

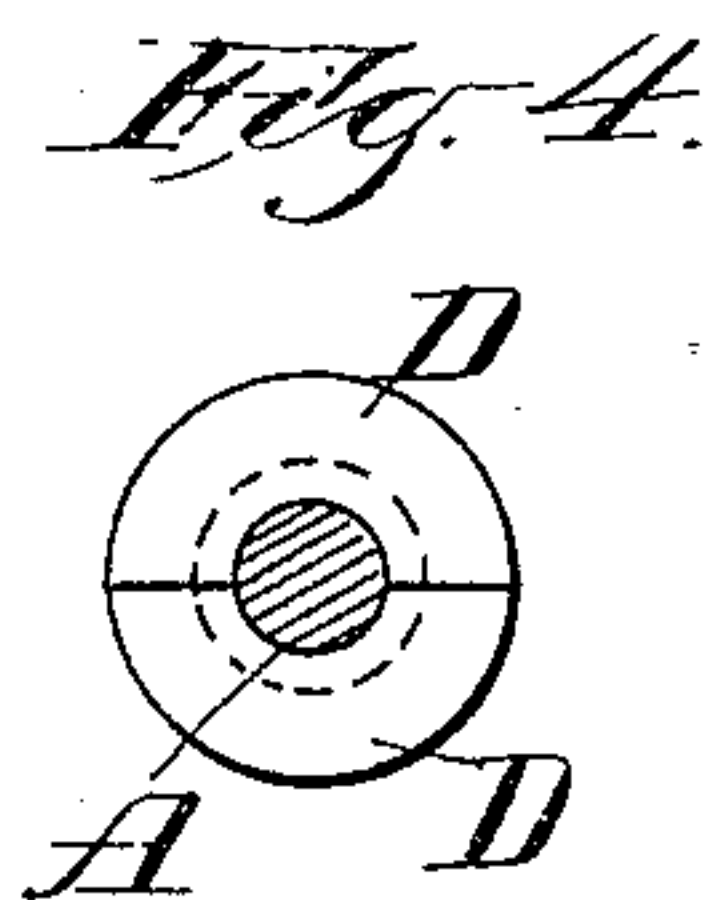
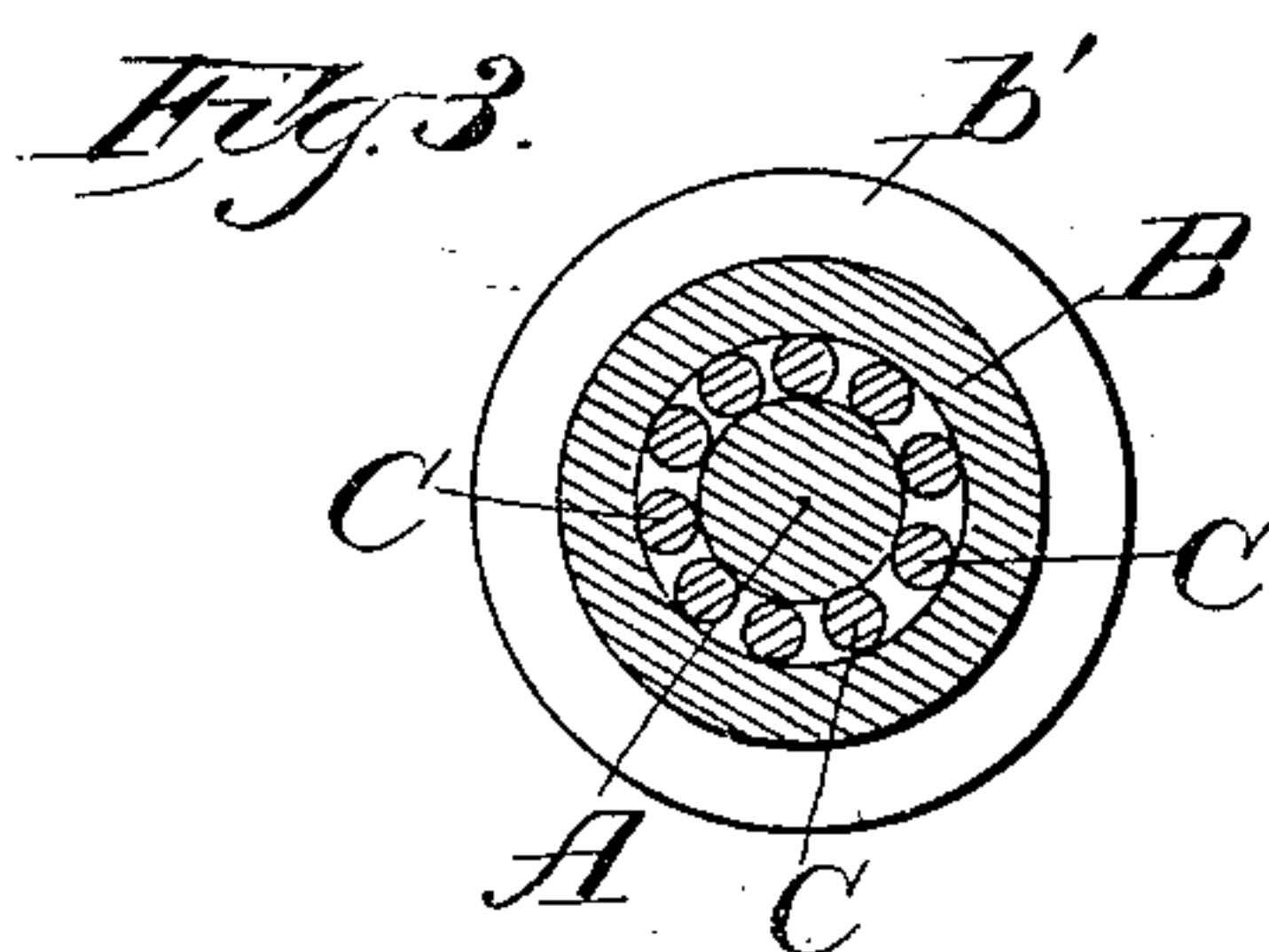
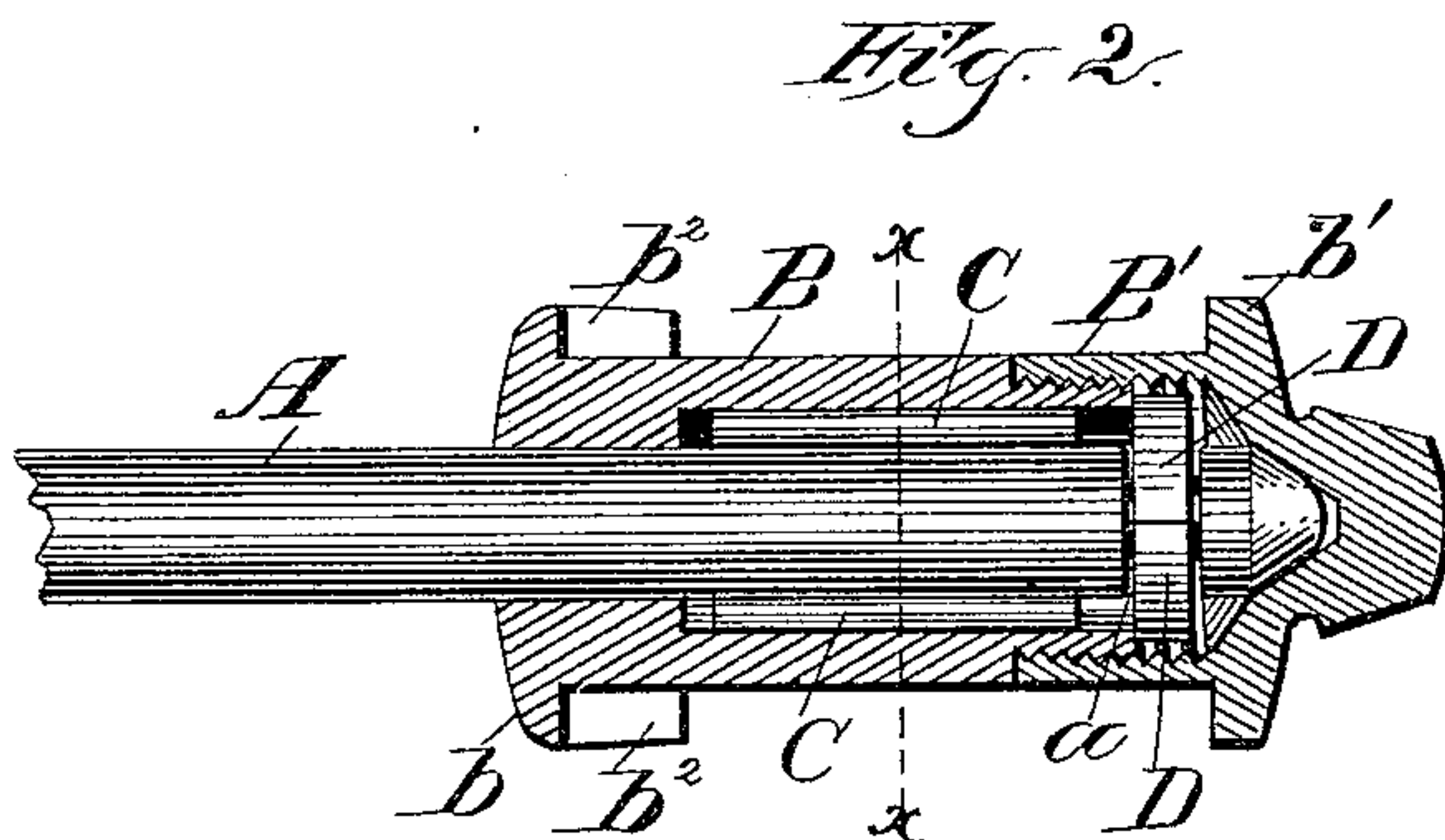
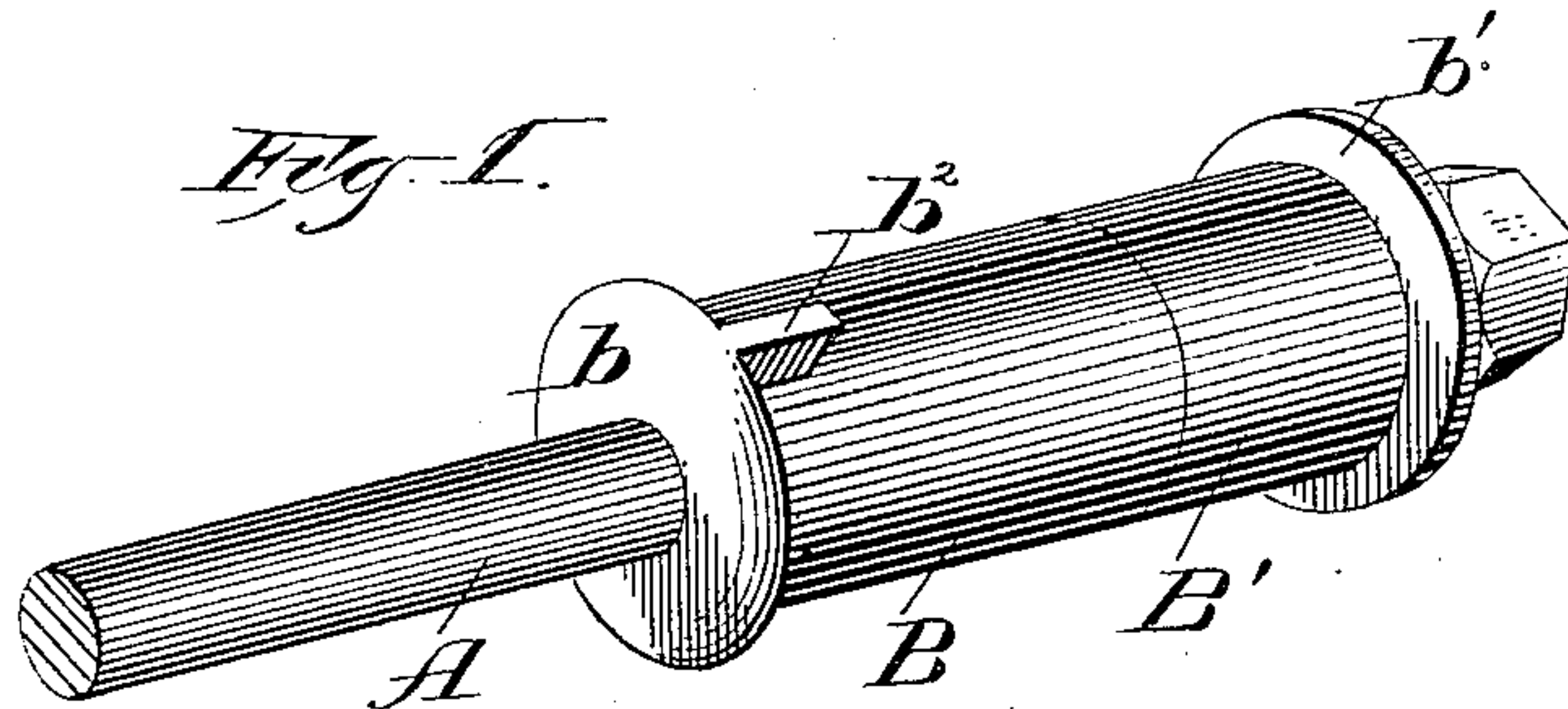
(No Model.)

B. M. JOHNSON.

AXLE BOX.

No. 328,683.

Patented Oct. 20, 1885.



Witnesses:

Ed Somers
Maurice A. Frear.

Inventor:

Bert M. Johnson

By *Stout & Mulderwood*
Attorneys.

UNITED STATES PATENT OFFICE.

BERNT M. JOHNSON, OF RACINE, WISCONSIN.

AXLE-BOX.

SPECIFICATION forming part of Letters Patent No. 328,683, dated October 20, 1885.

Application filed August 17, 1885. Serial No. 174,578. (No model.)

To all whom it may concern:

Be it known that I, BERNT M. JOHNSON, of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain
5 new and useful Improvements in Bushings for Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to bushings for wheels;
10 and it consists in certain peculiarities of construction, as will be fully set forth hereinafter.

In the drawings, Figure 1 is a perspective view of my device, showing one end of the axle. Fig. 2 is a central longitudinal vertical
15 section of the same. Fig. 3 is a transverse vertical section on the line $x x$ of Fig. 2; and Fig. 4 is a detail of the half-collars surrounding the axle.

A represents the axle, and B B' the wheel-
20 bushing surrounding the same. The parts B and B' are each hollow for the greater part of their length, the part B having a central perforation at one end to receive the axle A, while the outer end of the part B' is solid, and its
25 inner end is provided with interior screw-threads to screw upon exterior screw-threads formed on the reduced portion of the adjacent end of the part B. The outer ends of the axle A are provided with circumferential grooves
30 a , back of which, around the axle, and within the hollow space in the part B are grouped the anti-friction rollers or cylindrical pins C C C, while two half-collars, D D, are placed in the groove a and rest against the inner re-
35 duced end of the part B, in which position the part B' is screwed to place, confining the wheel-hub (not shown) between the flanges b and b' of the parts B and B', the said hub being further provided with indentations to re-
40 ceive the lugs $b^2 b^2$ projecting from the part B of the bushing.

The operation of my device will be readily understood from the foregoing description of its construction.

Only a very small amount of oil or other
45 lubricating material need be put inside the bushing, and this will last a long time, as the rollers C C insure against any considerable amount of friction, while my half-collars form an admirable means of keeping dirt out of the
50 interior of the bushing, and at all times afford the readiest access thereto without the use of any special instrument or tool.

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

1. In a bushing for wheels, the combination, with the axle, of a hollow bushing in two parts secured thereto by means of two half-
60 collars within the bushing fitting into a circumferential groove in the end of the axle, and a series of loose anti-friction rollers confined in the space about the said axle by the said half collars, and of less length than said
65 space, whereby they are adapted to have lateral play in said space, substantially as set forth.

2. The combination, with the axle A, having circumferential grooves at each end, of the hollow bushings B B', anti-friction rollers
70 C C C, and half-collars D D, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Racine, in the county of Racine, and State of Wisconsin, in
75 the presence of two witnesses.

BERNT M. JOHNSON.

Witnesses:

ADAM KOMELO,
A. C. JUDD.