

(No Model.)

W. H. McCOY.
JAWS OF BIT BRACES AND TOOL HOLDERS.

No. 421,420.

Patented Feb. 18, 1890.

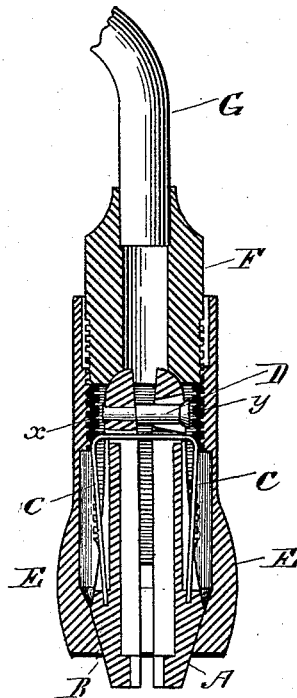


FIG. 1.

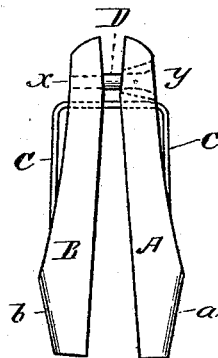


FIG. 2.

WITNESSES

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his atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. MCCOY, OF ERVING, MASSACHUSETTS, ASSIGNOR TO THE
MILLER'S FALLS COMPANY, OF SAME PLACE.

JAWS OF BIT-BRACES AND TOOL-HOLDERS.

SPECIFICATION forming part of Letters Patent No. 421,420, dated February 18, 1890.

Application filed October 28, 1889. Serial No. 328,469. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. MCCOY, of Erving, in the county of Franklin and State of Massachusetts, have invented a certain
5 new and useful Improvement in Jaws of Bit-Braces and Tool-Holders, of which the following, taken in connection with the accompanying drawings, is a specification.

Like letters of reference indicate corresponding parts.

My present invention relates to the jaws of bit-braces and similar tools by which said jaws more readily accommodate themselves
15 automatically to the shank of the bit or tool placed therein with the resulting advantages.

In the drawings, Figure 1 represents a sectional elevation of my improved jaws in a bit-brace of the usual construction. Fig. 2 is an elevation of the jaws detached.

20 In my improved jaws I make use of a spring, preferably of the form shown, and a pin, by which means the two parts of the jaws are held together, and by which, in connection with the shell of the bit-brace, the most equal
25 and perfect adjustment of the jaws upon the bit or tool-shank placed between the jaws is always maintained.

In the drawings, A B are the jaws; C, the spring; D, the pin; E, the shell of the bit-brace; F, the seat, into which the lower end
30 of the jaws rest, and upon the outside is screwed the shell.

G is the brace proper, and to it is secured the seat F.

35 I am aware that various sorts of springs have been used in combination with the jaws; but I do not know of any which acts as my form of spring does; neither am I aware of any spring operating upon the jaws in combination with the pin D, as shown. The spring
40 that I preferably use in this invention is of the general form shown in Fig. 2. The spring C is secured to and near the outer end of the jaws, as indicated in Fig. 1, one end of the
45 spring being secured to jaw A and the other end to jaw B, the intermediate part of spring passing up on the outside of the jaws and through the jaws near the pin D. The form of the spring is clearly shown in drawings.

50 Near the inner end of the jaws A and B, I place the pin D. I preferably secure the pin

tightly to one jaw, as shown at *x*, Fig. 1, while the other end of the pin is secured loosely to the other jaw by a swelling or head formed on the end of the pin, as shown at *y*, Fig. 1. 55 This method of arranging the pin D allows of a free movement of the jaws in connection with the spring relatively to each other. It will thus be understood that when the shell E is screwed down the spring will automatically open the jaws and will hold them apart substantially parallel to each other for the reception of the bit-shank, the pin guiding the jaws and preventing endwise displacement.

In the use of jaws without a spring the 65 difficulty has been that the jaws do not readily open, and when forced open at the outer end will fall together at the other end, and will remain in this position, thus preventing the jaws from operating efficiently. In order 70 that the best results may be attained, the jaws should be arranged to close upon the bit-shank at substantially a parallel with the shape of the shank. For instance, if the shank is straight the jaws should be open equally 75 the whole length for the introduction and securing of the bit between the jaws by the action of the shell upon the bevels *a b* of the jaws A B. If the shank of the bit be tapering, the jaws will grasp the shank with strength 80 and facility. The pin, especially when arranged as described, with one jaw playing loosely upon it, while the other end of the pin is held tightly in the other jaw, holds the two jaws from end displacement and aids in 85 guiding the jaws to a proper position when opened by the spring. The spring and pin act together, as stated, upon the jaws both when the bit-shank is removed and when the shank is held firmly in place. The jaws will 90 close automatically upon any shaped shank when the shell is screwed up on the seat in the usual manner, and when the shell is screwed down (or off) the jaws automatically open, releasing the bit-shank, and remain open for 95 the introduction of the same or another bit-shank.

Any spring operating as described in connection with the pin as described would be equally within the spirit of my invention. I 100 therefore do not confine myself to the precise form of parts shown.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a bit-brace or similar tool, the shell
5 E, jaws A B, and a spring secured at one end to jaw A and at the other end to jaw B, each near the central or outer ends of said jaws, respectively, and the pin D, arranged in said
10 jaws, as described, near the inner end of the jaws, and all combined substantially as and for the purposes set forth.

2. In jaws for holding tools, a spring secured to the jaws by its ends, one end to each jaw, respectively, in combination with a pin
15 placed beneath the jointure of the ends of the spring to the jaws and near the inner end thereof, and adapted to operate said jaws, substantially as and for the purposes set forth.

3. The jaws A B, in combination with the integral spring C, secured to the jaws, so that
20 the jaws will be opened automatically the whole length, and the pin D, placed near the inner end of said jaws and below the point where the ends of said spring are secured to
25 said jaws and adapted to allow one or both jaws to move or open upon said pin by the action of said spring, all substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification, in the presence of
30 two subscribing witnesses, on this 11th day of October, A. D. 1889.

WILLIAM H. MCCOY.

Witnesses:

GEO. W. NIMS,
E. S. ELLIOT.