# L. J. Parsons,

# Bit Stock.

No. 64,444. Patented May 7, 1867.

Fig 1.

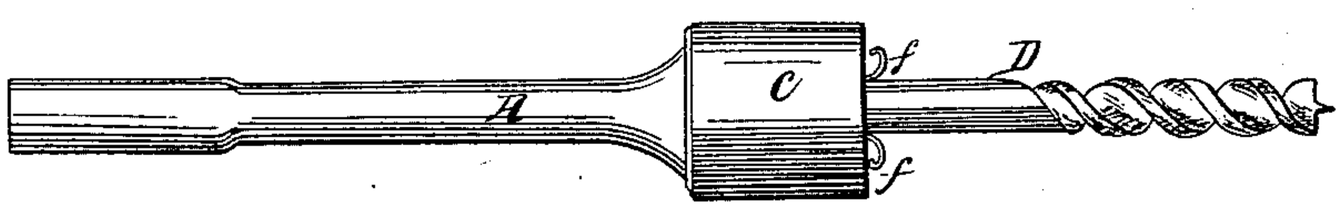


Fig 2.

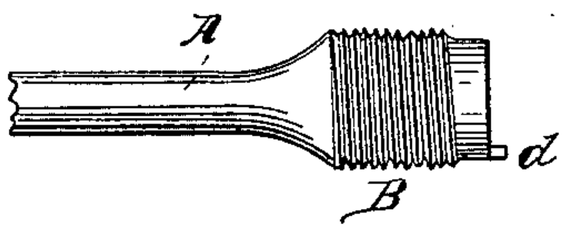


Fig 3.

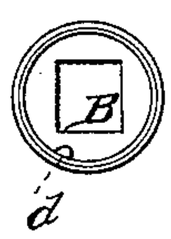


Fig 4.

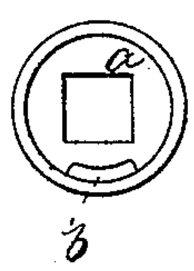


Fig 5.

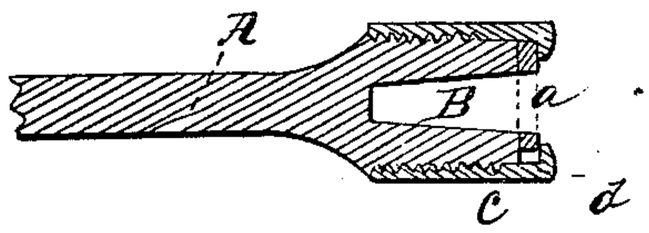


Fig 6

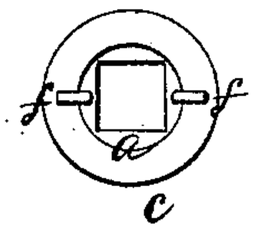


Fig 7.


Witnesses.

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Inventor.

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By his Attorney

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L. J. PARSONS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO HIMSELF AND HENRY REYNOLDS, OF SAME PLACE.

*Letters Patent No.* 64,444, *dated May* 7, 1867.

## IMPROVEMENT IN ATTACHING BITS IN BRACES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, L. J. PARSONS, of New Haven, in the county of New Haven, and State of Connecticut, have invented a new Improvement in Bit-Braces; and I do hereby declare the following, when taken in connection with the 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 side view; and in

Figures 2 to 7, inclusive, detached views.

This invention relates to an improvement in the manner of securing the bit into the brace. Braces have heretofore been made having a sleeve to screw on to the socket, and the end of the said sleeve constructed with a square opening, so that, when the sleeve was turned down on to the socket, the sides of the hole in the sleeve would cross the angles of the hole in the socket, and so that, when the bit was inserted in the brace and properly fitted thereto, the sleeve would, when turned down on to the socket, hold the bit in the brace; but to this construction a great objection exists, from the fact that it is necessary to cut the shoulders on the shank of the bit close down and flush with the end of the socket, so that, as soon as the shoulders are in the least worn away, the bit is loose in the socket. To overcome this difficulty is the object of my invention, which consists in a peculiar manner by which the sleeve is made adjustable, so as to set down upon the shoulders of the shank of the bit at any point within a limited distance from the end of the socket.

In order to the better understanding of my invention, as well as to enable others to construct the same, I will proceed to a description, as illustrated in the accompanying drawings.

A is the bit-brace; B, the socket; C, the sleeve; and D, the bit. The socket B is formed to receive the shank of the bit in the usual manner, as seen in figs. 3 and 5, and upon its external surface a thread is cut, as seen in figs. 2 and 5, and on to the said thread is fitted the sleeve C, so as to be turned freely thereon, as seen in fig. 5. The head or outer end of the sleeve is perforated with a circular hole as large or a little larger than the longest diameter of the hole in the socket, as seen in figs. 5 and 6, which forms an inwardly projecting flange on the end of the said sleeve, as seen in fig. 5. Within the sleeve I place a plate, *a*, denoted in yellow, fig. 5, and shown in an inside view in fig. 4. The said plate *a* is perforated, to correspond to the hole in the socket B; and the said plate is held to the sleeve by hooks *f*, extending up from the plate, and locking over the flange of the sleeve, as seen in figs. 1, 6, and 7, or by an equivalent device, whereby the sleeve C may move independent of the plate *a*, and so that, as the sleeve is turned from the socket, the plate *a* is also raised therefrom. Upon the end of the socket I fix a small projecting stud, *d*, and in the plate *a* I form a long notch, *b*, (see fig. 4,) which, in position, corresponds to the stud *d* on the socket, so that, when set in place, the stud *d* rests in the said notch, and prevents the plate *a* from being turned beyond the limits of the notch *b*, so that, when the sleeve is turned to raise the plate from the socket, the plate will not be turned, and yet, when the sleeve is re-turned on to the socket, the plate *a* will turn to the limit of the notch, say one-eighth around, as from the position in fig. 6 to that in fig. 7, and will be thus carried down to the socket.

This completes the construction of my invention. Its operation is as follows: First form a shoulder upon the bit a little above the end of the socket. Then turn the sleeve so as to raise the plate *a* from the end of the socket, by which turning the hole in the plate is brought to correspond in position to the hole in the socket, as in fig. 6. Then insert the bit and re-turn the sleeve. The plate *a* will be turned one-eighth around, so that the sides of the hole in the plate will cross the angles of the hole in the socket, as seen in fig. 7, and is held in that position by the stud *d*. Continue turning the sleeve until the plate *a* is brought down hard upon the shoulder on the shank of the bit, which will securely hold the bit in its place; and as the shoulders of the bit are worn away it is only necessary to turn the sleeve a little farther around. By this construction it is not essential to the successful working of the brace that the shoulders on the bit should be formed with anything of that degree of nicety required in braces in which the bit is held by a sleeve having a square opening through its head, such as I first described.

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

The combination of the plate *a* with the socket B and sleeve C, constructed and arranged so as to operate substantially as herein set forth.

L. J. PARSONS.

Witnesses:

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