

No. 628,480.

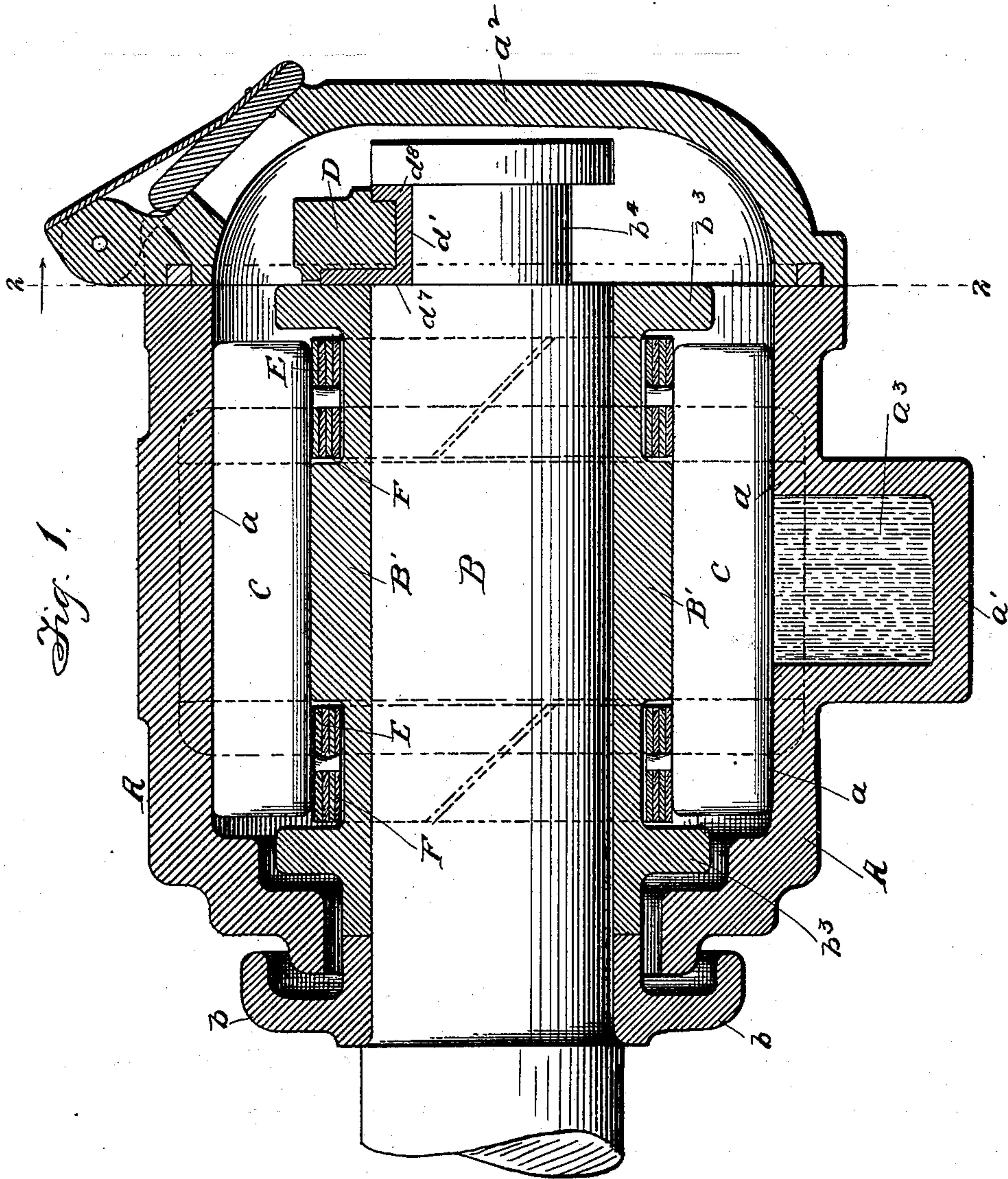
Patented July 11, 1899.

B. S. LAWSON.  
JOURNAL BOX.

(Application filed Nov. 28, 1898.)

(No Model.)

2 Sheets—Sheet 1.



*Benjamin S. Lawson*

Inventor

Witnesses

*H. J. Eunis.*  
*J. C. Perkins*

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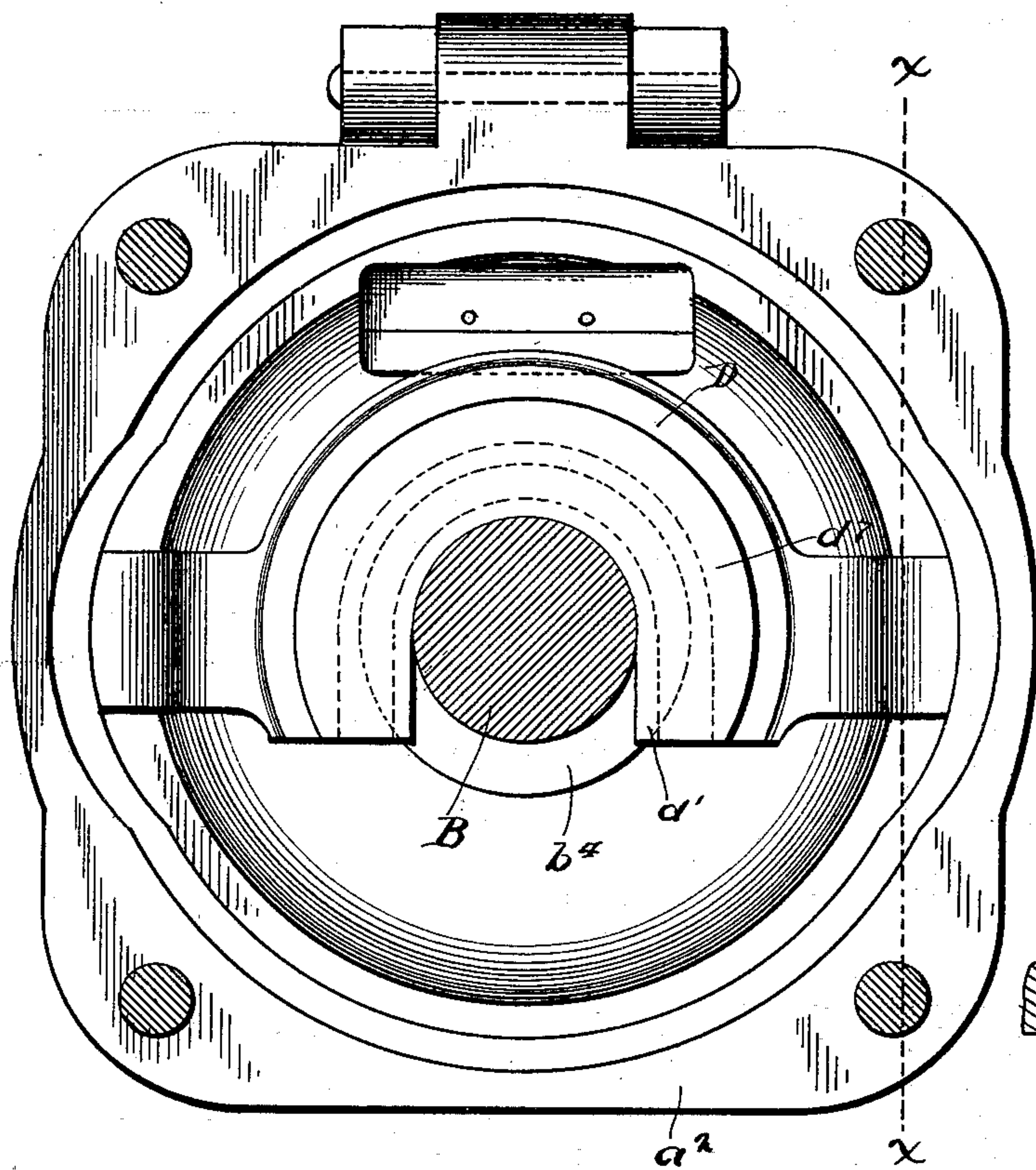
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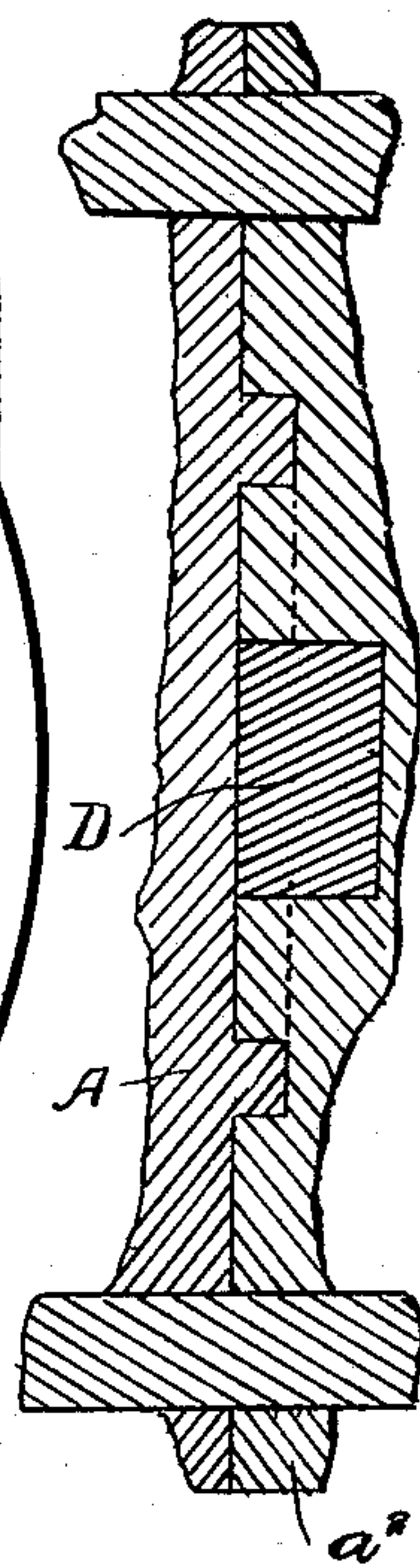
(No Model.)

2 Sheets—Sheet 2.

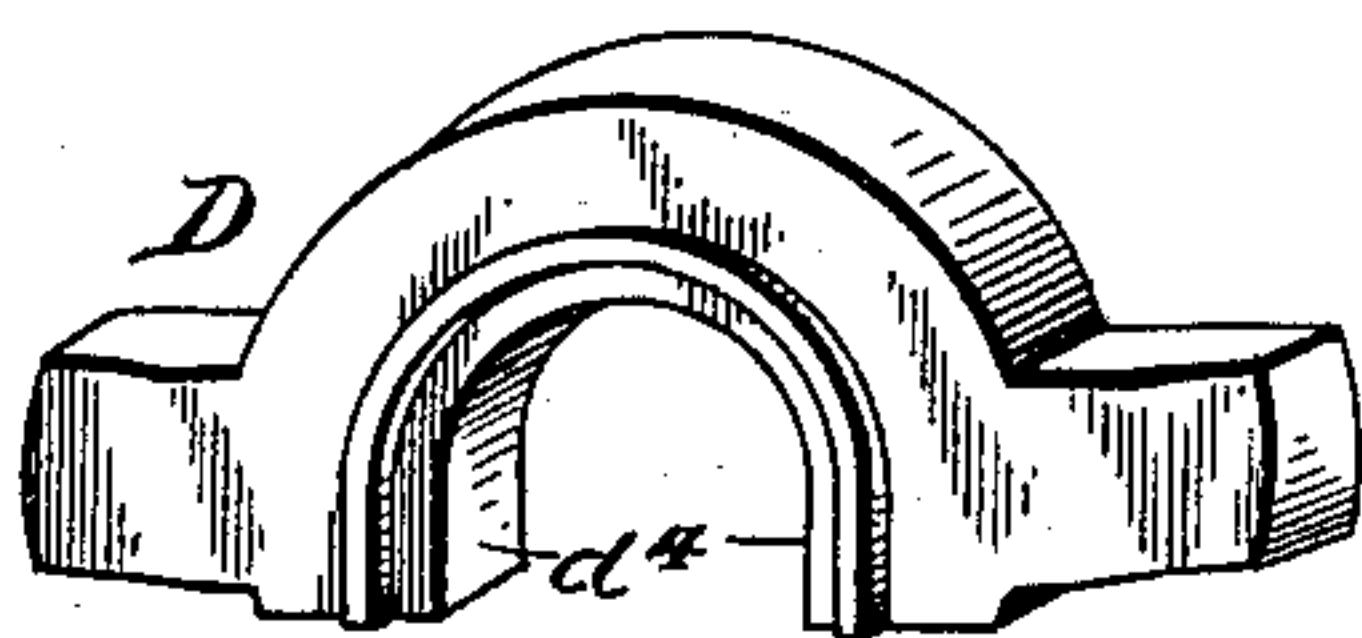
*Fig. 2.*



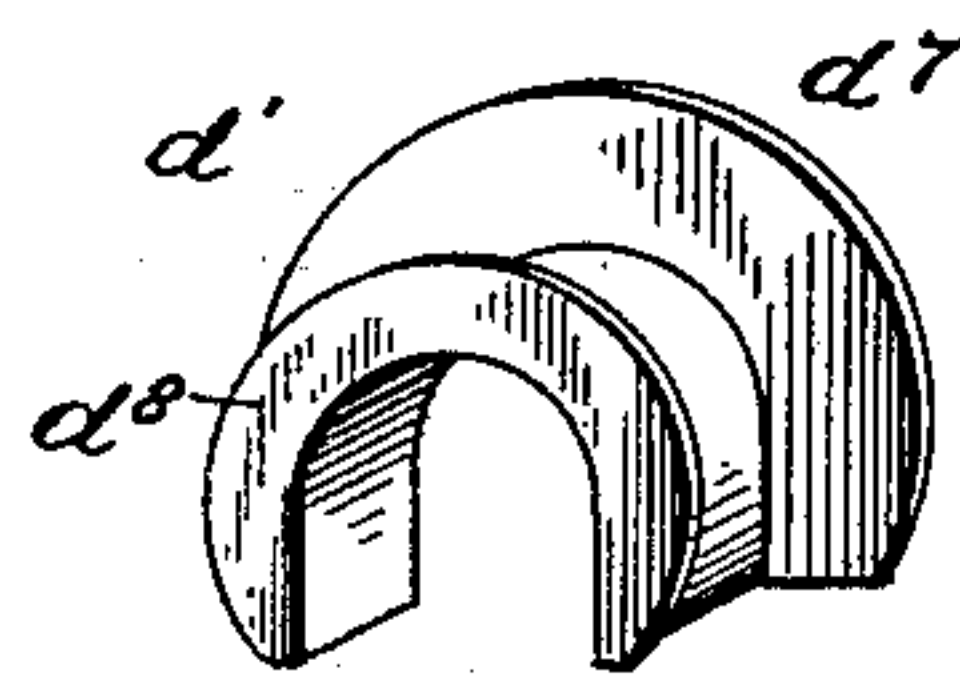
*Fig. 5.*



*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

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## JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 628,480, dated July 11, 1899.

Original application filed October 18, 1898, Serial No. 693,875. Divided and this application filed November 28, 1898. Serial No. 697,625. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN S. LAWSON, a citizen of the United States, residing at Red Bank, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Journal-Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in journal-boxes; and the object is to simplify and improve the construction and thereby increase the efficiency and durability of the device.

To these ends the invention consists in the construction, combination, and arrangement of the several elements of the device, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same reference characters indicate the same parts of the invention.

Figure 1 is a longitudinal section of a journal-box embodying my invention. Fig. 2 is a vertical section on the line 2 2 of Fig. 1, looking in the direction of the arrow. Fig. 3 is a perspective view of the yoke. Fig. 4 is a similar view of the yoke-box. Fig. 5 is a section on line *xx* of Fig. 2.

A denotes the journal-box, provided with the removable bonnet *a*<sup>2</sup>, which in turn is provided with the usual hinged door to permit access to the box for inspection or lubricating purposes. The bottom of the journal-box is formed with a lubricant-chamber *a*<sup>1</sup>, in which a suitable absorbent packing *a*<sup>3</sup> is placed to retain the lubricant.

B denotes the axle-journal, the outer end of which is formed with an annular groove *b*<sup>4</sup>, and *b* denotes a dust-guard fixed to the inner end of the journal, so as to encompass and close the contiguous open end of the journal-box and prevent the entrance of foreign matter to the bearing.

B' denotes a bearing-sleeve which encompasses the journal B, and it is formed at each end with a collar *b*<sup>3</sup>.

F F denote annular grooves formed exter-

nally on the sleeve to receive the split spring-rings E E.

C C denote cylindrical rollers arranged parallel with each other and forming a continuous annular series encompassing the sleeve and spring-rings, the tension of the latter being exerted radially outward to retain the rollers in contact with the concentric bearing-face *a*, forming the inner wall of the box A.

D represents a yoke, the horizontal arms of which are arranged to be seated in correspondingly-shaped recesses formed in the inner face of the bonnet, so as to secure the yoke in place when the bonnet is secured on the box and to permit the removal of the yoke when the bonnet is detached. The central portion of the yoke is preferably arch-shaped to receive the yoke-box *d*<sup>1</sup>, which in turn snugly fits the groove *b*<sup>4</sup> in the outer end of the journal.

The inner parallel walls *d*<sup>4</sup> *d*<sup>4</sup> of the yoke D engage the corresponding parallel outer walls of the yoke-box *d*<sup>1</sup> to prevent the latter rotating in the yoke.

The upper portion of the yoke-box *d*<sup>1</sup> is formed with parallel radial flanges *d*<sup>7</sup> and *d*<sup>8</sup>, which snugly encompass the parallel faces of the yoke, and likewise snugly fit the parallel walls of the journal-groove *b*<sup>4</sup>, the flanges *d*<sup>8</sup> preventing any inward longitudinal or end movement of the journal and the flange *d*<sup>7</sup> preventing any outward end movement of the same, and this latter flange *d*<sup>7</sup> of the box *d*<sup>1</sup>, in addition to forming an end bearing in one direction for the journal, also extends across the face of the outer end of the sleeve B', which, as shown in Fig. 1, is alined with the inner wall of the journal-groove *b*<sup>4</sup>, thus serving the double purpose of preventing any outward end movement of the sleeve or journal, while any movement of the sleeve on the journal in the opposite direction is prevented by the dust-guard *b*.

In the accompanying drawings I have shown the invention in the best form now known to me; but various modifications may be employed without departing from the spirit of the invention as set forth in the claims.

The present application is a division of an



application for a roller-bearing, Serial No. 693,875, filed by me on the 18th day of October, 1898.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. The combination of an axle or shaft formed with an annular groove, a fastening member composed of a main body having the intermediate portion of its lower face provided with shoulders alined with opposite sides of the groove in the axle or shaft, and a detachable engaging piece inserted into said groove and formed with shoulders interposed between the former shoulders and the adjacent surfaces of the axle or shaft, and a casing having a movable bonnet or closure for holding the fastening member in its adjusted position, said bonnet or closure being provided with a socket for receiving a portion of the main body of the fastening member, substantially as and for the purpose described.

2. The combination of an axle or shaft formed with an annular groove, a fastening member composed of a main body having the intermediate portion of its lower face provided with shoulders alined with opposite sides of the groove in the axle or shaft, and a detachable engaging piece inserted into said groove and formed with shoulders engaged with opposite sides of the main body, and additional shoulders interposed between the shoulders on the intermediate portion of the

lower face of said main body and the adjacent surfaces of the axle or shaft, and a casing having a movable bonnet or closure for holding the fastening member in its adjusted position, said bonnet or closure being provided with sockets for receiving the ends of the main body of the fastening member, substantially as and for the purpose specified.

3. The combination of an axle or shaft, a sleeve on the axle or shaft, a fastening member having its intermediate portion engaged with the sleeve for preventing endwise movement thereof, and a casing having a movable bonnet or closure for holding the fastening member in position, said bonnet or closure having its inner face provided with sockets for receiving the ends of the fastening member, substantially as and for the purpose described.

4. The combination of an axle or shaft formed with an annular groove, a sleeve on the axle or shaft at one side of the groove, a casing, and a fastening member supported by the casing and provided with an engaging piece inserted into the groove and having one of its sides engaging with one wall of the groove and with the sleeve, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN S. LAWSON.

Witnesses:

EUGENE M. MERRICK,  
H. J. ENNIS.