

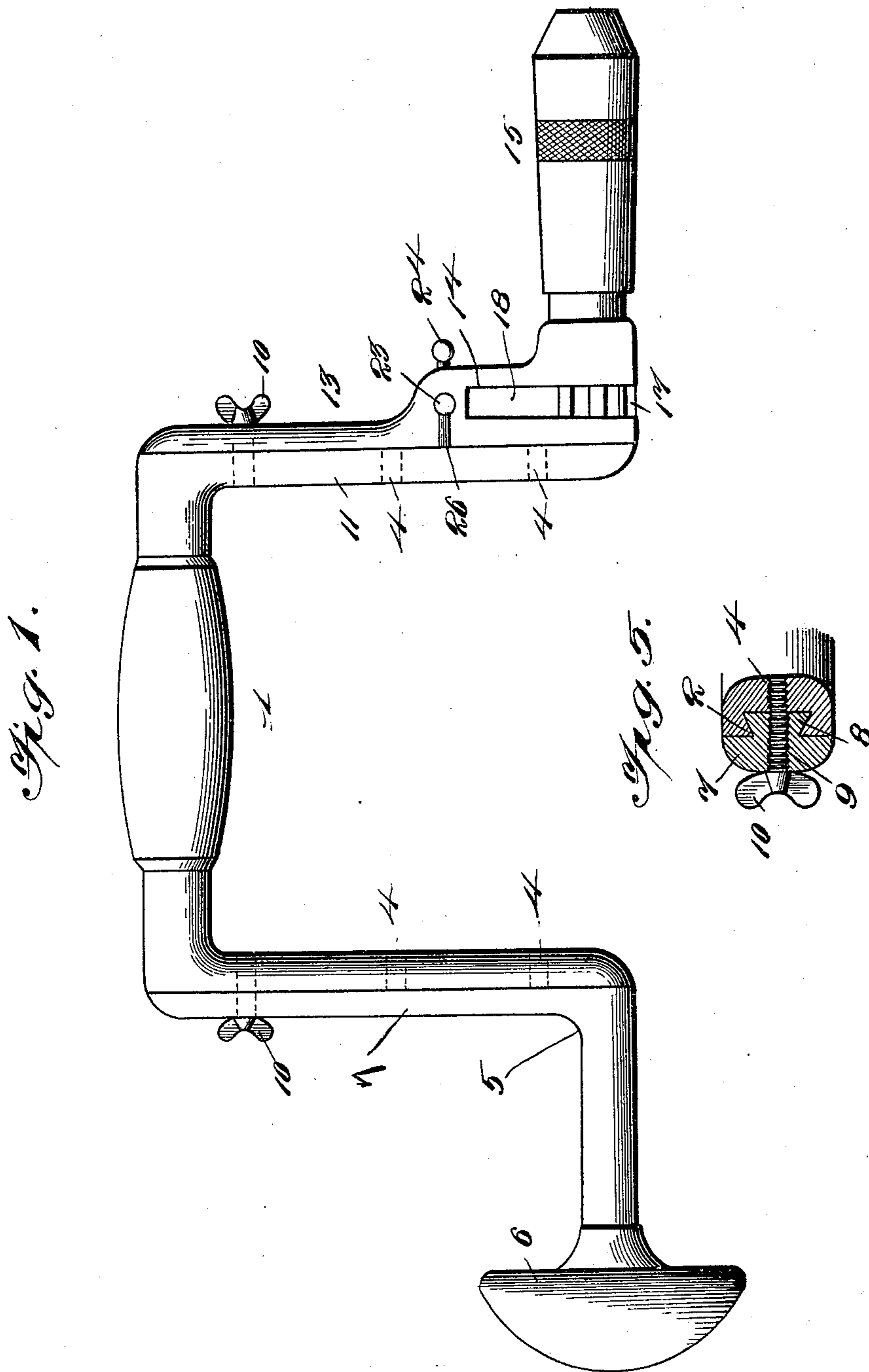
(No Model.)

2 Sheets—Sheet 1.

H. H. QUINBY.
RATCHET BRACE.

No. 587,232.

Patented July 27, 1897.



WITNESSES
J. J. Loeuth.
J. P. Pablen.

INVENTOR
Harris H. Quinby,
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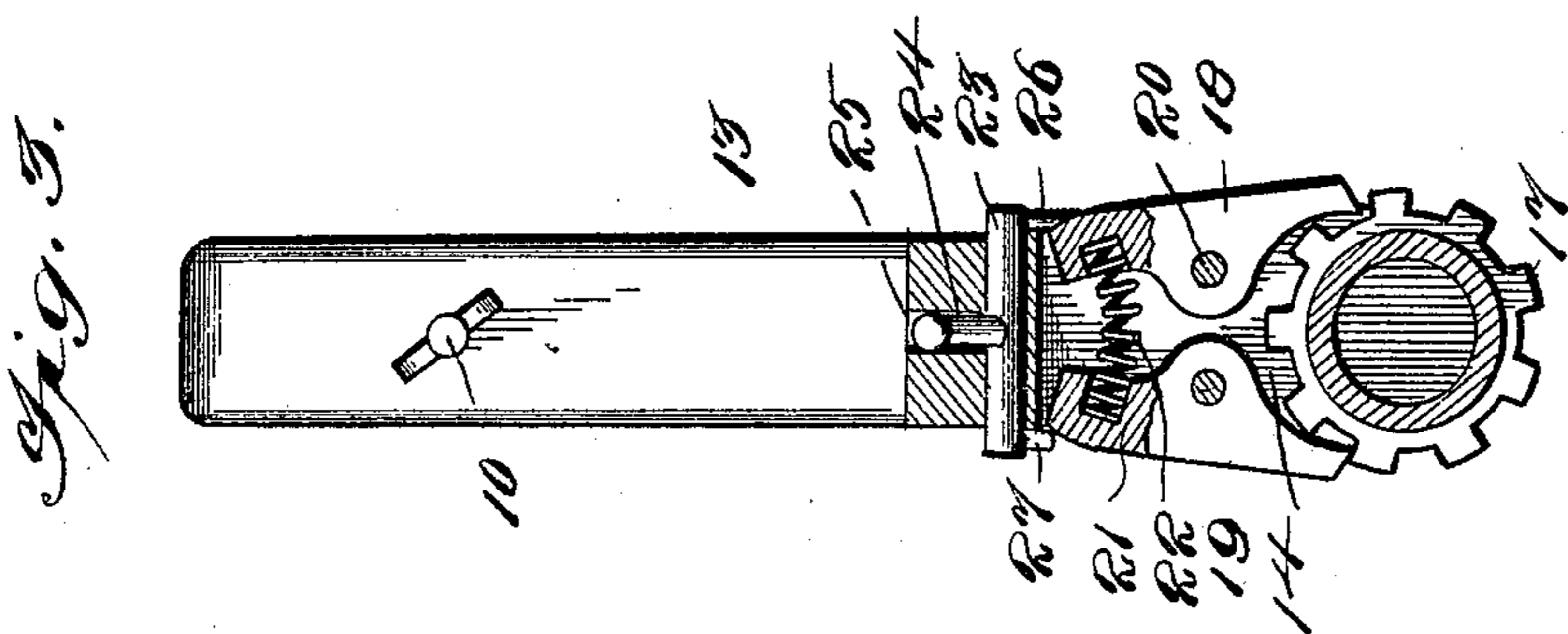
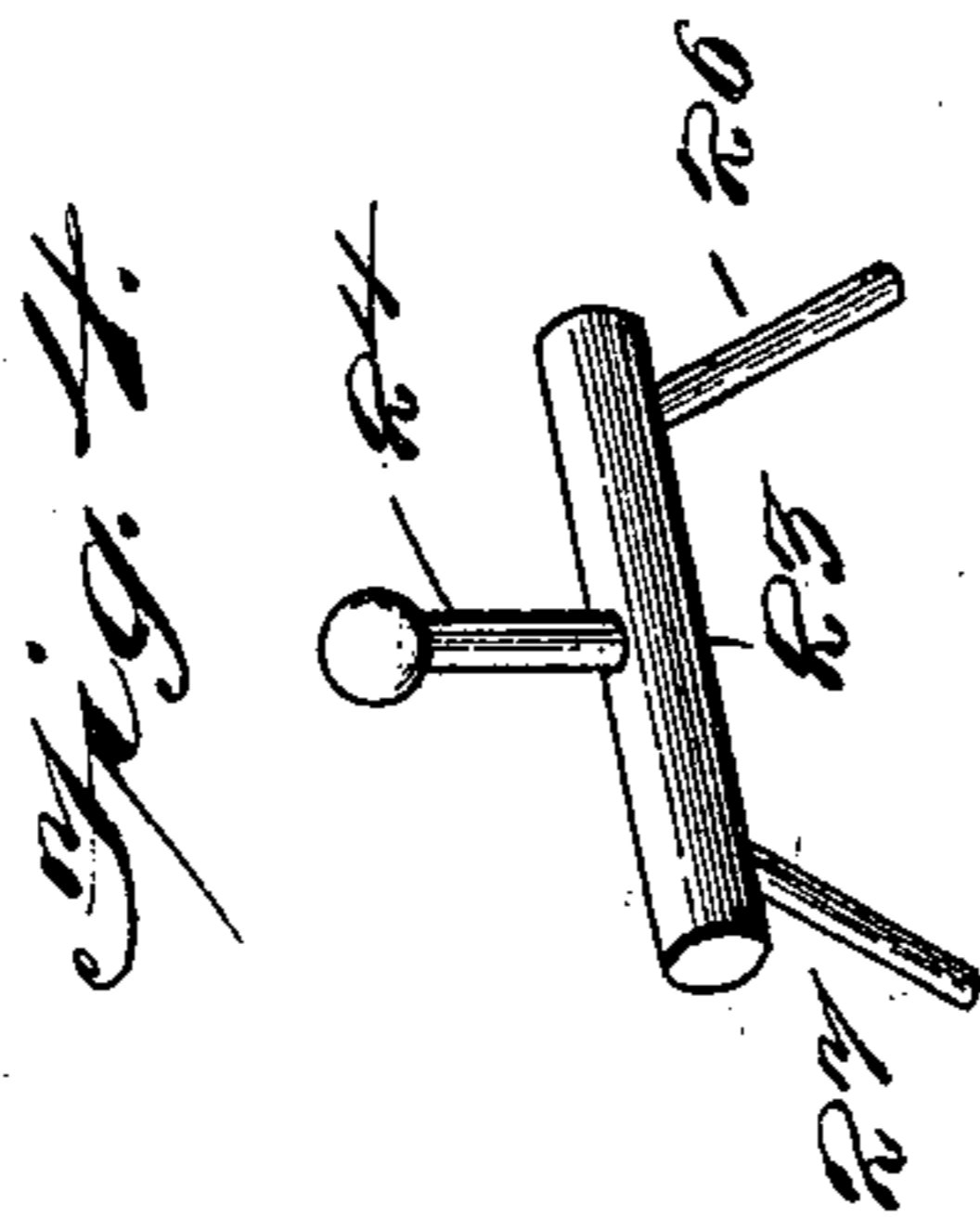
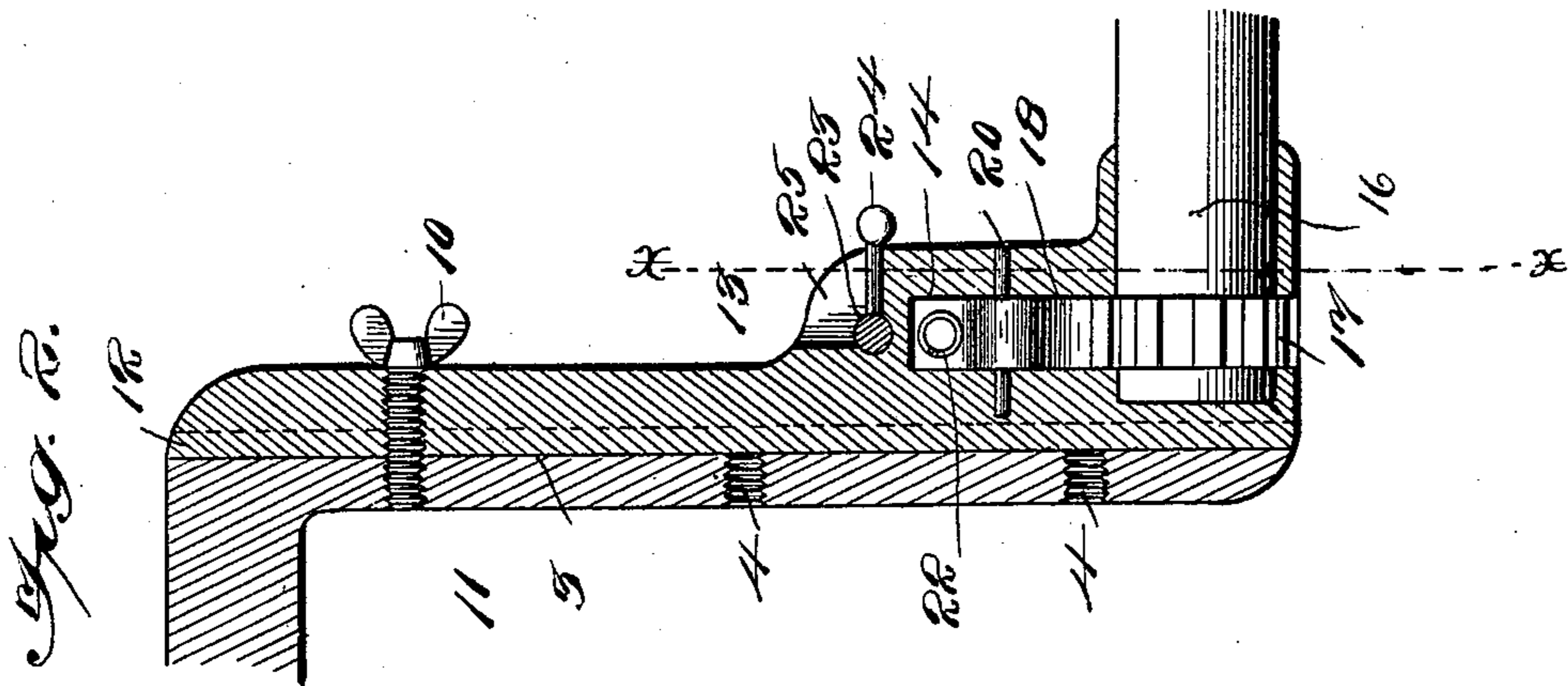
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WITNESSES
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UNITED STATES PATENT OFFICE.

HARRIS H. QUINBY, OF SOUTH OMAHA, NEBRASKA.

RATCHET-BRACE.

SPECIFICATION forming part of Letters Patent No. 587,232, dated July 27, 1897.

Application filed November 17, 1896. Serial No. 612,432. (No model.)

To all whom it may concern:

Be it known that I, HARRIS H. QUINBY, a citizen of the United States, residing at South Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Ratchet-Braces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to ratchet-braces.

My object is to provide a brace of the ratchet type which will be provided with simple and improved means adapted for cooperation with a bit-holder, whereby the latter may be turned in both directions or one direction only and well adapted to operate in a novel manner.

The invention consists of certain improved features and novel combination of parts more fully set forth hereinafter, and recited in the appended claim.

In the accompanying drawings, Figure 1 is a side elevation of my improved ratchet-brace; Fig. 2, a longitudinal section taken through one end of the sweep and the arm of the chuck-section; Fig. 3, a sectional view taken on the line *xx* of Fig. 2 and disclosing the ratchet-wheel, the pawls, and the locking-catch for the latter; and Fig. 4, a perspective detail view of the locking-catch. Fig. 5 is a detail transverse section of one arm of the sweep.

The center piece of the sweep is shown at 1, this being in the shape of the letter U. Its legs are provided with dovetailed guide-grooves 2 and 3, and each leg has a number of screw-threaded openings 4.

The numeral 5 designates a right-angular handle-section which carries the usual rotatable head-piece 6. The leg 7 of said handle-section is provided with a dovetailed tenon 8, which is adapted to slide in the groove 2. Said leg 7 has a screw-threaded opening 9. 10 designates a clamping-screw passing through this opening, and it is adapted for reception in any one of the openings 4. The chuck-section 11 is also provided with a dovetailed tenon or key 12, adapted to slide in the groove or seat 3. This chuck-section is provided with a head 13, which is slotted at 14. A chuck 15, of any preferred form, is em-

ployed, and it is provided with a portion 16, which is journaled in the head.

The numeral 17 designates a ratchet-wheel which is secured to the portion 16. I find it advantageous to provide this ratchet-wheel with nine teeth or cogs instead of eight, as commonly employed, for the pawls or dogs now to be described better coact with a wheel of this number of teeth. There are two locking-pawls 18 and 19, which are pivoted on respective pins 20 and 21 and lie for the main part in the slot 14.

The numeral 22 designates a coil-spring which presses against the heels of the pawls and tends to throw their toes normally in engagement with the ratchet-wheel on opposite sides of the latter.

At 23 I have shown a spindle which is journaled in the head 13. This spindle is provided with a handle 24, which works in a slot 25 in said head, and it carries on its opposite outer end locking catches or pins 26 and 27, which project from the spindle at right angles to each other. It will thus be seen that when the handle is in proper position neither locking pin or catch will be in engagement with a pawl, and hence the chuck will be locked and can be turned by the brace in either direction. If the handle is turned in one direction from this point, one of the pins will be brought into engagement with one of the pawls and throw the toe of the latter out of engagement with the ratchet-wheel, so that the chuck can be turned in one direction only. If the handle is turned in an opposite direction, the other pawl will be released, and the chuck can be turned in an opposite direction only.

By releasing the clamping-screw the center piece of the sweep can be slid either in or out, so that the size of the sweep can be varied and a greater or less leverage obtained. As the sweep is lengthened the brace can be operated more easily. The screws can then be reapplied, and the sweep will be secured in adjusted position.

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

In a brace, the combination with a sweep, of a chuck or bit-holder journaled therein, a ratchet-wheel connected to the bit-holder,

pivoted pawls adapted for engagement with the ratchet-wheel on opposite sides thereof and having cam-surfaces on their heels, a spring interposed between the heels and the
5 pawls, a rotatable spindle extending transversely of the pawls and having a straight handle projecting therefrom, and independent locking-pins projecting from the spindle at right angles thereto and disposed at right
10 angles to each other, one locking-pin being

adapted to engage with the cam of one pawl when the other locking-pin is disengaged from the remaining pawl.

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

HARRIS H. QUINBY.

Witnesses:

H. M. CHRISTIE,
A. D. NELSON.