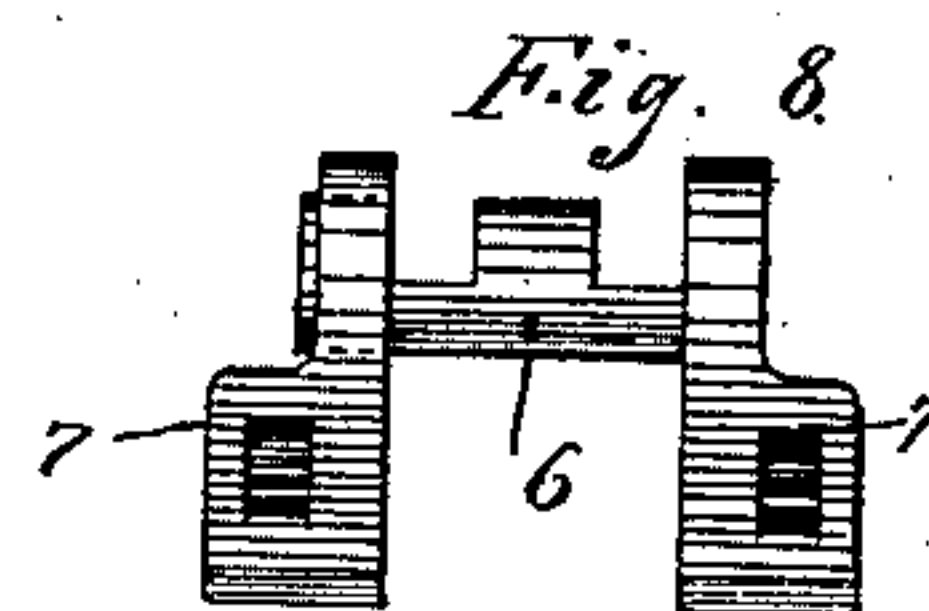
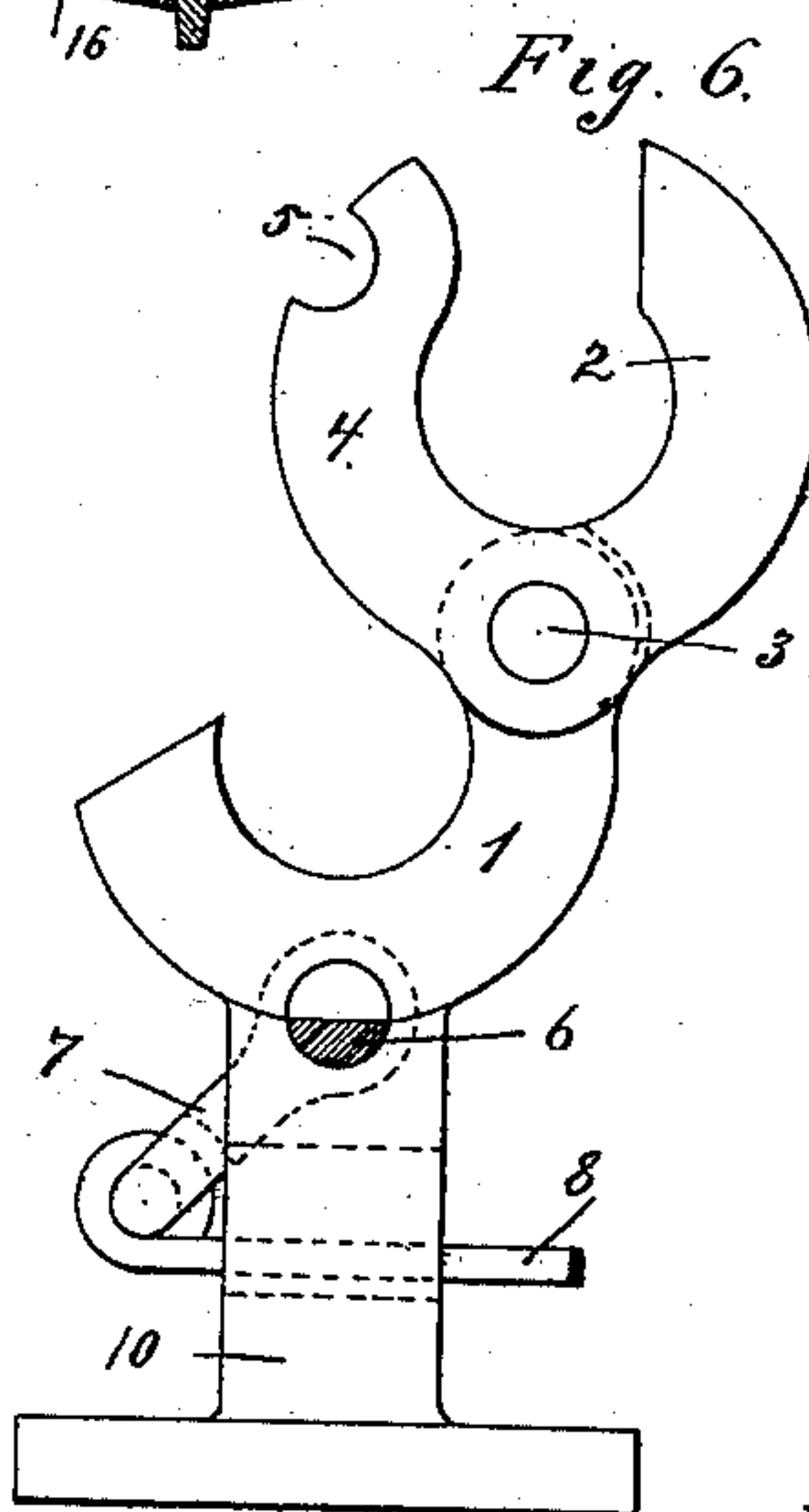
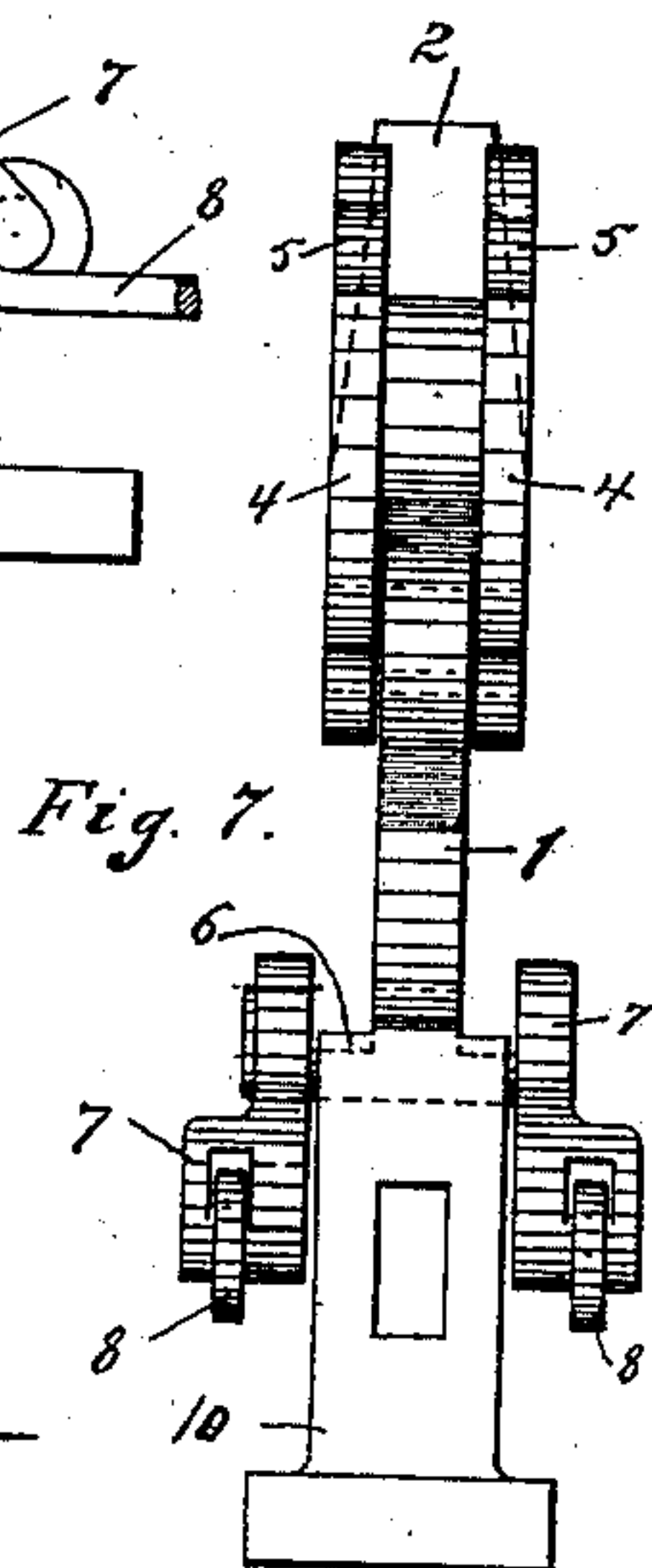
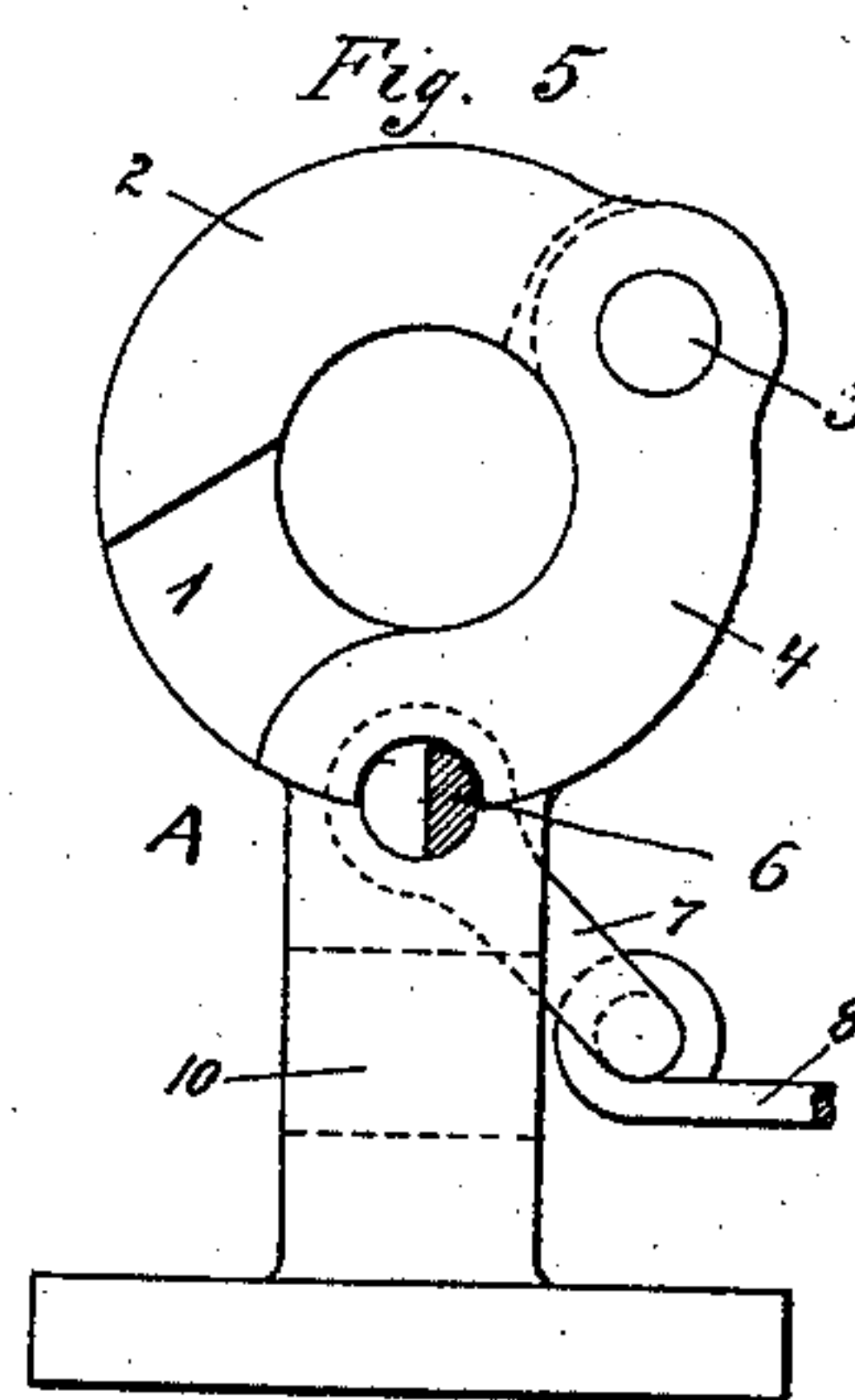
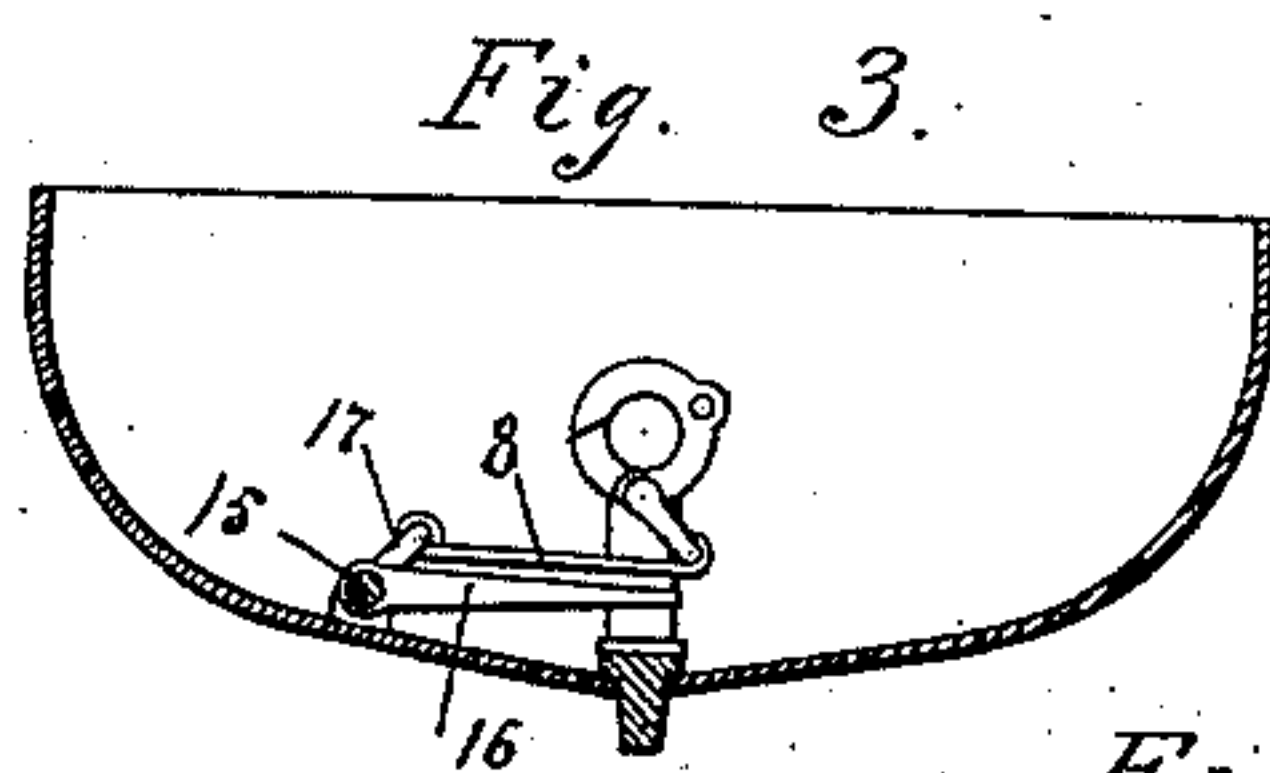
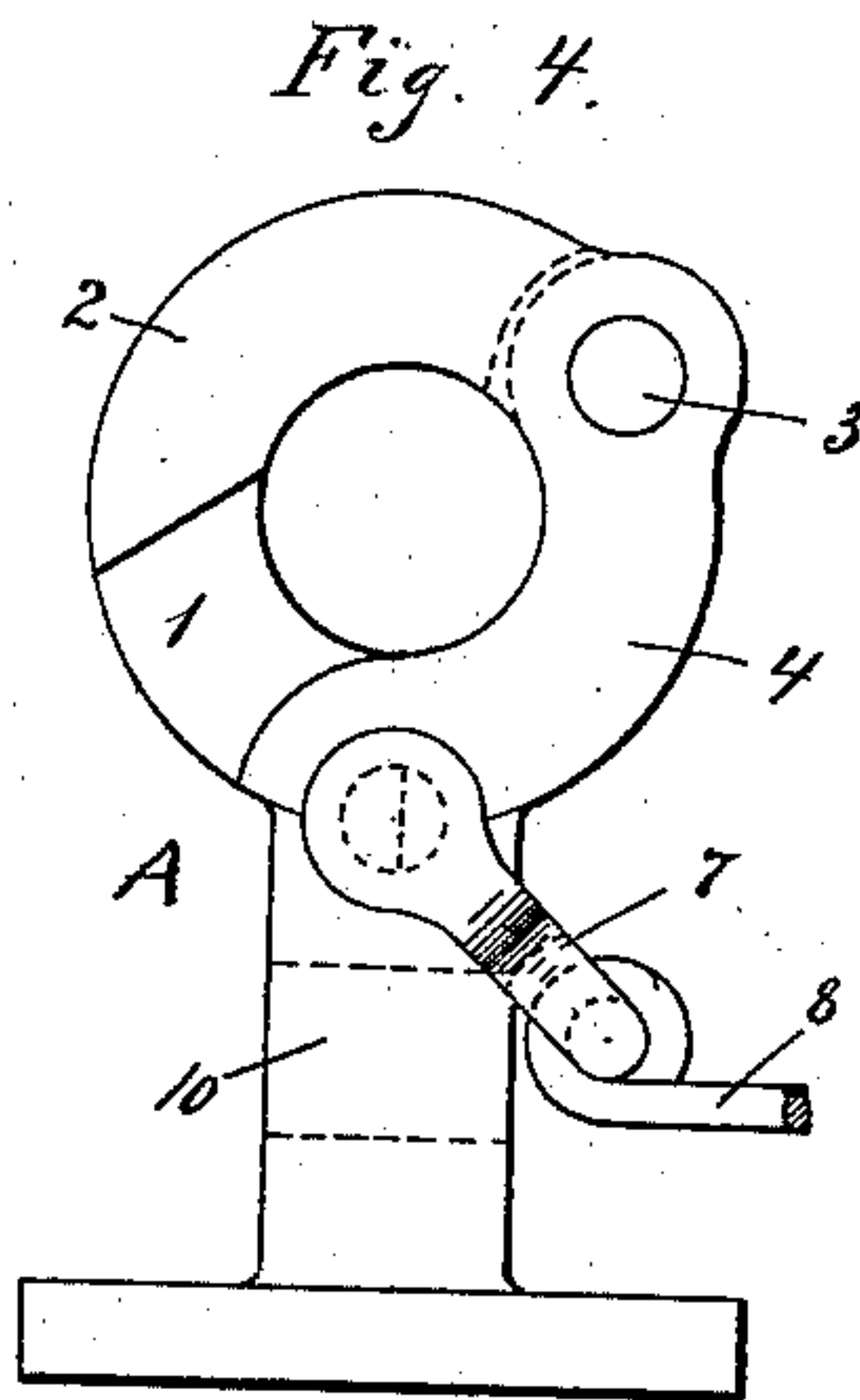
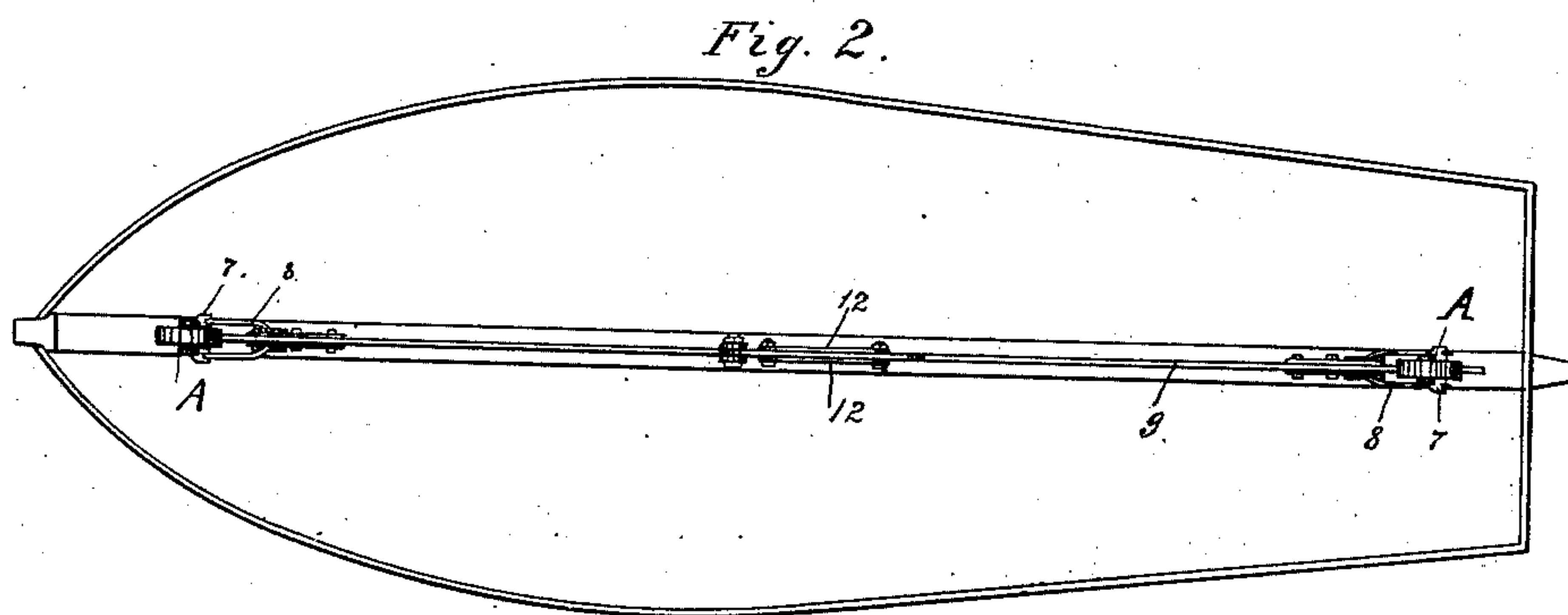
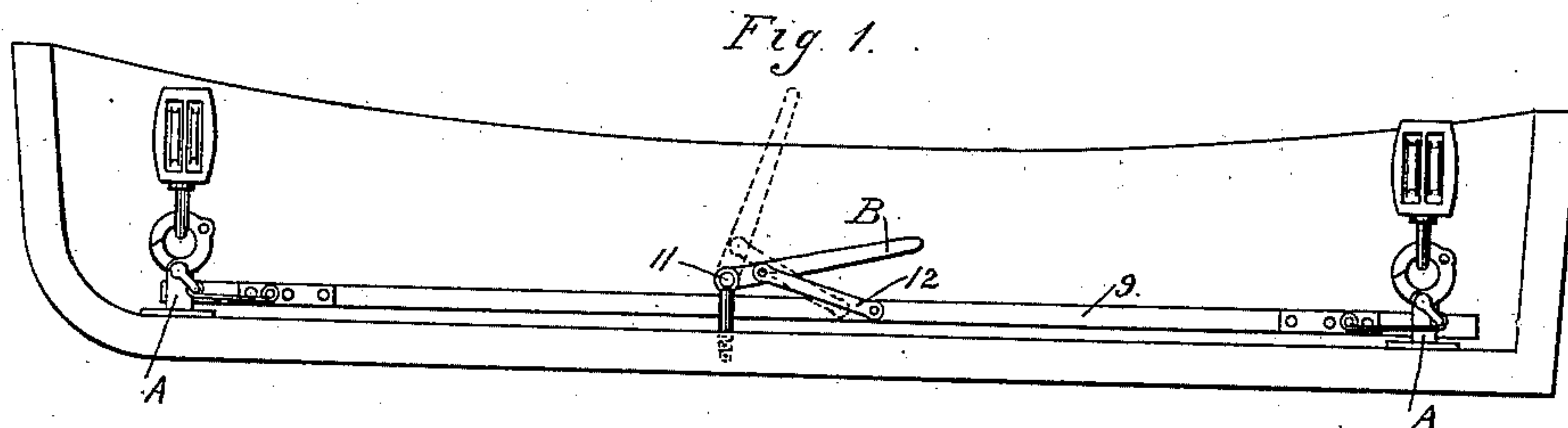


(No Model.)

H. E. FOSTER.
BOAT DETACHING APPARATUS.

No. 312,714.

Patented Feb. 24, 1885.



WITNESSES:

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HICKMAN E. FOSTER, OF DECATUR, ILLINOIS.

BOAT-DETACHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 312,714, dated February 24, 1885.

Application filed March 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, HICKMAN E. FOSTER, a citizen of the United States, residing at Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Boat-Detaching Apparatus, of which the following is hereby declared to be a full, clear, and exact description sufficient to enable others skilled in the art to which said improvements appertain to make and use the same.

In the accompanying drawings, forming part of this specification, like letters of reference designate like parts of structure throughout.

Figure 1 is a longitudinal sectional view of a boat having the hook-detaching apparatus applied thereto. Fig. 2 is a plan view of the same; Fig. 3, a transverse section of a boat, having modified form of detaching apparatus applied thereto; Fig. 4, a view in side elevation of the eyebolt detached; Fig. 5, a view similar to Fig. 4, but with lock-bolt in section, to show the mode of dogging the pivot-section of the eyebolt; Fig. 6, a view of the eyebolt in side elevation, the pivot-section being opened away from its seat. Fig. 7 is a front end elevation of the eyebolt, opened as in Fig. 6. Fig. 8 is a view of the lock-bolt detached.

My invention relates to that class of appliances by means of which a ship's boat may be simultaneously cast loose both at stem and stern, from the davit-falls by which the boat had been suspended and retained.

The importance of effecting the release of the boat at the same juncture at bow and stern is well understood, for if this be not done there is not merely the risk of tipping, but, if a heavy sea is running, there is also imminent danger of the boat overturning or swamping. Some detaching appliances are intended to operate automatically by the buoyant influence of the water in contact with the boat; but there is chance of a premature release, as by the sudden lurch of the ship, or an unusually high sea, besides which, in calm weather it is frequently desired to hold the boat quietly in floating position without casting off.

My invention consists of certain improvements in boat-detaching apparatus conveniently operated from the waist of the boat in such wise as to simultaneously release the bow

and stern holds, said invention comprising, first, a modified construction of the usual eyebolt, so that it may be adapted to perform the functions of a trip-hook; and, second, in combination with said modified eyebolts and their locking devices, of the tripping appliances for releasing the same from engagement with the hooks, links, or tackle of the davit-falls.

Conveniently fastened by any desired and secure means to the keelson or other heavy boat-timber are the eyebolts A, one located at the stern and one at the bow of the boat. These eyebolts, instead of being forged in one piece, as usual, consist of a stationary or main portion, 1, extending from the shank and of a pivot-section, 2, secured thereto by a pin-bolt, as at 3. The pivot-section 2 has downwardly-curved extensions 4, which embrace the main standard 1, and at its front is formed into a solid head which bears firmly and squarely upon the end of standard 1. At the lower ends of curved extensions 4 are semi-circular notches or seats 5, which, when the pivot-section 2 is down in place upon the main standard, come directly above and serve as housings for the cut-away lock-bolt 6. This lock-bolt 6 has its bearing in a perforation through the shank of main standard 1, and near its outer ends is cut away, as shown, so that in one position the bolt will rest in and against the seats 5, securely dogging the section 2 from turning about its pivot-bolt 3, whereas, if said lock-bolt 6 be shifted or rotated in its bearings so that the cut-away of lock-bolt 6 shall be about flush or even, then the curved extensions 4, being no longer dogged, will rise clear and away about pivot-pin 3, and the section 2 will open from its seat against main standard 1. To accomplish this shift in position of lock-bolt 6, there are crank-arms 7 set rigidly on the ends of said bolts, and loosely jointed by links 8 to a reciprocating bar, 9. The reciprocating bar 9 may be conveniently sustained at its ends in bearings formed by slots in the shanks 10 of the eyebolts, said bar extending from stem to stern along the bottom of the boat. About amidships a hand-lever, B, is placed, fulcrumed, as at 11, in suitable eye-bearings, and joined pivotally by links 12 to the reciprocating bar 9. When the hand-lever B is down close against the bar 9, the parts

are in position shown by drawings, Figs. 1, 4, 5, so that the lock-bolts 6 are turned in place to effectually dog the extensions 4, and pivot-section 2 of the eyebolt is accordingly held in closed position against the end of main standard 1. It is plain that with pivot-section 2 thus securely locked the eyebolts can, as usual, be employed to make fast to the hooks, links, &c., of the davit-falls. The boat being suspended by the falls, and it being desired to at once release the same both at bow and stern, the operator amidships merely raises the hand-lever B, thereby reciprocating the bar 9 and rotating lock-bolt 6 in its bearings so far that the notches 5 are no longer in engagement with the cut-away portions of said lock-bolt 6, at which juncture the pivot-sections 2, or rather their curved extensions 4, being no longer dogged by the lock-bolt 6, are impelled to rise about the pin 3 by the weight of the boat, and at once allow the retaining hooks or links of the davit-blocks to slip away, thus releasing the boat simultaneously at both bow and stern. The weighted or solid head of pivot-section 2 overbalances the extensions 4 of said section, so that immediately the release of the boat has been effected said section returns to its normal position against the main standard 1 in readiness to be dogged by shifting hand-lever B again to its first position. By constructing the eyebolt in manner described it retains all of its recognized advantages over an open hook from off of which a boat may sometimes work, and has none of the defects of set-pins, trip-levers, &c., which have been heretofore employed in boat-detaching apparatus. The dogging mechanism is secure from interference, and is easily and quickly operated at the will of one man.

Many modifications of the device will suggest themselves to the skilled mechanic, and which are equally within the spirit of the invention. Thus, in lieu of the reciprocating shaft 9 there may be a rock-shaft, 15, running along the side of the boat from end to end, and having secured rigidly thereto the operating-arm 16 and crank-arms 17. These latter will be joined, as shown, Fig. 2, to pivot-links 8, and these in turn to crank-arms 7, precisely as already detailed. It will be noted that in such form the eyebolts are turned at right angles to the first position described, and open athwart the boat instead of lengthwise therewith, as before. The operation, however, and the structure of the eye-

bolts A, remain unchanged, the only distinction being as to the special means by which the dogging and undogging of curved extensions 4 is effected—in one instance by a reciprocating, and in the other by a rotary, movement of the actuating-shaft. Since the curved extensions 4 rise to a circle about pivot-bolt 3, it will be noted that cut-away portions of dogging-bolt 6 are arranged with respect thereto in such wise as to offer no obstruction, the extensions swinging clear above said cut-aways.

The detaching devices may be operated quite as well from nearer the ends as amidships, and by any other than the special kind of hand-lever shown.

Not limiting myself, therefore, to the precise details of structure hereinbefore set forth, and having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An eyebolt consisting in the combination, with the main standard, of the pivot-section provided with a curved extension and of a rotating lock-bolt journaled in said main standard and directly engaging the curved extension, to dog the pivot-section in closed position, substantially as described.

2. The combination, with the main standard 1 and with the pivot-section 2, having curved extension 4, of the rotating lock-bolt 6, journaled in said main standard, and provided with a cut-away to engage the notch or seat 5 of said extension, substantially as described.

3. The combination, with main standards 1 and pivot-sections 2, having curved extensions 4, of the rotating lock-bolts 6, journaled in said standards and directly engaging said curved extensions, and intermediate mechanism, substantially as described, whereby said lock-bolts may be shifted in unison, substantially as set forth.

4. The combination, with the eyebolts A, each consisting of a main standard, 1, and pivot-section 2, having curved extension 4, of the rotating lock-bolts 6, engaging said curved extensions, the crank-arms 7, and the reciprocating bar 9, joined pivotally thereto, substantially as described.

HICKMAN E. FOSTER.

Witnesses:

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GEO. P. FISHER, Jr.