

F. J. RABBETH.

Spindles for Spinning-Machines.

No. 156,819.

Patented Nov. 10, 1874.



FIG. 2.



FIG. 3.

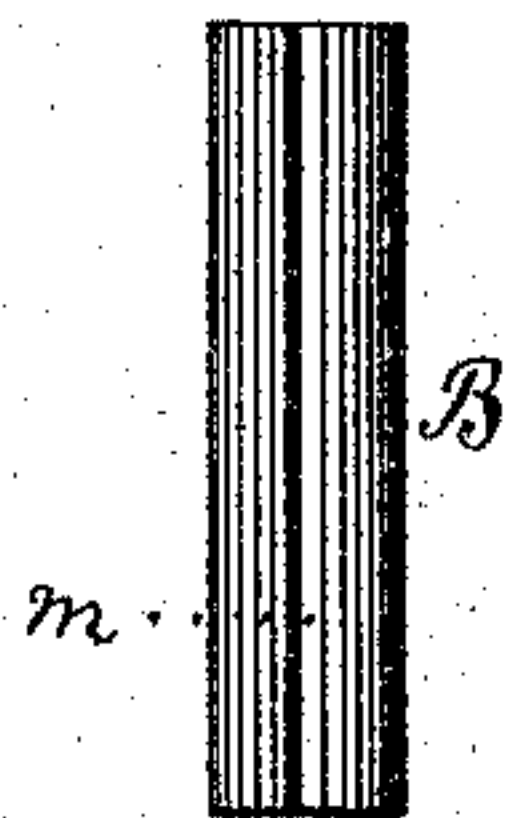


FIG. 4.

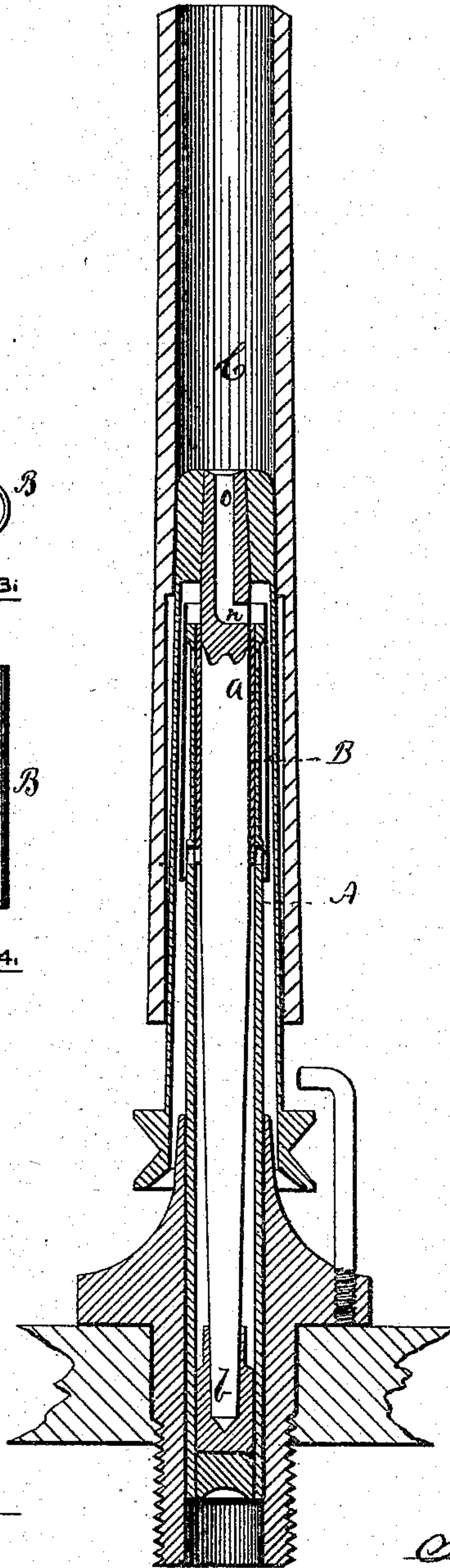


FIG. 1.

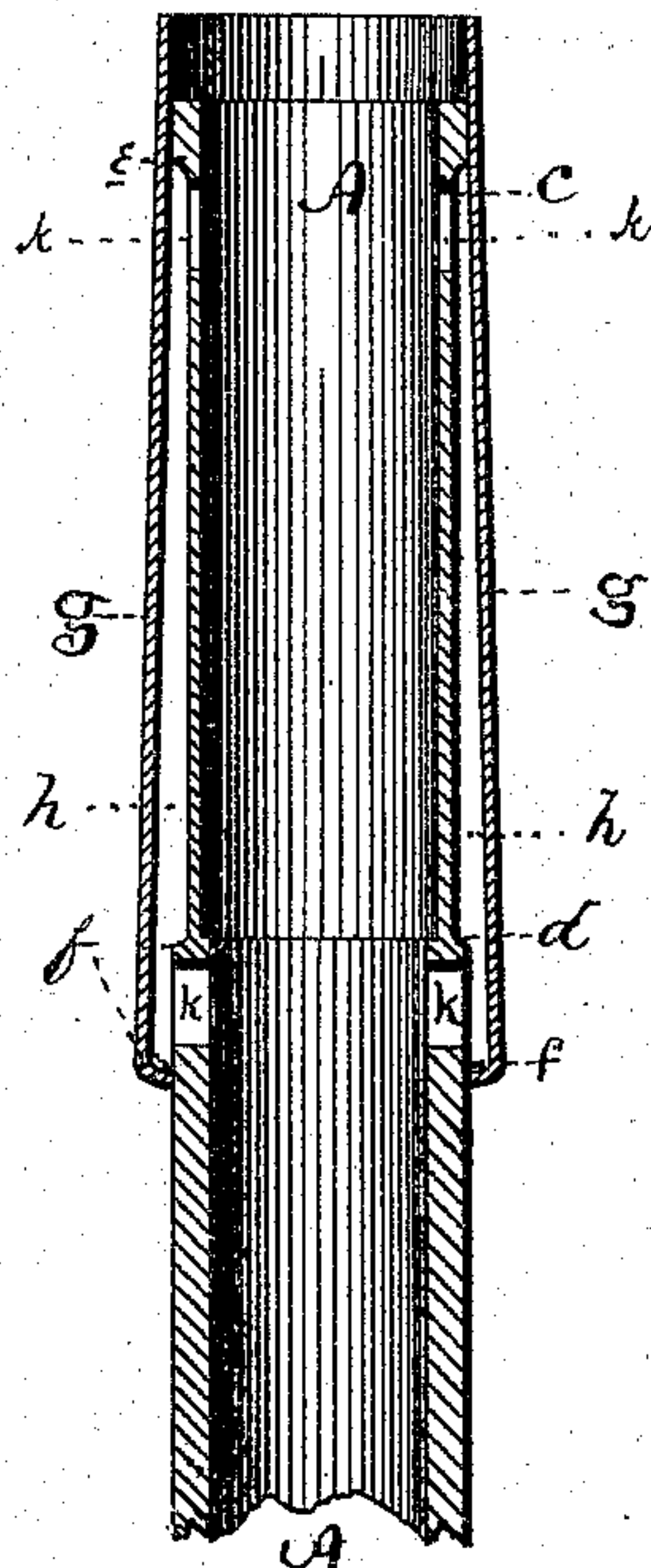


FIG. 5.

WITNESSES.

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IMPROVEMENT IN SPINDLES FOR SPINNING-MACHINES.

Specification forming part of Letters Patent No. **156,819**, dated November 10, 1874; application filed June 29, 1874.

To all whom it may concern:

Be it known that I, FRANCIS J. RABBETH, of Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Spindles for Spinning Machinery; and I do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

The spindle to which my improvements relate is of the well-known class in which the upper and the lower bearings for the spindle are placed in a continuous tube or bolster, closed at the bottom below the foot-bearing or step of the spindle. It is desirable that there should be provided an oil reservoir or chamber in combination with such bolster, and an arrangement for such purpose is shown in the Letters Patent of the United States heretofore granted to me and John E. Atwood on the 2d of April, A. D. 1867, to which reference may be had, and which consists of a chamber formed in the upper head of the bolster, and connected with the tube which contains the spindle.

The first part of my present improvement consists in an arrangement for obtaining the necessary oil chamber or reservoir when the sleeve portion of the compound spindle shown in said patent above referred to is made of a diameter small enough to admit of being surrounded by a bobbin, and in consequence the diameter of the head of the bolster becomes too much reduced to allow of the formation of an oil-chamber therein.

In the drawings, A, Figure 5, represents an enlarged view of a portion of the tube, which contains the upper bearing, *a*, and the step *b*, Fig. 1, of the spindle. From *c* to *d*, Fig. 5, the outside diameter of the tube is reduced, so as to leave shoulders *e* and *f* on the tube. Around the tube A, and concentric with it, is placed a tightly-fitting, thin sheet-metal jacket, *g*, which extends from the top of the tube A beyond the shoulder *f*, and, surrounding the portion of the bolster-tube A, which is of reduced diameter, forms an oil-chamber, *h*, around the bolster, which may be of any preferred length. The interior of the bolster-tube is connected with the oil-reservoir by means of orifices or passages *k* at the top and bottom.

By this means an oil-reservoir of sufficient

capacity can be obtained without increasing unduly the diameter of the sleeve portion of the spindle upon which the bobbin is to be placed.

The next feature of my invention consists of an improvement in the bolster-bearing for upper journal of the spindle; and it consists in the employment of a metal bushing, B, Figs. 3 and 4, of cylindrical form, but with an open seam, *m*. I prefer to form this bushing from rolled sheet metal, as thereby I can obtain metal of any preferred degree of density. This bushing, so made, is to be forced into the upper end of the tube, and, being elastic by reason of the open seam, and contracted in diameter when inserted into the tube, it holds itself in position by pressure against the inner wall of the tube. When worn it can be removed without difficulty, and its place easily supplied by another. It is better that the open seam *m* should not be entirely closed after the bushing has been inserted, for the reason that a small longitudinal opening facilitates the circulation of the oil throughout the bearing.

In order that oil may be conveniently supplied to the spindle, I make a hole, *o*, longitudinally through the head of the spindle for a short distance, and connect this hole with another hole, *u*, drilled through the side, and which communicates with the tube in which the spindle-bearings are located.

By simply removing the bobbin C, oil can be poured into the hole *o*, which will flow into the tube containing the spindle-bearings, and, after filling the latter, flow into and fill the reservoir or chamber *h*.

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

1. The combination of the jacket *g* and the recessed and perforated portion of the spindle-tube *c d k*, whereby an oil-chamber, *h*, is formed, substantially as described.

2. The combination, substantially as described, with a bolster-support, A, for a spindle, of a bushing or bearing, B, for the spindle, constructed substantially as specified.

3. The combination of the oil-duct *o u* in the head of the spindle with the tube A, containing the upper and the lower bearings of the spindle, substantially as described.

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