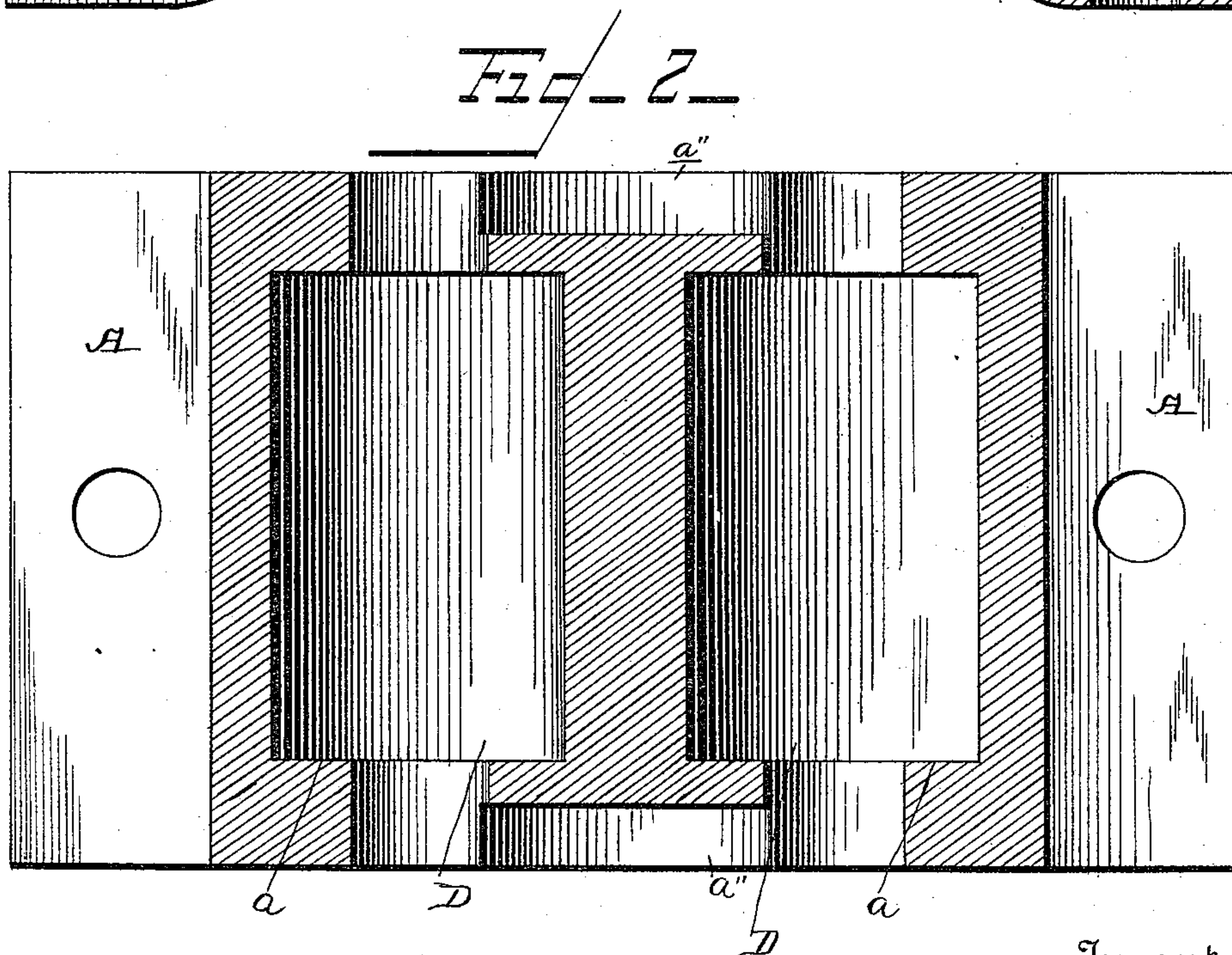
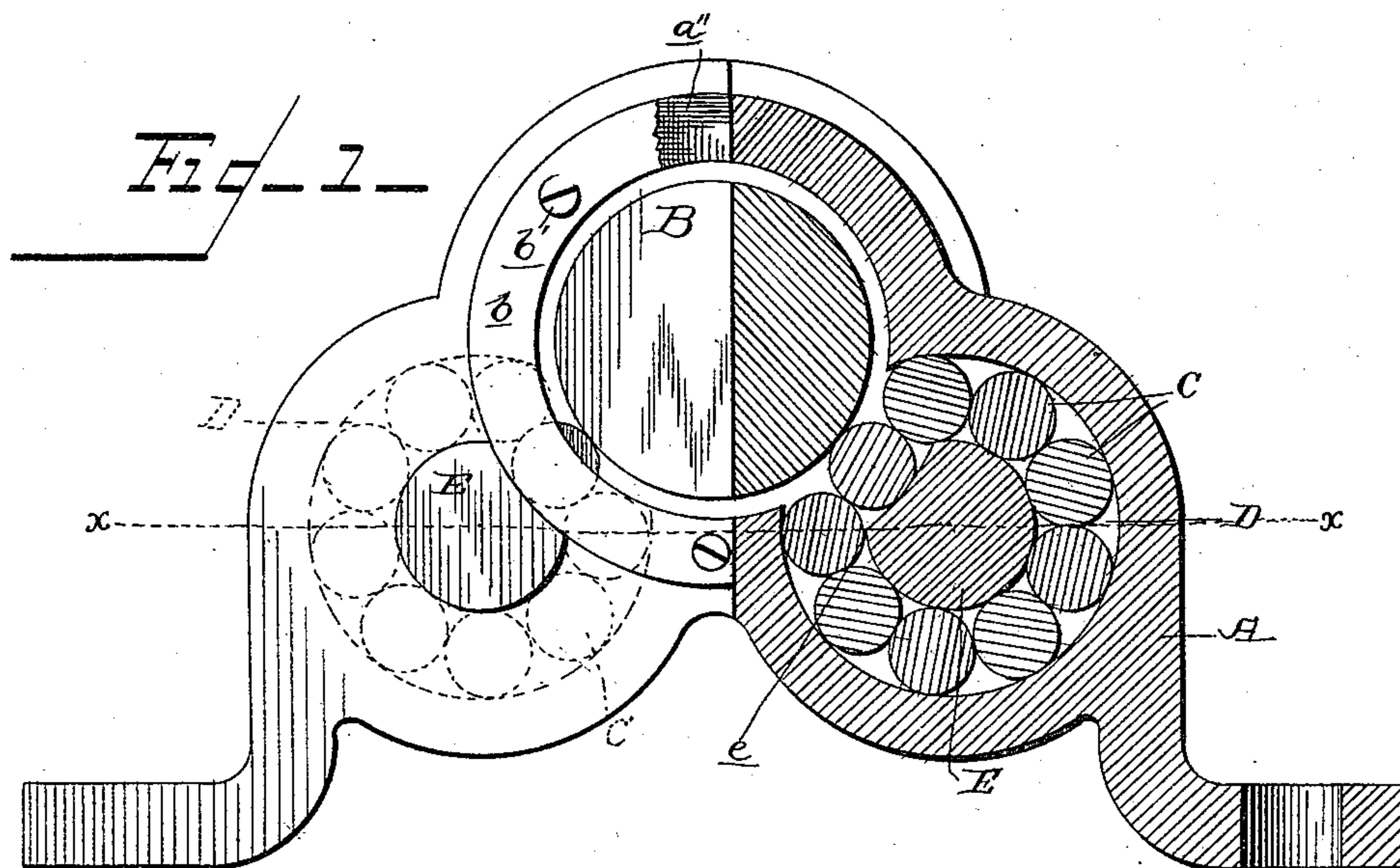


(No Model.)

W. S. SHARPNECK.
ANTI FRICTION JOURNAL BOX.

No. 441,027.

Patented Nov. 18, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM S. SHARPNECK, OF CHICAGO, ILLINOIS.

ANTI-FRICTION JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 441,027, dated November 18, 1890.

Application filed September 20, 1890. Serial No. 365,601. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. SHARPNECK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Anti-Friction Journal-Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of this improvement is to provide a journal-bearing of the class having a plurality of sets of anti-friction devices, each set traveling in a separate path, which will be cheaply made, strong, durable, and require little or no lubrication; and the invention consists in the construction, arrangement, and combinations of parts hereinafter more particularly set forth, and then definitely claimed.

In the accompanying drawings, Figure 1 is an end view, with one half in section, of a shaft and its bearing constructed according to my improvement. Fig. 2 is a horizontal section of the casing on the line $x x$, Fig. 1.

Referring now to the details of the drawings by letter, A represents the casing having a three-part opening through it, in the center part of which sets the shaft B, which rests and revolves upon two sets of rollers C, each set running in a peculiarly-formed path D in the opposite lower parts of the opening in the case. In the center of each of these paths is an axle E, having one side removed, leaving a slightly-concave face e , as shown. These axles are permanently fixed in the casing in the position shown, so that their concave faces will form part of a circle of which the center is the center of the shaft B. The paths are closed at each end by the shoulders a , so that there will be no end-motion of the rollers C. At each side of the case, around the central part of the opening thereof, there is a recess a'' to receive a collar b , which bears on the concavity in the axles E, and thus securely holds them in position. These collars are held in place by screws b' , as shown.

From this description and the drawings it will be seen that the entire load is carried by

the axles E, and that these axles prevent any pressure being exerted on the rollers traveling around them, except those immediately between the axles and the shaft. By this construction I have provided a very strong and durable bearing, that may be very cheaply made and is not liable to wear but little, if at all, as the friction on each roller is so slight as to be not worth mentioning, there being but one roller of each set on which there is any pressure during most of the time, the others revolving loosely without carrying any load until each one in its turn travels over the concave surface e , and as the rollers roll over a solid unbroken surface for the whole of their length there is less danger of any of the parts breaking down under great weight or pressure than there is when balls are used, which balls can of course only bear upon a very small portion—a mere point, in fact—of their surfaces at once.

Having thus shown one way of carrying out my improvement, but without limiting myself to the construction shown, I claim as new—

1. A journal-bearing having a three-part opening therein, one of said parts being adapted to receive a journal and the other two parts having smooth cylindrical forms for the major portion of their circumferences, each of said two parts having set therein a cylindrical axle with a concave side to form an eccentric path, and a set of cylindrical rollers traveling in said path, substantially as described.

2. An anti-friction journal-box comprising a casing having a three-part opening through it, two of which are cylindrical in form for the major part of their circumference and are reduced at their ends by shoulders formed on the casing, a pair of axles fitting in the reduced ends and each having a concave surface on one side, and two sets of cylindrical rollers traveling between the casing and the axles, substantially as described.

3. The combination, with two sets of cylindrical rollers C, of a shell A, having eccentric paths D for said rollers, each of said paths having its end boundaries formed by shoul-

ders a , an axle E, having a concave face e set
in the center of each path, a journal running
in contact with each roller in each set in suc-
cession, and a ring b set in a recess a'' , formed
5 around the central part of the opening to hold
said axle E in place, all substantially as de-
scribed.

In testimony whereof I affix my signature,
in presence of two witnesses, this 20th day of
September, 1890.

WILLIAM S. SHARPNECK.

Witnesses:

T. J. W. ROBERTSON,
S. BRASHEARS.