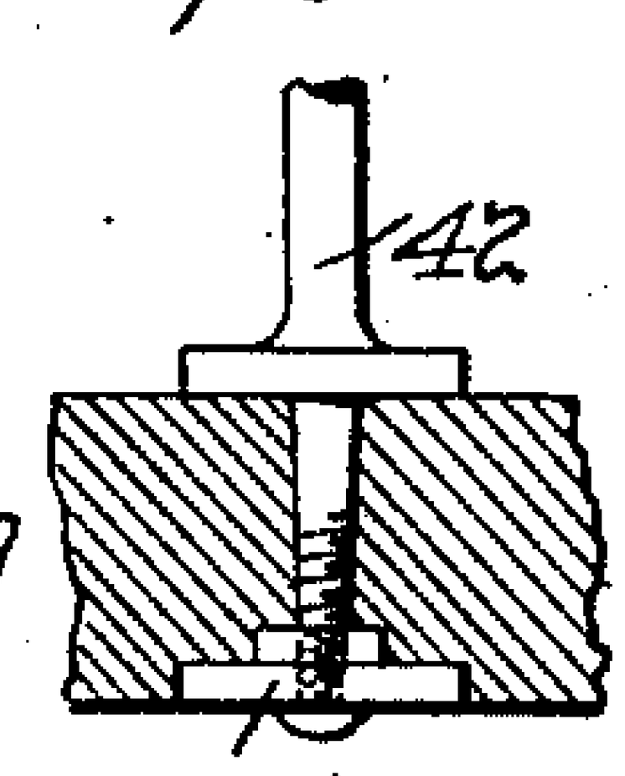


Fig. 2.

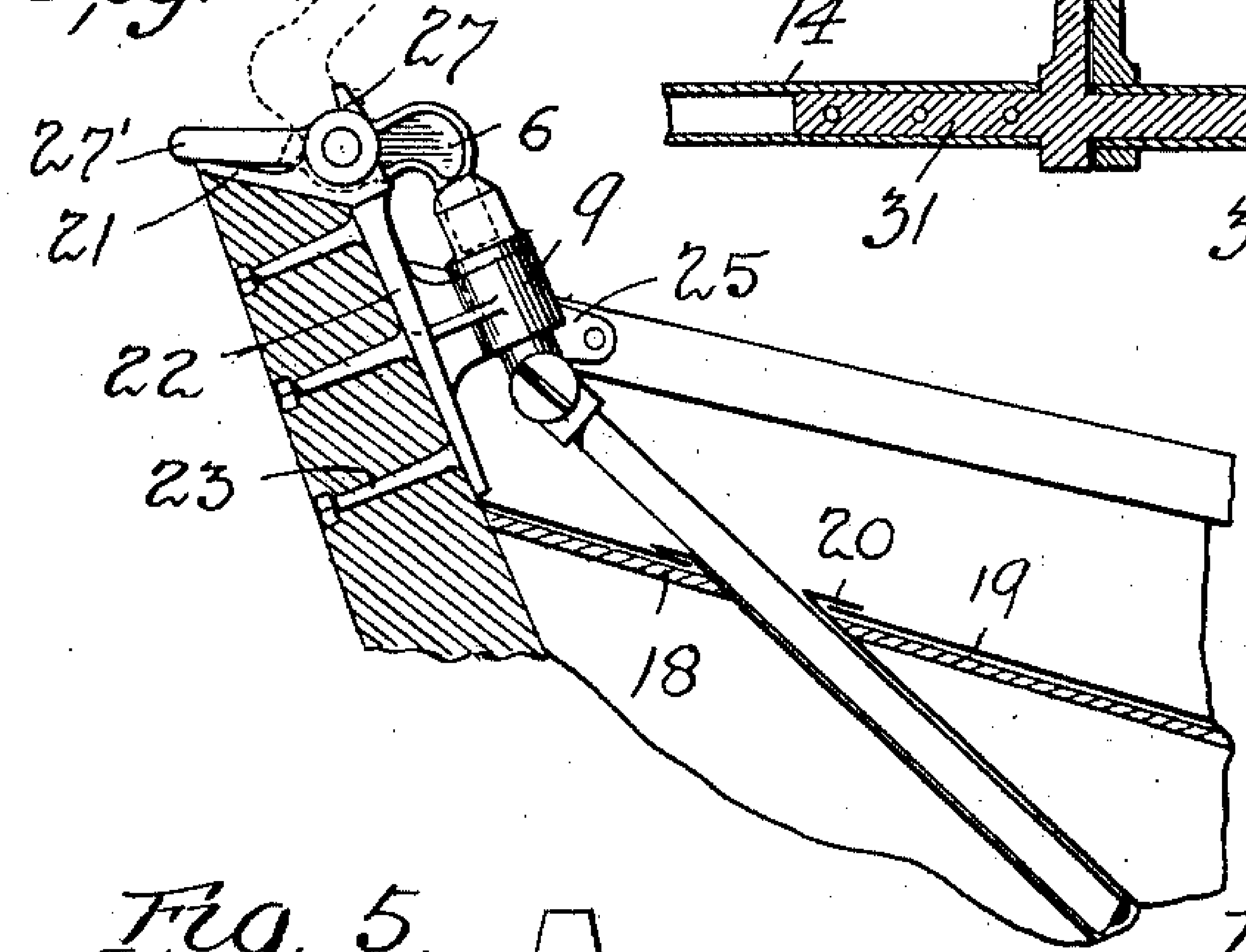


Fig. 7.

Fig. 3

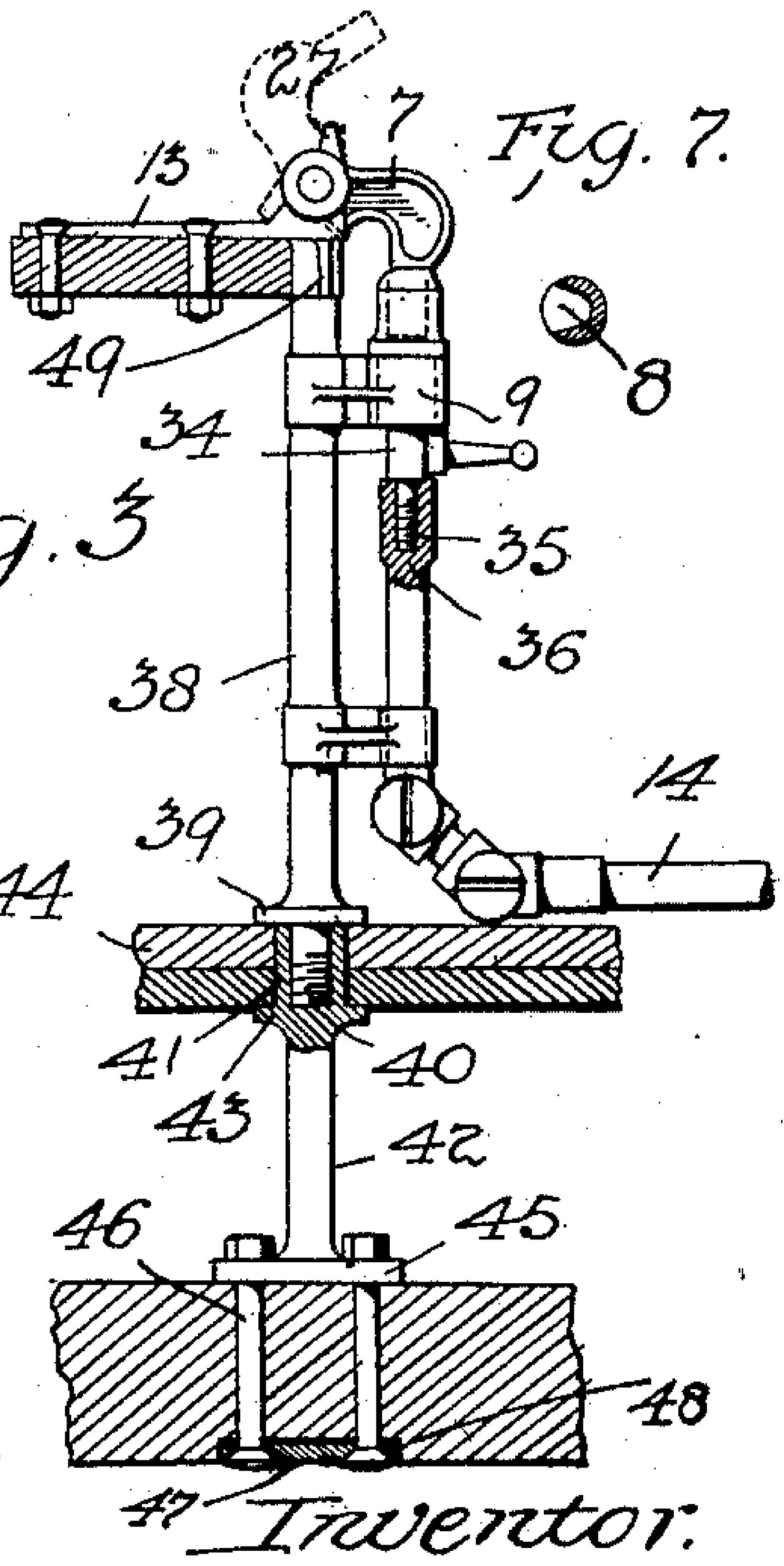


Fig. 5.

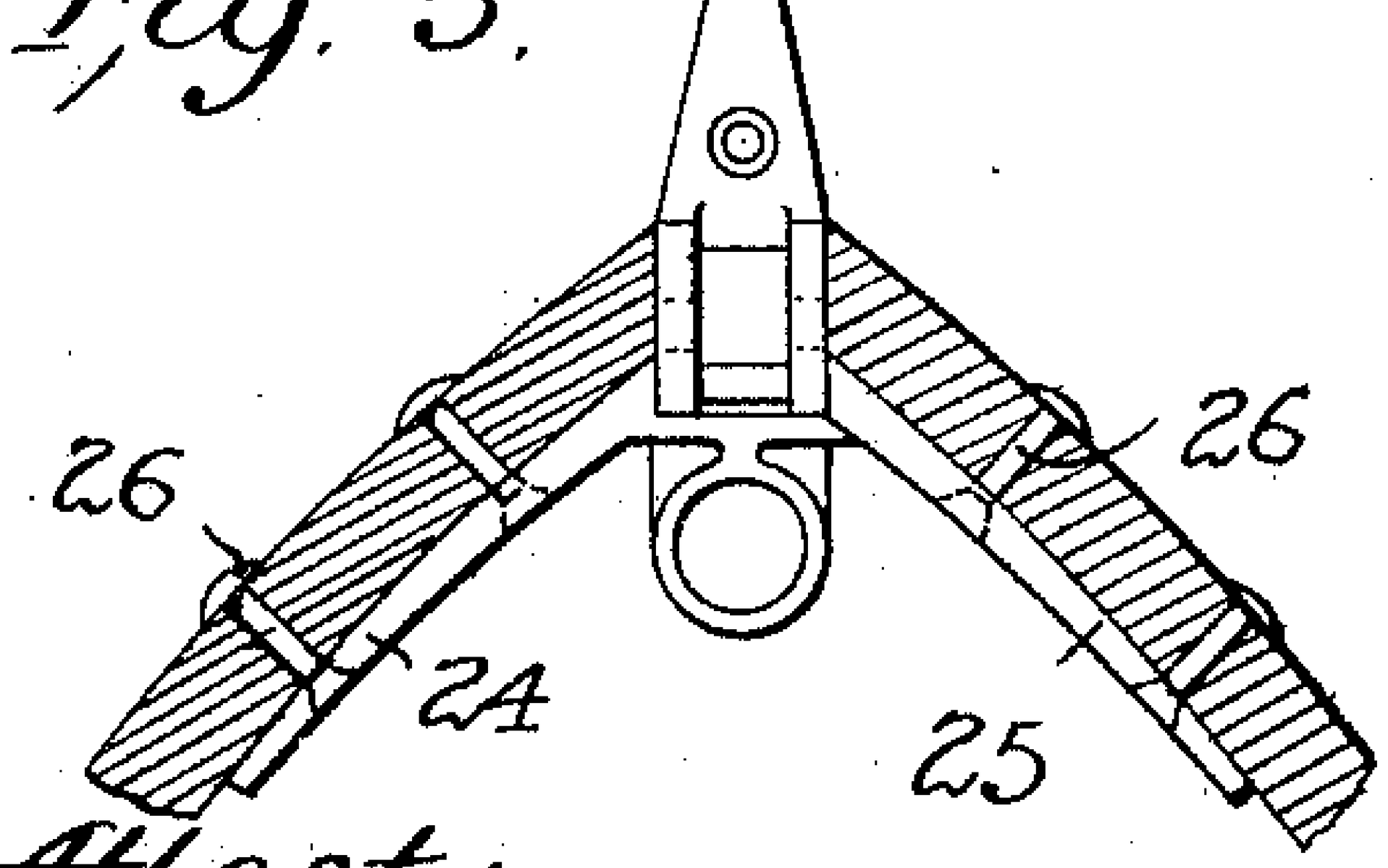
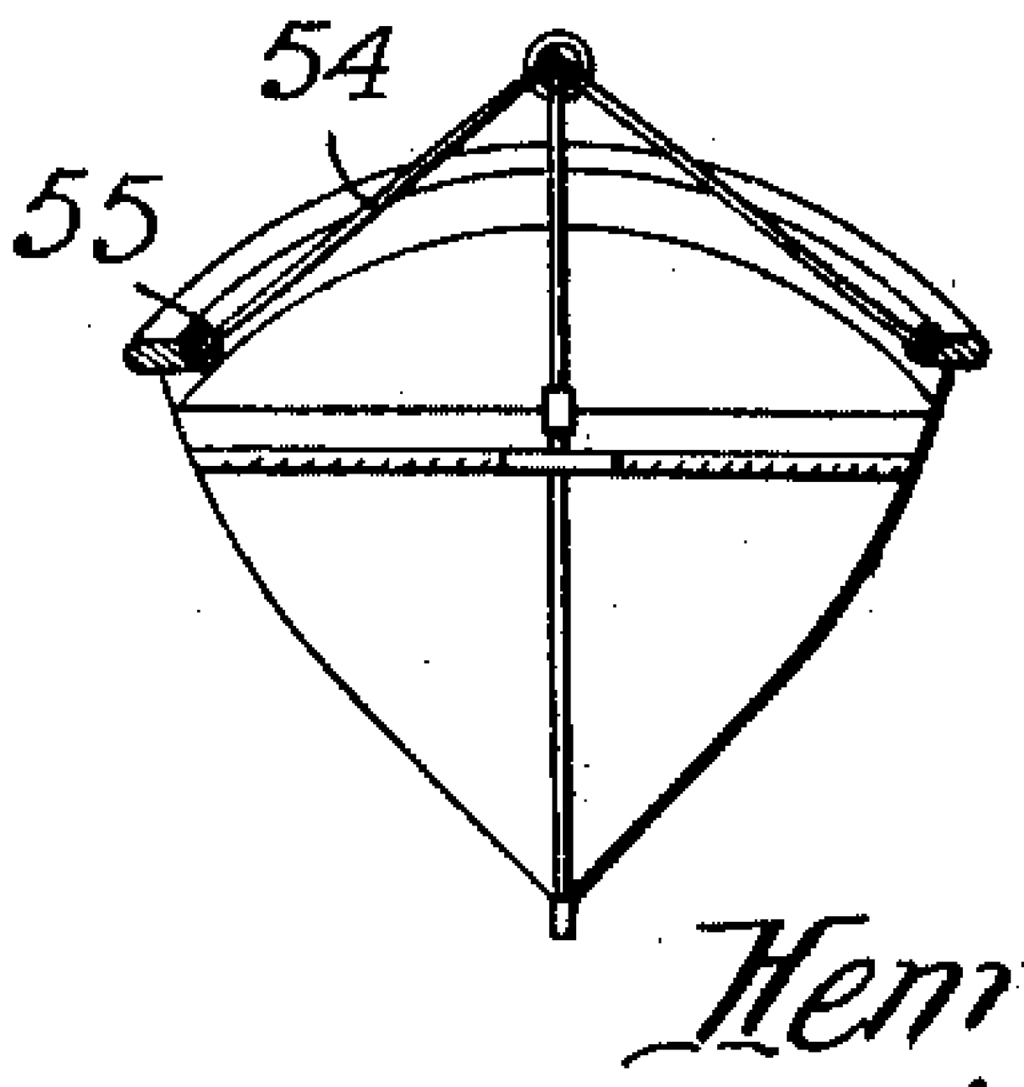


Fig 8.



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UNITED STATES PATENT OFFICE.

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BOAT-DETACHING APPLIANCE.

998,263. Specification of Letters Patent. **Patented July 18, 1911.**

Application filed April 6, 1907. Serial No. 366,728.

To all whom it may concern:

Be it known that I, HENRY E. ROTTMER, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Boat-Detaching Appliances, of which the following is a specification.

My invention relates to detaching appliances for ships' life-boats, and my object is to provide such an arrangement of parts as will enable the seaman or operator to readily detach the boat from the suspending devices or apparatus and will insure the simultaneous detachment of both ends of the boat so as to prevent the accidents which happen so frequently by reason of one end of the boat being detached before the other, thus throwing the occupants of the boat into the water. I have sought also to provide a simple construction of parts and one which will be of great strength and durability.

The invention consists in the features, combination and arrangement of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawings,—Figure 1 is a central longitudinal section of a life-boat embodying my invention. Fig. 2 is an enlarged detail view of the detaching devices at one end of the boat and the connection leading thereto. Fig. 3 is an enlarged detail view of the detaching devices at the opposite end of the boat from that illustrated in Fig. 2 showing also a part of the connection leading to said detaching devices. Fig. 4 represents in section operating means for the connections leading to the detaching devices, whereby the said detaching means at the two ends of the boat may be operated simultaneously from a point within the boat, or said detaching devices may be operated independently by a certain manipulation of the said operating means. Fig. 5 is a plan view partly in section of the end of the boat shown in Fig. 2 with part of the attaching means in place. Fig. 6 is a plan view of a link associated with the detaching device. Fig. 7 is a detail view of one of the clutch jaws. Fig. 8 is a detail view. Fig. 9 is a view of a modification.

In these drawings, 1, indicates the life-boat having at its opposite ends the air chambers 2—3. The suspending and detaching appliances comprise the clutch members 4—5 and the hooks 6—7 coöperating with the said clutch members. The clutch members are of the form shown in Fig. 7 having an open side at 8, and each being adapted to have rotary motion in its bearing as at 9. The hooks are pivoted in ears 10—11 of brackets or irons 12—13, and they extend inwardly from the pivots and depend for engagement with the rotary clutch members. The clutch members are operated by a flexible shafting, consisting in the present instance of an inclined section 13′, a horizontal section 14, and a vertical section 15, the said sections 13′ and 15 being connected with the horizontal section 14 by universal joints or couplings 16.

It will be seen from Fig. 1 that the inclined shaft section 13′ passes through the water-tight compartment or air chamber 2 and for the purpose of making an air tight arrangement at this point, I employ a tube 17 extending through the air chamber and through this tube the shaft section 13′ extends. The air chamber or air tight compartment comprises boards 18 furnishing a foundation for the sheet iron shell 19 arranged outside of the said boards.

The tube 17 is flanged at its ends as at 20 and the flanges overlie the sheet iron shell or wall of the air chamber and are soldered thereto so as to insure a perfectly air tight joint at these points.

Other arrangements may be provided whereby the inclined shaft section 13′ may be employed, and at the same time the air tight compartments may be used without interference of the shafting with the air tight construction, and I do not limit myself to the precise construction shown. Any construction whereby the inclined shafting may extend in or through the same horizontal plane in which the air tight compartment lies will fall within the scope of my invention.

The bracket 12 carrying the pivot for the hook 6 has a base portion 21 resting on top of the post at the end of the boat to which the said base portion is screwed, and it has also a portion 22 extending down along the inner face of the stem or stern post, said portion being provided with through bolts 23 formed integrally with the plate or portion 22 and the said plate 22 has also formed therewith the bearing 9 for the clutch as above described. This bracket or support is

also provided with two laterally extending arms 24—25 which together with the bracket or support as a whole forms a knee and thus provides a strong construction to adequately connect the appliance to the life-boat. The laterally extending arms 24, 25, extend along the gunwales of the boat and are bolted or riveted thereto as at 26.

It is important that a strong connection be provided in a boat of this character for such a boat is used under stress of circumstances, is launched hastily, and is apt to be overloaded, and I have therefore sought to provide a connection between the suspending and detaching appliances and the boat which will be of sufficient strength under all circumstances of use.

The through bolts 23, as before stated, are integral with the bracket portion of the connection, and provide a strong means of uniting the bracket with the bolt. This manner of forming the connection is more efficient than the ordinary way, consisting of separate nails or bolts passing through the post or stem of the boat to connect the plate or bracket thereto.

I have provided a stop on the eye of the hooks, as at 27, in order to limit the backward throw of the said hooks by contacting with a part of the frame or a part of the bracket 12. These stops insure the return of the hooks or latches to the normal operative position after the tackle or suspending means is freed therefrom. The hooks being limited by these stops, rebound and lie in position to be engaged by the clutches when these are rotated to present their open sides 8 to the said hooks. I have also provided a link 27′ pivoted on the same pin as the hook or latch, the said link being of the form shown in Fig. 6 and serving as an attaching device for a towing rope when the life-boat is afloat.

In order to operate the flexible shafting, I provide a compound hand lever formed of the two members 28—29, and I form the horizontal shaft 14 in sections 14′, these sections turning in bearings 30. The member 28 of the compound lever has an extension 31 pinned to the shaft section 14, and it has also an extension 32 extending into a hollow shaft section 14′ and adapted to turn therein. The member 29 of the compound lever is fixed to the shaft section 14′ and with said shaft section is adapted to turn in the bearings 30 and on the extension 32 of the member 28. The members of the compound lever are provided with openings to receive a pin 33 whereby they are connected together to move as one lever, and any occupant of the boat by operating this compound hand lever will rotate the shaft sections and turn the clutches 4 and 5 so that their open sides will be presented toward each other or toward the center of the boat in which position they will release the hooks, and this release will take place simultaneously, thus detaching the boat from the tackle.

If it is desired to operate the clutches independently, it is simply necessary to withdraw the pin 33 and then either one of the members 28—29 can be operated as desired to release the detaching device at one end of the boat only or one after the other.

I do not limit myself to the character of the flexible shafting as the one shown is representative of any suitable form of shafting. I provide means also whereby the clutches may be operated independently of the flexible shafting, and this consists as shown in Figs. 1 and 3 of a hand lever connected with a short stem 34 of the clutch, which stem has a screw threaded end at 35 extending into a socket 36 on the flexible shaft section. By turning this stem by means of the hand lever the clutch may be turned to release the hook and then by turning the hand lever back to its former position the relation between the clutch and the flexible shaft section will be restored after the operation of the said clutch by the shaft section.

At the right of Fig. 1 I show the bracket 11 for the pivoted hook attached to the thwart 37. This bracket is combined with a standard 38 extending vertically and carrying the bearing 9 for the flexible shafting. I provide a special connection between this post and the keel of the boat. This keel being thin I have sought to provide means whereby a strong connection is effected by distributing the points of connection along the said keel. The standard 38 is made in sections, the upper section being flanged at 39 and having a screw threaded extension or stem 40 which is screwed into a socket 41 on the upper end of the lower section 42. This lower section also is provided with a flange 43, and these flanges 39 and 43 bear upon the upper and lower sides respectively of the deck 44. At the lower end of the post section 42 a foot 45 is provided extending for a considerable distance longitudinally of the keel, and through this foot or flange, bolts 46 extend, the lower heads of said bolts being countersunk in a plate 47 lying in a recess 48 on the lower side of the keel. By this construction the strain is distributed at separated points on the keel and a strong connection is provided.

The post 38 and the bracket 13 have connected therewith horizontal arms or flanges 49 extending along the edge of the thwart, as shown in Fig. 8. These arms or flanges are screwed or bolted in place and provide a strong connection. The plate 47 under the keel provides a strong connection for the bolts 46.

I provide a bridle for suspending the boat comprising the member 50 secured by a hook 51 to a ring or bolt 52 at one point on the

boat, the said member passing through a ring 53 on a transverse bridle member 54, the ends of which are attached to the gunwales of the boat at 55, the said member 50 passing also through a ring 56 on the suspending chain or member 57, and thence passing through the detaching hook where it is provided with a ring or loop through which the said hook passes. This bridle arrangement is repeated substantially at the other end of the boat and the two chains or suspending members 57—57′ are attached to the ring 58 to which any suitable tackle is connected. Of course by simply releasing the detaching hooks, 6—7, the bridle members 50—50′ run through the rings of the suspending members 57—57′, thus simultaneously releasing both ends of the boat from the tackle.

In Fig. 9 I show a modification of the standard 42 having however features common with the form shown in Fig. 7. That is, it is provided with a flange resting on the upper end of the keel and its lower screw threaded end extends through the keel and is threaded into a nut 42× embedded in the lower edge of the keel.

I claim as my invention.

1. In combination with a boat, a detaching device, a bracket for supporting the said device, comprising the ears in which the said device is pivoted, the flange secured to the top of the stem or stern post, a portion 22 extending along the face of the said post, the arms 24—25 extending along the gunwales, and the bearing 9 on the part 22 for a part of the said detaching device, substantially as described.

2. In combination with a life-boat, detaching devices at the ends thereof, a flexible shaft extending to both ends of the boat to operate the said detaching devices, said flexible shaft being formed in sections, and means for operating the said sections either simultaneously or independently, substantially as described.

3. In combination with a life-boat, detaching devices at the ends thereof, a flexible shaft extending to both ends of the boat to operate the said detaching devices, said flexible shaft being formed in sections, and means for operating the said sections either simultaneously or independently, said means comprising a compound lever with means for holding the members of said compound lever in connection with each other to operate as one lever, substantially as described.

4. In combination in a life-boat, detaching devices, a flexible shaft for operating the same, comprising a sectional shafting as 14—14′, a compound lever, one member 28 of which has extensions 31—32 into the said shaft sections, means for securing one extension to one shaft section while the other shaft section is in movable engagement with the other extension, and the second lever member connected with the shaft section 14′, substantially as described.

5. In combination in a life-boat, the detaching hooks, the clutches, means for rotating the said clutches simultaneously consisting of the flexible shafting and the swiveled connection between one or both of the clutches, and the said flexible shafting, with means for operating the said swiveled connection to operate the said clutch independently of the flexible shaft or to lock the same thereto, substantially as described.

6. In combination in a life-boat, a pivoted hook, a clutch adapted to have rotary movement to release the said hook, a flexible shaft for operating the clutch, and means for rotating the said clutch independently of the flexible shaft, substantially as described.

7. In combination in a life-boat, detaching devices, a standard extending through a water-tight deck connected with the keel, the said standard being formed in sections united at the said deck and each section having a flange which flanges respectively bear on the upper and lower sides of the water tight deck, to make a water tight joint with said deck, substantially as described.

8. In combination in a life-boat, detaching means, a standard extending through the water-tight deck and formed in sections, one section having a socket in the water tight deck receiving a threaded stem on the other section and both sections being provided with a flange bearing on the water-tight deck to make the water-tight connection therewith, substantially as described.

9. In combination in a life-boat, detaching means, a bracket for securing the same to the thwart having a portion resting on the thwart and connected thereto and having arms extending along the edge of the thwart and connected thereto, substantially as described.

10. In combination in a life-boat, detaching means, and a bridle comprising a member secured to the boat at one end and connected with the detaching means at the other end, a transverse member having a loop through which the first member passes, and a suspending member connected with an intermediate part of the first member, substantially as described.

11. In combination with a life-boat, a detaching device at the end thereof and a knee carrying a pivot support for said detaching device, said knee fitting against the stem of the boat and having integral arms extending laterally and secured to the sides of the boat.

12. In combination in a life-boat, detaching means comprising interlocking registering members, a standard to the upper end of which the detaching device is connected, a foot or flange on said standard extending

along the upper part of the keel, a plurality of bolts distributed at different point longitudinally along the keel for securing the said foot or flange thereto, said foot or flange being integral with the standard whereby said standard will be held rigidly in the position to which it is set and will be prevented from rotary displacement, substantially as described.

13. In combination with a boat, a detaching device at the end thereof and a knee carrying a pivot support for the said detaching device, said knee fitting against the stem of the boat, and arms extending laterally in relation to the knee and secured to the sides of the boat, substantially as described.

In testimony whereof, I affix my signature in presence of two witnesses.

HENRY E. ROTTMER.

Witnesses:

HENRY E. COOPER,

EDWARD L. TOLSON.