

T. A. Weston
Ratchet Brace

No. 75093

Patented March 3, 1868

Fig. 1.

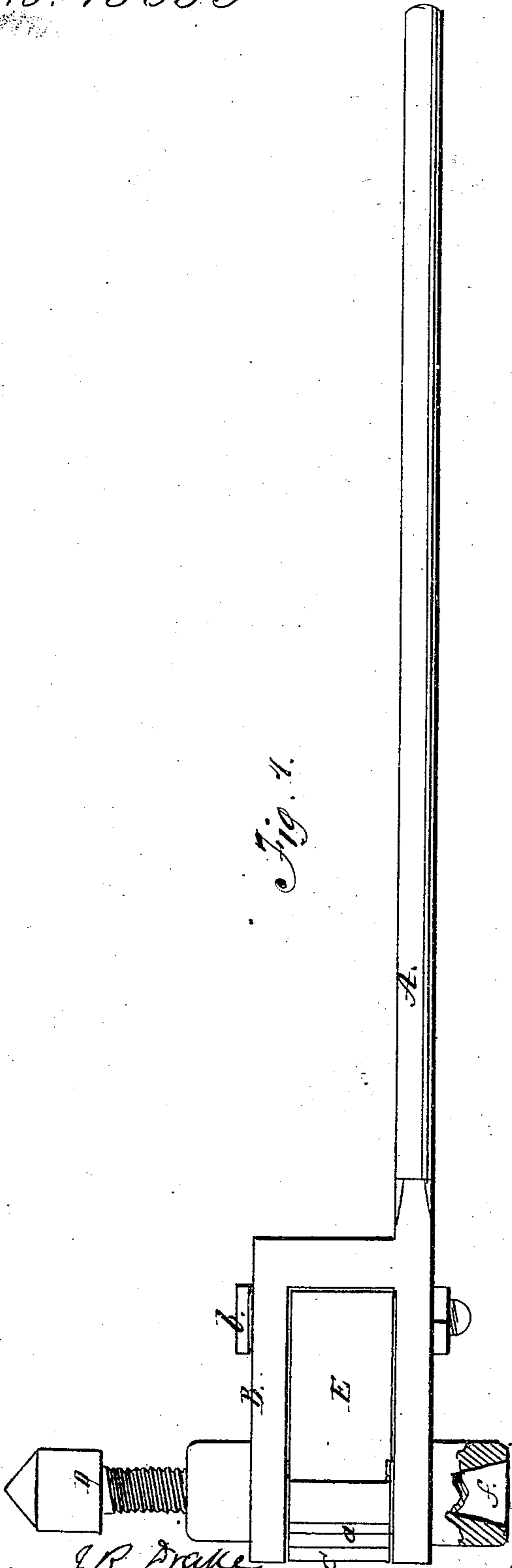
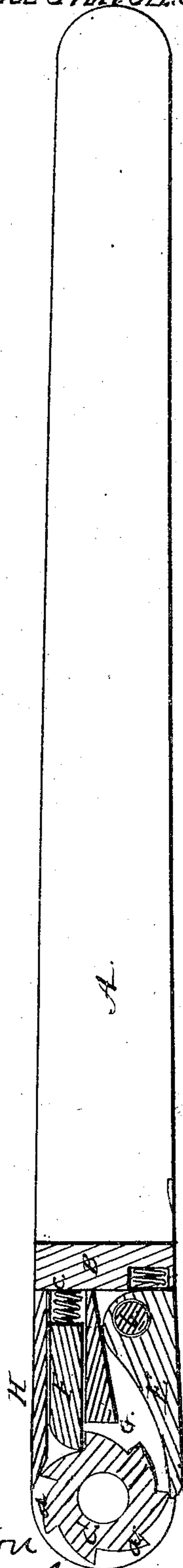


Fig. 2.



attest; J. R. Drake
Geo. W. Miatt

T. A. Weston
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United States Patent Office.

T. A. WESTON, OF BUFFALO, NEW YORK.

Letters Patent No. 75,093, dated March 3, 1868.

IMPROVEMENT IN RATCHET-BRACE LEVER.

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, T. A. WESTON, of Buffalo, in the county of Erie, and State of New York, have invented a certain new and useful Improvement in Ratchet-Braces or Levers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is an elevation of my improved instrument.

Figure 2, a section in plane $x x$, fig. 1.

Like letters of reference indicate corresponding parts in both figures.

I embody in this improvement my differential principle of teeth and pawls, viz, the employment of an unequal relative number of said parts, whereby I am enabled to attain by the use of comparatively large teeth the same nicety of adjustment or engagement as is attained by the use of small teeth, while the great wear and slight hold of the latter are avoided. I do not claim this principle in the present application, but only the special arrangement of one pivoted and one sliding pawl, and the construction of the instrument to embody those parts.

In the drawings, A indicates a lever or handle, and B a right-angled head or frame bolted thereto, enclosing the ratchet-head C, which is provided with teeth $a a$, as shown. The lower end of the ratchet-head has a tool-socket, f , and its upper end is fed down by a screw, D, whenever it is desired to use such a device. Two pawls, E F, are made to engage alternately with the teeth $a a$. The pawl E is pivoted at b on one side, so as to swing up to engagement. The pawl F simply slides up longitudinally, not being pivoted. These pawls are held to engagement with the teeth by small springs $c c$, as shown. A closed side, H, and partition G, retain the sliding pawl in place, and the part G also serves to separate the two pawls.

By thus combining one pivoted and one sliding pawl with the ratchet-head, I am enabled to place the instrument in a most compact and effective form. Two sliding pawls could not well be made effective in this form, for the reason that they would be too far from the centre, and their hold would be too angular on the teeth. Two pivoted pawls would meet with the same objection, and the additional one that they would require too much space, and would widen the instrument. The sliding and pivoted pawls, as described, obviate those objections by producing the most effective hold on the teeth and resting in a narrow compass. This arrangement of the pawls adapts the instrument to many uses where ordinary pawls cannot be employed. The employment of two or more pawls, as described, with an unequal number of teeth, the said pawls engaging alternately, avoids the necessity of many fine teeth, which allow but a slight hold, and which soon wear out. By the means described, I am enabled to employ comparatively large teeth, and still furnish as many engagements by the plurality of pawls.

What I claim as my invention, and desire to secure by Letters Patent, is—

The special arrangement of one sliding pawl F and one pivoted pawl E, as described, when combined with a ratchet-head, C, having an unequal number of teeth, with said pawls, the whole operating in the manner and for the purpose specified.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

T. A. WESTON.

Witnesses:

JAY HYATT,

THOMAS C. HOLMES.