

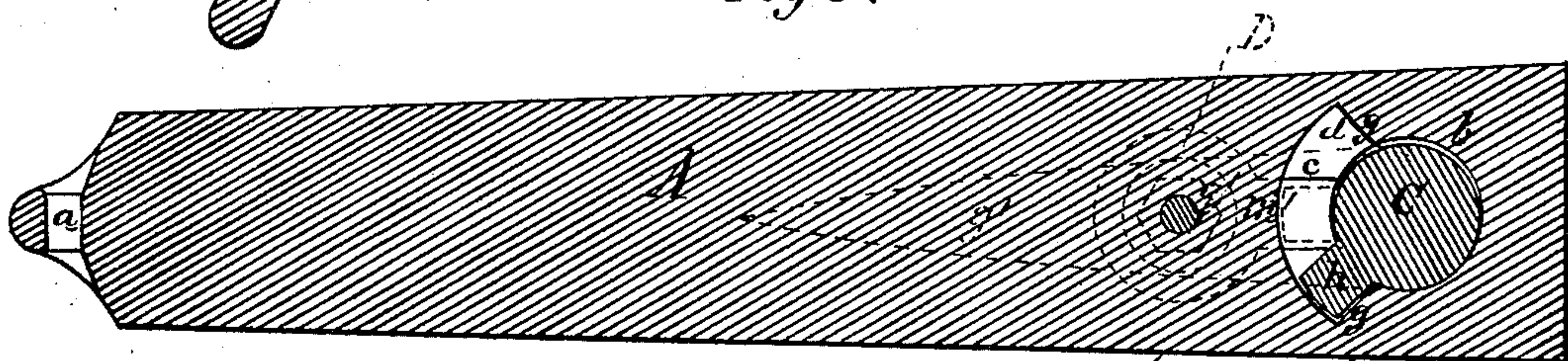
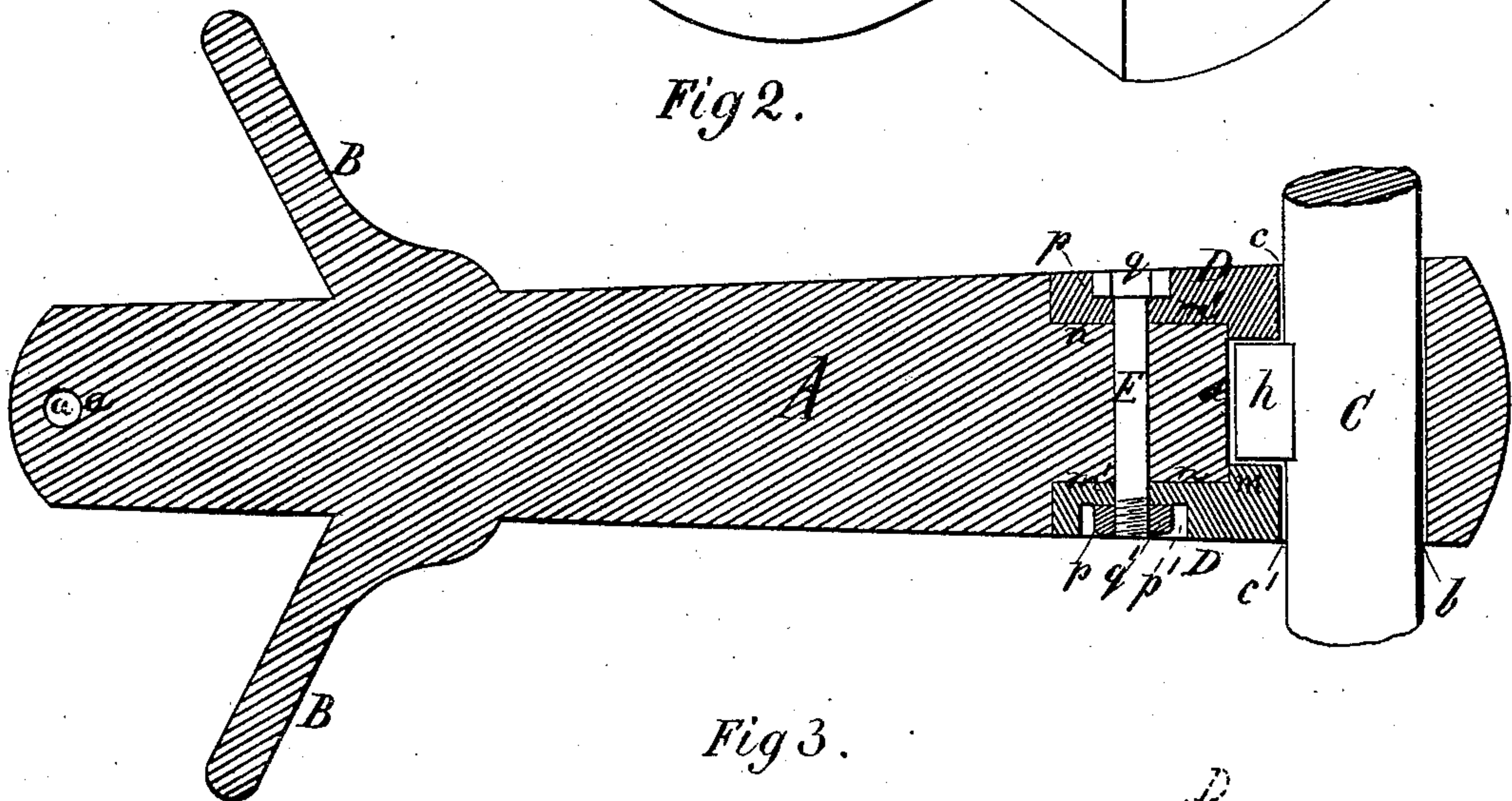
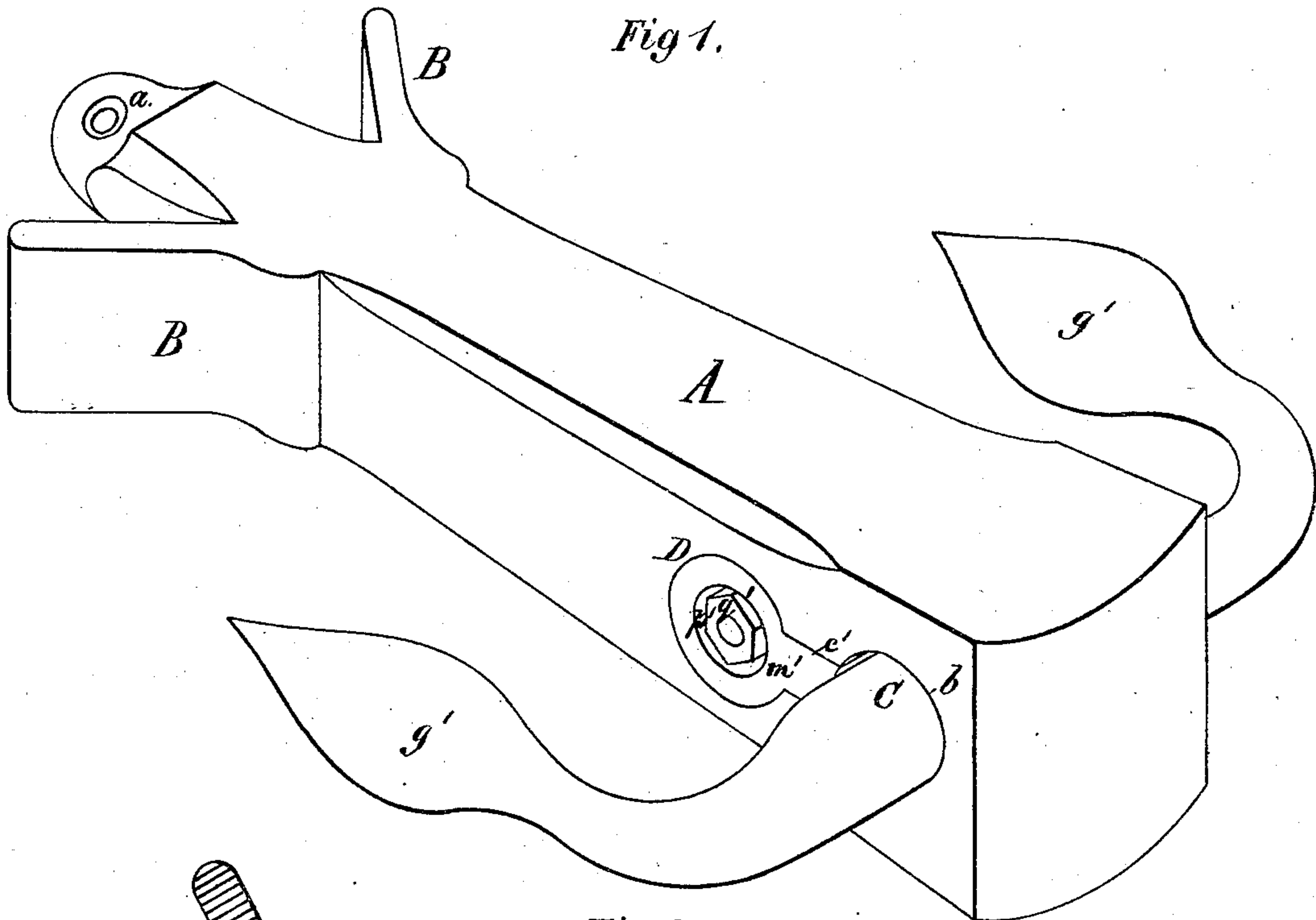
(No Model.)

D. URCH.

ANCHOR.

No. 245,984.

Patented Aug. 23, 1881.



Witnesses:
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UNITED STATES PATENT OFFICE.

DAVID URCH, OF PORTSMOUTH, NEW HAMPSHIRE.

ANCHOR.

SPECIFICATION forming part of Letters Patent No. 245,984, dated August 23, 1881.

Application filed May 3, 1881. (No model.)

To all whom it may concern:

Be it known that I, DAVID URCH, a citizen of the United States, residing at Portsmouth, in the county of Rockingham and State of New Hampshire, have invented a new and useful Improvement in Ships' Anchors, of which the following is a specification.

My invention relates to the well-known style of anchor which has its flukes arranged to oscillate in the shank, such oscillation being in extent about one-quarter of a revolution, (more or less,) and controlled by lugs on the arm carrying the flukes and by stops on the shank. Anchors of this description I have improved by providing them with angular plates of peculiar construction, and held in position by a strong bolt, in combination with the arm carrying the flukes, and having a single projecting lug, which works in a segmental recess within the shank of the anchor, and is limited in its movement by coming in contact with the end walls of the said recess, said walls within the shank taking the place of stops outside the shank on other anchors with oscillating flukes. My combination is such that long flukes can be passed through the shank, and the arm carrying the flukes is set securely in the body of the shank and forward of its rear solid end, and there are no outside projections for the rope or other devices to hang upon and thereby foul the anchor by getting between the lugs and stops, so as to prevent the flukes operating, the lug and stops being concealed and invisible. I also have improved the anchor by making its shank of one solid casting which has a flat bottom and top, and with lateral oblique wings which are flush at top and bottom with said casting at top and bottom. This construction secures a flat bearing for the shank and for its steadying-wings when the anchor is resting upon the bed of a river, while the chain can glide freely off the oblique wings.

In the accompanying drawings, Figure 1 is a perspective view of my improved anchor complete. Fig. 2 is a horizontal section of the shank and confining-plates, and a top view of the arm and stop-lug, the flukes being broken off; and Fig. 3 is a vertical central section of Fig. 1, the flukes being shown by dotted lines in a horizontal position, and in full black lines in position for penetrating the bed of a river.

The anchor-body A, usually termed the "shank," is formed of one solid casting. This casting has a flat top and bottom, and at its front end the usual eye, *a*, for the rope or chain is provided. Near this eye an oblique wing, B, is formed on each side of the shank. These wings are just as wide as the shank at the point where they are cast upon it—that is, the top and bottom of the wings are flush with the top and bottom of the anchor-shank, and thus a very broad and firm bearing upon the bed of a river is secured for the shank, and there is no chance for the rope or chain to pass under the shank, or to hang upon the oblique wings when it is being drawn in to secure a hold for the flukes of the anchor in the bed of a river. Near the rear end of the shank a round passage, *b*, is cast in the shank, and this passage, on its front side, is extended by forming rectangular slots *c c'* in the shank, said slots extending from the sides of the shank and terminating in a segmental recess, *d*, which terminates at top and bottom and forms stop-shoulders *g g*, as shown.

On the arm C, carrying the flukes *g' g'*, a single stop-lug, *h*, is provided, said stop-lug being placed centrally of the arm C, and occupying a place in the recess *d* and within the shank A. This lug plays between the stop-shoulders *g g*, and has its movement up and down limited by said stop-shoulders. This provision for a movement of the lug within the shank enables the flukes to oscillate, and thereby assume a position which insures either a penetration of their points into the bed of a river or the reverse thereof. There is nothing new in this oscillatory movement of the flukes, and it is only an improved concealed or invisible means for securing such movement which I regard as my invention in this respect.

By having the hole or passage *b* and the slots *c c'* extend from side to side of the shank an arm, C, with very long flattened or tapering flukes, such as shown in the drawings, can be passed through the shank. This is a very desirable feature, as it is necessary to have an anchor with flukes long enough to take a firm hold in the bed of a river.

For fastening the arm C and its flukes *g' g'* in the shank an angular plate, D, is provided on each side of the shank. The transverse

or angular portions *m* of these plates just fit the slots *c c'*, and these portions enter these slots and abut nearly against the ends of the stop-lug *h*, as shown, while the longitudinal portions *m'* fit into countersinks *n*, cast in the sides of the shank. The plates are cast with countersinks *p p'*, for the reception of a head, *q*, and a nut, *q'*, of the retaining-bolt *E*, which holds the plates firmly in the countersinks of the shank, as shown. The plates thus constructed and applied prevent the arm *C* and flukes *g' g'* from having longitudinal movement in the shank, while by their use the lug can be rendered invisible or concealed, and no offsets or projections of any kind are presented to any object which might tend to hang upon the arm *C* or shank *A*, so as to foul the anchor and prevent its operating, as in other anchors having the arm in the body of the shank, the lugs and stops outside the shank, and its flukes arranged to oscillate.

In those anchors where lugs and stops are employed outside the shank for the purpose of limiting the extent of the oscillatory movement of the flukes, there is a liability of sticks, stones, or other objects getting between the lugs and stops, and thereby preventing the flukes moving so as to firmly penetrate into the bed of a river; and in one instance, where the lug has been placed in an extension of the shank in rear of the arm of the flukes, this extension has been formed with a large opening at its ends, into which sticks or stones could enter and stop the movement of the lug.

In small anchors for use on boats and light "craft," the concealed stops and lug in my an-

chor possess a great advantage, as in such cases anchors are handled with the hands, and there is great danger in other oscillating fluke-anchors of jamming the fingers or hands between the lugs and stops whenever an attempt is made to throw the anchors overboard, or to raise them in over the side of the boat, and very often serious injuries from this cause are experienced. With my construction there is no possibility of such accidents occurring.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The shank *A*, cast with its bottom and top flat, and with oblique wings *B*, whose top and bottom are flush with the top and bottom of the shank, and also cast with a round hole or passage, *b*, rectangular slots *c c'*, and a segmental recess, *d*, which terminates in shoulders *g g*, in combination with an arm, *C*, carrying a lug, *h*, and flukes *g' g'*, and with retaining side plates, *D D*, substantially as and for the purpose described.

2. The anchor-arm *C*, carrying flukes *g' g'*, provided with a central lug, *h*, which vibrates with it and is entirely concealed by being fitted within a segmental recess, *d*, which terminates in stop-shoulders *g g*, for the lug to strike against, said recess being in the shank and forward of the anchor-arm, and closed at the sides of the shank of the anchor by plates *D D*, held in place by a bolt, *E*, substantially as and for the purpose described.

DAVID URCH.

Witnesses:

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