

(No Model.)

W. W. ANDREWS.
ROLLER BUSHING FOR BLOCK SHEAVES.

No. 580,999.

Patented Apr. 20, 1897.

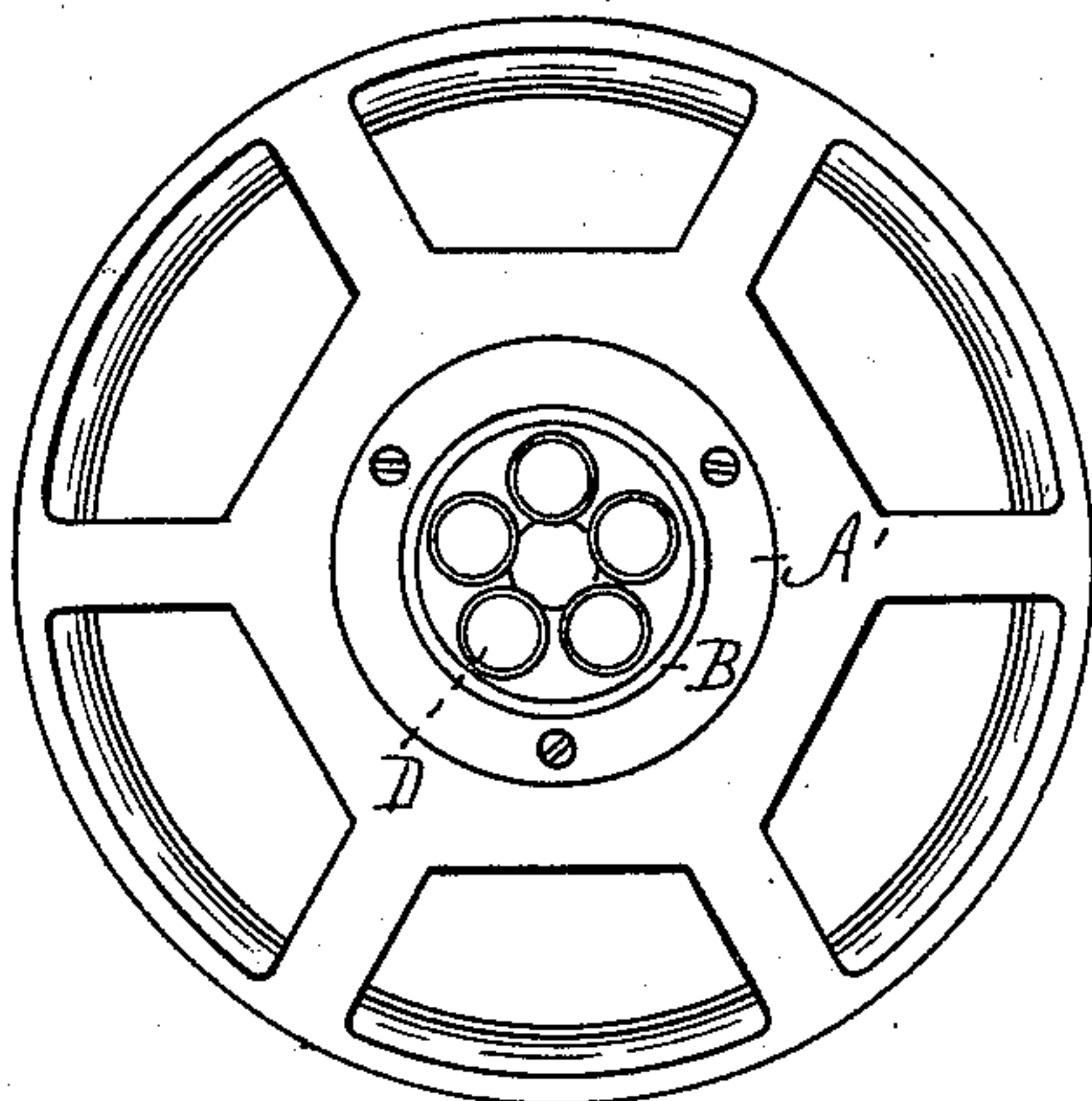


Fig. 1.

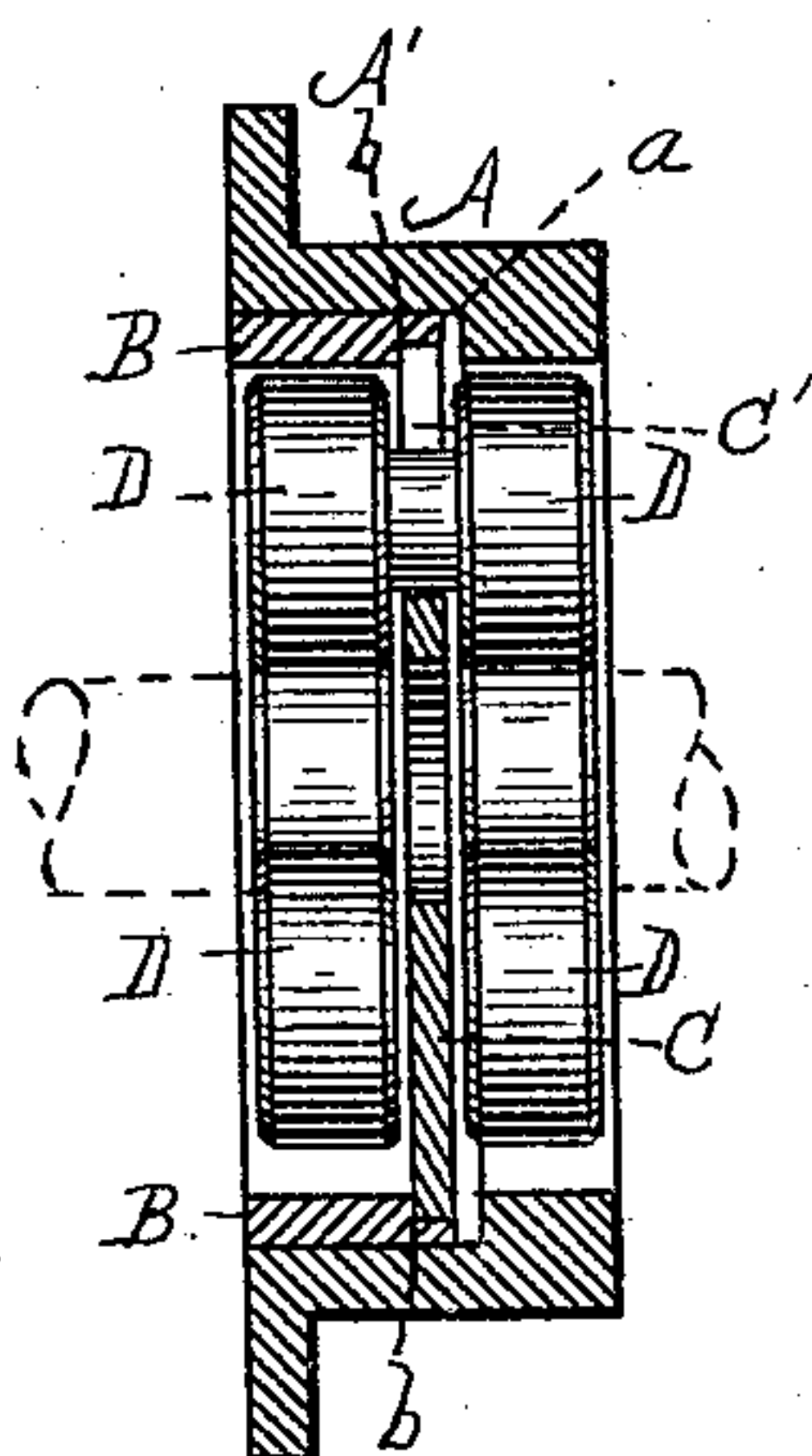


Fig. 2.

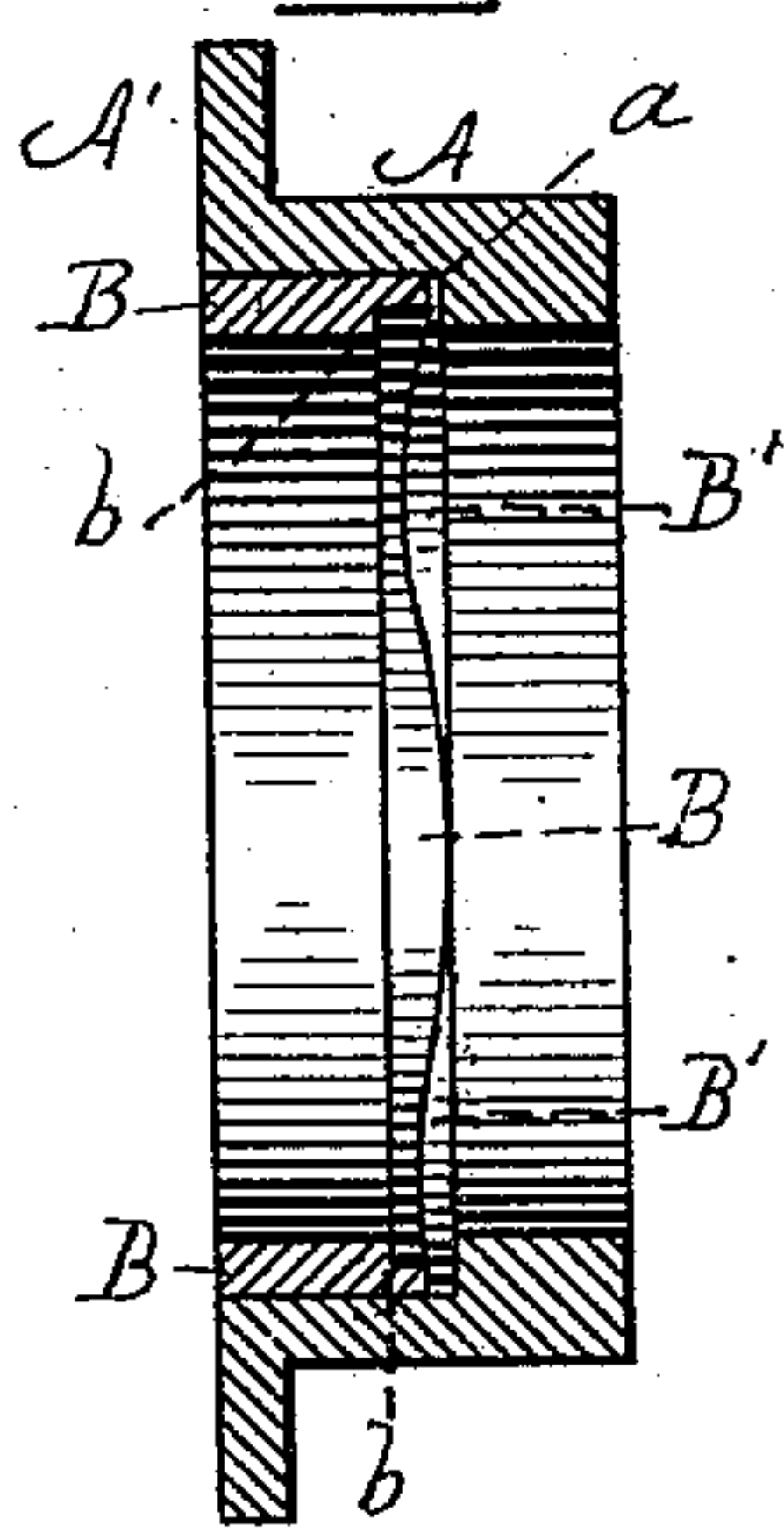


Fig. 3.

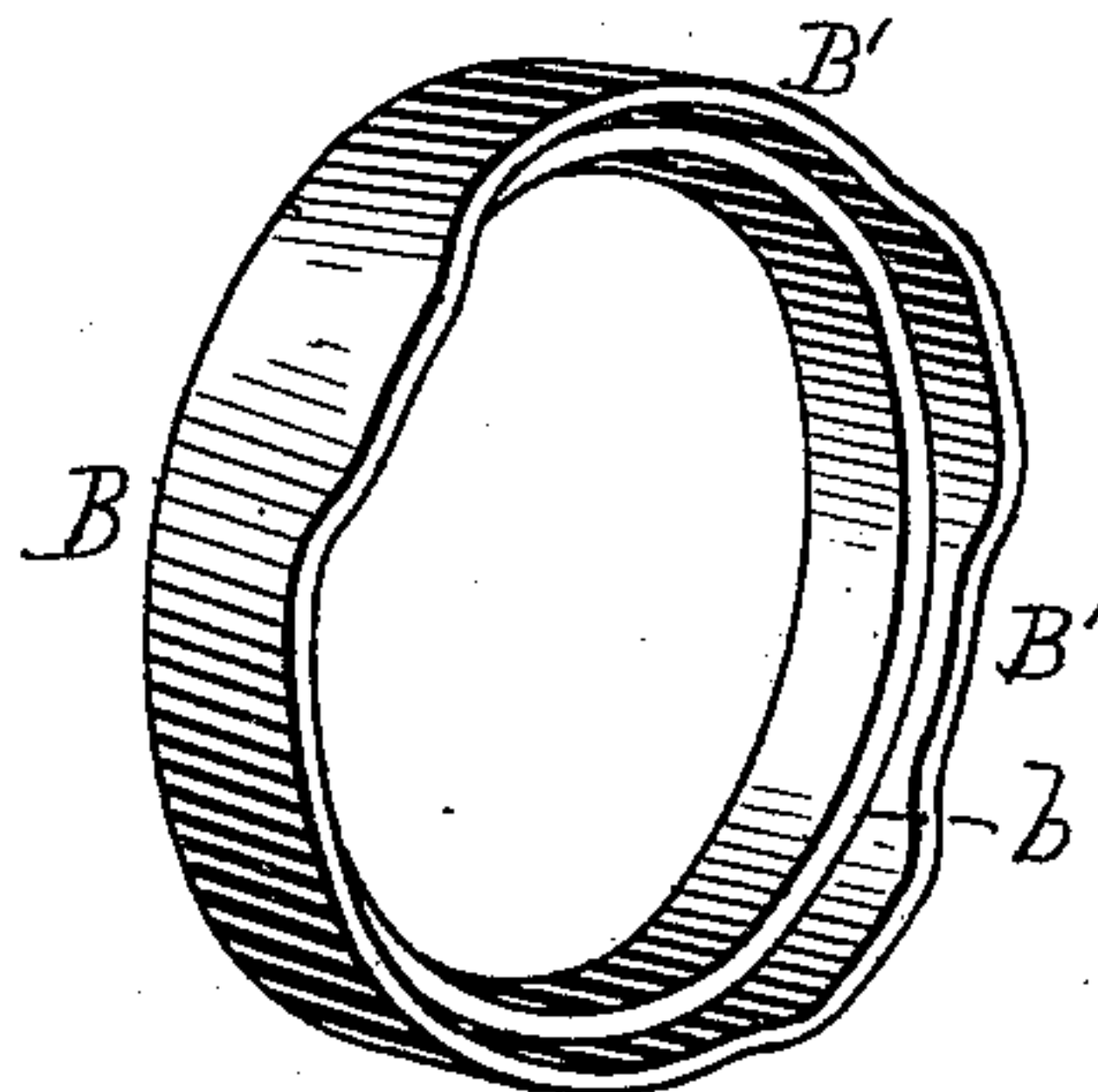


Fig. 4.

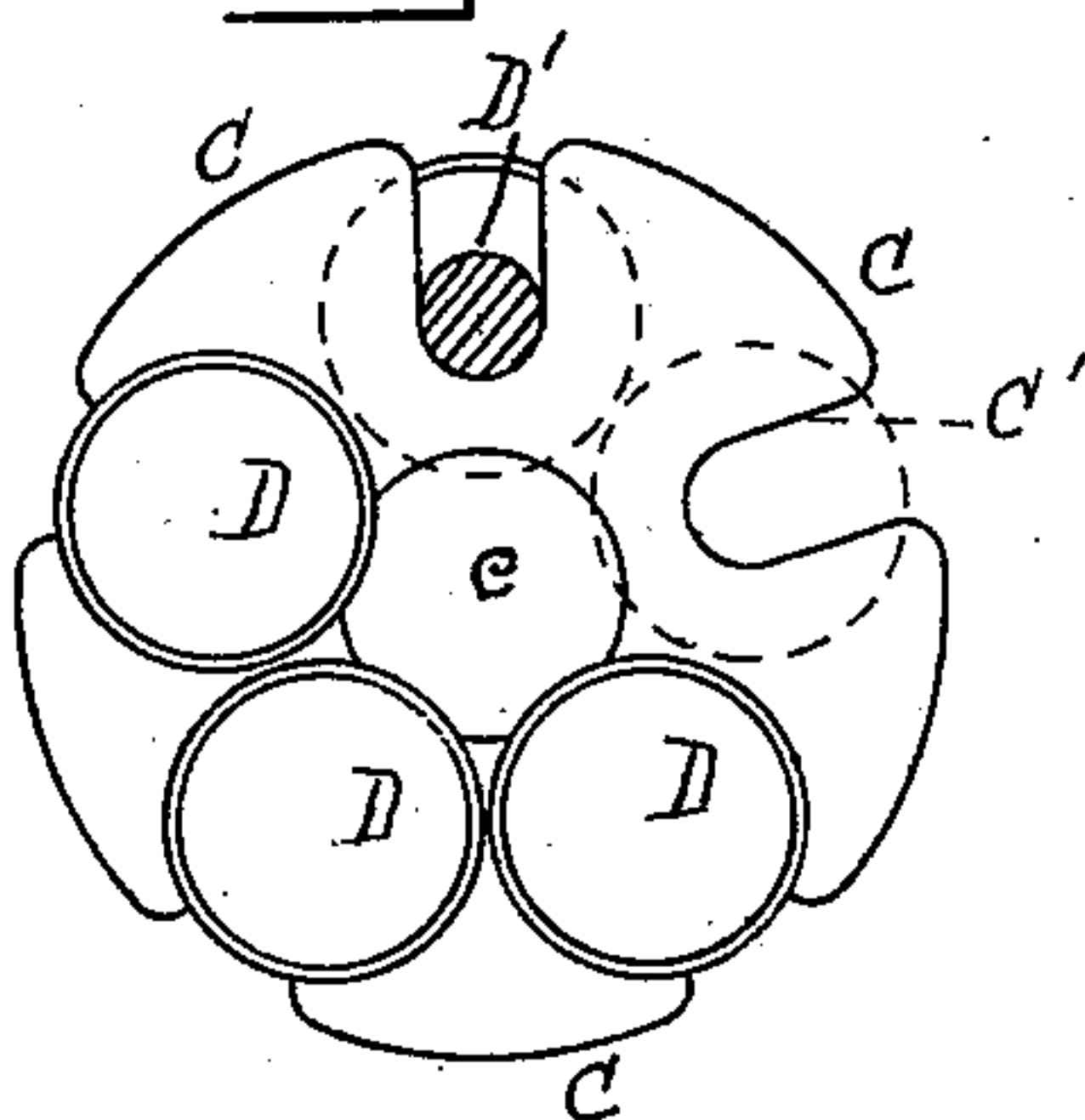


Fig. 5.

WITNESSES

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INVENTOR

William W. Andrews,

By His Atty.

Henry W. Williams

UNITED STATES PATENT OFFICE.

WILLIAM W. ANDREWS, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JOHN HAMPTON, OF SAME PLACE.

ROLLER-BUSHING FOR BLOCK-SHEAVES.

SPECIFICATION forming part of Letters Patent No. 580,999, dated April 20, 1897.

Application filed January 21, 1897. Serial No. 620,103. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. ANDREWS, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Roller-Bushings for Block-Sheaves, of which the following is a specification.

This invention relates to improvements in roller-bushings for block-sheaves, and particularly to that class of roller-bushings in which a central or separating plate or disk is employed, such plate being formed to extend into annular grooves located centrally on the rollers.

The chief objections to roller-bearings such as have been heretofore employed are the difficulty and practical impossibility of applying lubricating substance, the difficulty of removing the separating-plate and gaining access to the parts for repairing purposes, and the great liability to heating and expanding so that the rollers bind and become useless. In my improvement I combine with the body of the bushing and the separating-plate an intermediate ring of such shape and construction that provision is made for a lubricant, so that the bushing is self-lubricating, and the ring, plate, and rollers may be quickly and easily removed for repairing and other purposes.

The nature of my invention in detail is fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is a face view or elevation of a sheave provided with my improved roller-bushing. Fig. 2 is a cross-section of the roller-bushing removed from the sheave, the rollers being shown in elevation. Fig. 3 is a similar section of the roller-bushing with the separating-plate and rollers removed. Fig. 4 is a perspective view of the ring removed. Fig. 5 is an elevation of the separating-plate with three of the rollers in position, one removed, and one shown in central section.

In the last four figures the bushing is shown enlarged from the size shown in Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the body or main portion of

the bushing, provided with the usual flange A' for attaching it to the sheave. The inner surface of this portion is provided with an annular shoulder *a*, as shown. Within the main portion A is a ring B, which occupies the space between said shoulder and the outer or flanged opening in the ring. This ring is friction-tight in its position, but can be removed by a moderate blow in case of necessity. The inner edge of the ring B is formed into concavities B', say three in number, whereby concaved recesses or receptacles are provided between the inner edge of the ring and the shoulder *a* for the reception of masses of lubricating substance.

C is the separating-plate, set within the ring B against the shoulder *b*, formed on the rear portion of the inner surface of said ring. This separating-plate is provided with suitable notches C' in its periphery for the reception of the centrally-grooved portions D' of the rollers D, whereby one section of each of said rollers is within but not in contact with the rear portion of the frame A, and the other section is within but not in contact with the ring B. The separating-plate is provided with a central opening *c* for the reception of the pin.

It will readily be seen that in case a roller becomes broken the ring B, separating-plate C, and rollers D may be easily loosened and removed from the main body of the bushing and another roller inserted, and this removal is accomplished without taking the bushing out of the sheave. It is of course apparent that it is impossible to absolutely remove the element of friction by the employment of rollers, and hence it has been found in practice that the rollers will expand and heat by friction and then become useless as antifriction devices. By means of the concavities or recesses in the inner edge of the ring B considerable masses of lubricant may be stored and fed automatically to the moving parts. Thus the bushing is self-lubricating, as well as capable of having its internal parts easily removed.

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

In a roller-bushing, in combination, the main outer portion A provided with the internal shoulder *a*; the ring B adapted to fit within said main portion next the shoulder
 5 thereon, said ring having its inner edge next the shoulder formed with the recesses B' for the reception of lubricating substance; and a

separating-plate within said ring and provided with antifriction-rollers, substantially as set forth.

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Witnesses:

HENRY W. WILLIAMS,
 A. N. BONNEY.