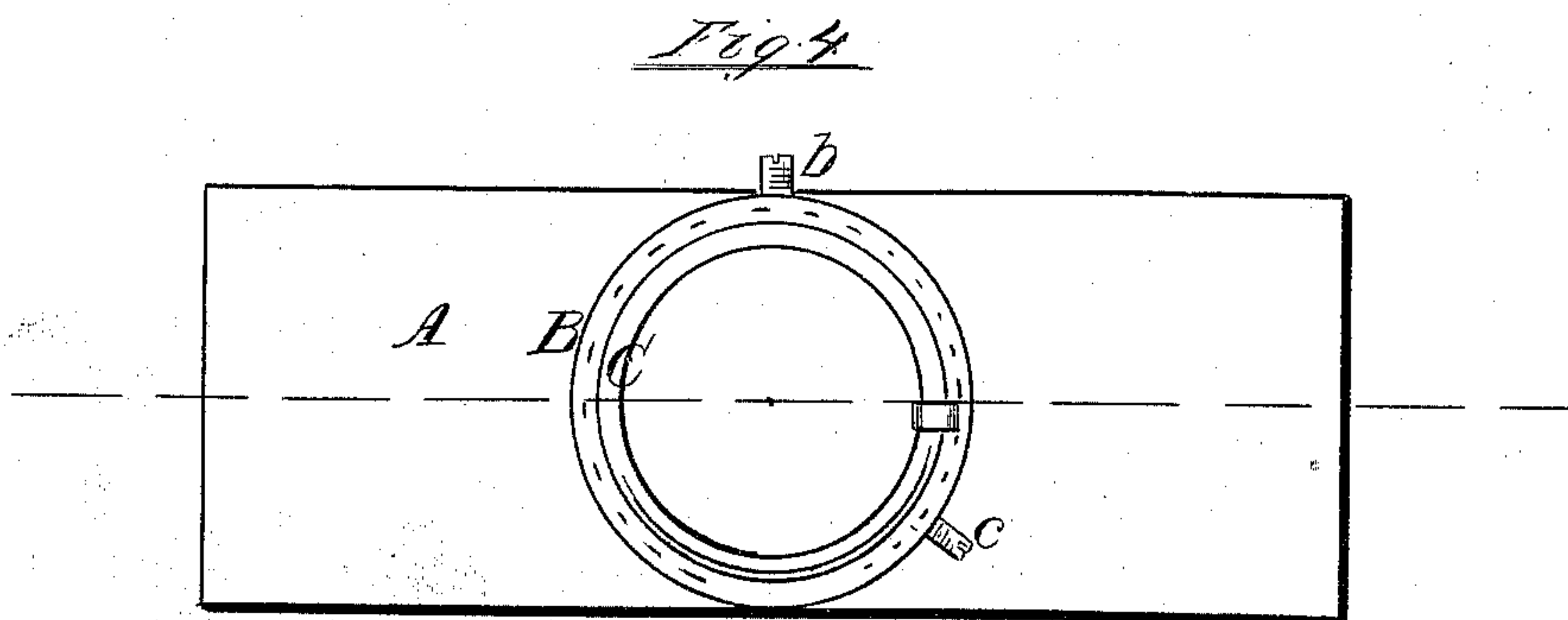
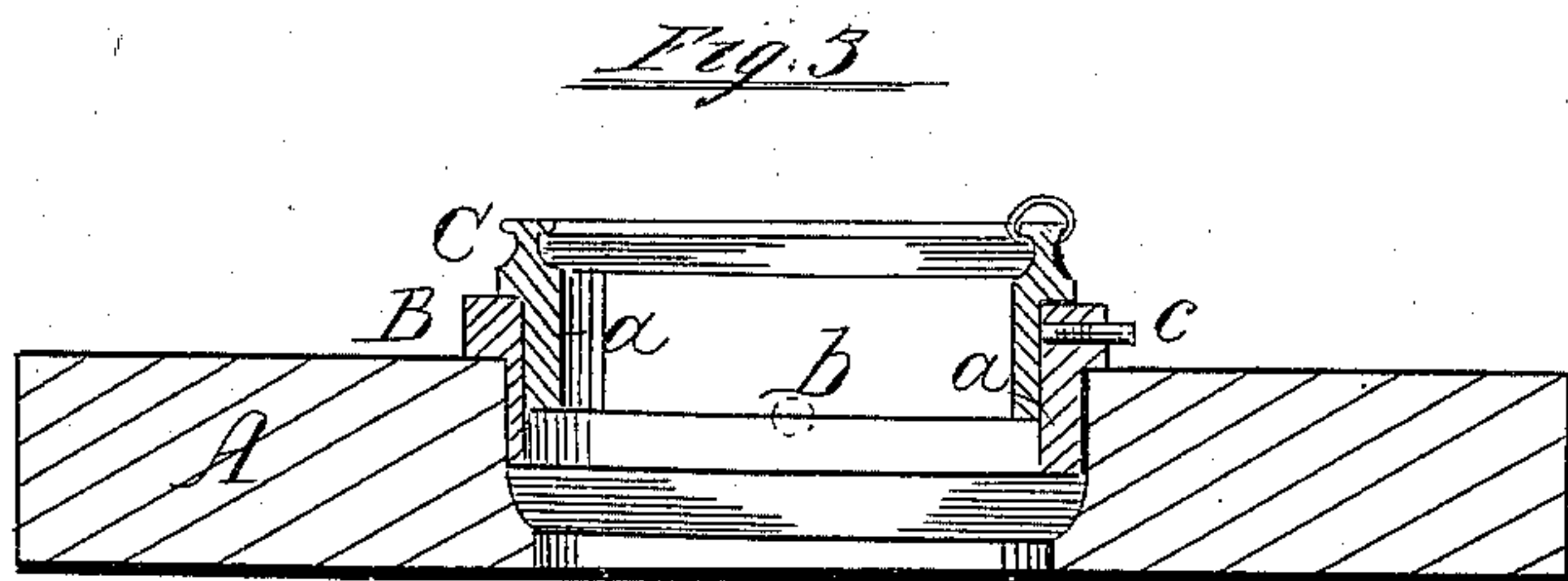
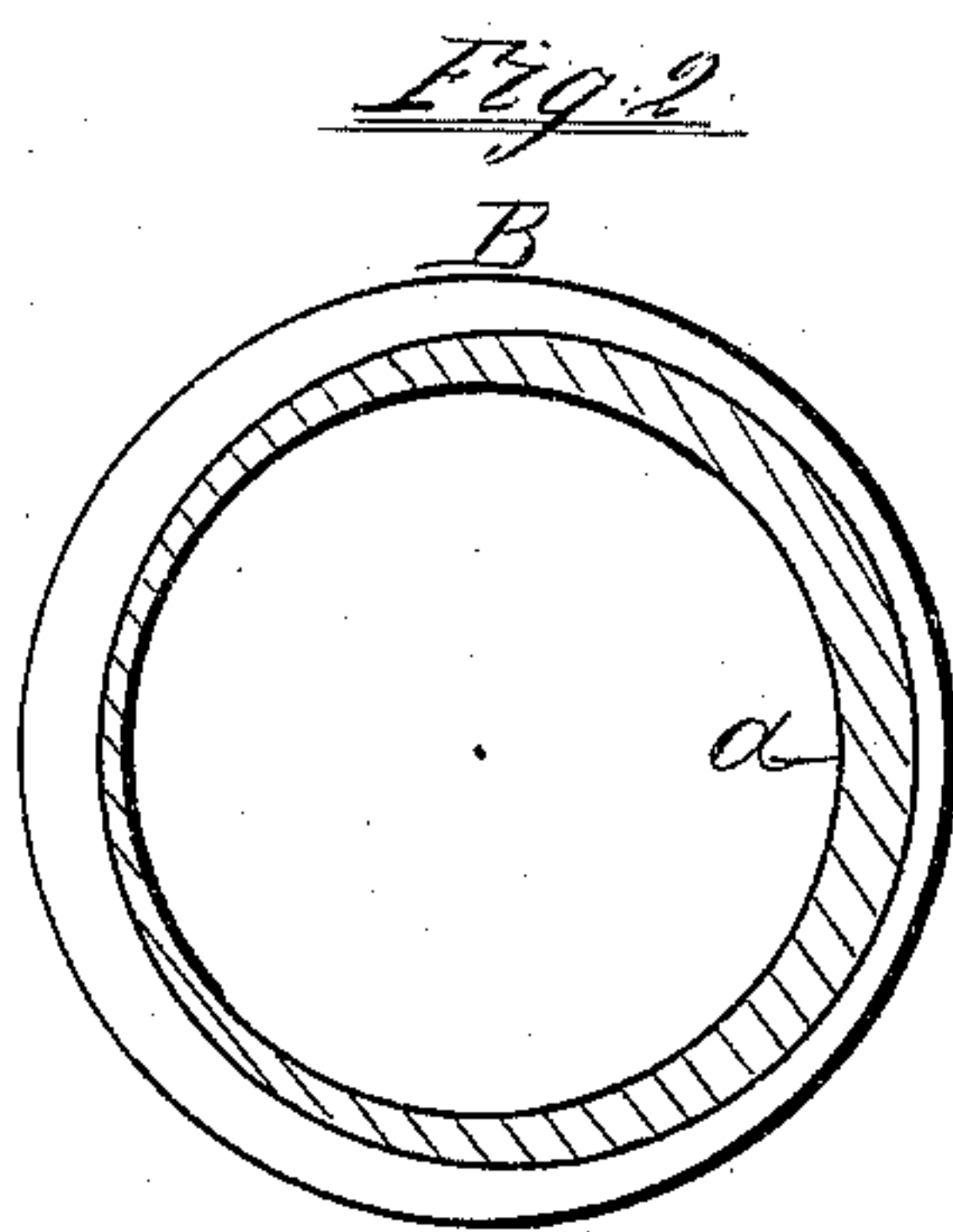
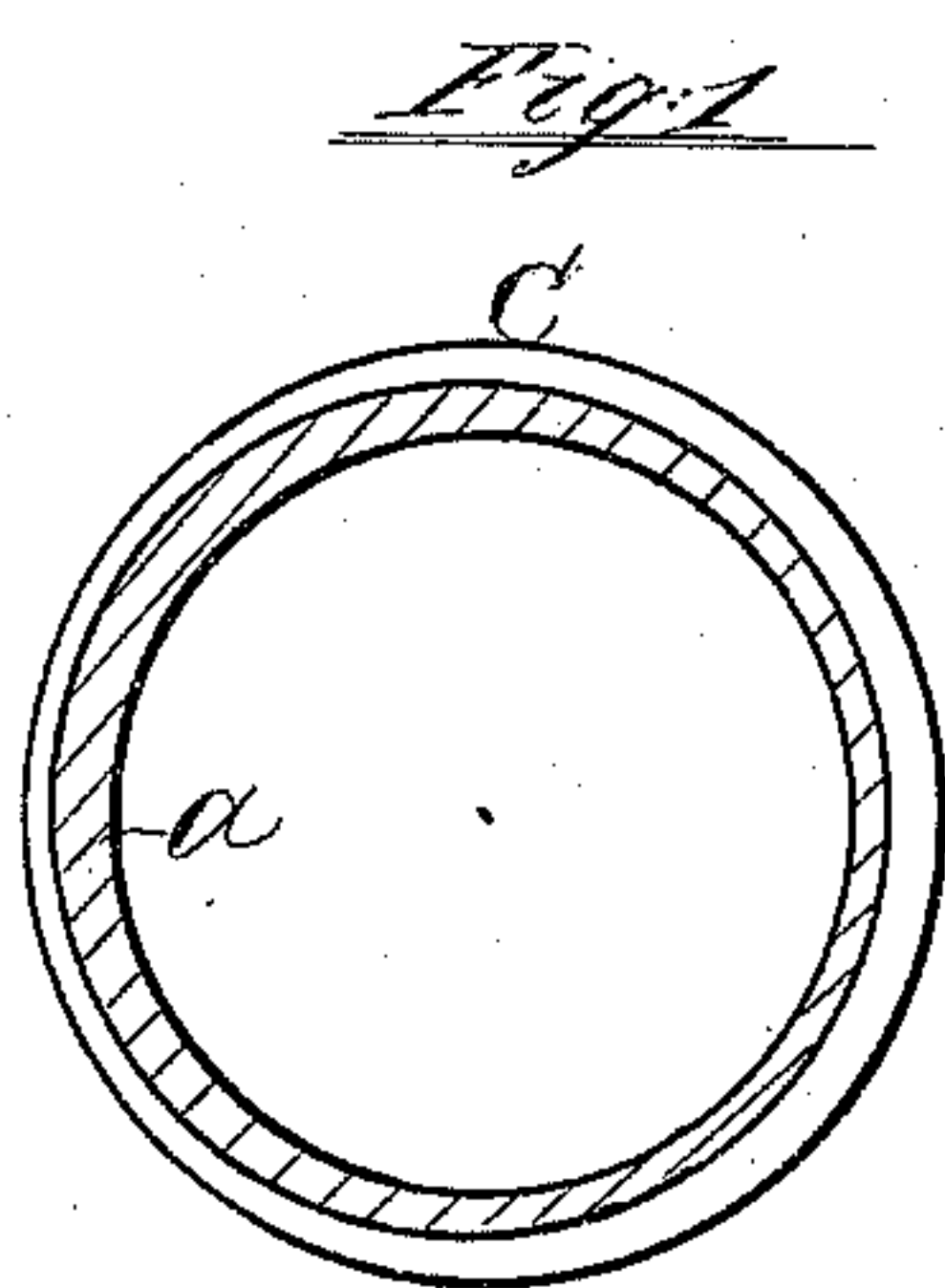


*H. G. Hall,*  
*Spinning Machine.*

*No. 68,185.*

*Patented Aug. 27. 1867.*



Witnesses  
*Theo. Tusche*  
*J. A. Service*

Inventor  
*H. G. Hall*  
*Per [Signature] Attorney*



# UNITED STATES PATENT OFFICE.

HENRY G. HALL, OF FAYETTEVILLE, NORTH CAROLINA.

## IMPROVEMENT IN RINGS FOR SPINNING.

Specification forming part of Letters Patent No. 68,185, dated August 27, 1867.

*To all whom it may concern:*

Be it known that I, HENRY G. HALL, of Fayetteville, Cumberland county, North Carolina, have invented a new and useful Improvement in Rings for Ring-Spinning; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a bottom view of the inside ring, showing how the flange which sets in the collar or outside ring is formed eccentrically with the hole for the spindle and the circumference of the ring. Fig. 2 is a similar view of the collar or outer ring, showing how the flange which sets in the rail of the frame is formed eccentrically to the hole and its circumference. Fig. 3 is a central cross-section of both rings in positions on the rail, in the line *x x*, Fig. 4. Fig. 4 is a top view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to an improvement in the construction of rings for ring-spinning, whereby the inside ring may be exactly adjusted or centered concentrically with the spindle.

The defects of ring-spinning, arising from the difficulty of adjusting accurately the ring to the spindle, so that it shall run perfectly concentric, are well understood.

By my improvement this difficulty is entirely overcome, so that the spindle shall always be adjusted exactly in the center and run concentrically with the ring, and thus secure the desideratum in ring-spinning of having a common center for the spindle-bobbin and traveler.

The advantages of this improvement are very important. It makes a perfectly-even yarn, the drag on the bobbin being always the same, as the traveler will run steady at the highest speed. It requires less doffing in proportion to the amount of yarn spun, as the head of the bobbins can be made larger to carry a larger cap, no allowance being necessary in order to accommodate itself to an uneven ring. It will require fewer operatives in spinning,

as there is no danger of the ends being cut down by an imperfectly-adjusted traveler. It will allow the speed of the spindle to be increased to ten thousand turns per minute, or up to the point of vibration of the spindle, and will consequently spin more yarn in the same time; and, finally, the spindle can be run with a light traveler, and both ring and traveler will wear and last longer.

A represents the rail; B, the bottom ring or collar, and C the upper ring. Both rings have holes through their center, in the usual way; but the flange *a* on each ring is made eccentric to the inside and outside circumference of the ring, as shown in Figs. 1 and 2. The eccentric-flange on the ring B fits exactly in the rail, and the flange on the ring C fits exactly in the ring B.

When the rings are in position on the rail, as shown in Fig. 3, either one or both may be turned around until the adjustment on the spindle is perfect, as will be manifest. The rings are then secured in place by the two tightening-screws *b c*. The tightening-screw *b* passes through the side of the rail, and fastens the lower ring B by bearing against its eccentric-flange, and the other screw, *c*, passes through the collar of the lower ring B, and bears against the eccentric-flange of the inside ring C, thus firmly securing both rings with an exact and permanent adjustment to the spindle.

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

The rings B C, constructed as described, the former provided with the eccentric-flange *a*, fitting into the rail, and the latter with a similar eccentric-flange fitting within the ring B, when both are constructed to operate as set forth, and held in position by means of the set-screws *b c*, substantially as described, for the purpose specified.

The above specification of my invention signed by me this the 28th day of January, 1867.

HENRY G. HALL.

Witnesses:

E. S. HOBBS,  
S. L. HALL.