

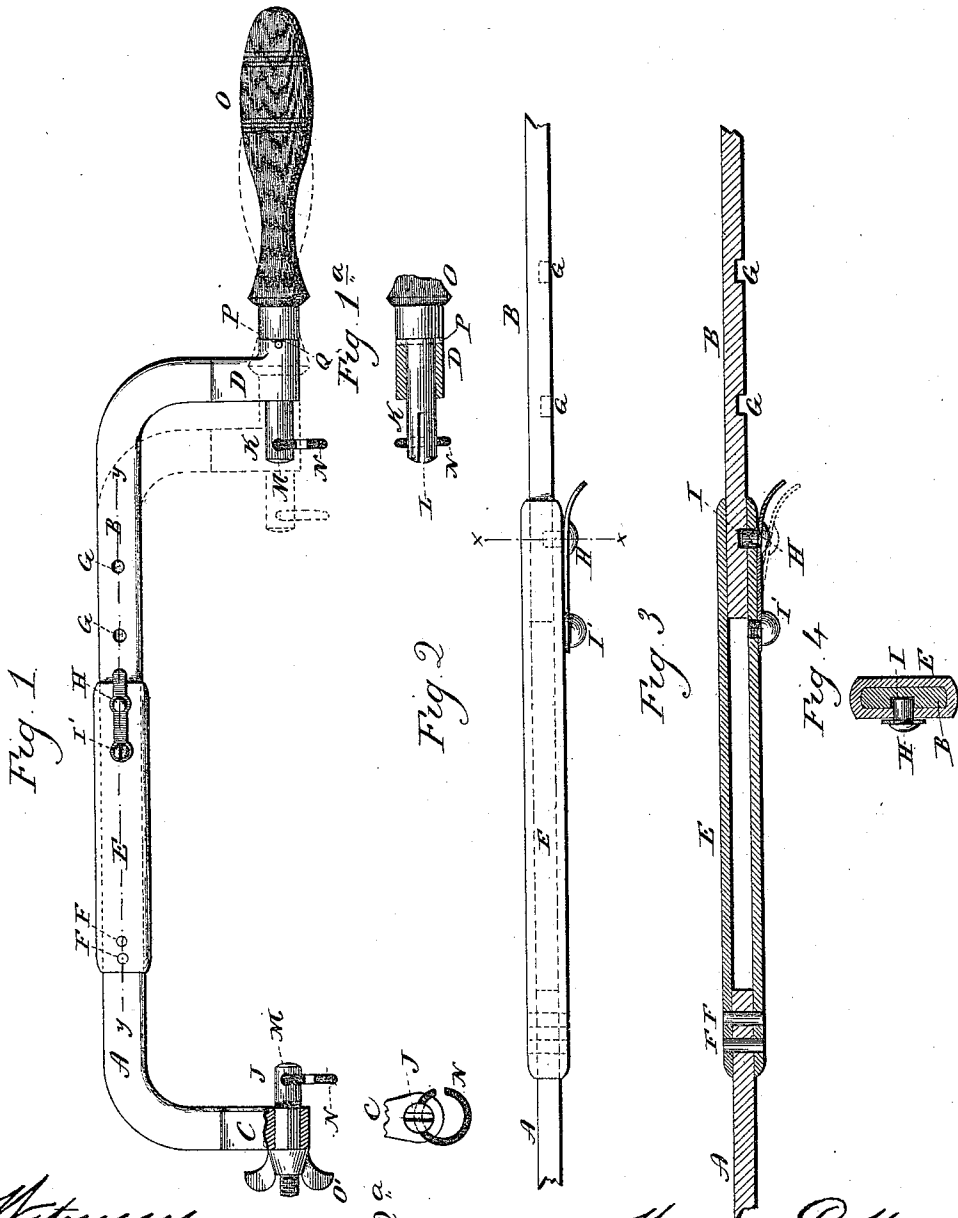
(No Model.)

W. C. MARSTON.

EXTENSION HACK SAW FRAME.

No. 440,174.

Patented Nov. 11, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

WARREN C. MARSTON, OF MILLER'S FALLS, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO ROBERT H. AUSTIN, OF NEW HAVEN, CONNECTICUT.

EXTENSION HACK-SAW FRAME.

SPECIFICATION forming part of Letters Patent No. 440,174, dated November 11, 1890.

Application filed September 30, 1889. Serial No. 325,483. (No model.)

To all whom it may concern:

Be it known that I, WARREN C. MARSTON, of Miller's Falls, in the county of Franklin and State of Massachusetts, have invented new Improvements in Extension Hack-Saw Frames; and I do hereby declare the following, when taken in connection with accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in side elevation of my improved hack-saw frame with one of its shortened adjustments indicated by broken lines; Fig. 1^a, a detached view, partly in section and partly in plan, showing the handle-stud and one of the rings mounted therein; Fig. 2, an enlarged broken plan view of the frame, showing the flattened socket and the inner ends of the two curved frame-pieces; Fig. 2^a, a view in inside elevation of the screw-stud with the ring mounted therein; Fig. 3, a similar view to Fig. 2 in longitudinal section on line *yy* of Fig. 1; Fig. 4, a transverse section on line *xx* of Fig. 2.

My invention relates to an improved extensible hack-saw frame, the object being to provide for the extension of the frame without the removal of any parts or the use of a screw-driver, and to furnish the frame with a coupling device for the saw, which may be shifted to present a new bearing each time the saw is changed.

With these ends in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

As herein shown, the frame proper consists of two curved frame-pieces A and B, formed of flat bar-steel, and respectively provided with bearings C and D, and of a tubular socket E, rigidly secured by rivets F F to the frame-piece A, which it receives, and adapted in its interior dimensions to snugly receive the longer leg of the frame-piece B, the said leg being provided in one of its faces with a series of shallow pockets G, adapted to receive the inner end of a stud H, projecting into the interior of the socket through a hole I formed therein, and secured to a spring at-

tached to the socket by means of a screw I', and having its outer end extended beyond the edge of the socket and bent so as to be readily engaged by the finger for lifting the stud away from engagement with the movable frame-piece.

It will be readily understood that under the construction just described the saw-frame may be lengthened or shortened by moving the longer leg of the movable frame-piece out of or into the socket with which it is coupled when the desired adjustment has been secured by means of the stud carried by the spring.

The bearings C D before mentioned are bored out to receive studs J and K, located directly opposite each other, and each provided with a longitudinal slot L and a perforation M, which passes through the slot at a point about midway of the length thereof. Open rings N N, constituting the saw-retaining devices of my improvement, are mounted in the inner ends of the said studs through the perforations M, in which they are free to be rotated. To secure a saw-blade to the frame, the rings are rotated to bring their openings into line with the slots of the studs. The ends of the saw, which are perforated, are then inserted into the slots and the rings again rotated to pass through the perforations in the ends of the saw and to carry their openings out of alignment with the slots. The saw is then placed under the required tension by turning the thumb-nut O', located at the outer end of the stud J. The stud K, which has free endwise and rotary movement in its bearing D, is provided at its outer end with a handle O and close to the ferrule of the said handle with a pin P, the projecting ends whereof enter notches Q, formed in the outer end of the said bearing and co-operating with the pin to lock the stud and bearing together in any of the four positions in which the saw may be set. For the same purpose the stud J is squared where it enters the bearing C and is reset to conform to the adjustment of the rotatable stud K.

The described provision for the rotation of the studs I do not, however, claim as my invention.

The specified construction of the frame

makes its extension easy and convenient without the use of a screw-driver, and when extended it is very stiff. The saw-retaining rings by being rotatable in the studs may be
5 shifted so as to frequently present a new bearing to the saw-blade, and are thus prevented from being cut out, as are staples and pins in which the bearing of the blade always falls upon the same point.

10 What I claim is—

1. An extensible hack-saw frame having two bowed frame-pieces located opposite and in line with each other, a flattened tubular socket extending in line with the frame and
15 having one of the frame-pieces entered into one of its ends and rigidly secured therein and the other frame-piece movably entered into its other end, and a coupling device for locking the movable frame-piece in different
20 positions in the said socket, substantially as described.

2. A hack-saw frame having two curved

frame-pieces and a flattened tubular socket having one of the frame-pieces entered into one of its ends and rigidly secured therein 25 and the other frame-piece movably entered into its other end, and a spring secured to the socket and provided with a stud projecting into the interior thereof through an opening therein and entering shallow pockets formed 30 in the movable frame-piece, substantially as described.

3. The combination, with a hack-saw frame, of two slotted and perforated studs to respectively receive the opposite ends of the saw- 35 blade, and two open rings respectively mounted in the perforations of the said studs and rotatable therein to present new wearing-surfaces to the saw-blades which they are hooked into, substantially as described.

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Witnesses:

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