

A.D. Goodell,

Bit Stock,

No 79,825,

Patented July 14, 1868.

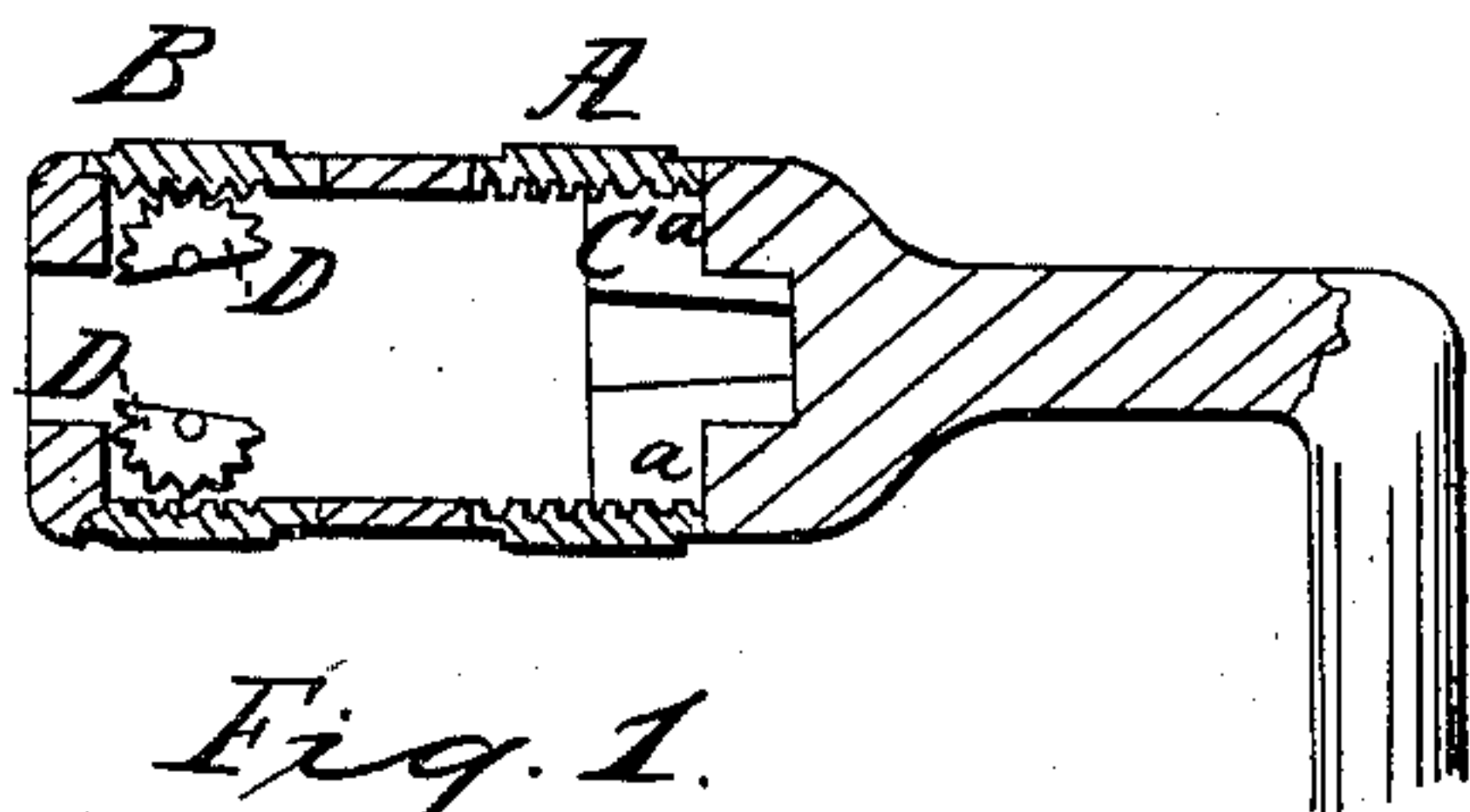


Fig. 1.

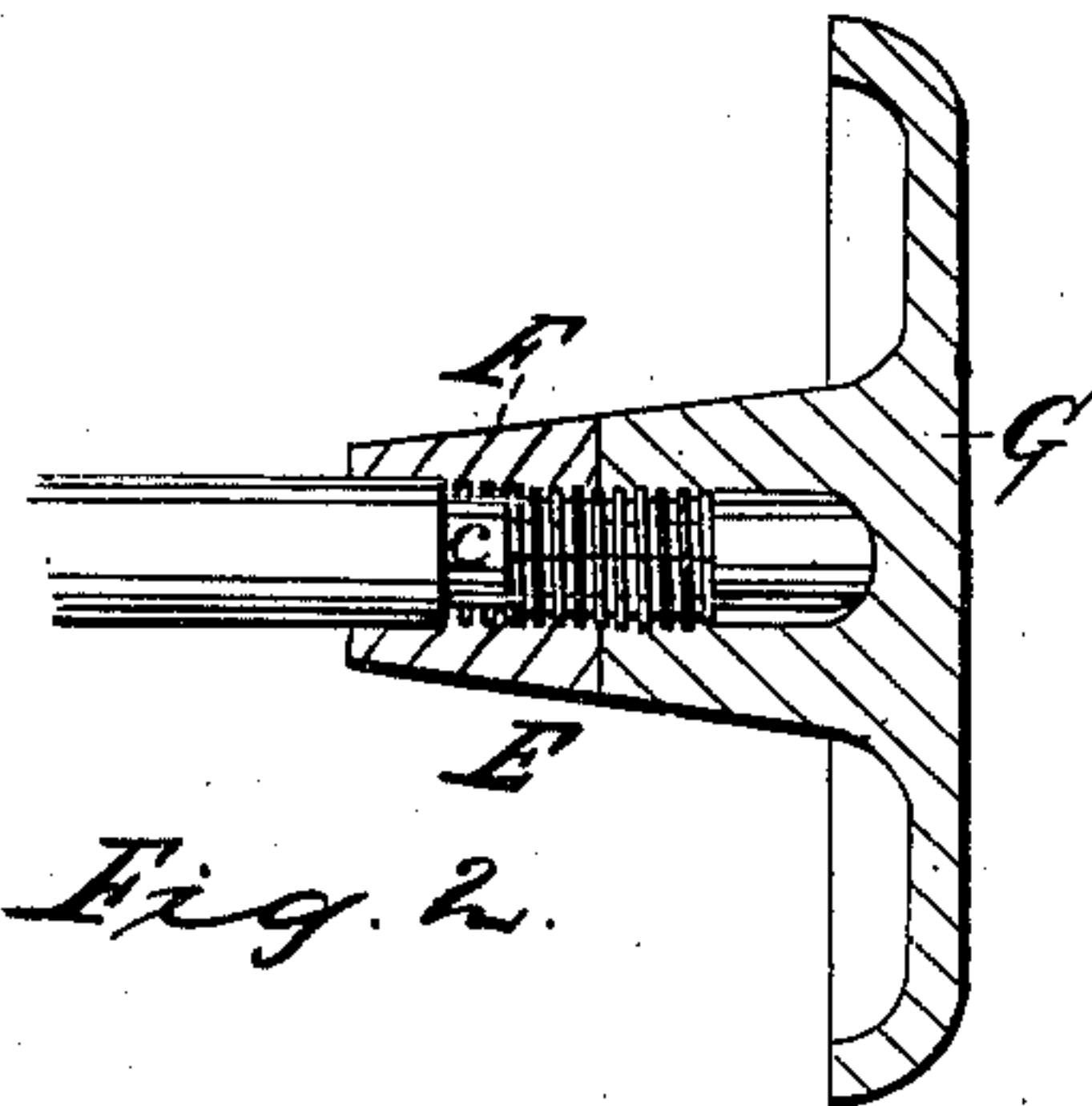


Fig. 2.

Witnesses:

Rev. Hyde
S. W. Miller

Inventor:

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A. D. GOODELL, OF FLORENCE NORTH HAMPTON, MASSACHUSETTS.

Letters Patent No. 79,825, dated July 14, 1868; antedated July 3, 1868.

IMPROVEMENT IN BIT-STOCKS.

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, A. D. GOODELL, of Florence North Hampton, Hampshire county, Commonwealth of Massachusetts, have invented a new and useful improved Bit-Brace; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In the drawings—

Figure 1 represents a sectional view through the chuck, and

Figure 2 an interior view of the head of the brace.

This invention consists of a simple and effective arrangement for holding the bit in the brace, and also in the manner of attaching the head of the brace to the shaft of the crank.

In construction, I form the chuck with two collars, A and B, both having threads cut on their inner surfaces, the one, A, operating to move the socket C forward, and the one, B, to clamp the jaws D and D' around the neck of the bit. The socket C is formed with a square hole in the centre, for the end of the bit to fit in, and has threads cut upon its flanges, *a*, to be worked by the collar A. The flanges *a* work in the slots *b*, cut through the tool-holder frame, and guide the socket-piece as it is moved forward and back, and also prevent it from turning. The jaws for clamping the bit consist of two pieces, D and D', formed cylindrically on one side, and flat on the other, and have journals on their ends, which work in bearings formed for them in the frame of the tool-holder. The cylindrical sides of these pieces are cut into gear-teeth, which are operated by the threads in the interior side of the collar B.

The flat sides are placed towards the centre of the chuck, and have indentations cut in them to conform somewhat to the square shape of the end of the bit, or to fit more easily and snugly around the neck of the same. By turning the collar B one way, it throws towards the centre the front edges of these pieces D and D', and clamps whatever is placed between them.

The operation of this portion of the device is as follows: The bit is placed as far in as it will go, with the socket screwed back, and the collar B is then turned, clamping the neck of the bit by the pieces D and D'. The collar A is then turned, pushing the socket C close up against the end of the bit, and clutching it tightly between it and the jaws.

The head of the brace is fastened to the shaft, as shown in fig. 2, by means of a split screw, E, which connects the head and a collar, F, and prevents them from having any play besides that of turning on the journal. The end of the journal reaches to a bearing in the bottom of the socket, formed in the head G, and is formed rounded, so as to work easily, the whole weight of pressure coming against this point, and thus saving the shoulders. At a little distance from the end of the journal it is formed with a neck having a shoulder on each side. Into this place the split-screw E fits, it being hollowed out so as to close around the neck *c* snugly. The screw being formed in two equal sections, can easily be placed around this part of the journal, and the collar F and head G screwed on it until they meet in the centre, where the shoulders on each side of the neck *c* prevent the head from coming off, but allow it to be turned easily.

In this manner the end of the journal can be adjusted against the bearing in the head, it being only necessary to give the head the preponderance of the split screw as the journal wears at the end.

The advantages of these improvements are in the simplicity of construction and the readiness by which they are manufactured. Besides this, they are not easily damaged, and they can easily be taken apart and kept in order.

The bearing of the journal at the head against the latter, saves much of the wear otherwise consequent to the shoulders, and therefore remedies the fault of looseness so common to braces at this point.

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

1. A bit-brace in which the clamp is formed of the two pieces D and D', operated by a collar, B, arranged and constructed substantially as shown.
2. The adjustable socket C, operated by the collar A, substantially as shown.
3. The device for attaching the head, consisting of the split screw E, set around a neck formed in the journal, and screwing into the head, substantially as shown.

A. D. GOODELL.

Witnesses:

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R. F. HYDE.