

(No Model.)

J. M. JOHNSON.
COLLAPSIBLE SCREW TAP.

No. 297,519.

Patented Apr. 22, 1884.

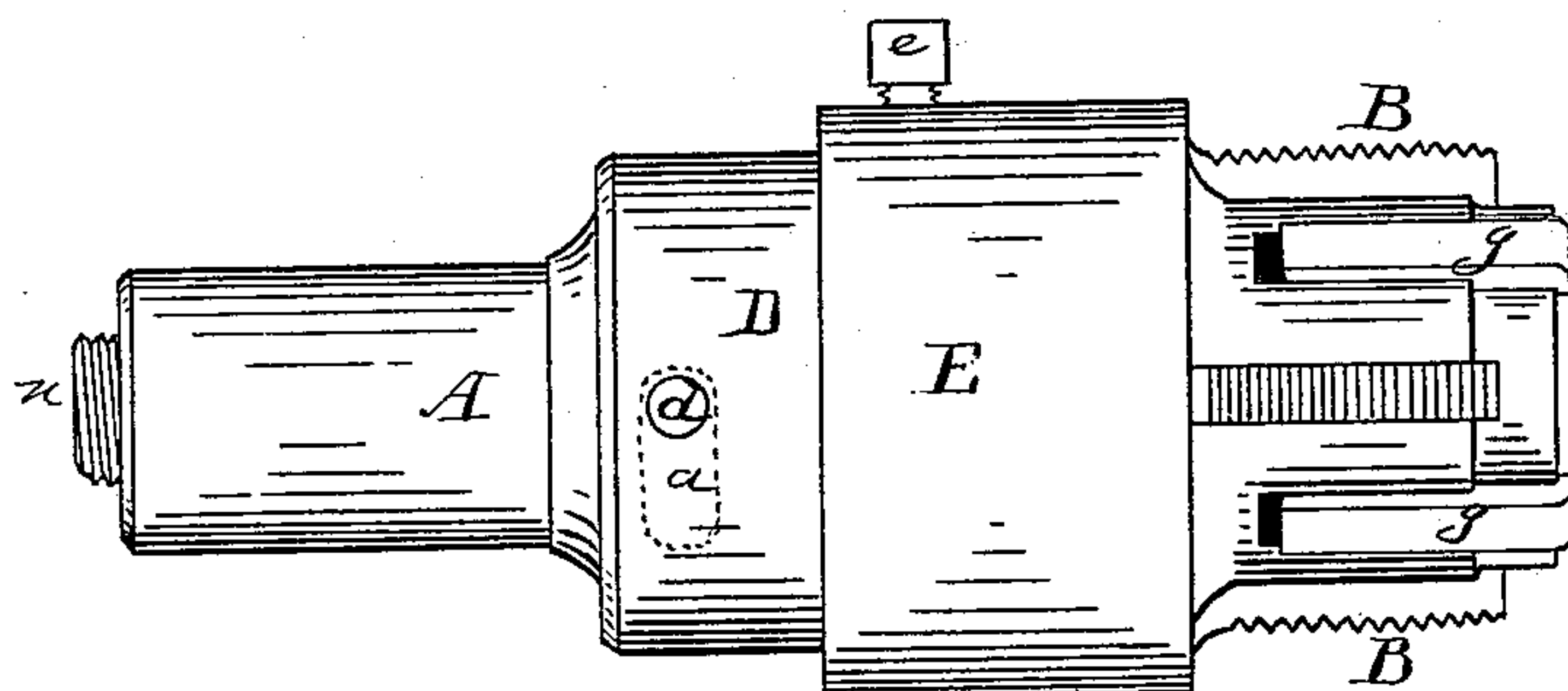


Fig. 1.

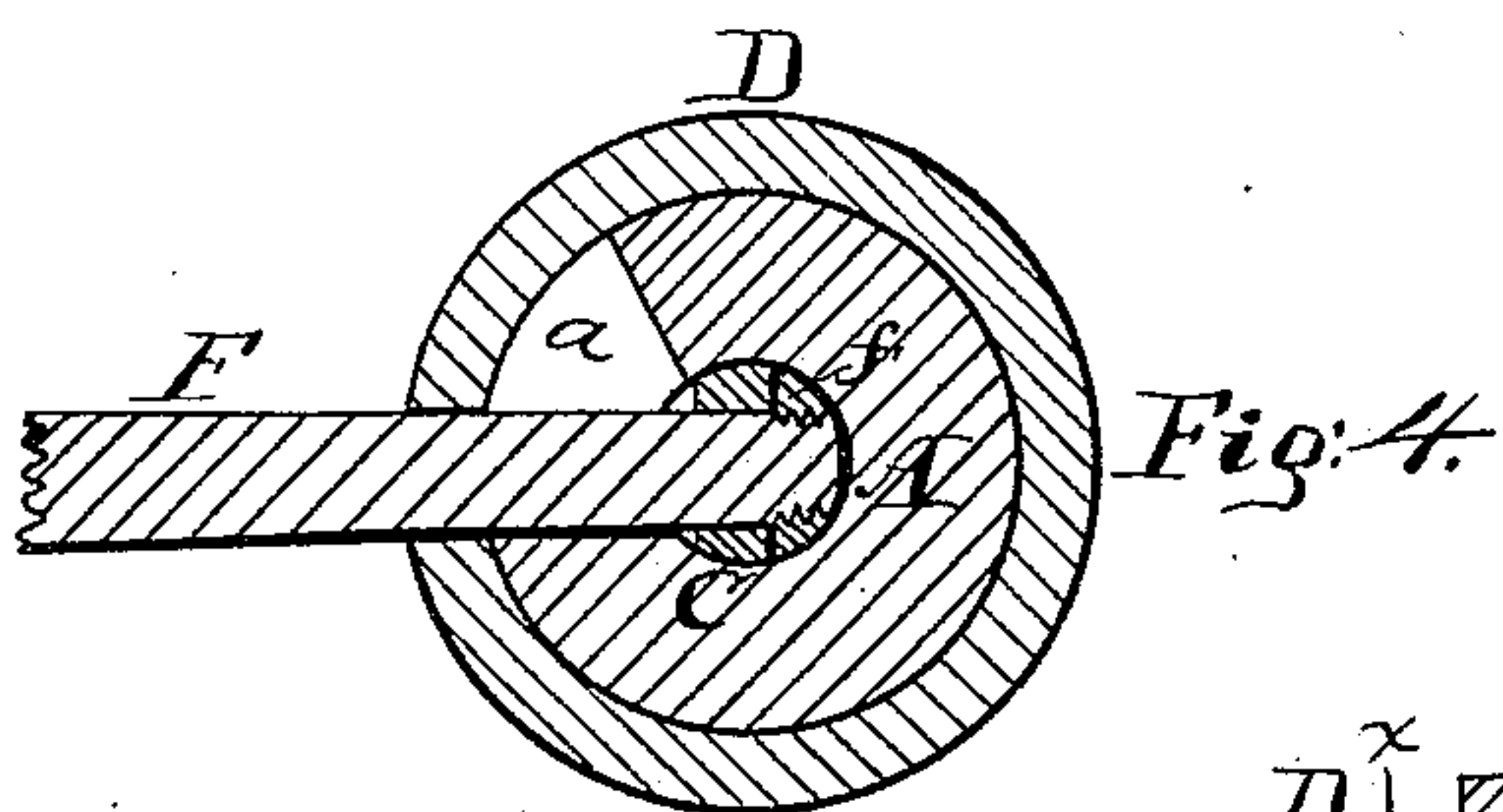


Fig. 4.

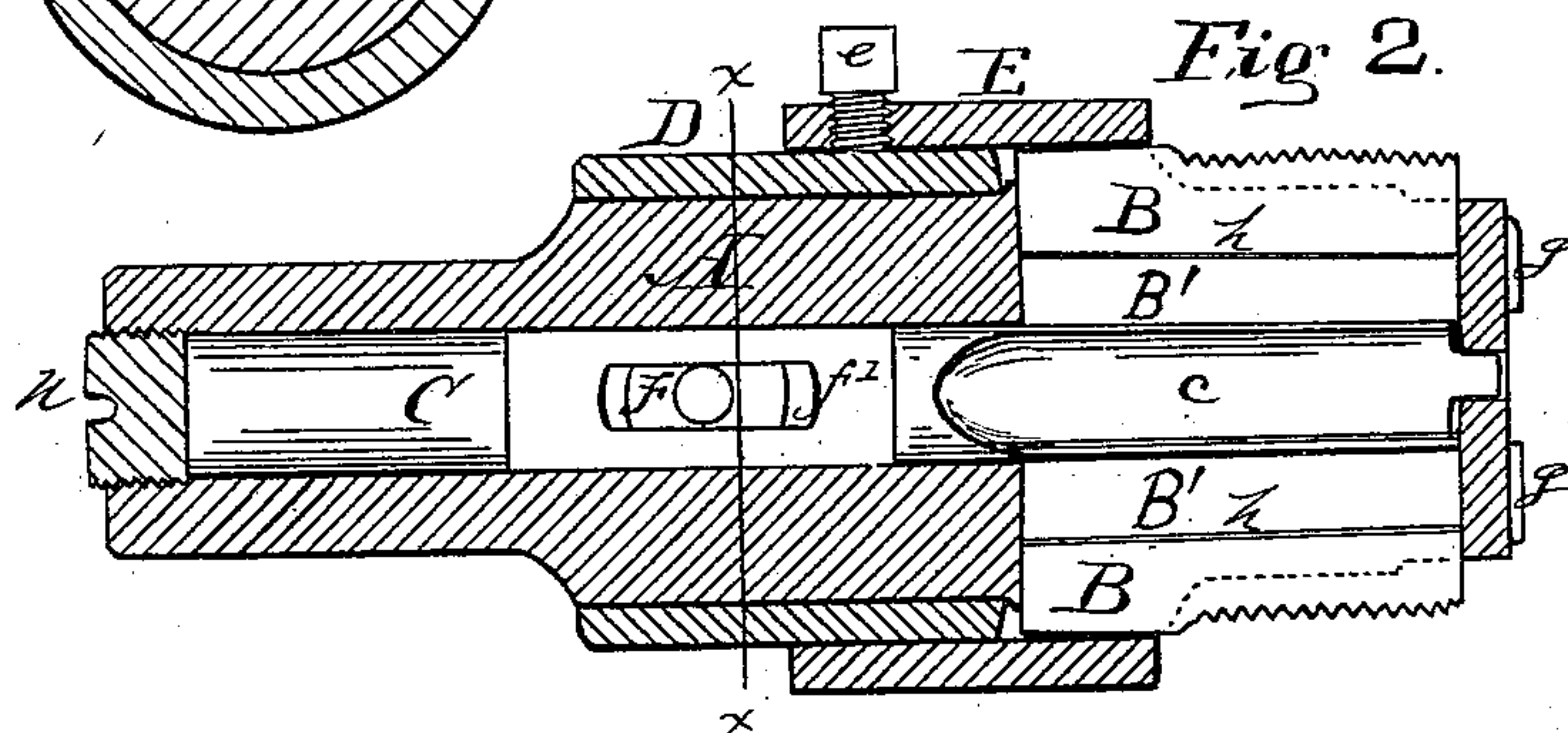


Fig. 2.

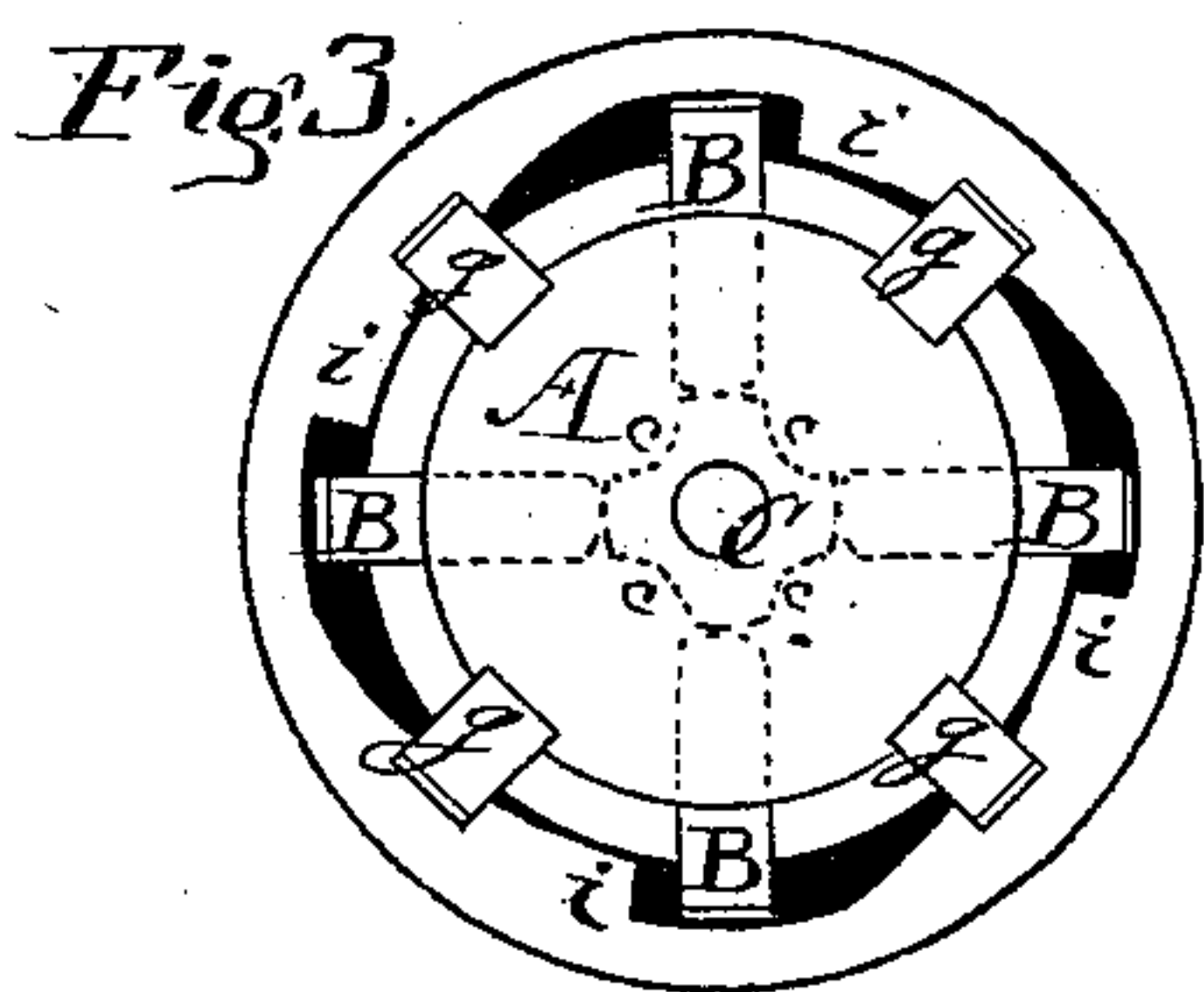


Fig. 3.

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COLLAPSIBLE SCREW-TAP.

SPECIFICATION forming part of Letters Patent No. 297,519, dated April 22, 1884.

Application filed August 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. JOHNSON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Collapsible Screw-Taps, of which the following is a specification.

In the accompanying drawings, Figure 1 is a side elevation. Fig. 2 is a longitudinal section. Fig. 3 is an end view. Fig. 4 is a cross-section in line *x x* on Fig. 2.

The object of my invention is to furnish a device by which to collapse the cutting-dies in a screw-thread-cutting tap, so that when the screw-thread has been cut the dies may be closed inward to enable the tap to be withdrawn without the necessity of a reverse rotary movement for that purpose.

A is a hollow mandrel, provided at the cutting end with slots or seats for the cutting-dies B B.

C is a tapering rotary core, fitting in the hollow of the said mandrel. Its forward end is provided with grooves *c*, into which the dies drop when the core is turned for that purpose. Upon the large part of the mandrel is placed a rotating sleeve, D, and upon this is placed a second sleeve, E, secured to the sleeve D by a set-screw, *e*. Through the first sleeve, D, is made a hole, *d*, through which is put a lever, F, which is secured to the core C by a sliding nut, *f*, the core having a slot through which the lever passes for the purpose of enabling the core to be adjusted lengthwise by the screw *n*. In the mandrel is made a radial slot, *a*, for the lever to play in when turning the core. The front edge of the sleeve E has incline projections *i i*, which serve to force the dies inward when it and the core are turned by the lever. In the sides of the mandrel, at the for-

ward end, and located between the dies, are placed reaming-dies *g g*.

The dies B are made in two parts, B and B', as seen in the drawings, for the sake of economy, so that the dies, when worn, may be recut and again used by placing strips *h* between them to adjust them outwardly; or, if desired, they may be made in one piece.

The operation of this is as follows: The core C being in the position shown, the dies rest upon the outer surface thereof, and are expanded ready for use. To collapse them the lever is turned, carrying the core and sleeve D around on the mandrel, which brings the grooves *c* in the core under the dies, into which they are forced by the inclines *i i* of the sleeve E. The tap is then readily removed from the work.

Having described my invention, I claim—

1. In combination with the cutting-dies constructed in two parts, the strip *h*, for adjusting said parts outwardly, as and for the purpose set forth.

2. The tapering core C, having the grooves *c* in the forward end, and the slot *f'*, substantially as described.

3. The sliding nut *f*, in combination with lever F and core C, as and for the purpose specified.

4. In combination with the tapering core C, having slot *f'*, the lever F, nut *f*, mandrel A, and the adjusting-screw *n* in the rear end of said hollow mandrel, for adjusting and securing the core in place, substantially as described.

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Witnesses:

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