J. B. WHITE.

Feed-Screw for Drills.

No. 222,972. Patented Dec. 23, 1879.

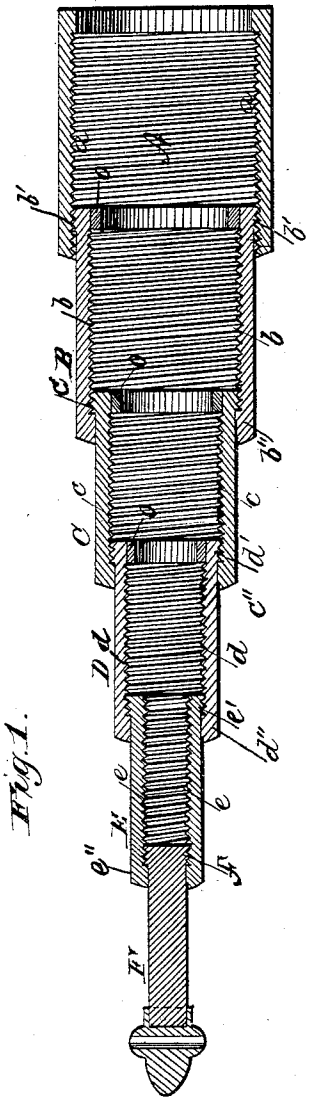

Fig. 1.

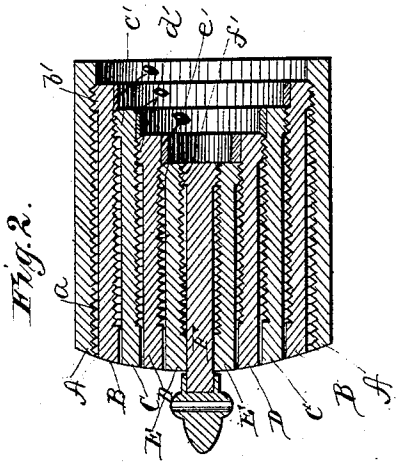

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN B. WHITE, OF JOPLIN, MISSOURI, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO JOHN BLACK, OF AURORA, INDIANA.

IMPROVEMENT IN FEED-SCREWS FOR DRILLS.

Specification forming part of Letters Patent No. **222,972**, dated December 23, 1879; application filed August 6, 1879.

To all whom it may concern:

Be it known that I, JOHN B. WHITE, of Joplin, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Telescopic-Extension Feed-Screws for Drills, of which the following is a specification.

Figure 1 is a view, in vertical central section, through the feed-screw as extended. Fig. 2 is a like view, the parts closed in.

This invention relates to that class of feed-screws for drills in which the several parts telescope the one in the other; and it consists, more particularly, in providing the several sections with a screw-thread, externally or internally, or both, and suitably provided with internal braces or shoulders, whereby all the other parts or sections can be brought within the first or largest section, or the entire device extended to near the length of the several parts or sections, and in any position held firm and true without oscillation, all as will now be more fully explained.

In the accompanying drawings, A represents the main or largest hollow section of the feed-screw. The ratchet or operative parts and the drill are applied in any usual way to the lower end. Its inner periphery is screw-threaded, as shown at *a*, and on this screw-thread the second hollow section, B, can be moved in or out by means of the screw-thread *b'* on its outside near the lower end. This section, B, in turn carries on its inside screw-thread, *b*, another section, C, which is constructed like B, and can have in it a like motion in or out of B, as that section can have, as above described, in or out of section A. On the inside of B, near its upper end, is the annular shoulder *b''*, which fits close upon the periphery of section C, and serves to steady and brace the said section at whatever point it may be in the section B. In like manner, if desired, section A may have such a shoulder or brace on its inside near the upper end. The next section, D, with its exterior and interior screw-thread *d'* and *d*, and its brace or shoulder *d''*, is of like construction as B or C, and designed to work inside C on thread *c*. In its turn section D carries inside it section E, which is similar to sections B, C, or D, and has screw-threads *e* and *e'* and brace-shoulder *e''*. This section E in its turn carries on its interior screw-thread *e* the feed-spindle F, which is screw-threaded at *f*, and stayed and braced by shoulder *e''* of section E.

In putting this device together, the spindle F, without its head or top, is inserted in the section E, and said head afterward placed in position and attached to the spindle F. The interior rings, *o*, are soldered on the lower ends of the sections, as shown on sections B C D, after each section has been inserted in its containing section, to prevent the several sections from being separated from each other.

While I now show the device as made in six several parts or sections, it is evident that it can be made with less or more, as occasion may render expedient.

As thus made and constructed, this device, when telescoped, can be applied in a very small or narrow space, and again, on occasion, can be extended to a very considerable length without loss of strength or true bearing, since the several parts or sections are so securely held the one within the other, and braced the one upon the other, that there can be no wabbling or oscillation, and the whole device, as an individual and single piece, will remain firm and truly straight. Moreover, the entire device is very simple in its structure, as well as inexpensive, and cannot easily get out of order.

I am aware that screw-threaded tubes telescoping one within the other have heretofore been employed, and I therefore lay no claim to such invention, broadly; but I am not aware that telescopic tube-sections, screw-threaded externally and internally, as set forth, and provided with shoulders at their upper ends, have heretofore been employed.

I claim—

A telescopic feed-screw for drills, consisting of the sections B C D E, externally and internally screw-threaded, as set forth, and provided with the shoulders *b''* *c''* *d''*, and lower internally screw-threaded section A and spindle F, substantially as described, and for the purpose set forth.

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

JOHN B. WHITE.

Witnesses:
S. C. PRICE,
CLARK CRAYCROFT.