

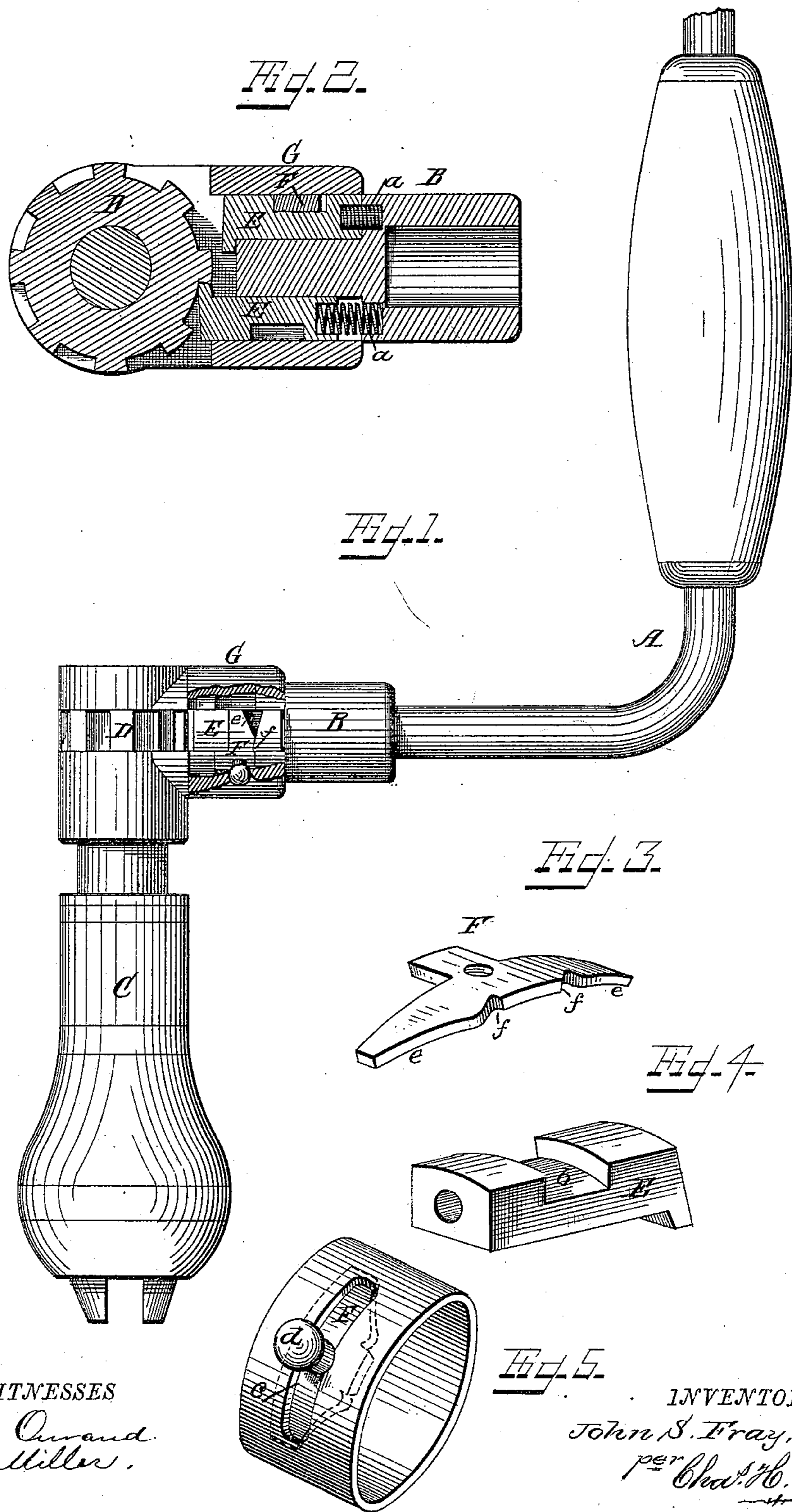
(No Model.)

J. S. FRAY.

BIT STOCK.

No. 300,771.

Patented June 24, 1884.



WITNESSES

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JOHN S. FRAY, OF BRIDGEPORT, CONNECTICUT.

BIT-STOCK.

SPECIFICATION forming part of Letters Patent No. 300,771, dated June 24, 1884.

Application filed March 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. FRAY, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Ratchet-Braces; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side elevation of a ratchet-brace embodying my invention, with the ring or collar partly broken away to show the relative position of the pawl and device for operating it; Fig. 2, a horizontal section taken on line *x x* of Fig. 1, and on an enlarged scale; Fig. 3, a detail, view in perspective, for operating the pawls; Fig. 4, a similar view of one of the pawls, and Fig. 5 a detail view in perspective showing a modification of my invention.

The present invention has relation to that class of ratchet-braces capable of use as a right-hand or a left-hand brace by means of a device acting in conjunction with two pawls, whereby either may be brought in engagement with the ratchet, or both held from contact therewith, as desired.

The object of the invention is to provide a simple and easily-operating device for actuating the pawls for the purpose above set forth, which object I attain by the construction substantially as shown in the drawings, and hereinafter described and claimed.

In the accompanying drawings, A represents a portion of the stock of a brace suitably connected to the head B, and C the device for gripping the bit or other tool, said device being mounted on the usual spindle carrying the ratchet-wheel D. The head B has recesses diametrically opposite each other, in which are seated sliding pawls E—one a left-hand and the other a right-hand pawl. These pawls may be of an desirable construction, and are forced outward in engagement with the ratchet-wheel by suitable springs, preferably spiral springs *a*, arranged as shown in Fig. 2. The pawls E upon their outer face are recessed, as

shown at *b*, as is also the head B, to receive a cam-actuating device, F, suitably connected to the inner side of a movable ring or collar, G. The device F, I shall term a "double-cam device," as it has inclined planes or cam-faces *e* at both extremities, and also shoulders or stops *f*. The device is carried to either the right or left by the ring or collar when it is moved in the proper direction, the cam end of the device entering the recess *b* in the pawl, and drawing the same from engagement with the ratchet-wheel, leaving the opposite pawl free to be actuated by the spring and forced outward in contact with the ratchet-teeth. It will therefore be seen that by moving the ring or collar in either direction its greatest extent one of the pawls will be acted upon by the cam device, while the opposite pawl will be acted upon by the spring, the latter only engaging with the ratchet-wheel; but by turning the ring or collar so that neither end of the cam device will be brought in operative engagement with its respective pawl, both pawls will engage with the ratchet, and is thereby prevented from turning in either direction. The shape of the cam device F is such that when carried full to the right or left the pressure of the spring *a* tends to prevent the ring from turning back, and thus allowing the pawl to again engage until turned by hand.

In place of a movable ring or collar, a stationary band, H, may be employed, or other equivalent means, which has an elongated slot, *c*, through which passes a knob, *d*, secured to the cam device F, thereby enabling the device to be moved without moving the band.

I desire it understood that the particular means shown for operating the double-cam device is not essential, as any suitable means may be substituted without departing from the principle of my invention, the main and important feature of the invention being the double-cam device adapted to slide in either direction to engage with one or the other of the pawls.

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

In a ratchet-brace, the combination, with
two sliding pawls, arranged opposite each
other, and having recesses upon their outer
sides, of a cam-actuating device consisting of
5 a plate having at each end an inclined plane
adapted to engage with the recesses of the
pawls, substantially as and for the purpose set
forth.

In testimony that I claim the above I have
hereunto subscribed my name in the presence of
two witnesses.

JOHN S. FRAY.

Witnesses:

J. B. LOBDELL,
JOSEPH T. FRAY.