

(No Model.)

W. S. COBB.
TOOL POST RING.

No. 385,845.

Patented July 10, 1888.

Fig. 1.

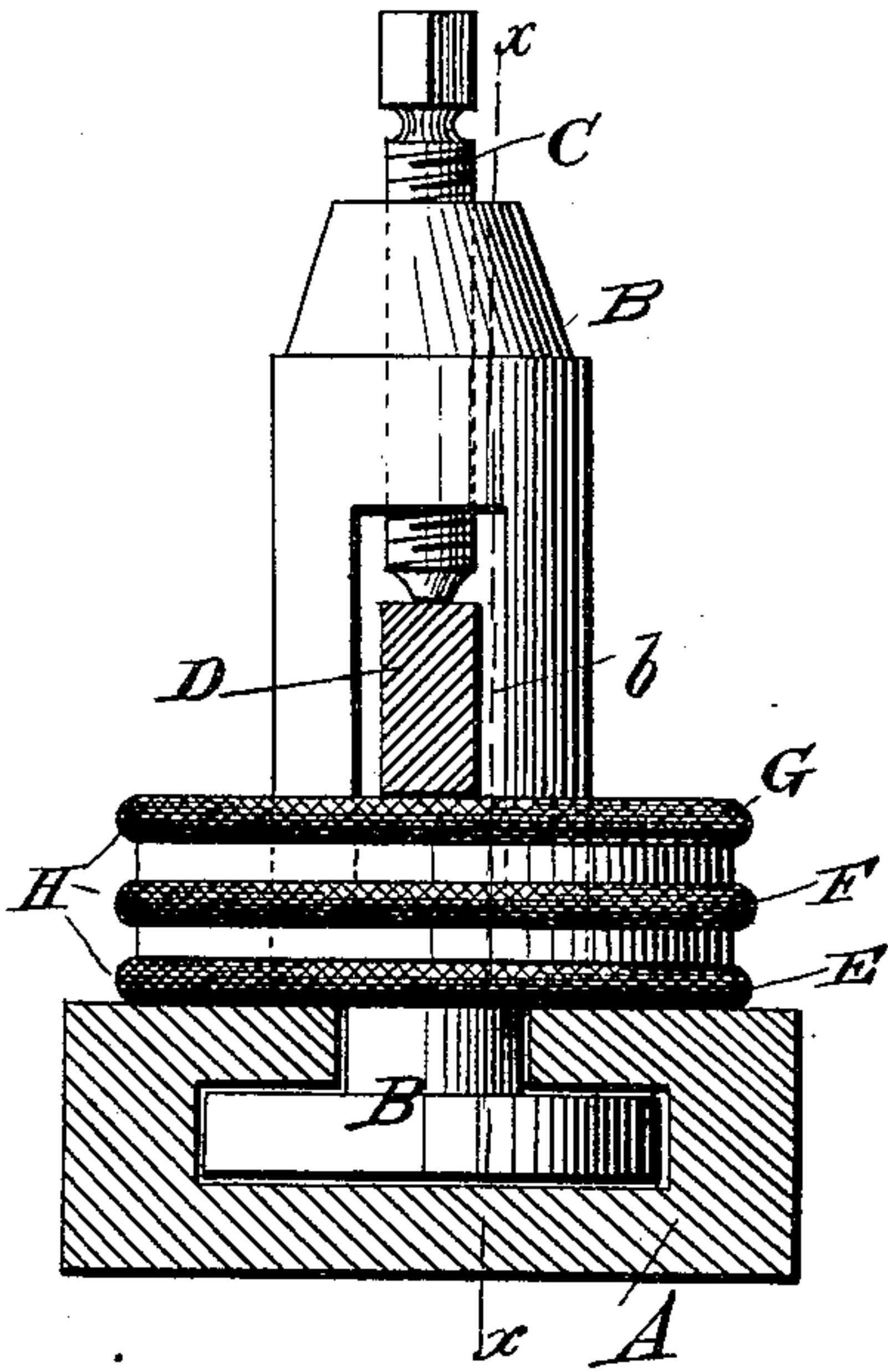


Fig. 2.

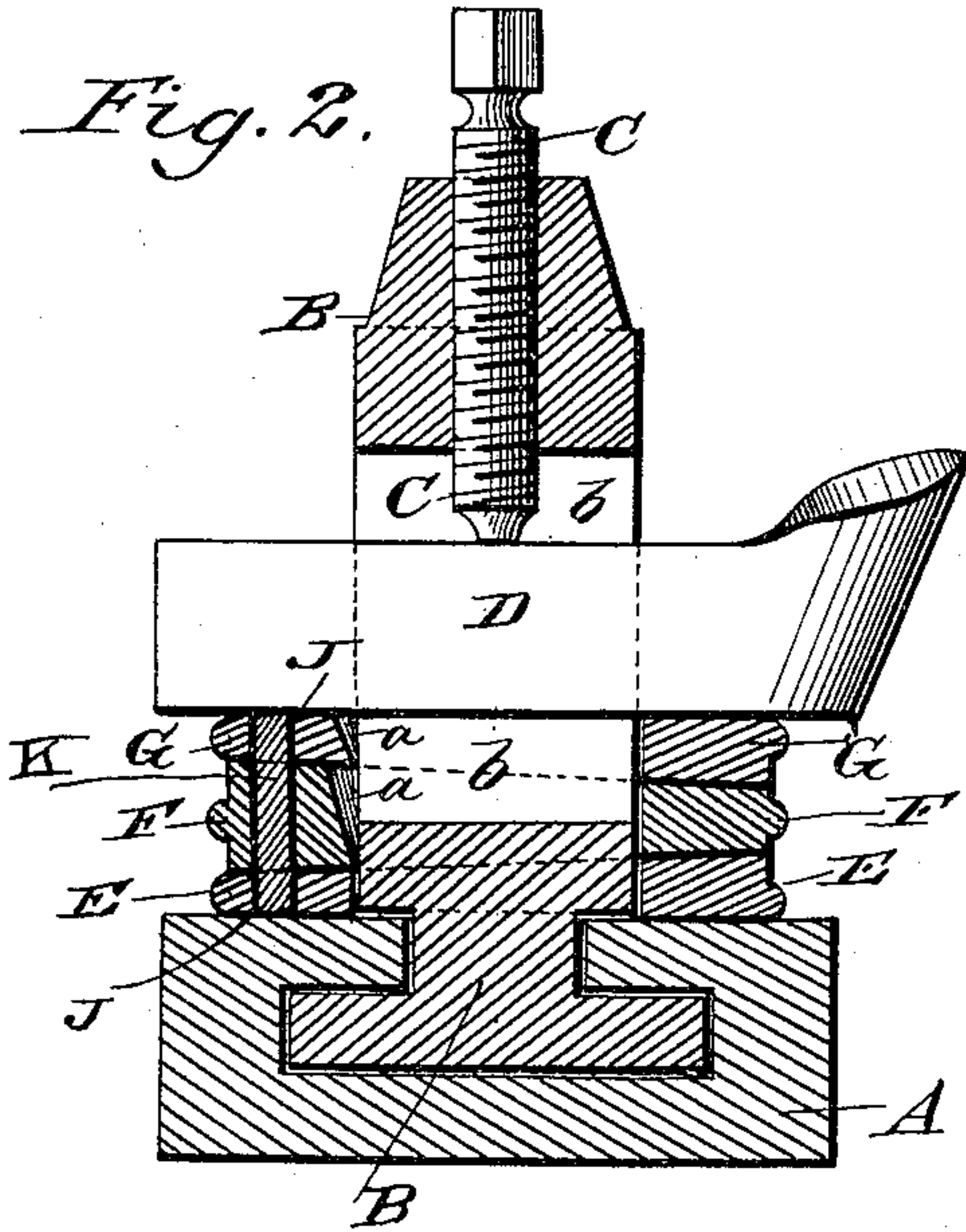


Fig. 3.

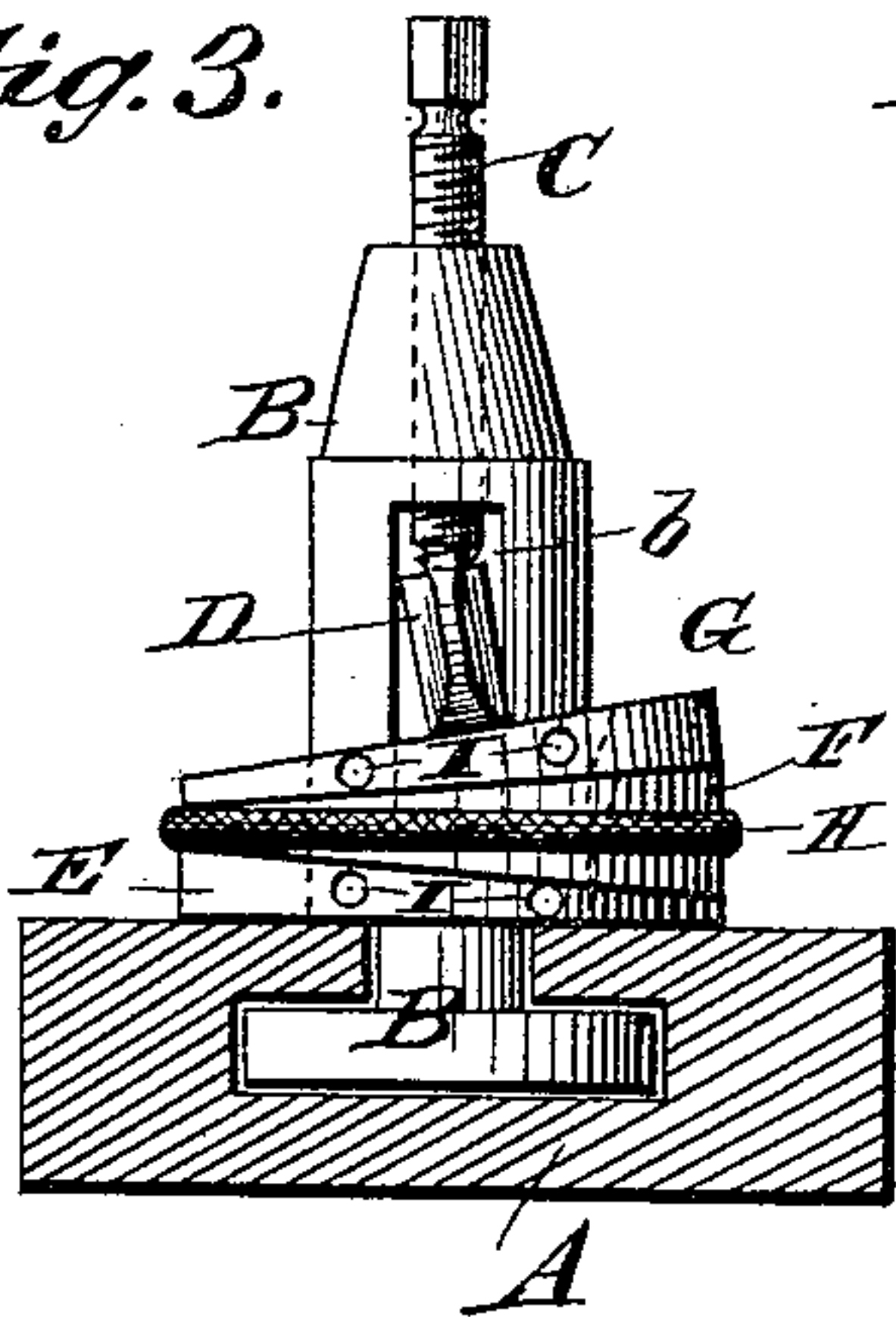


Fig. 4.

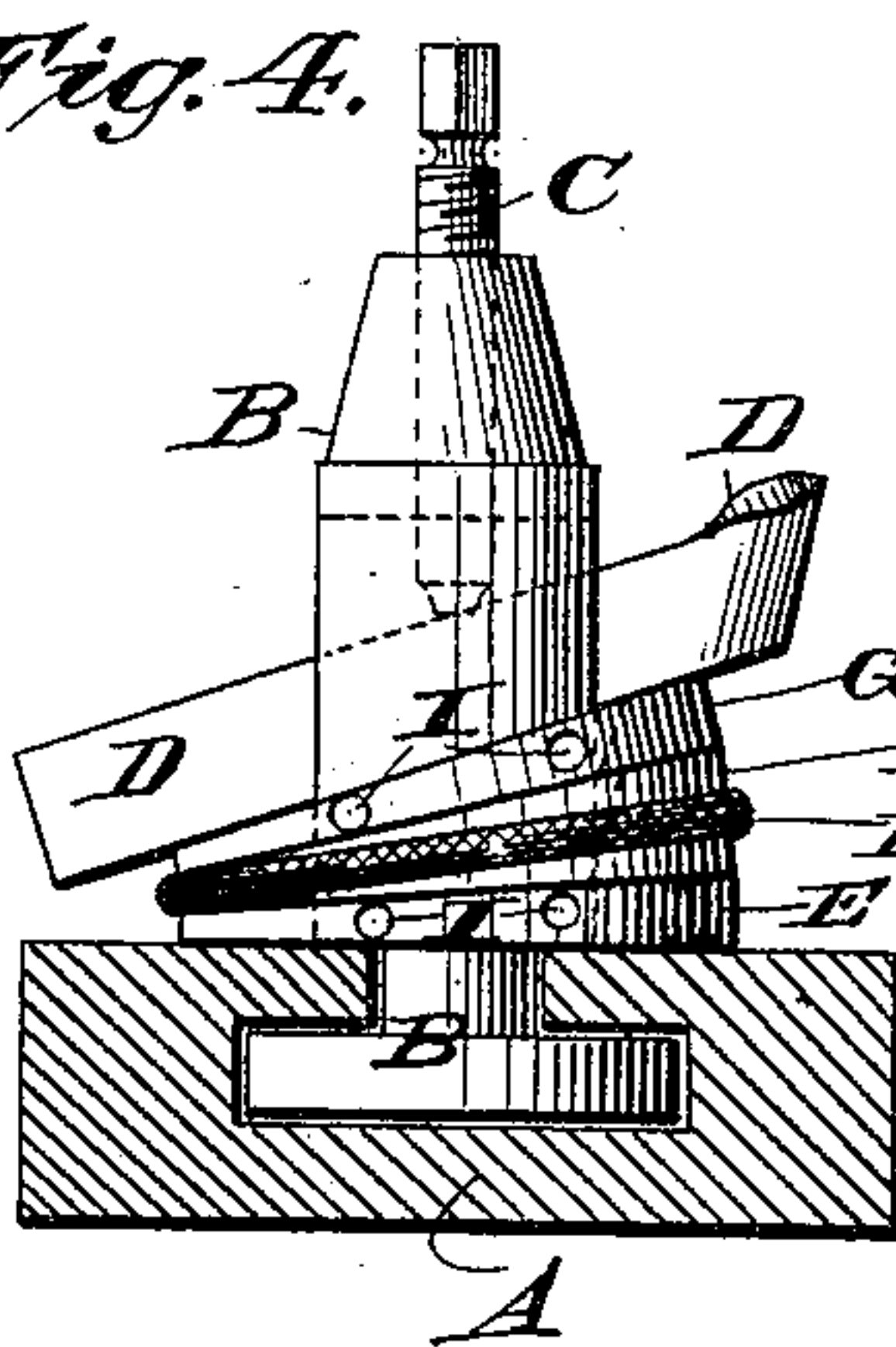


Fig. 5.

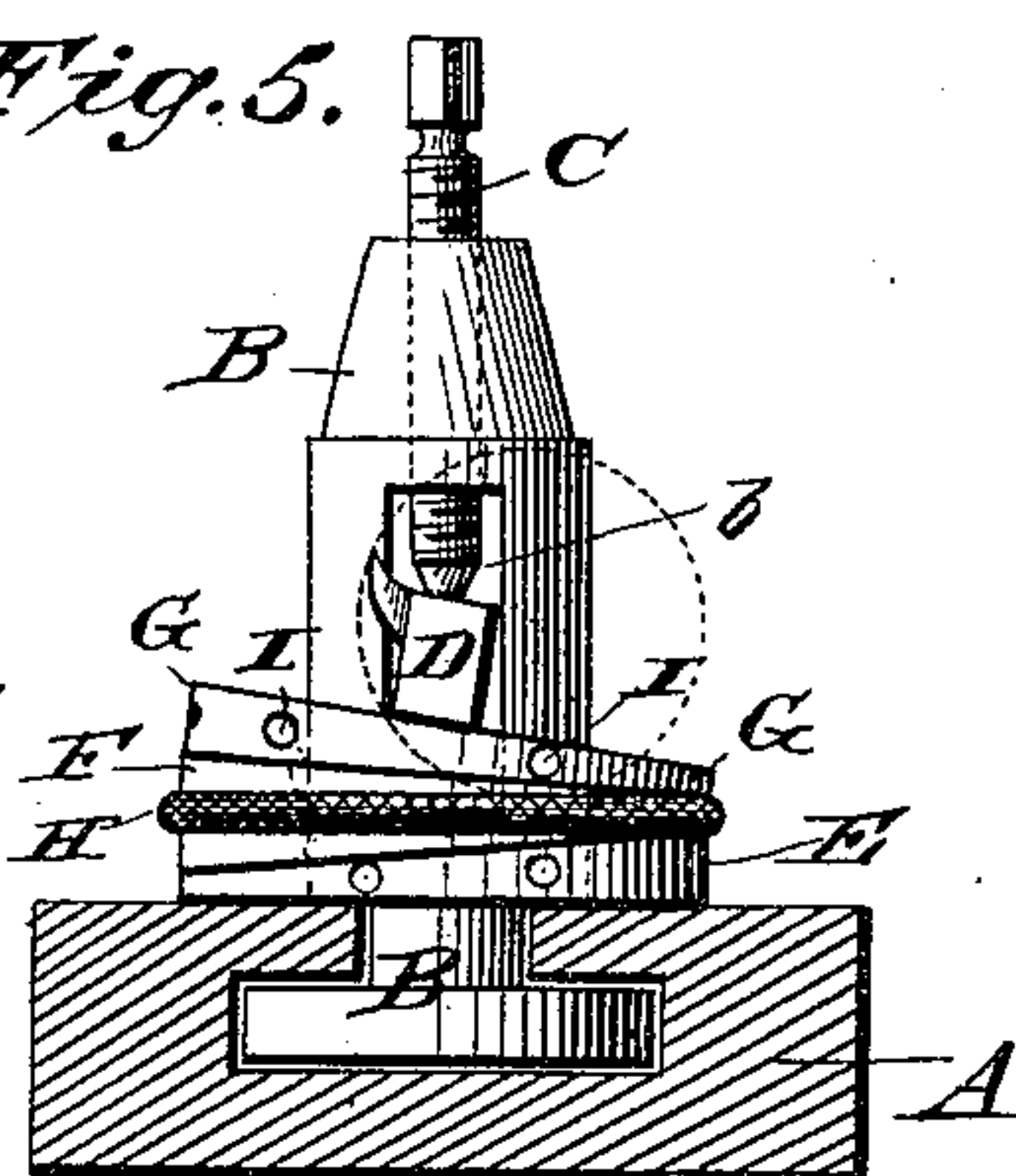
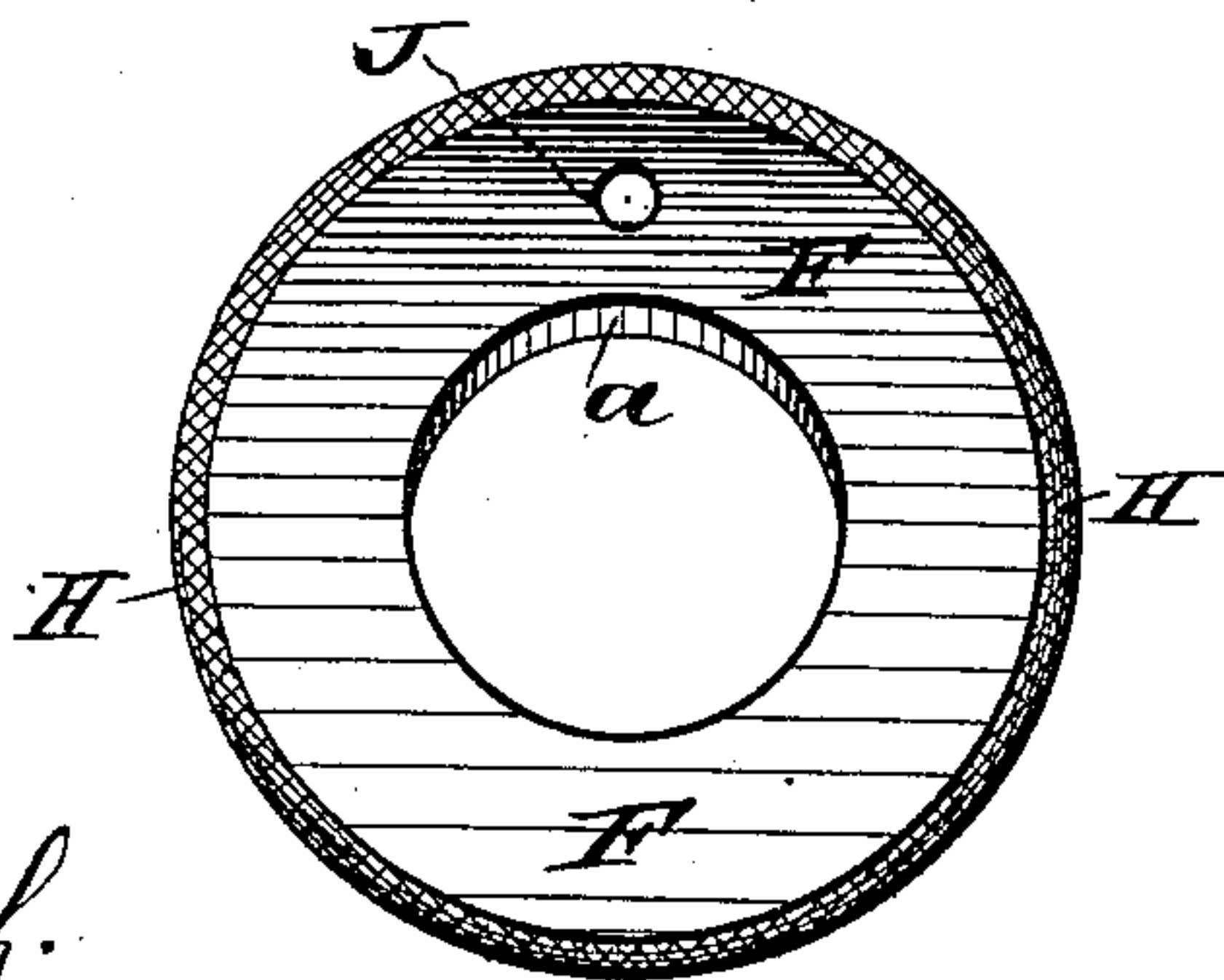


Fig. 6.



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TOOL-POST RING.

SPECIFICATION forming part of Letters Patent No. 385,845, dated July 10, 1888.

Application filed April 25, 1888. Serial No. 271,787. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. COBB, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Tool-Holder for Lathes, of which the following is a full, clear, and exact description.

My invention relates to an attachment to tool posts or holders of lathes or shaping-machines, and has for its object to provide a simple, durable, effective, and inexpensive rest for the tool, and one which may be easily and quickly adjusted to hold the tool level or at any lengthwise incline or lateral pitch, or both incline and pitch combined, to assure good smooth action of the tool in various kinds of work.

The invention consists in a series of three inclined face rings or plates fitted around the tool-post and onto the tool-block and on each other, and relatively adjustable to give the required set of the tool, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a view of a lathe-tool block and post with a tool held thereto by the aid of my improved ring-rest plates, the tool-block and tool being in section. Fig. 2 is a vertical sectional view taken on the line *x x* in Fig. 1. Figs. 3, 4, and 5 are views illustrating different adjustments of a tool in the holder; and Fig. 6 is a plan view of the center ring-rest plate of the holder attachment of my invention.

The tool-block A, the sliding or adjustable tool-post B, fitted thereto, and the clamping-screw C, by which the tool D is held in the vertical slot *b* of the post B, are of the usual construction; but they may be made and fitted in any approved way for use with my improved tool-rest attachment, which consists of three centrally-apertured ring plates or collars, E F G, placed loosely onto and around the tool-post and resting on the tool-block and on each other, and giving support to the tool D, which is clamped onto the upper ring-plate by the set-screw C.

The upper surface of the lower ring-plate,

E, and the lower surface of the upper ring-plate, G, are inclined diametrically across from one edge of each plate to its other edge, making each of the rings thick at one edge and thinner at the opposite edge, and both the upper and lower faces of the center ring-plate, F, are inclined or beveled in a true convergence from one edge of said center ring toward its opposite edge, giving this plate the wedge form clearly shown in Figs. 2, 3, 4, and 5 of the drawings. All three of the ring-plates may be provided with a peripheral-milled bead, H, or a square-milled edge to provide for more conveniently turning the plates independently of each other when the tool set-screw is loosened; or the center ring-plate only may be provided with a milled bead or edge, and the upper and lower ring-plates may be provided with a series of radial holes, I, opening at the peripheries of the plates to receive a pin or bar by which the plates may be turned on the tool-post; or, if preferred, all three of the plates may have these radial holes for this purpose. The central apertures of the center and upper ring-plates, F G, are beveled at their side walls, as shown at *a* in Fig. 6, to allow the three plates to have a true face-bearing on one another as they are adjusted to different relative positions around the tool-post.

It is obvious that when the three ring-plates are adjusted so that the thicker edge or part of the center plate is between the thinnest edges or parts of the upper and lower plates the tool clamped by the set-screw to the upper plate will be held level, as shown in Figs. 1 and 2 of the drawings. Should it be desirable or necessary to elevate the nose or cutting-point of the tool, this may be easily and quickly done by loosening the set-screw and turning the ring-plates on each other, the maximum elevation of the tool-point being secured when the thicker edges of all three of the ring-plates are set directly toward the point of the tool, as shown in Fig. 4 of the drawings; but the point of the tool may be held at any intermediate height between this extreme height and a level position by adjusting one or more of the plates and then tightening the set-screw.

At times it is desirable to give the tool a lateral pitch or incline to one side or the other to accommodate the work operated upon, and

this may also be easily and quickly accomplished by turning the ring-plates on each other. Examples of these adjustments are shown in the drawings. Fig. 3 represents an ordinary square or cutting-off tool held on the ring-plates to give it proper clearance at both sides when cutting an ordinary square threaded screw and assuring ease of operation with accuracy in the finished work, and Fig. 5 shows a boring-tool held at the opposite lateral incline to prevent excessive clearance of its cutting end or point while boring a hole, which is indicated in dotted lines, and thus prevent chattering of the tool in the hole and insuring smooth and true work.

It will be noticed that however the ring-plates may be adjusted relatively to each other the plates always have a solid bearing on the tool-block and on each other and give a solid bearing to the tool, which may be firmly held without excessive tightening of the set-screw, and that wedges which are so commonly used in adjusting cutting-tools in lathe or shaping-machine tool-holders are dispensed with entirely, and considerable time is economized in setting the tool over that required when wedges are used, and the wedges are liable to breakage or displacement with resultant damage to the work, all of which disadvantages are overcome or obviated by my simple and effective contrivance.

I provide each of the plates E F G with a hole, J, and these holes of all three plates coincide when the plates are adjusted with a level upper or tool-supporting face, so that a pin, K, may be slipped into the holes to positively lock the plates in this relative adjustment, and as will be understood from Fig. 2 of the drawings.

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

1. A tool-rest attachment to lathes or shaping-machines, consisting of three apertured and inclined-face plates placed around the tool-post and resting on the tool-block and on each other, substantially as herein set forth.

2. A tool-rest attachment to lathes or shaping machines, consisting of three apertured and inclined-face plates placed around the tool-post and resting on the tool-block and on each other, and said plates having holes which coincide when the plates are adjusted with a level tool-supporting face and adapted to receive a locking-pin, substantially as herein set forth.

3. A tool-rest attachment to lathes or shaping-machines, consisting of three apertured and inclined-face plates placed around the tool-post and resting on the tool-block and on each other, the upper and lower plates inclined or beveled at one side or face and the center plate inclined or beveled at both sides or faces, substantially as herein set forth.

4. The combination, with a tool-block, A, and its tool-post B, apertured at b, of a series of three beveled or inclined-face plates, E F G, placed around the tool-post and on the tool-block and on each other, and a set-screw, C, in the tool-post and adapted to clamp the tool to the upper plate however the series of plates may be relatively adjusted, substantially as shown and described.

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Witnesses:

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