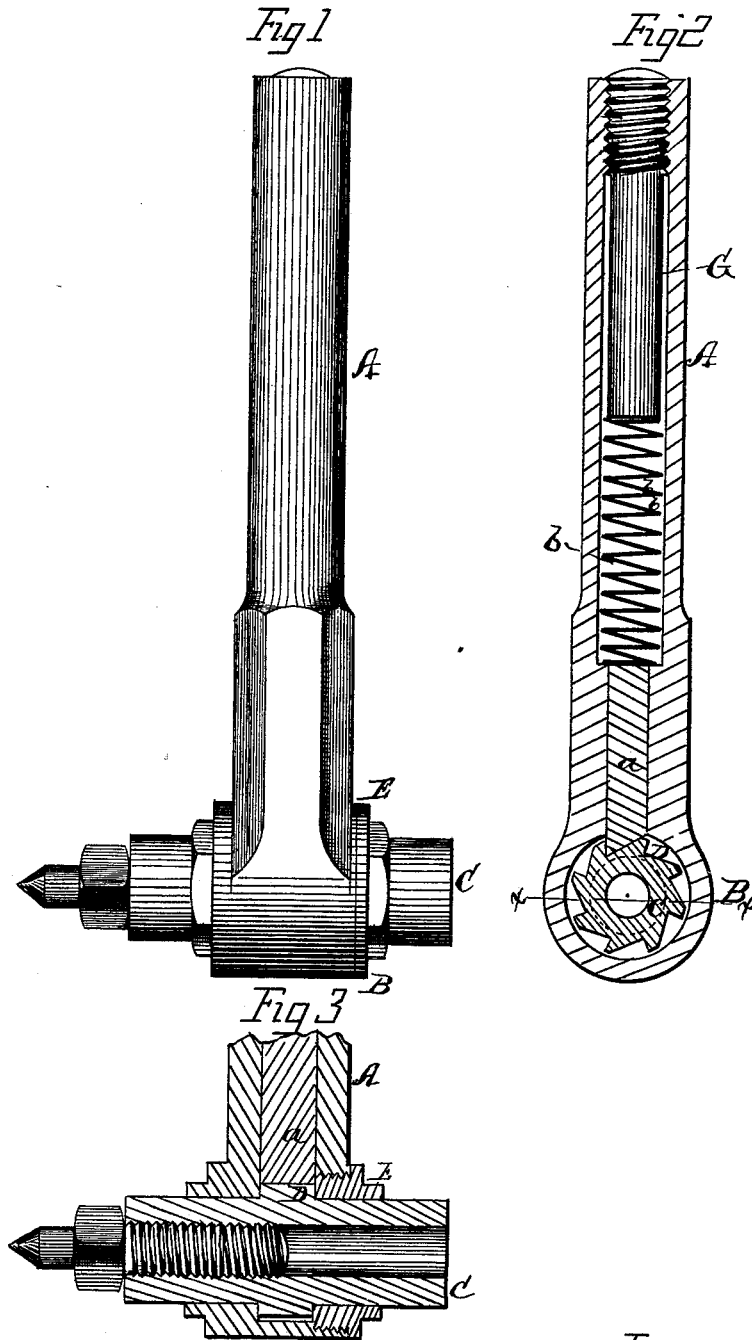


W. B. SMITH.  
RATCHET BRACE.

No. 188,684.

Patented March 20, 1877.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

W. BELL SMITH, OF CHARLESTON, SOUTH CAROLINA.

## IMPROVEMENT IN RATCHET-BRACES.

Specification forming part of Letters Patent No. **188,684**, dated March 20, 1877; application filed February 14, 1877.

*To all whom it may concern:*

Be it known that I, W. BELL SMITH, of Charleston, in the county of Charleston and State of South Carolina, have invented certain new and useful Improvements in Ratchet-Brace; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a ratchet-brace, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation. Figure 2 is a vertical section, and Fig. 3 is a cross-section on the line *x x*, Fig. 2.

A represents the handle of my brace, provided at one end with a head, B, as shown. The handle A is made hollow, and has an aperture opening into the head B, the interior of which is made circular, and on one side has an end piece with a central orifice for the passage of the spindle C. On this spindle is secured or formed a ratchet-wheel, D, which lies within the head B, and a collar, E, placed around the other end of the spindle, is then screwed into that side of the head, thus closing the same, and confining the ratchet-wheel within the head.

In the hollow handle A is placed a dog or

pawl, *a*, which is forced, by means of a spiral spring, *b*, to engage with the ratchet-wheel D.

From the opposite end of the handle is screwed into the same a plug, G, the inner end of which bears against the end of the spiral spring *b*, to cause the same to act on the pawl *a*.

The spindle C is made hollow for the insertion of a bit, and one end may be provided with a square opening to enable the instrument to be used as a ratchet-brace.

I am aware that ratchet-braces are not new, and hence I do not claim such as being, broadly, my invention. With my construction of the parts, as described, it will be seen that all the working parts are completely inclosed within the handle, so that no dust or dirt can get in and clog them; and while they are so inclosed, they can nevertheless be easily and quickly removed, when required, for any purpose whatever.

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

The combination of the hollow handle A with hollow head B, the spindle C with ratchet-wheel D thereon, the screw-collar E, pawl *a*, spiral spring *b*, and screw-plug G, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

W. BELL SMITH.

Witnesses:

JNO. B. SHIVER,  
W. WALTER RILEY.