

(No Model.)

W. W. VAUGHN.
Anti-Friction Journal Box.

No. 236,517.

Patented Jan. 11, 1881.

Fig. 1.

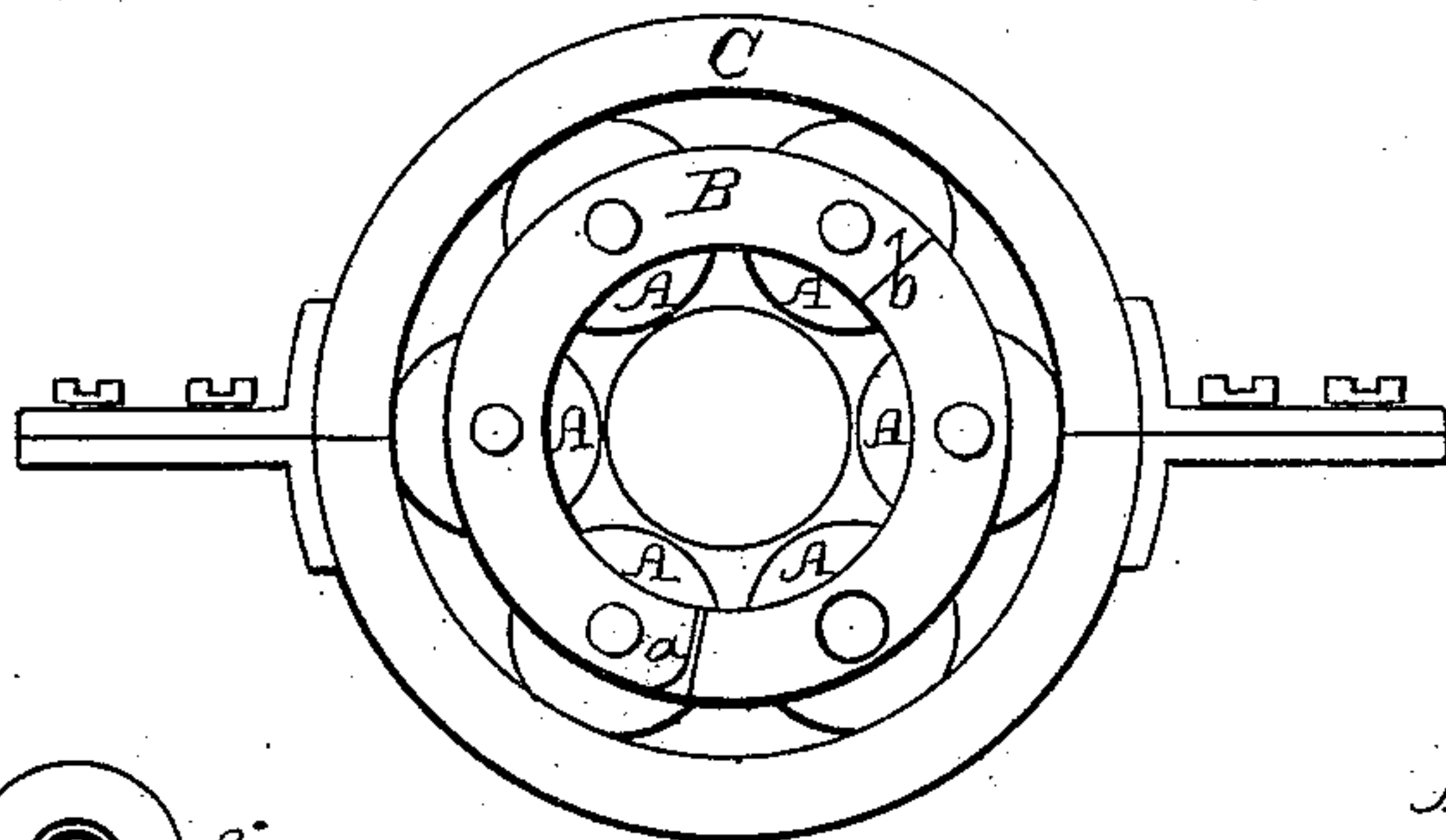


Fig. 2.

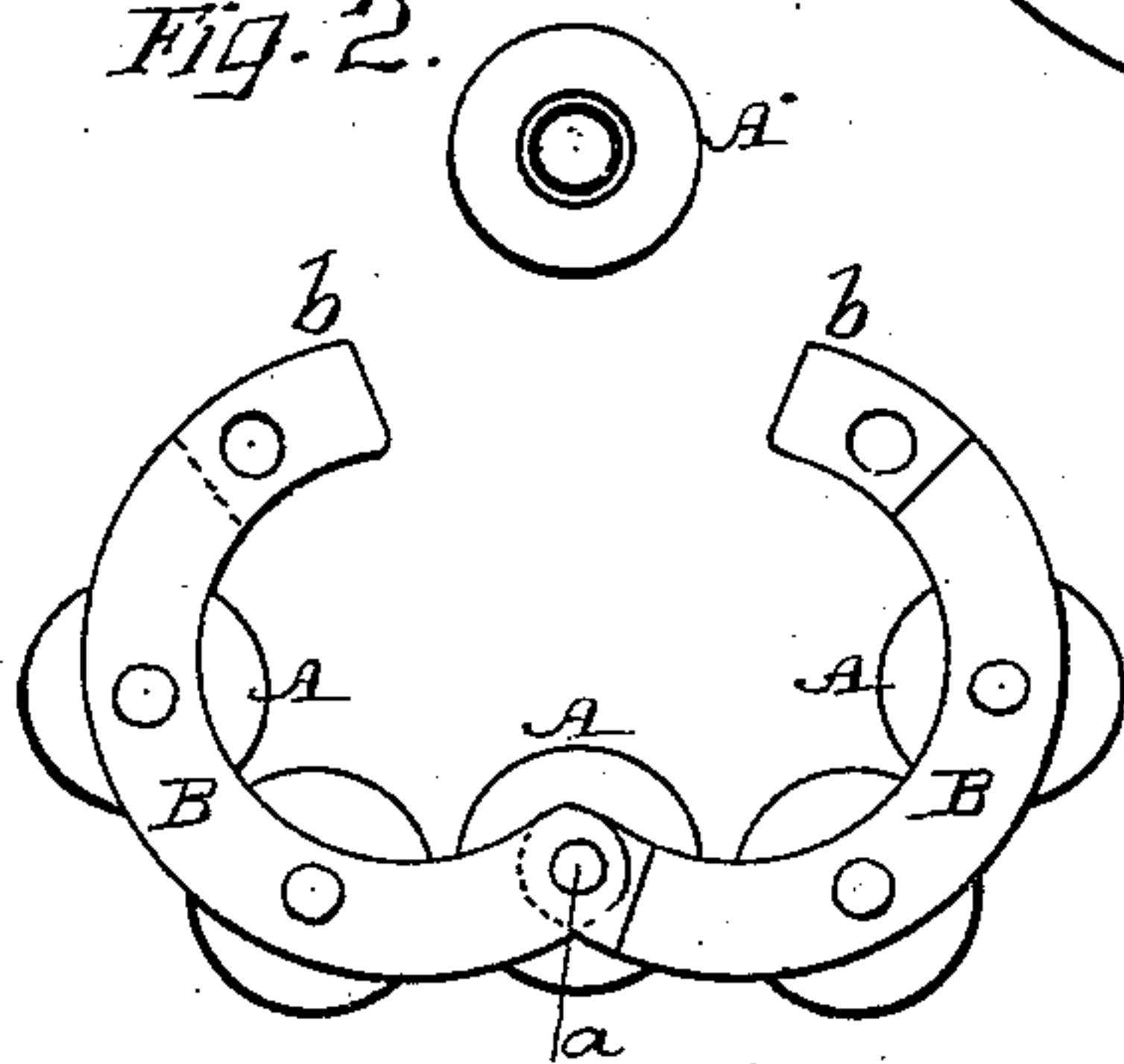


Fig. 3.

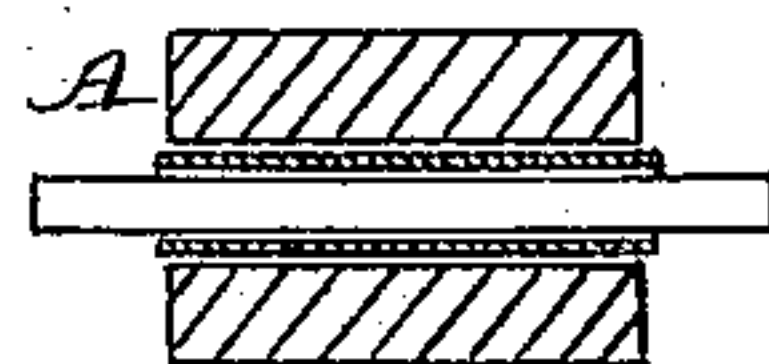


Fig. 4.

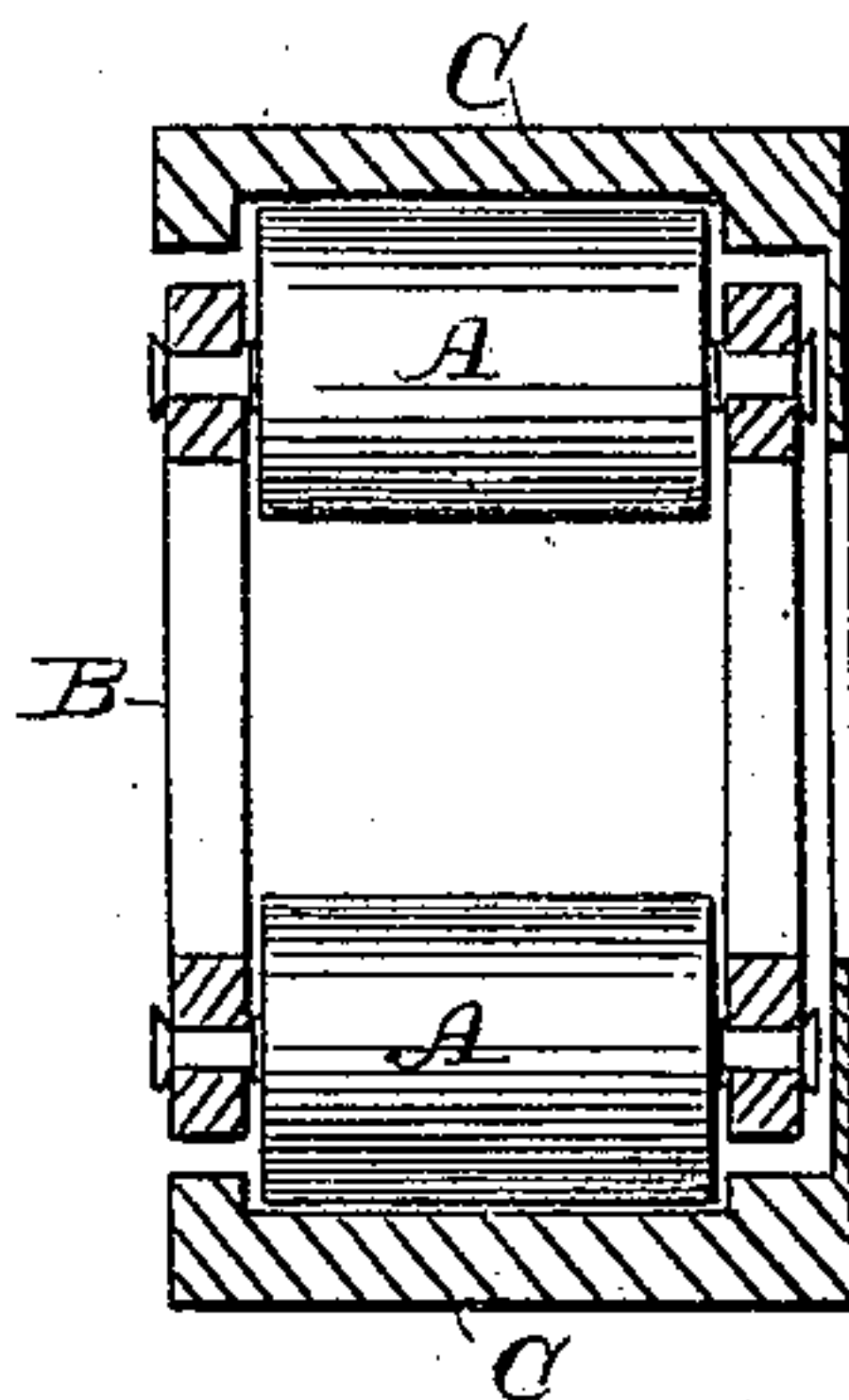
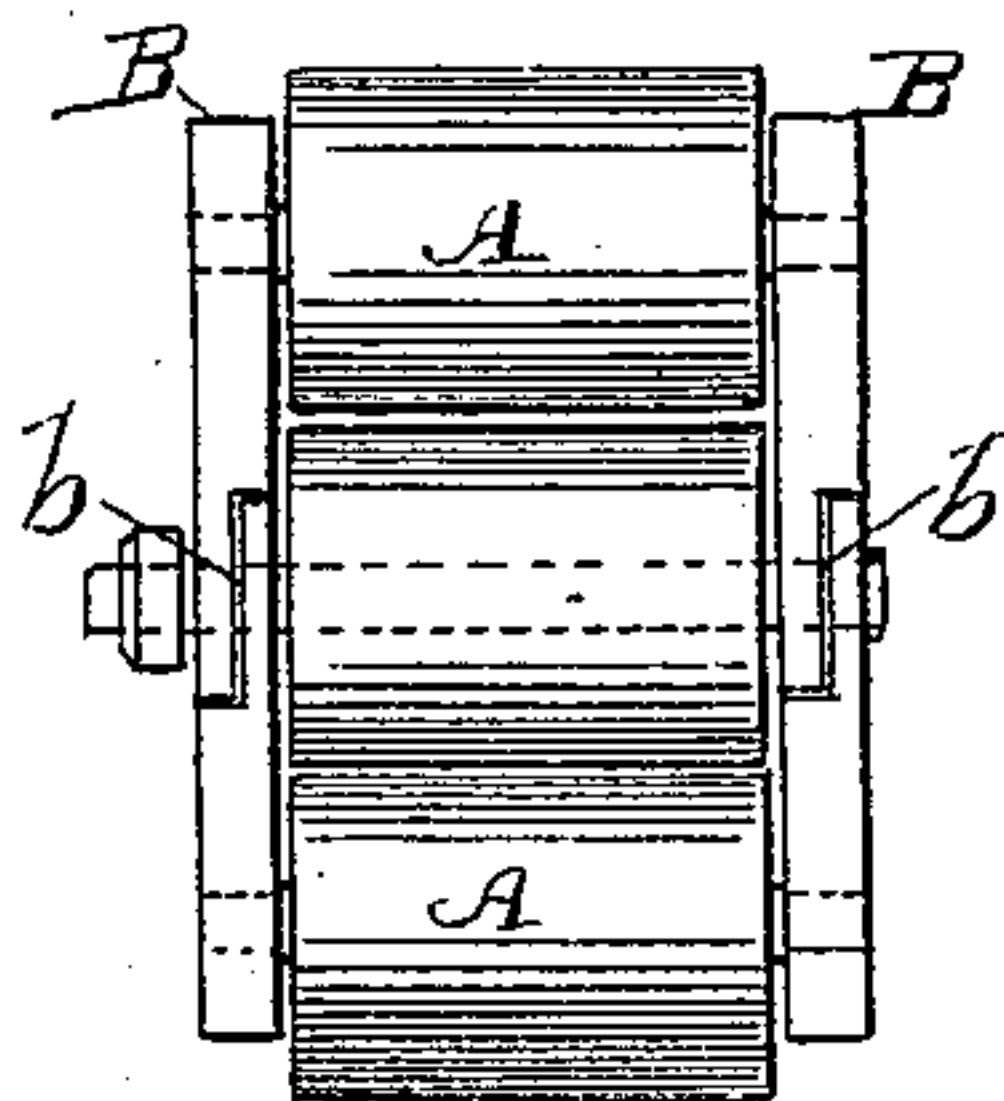


Fig. 5.



Witnesses

Frank A. Brooks
Geo. H. Strong.

Inventor
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UNITED STATES PATENT OFFICE.

WALTER W. VAUGHN, OF STOCKTON, ASSIGNOR OF TWO-THIRDS TO ASA CLARK, OF SAME PLACE, AND CALEB DORSEY, OF OAKDALE, CALIFORNIA, ONE-THIRD TO EACH.

ANTI-FRICTION JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 236,517, dated January 11, 1881.

Application filed May 11, 1880. (No model.)

To all whom it may concern:

Be it known that I, WALTER W. VAUGHN, of Stockton, county of San Joaquin, and State of California, have invented an improved Anti-Friction Journal-Box; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in anti-friction journal-boxes of that class in which the shaft, axle, or journal has its bearing upon rollers, which surround it and roll between it and the inclosing box or housing.

My improvement relates to a separable or two-part box, in combination with a series of rollers which are adapted to rotate between the journal and the box, and are supported in position by means of flanges at each end, these flanges being formed in two parts each and hinged so as to open at a point corresponding with the opening of the box.

My improvement consists in uniting the flanges by studs or pins which pass through the center of the rollers, and serve at the same time to support the rollers and secure the flanges without other connections. The uniting-joints of the flanges are connected and rigidly secured by a pin passing through a tube about which the roller at the joint turns, so that the rollers may be equally spaced and the joint screwed up solid without binding the roller.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 shows my box closed upon a shaft. Fig. 2 shows the box opened so as to be removed or replaced. Figs. 3, 4, and 5 are detail views.

A are a series of rollers having a length equal to that of the journal to which they are applied. These rollers have axles or pins, the ends of which are supported in flanges or rings B, at such distances from each other that the rollers will be maintained equidistant from each other, and will inclose a space of just the diameter of the journal to which they are applied. These rollers are fitted into an exterior box, C, within which they roll in the manner usual to this class of journals. I form

each of the flanges or rings B in two parts, one side having a hinge-pin about which they may be opened to admit or remove the journal. In the present case I have shown the flanges B made in halves, the meeting ends of these halves being formed to overlap, as shown at *a b*. The rollers turn freely upon pins or axles which pass through each one, and project far enough at each end to pass through the sides of the flanges, the pins having shoulders to keep the flanges at the proper distance apart and allow the rollers to turn freely. The pins are headed or riveted down so as to hold the flanges rigidly in place and prevent any twisting and getting out of line of the rollers. This is also necessary, because when the halves of the flanges are opened or separated they must be as rigid as when they are united, or as when solid rings or flanges are employed. At the point where the halves are to be hinged together they are scarfed off, so as to overlap, as before described, and one of the roller-pins passes through the two parts and is headed down like the others, thus holding the parts firmly together, and at the same time forming a hinge-pin about which they may open, as shown in Fig. 2. The opposite meeting ends of the halves *b* are also scarfed or fitted to overlap, and one of the roller-pins passes through these overlapping ends also to hold them together. This pin may be screwed into the flanges, or it may be secured by a nut upon the outside at one end, or in other suitable manner, so that when united the flanges and the whole journal will be united as solidly as if formed in one piece. In order to form the shoulders against which the flanges press on this pin, I employ a tube of a length equal to the distance between the flanges, and the roller fits over this tube while the pin passes through it. The tube shuts against the flanges while the pin is secured, as before described.

In some journals it may be found desirable to use a greater number of rollers to just fill the whole space around the shaft. In this case no guide-rings or axles for the rollers will be used, but the flanges B form part of the main box, and when the upper or lower half of the box

is removed the rollers are accessible and free to be removed. This box is adapted to be used upon shafts and journals where entire rings or flanges could not be put on. When it is to be applied the pin and roller at *b* are removed and the halves opened about the hinge-pin at *a* until a sufficient space has been made to introduce the journal or to place the box upon it as the case may be. The box is then closed until the flanges meet, the roller and pin replaced, and the housing or exterior box, *C*, may be secured over it, as shown, when the whole will be ready for use.

It will be seen that whenever for any reason it is desirable to remove the box it can be as readily done as with any other form of box, and by my construction the box may be applied to points in the length of a shaft or axle where the ordinary roller-bearing could not be used on account of intervening pulleys, flanges, cranks, enlargements, or other obstructions. It is as easily removed or replaced as any ordinary form of box.

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

1. The flanges *B*, formed in halves and adapted to be opened or closed to admit or remove the journal, in combination with the rollers *A* and the pins or studs passing through the rollers and having shoulders at each end, whereby said pins serve both as supports for the rollers and to hold the flanges rigidly together without other connections, substantially as herein described.

2. In a journal-box consisting of the rollers *A*, supported between the hinged flanges *D* and adapted to support a journal within the box *C*, as shown, the overlapping ends *b* of the flanges having a pin or stud passing through them and through a sleeve upon which the roller turns, while said sleeve forms shoulders against which the flanges may be forced so as to be rigid without pressing upon the roller, substantially as herein described.

In witness whereof I have hereunto set my hand.

WALTER W. VAUGHN.

Witnesses:

S. H. NOURSE,
W. F. MORSELL.