No. 613,083. Patented Oct. 25, 1898.

C. R. SMITH.

JOURNAL BEARING.

(Application filed Sept. 22, 1897.)

(No Model.)

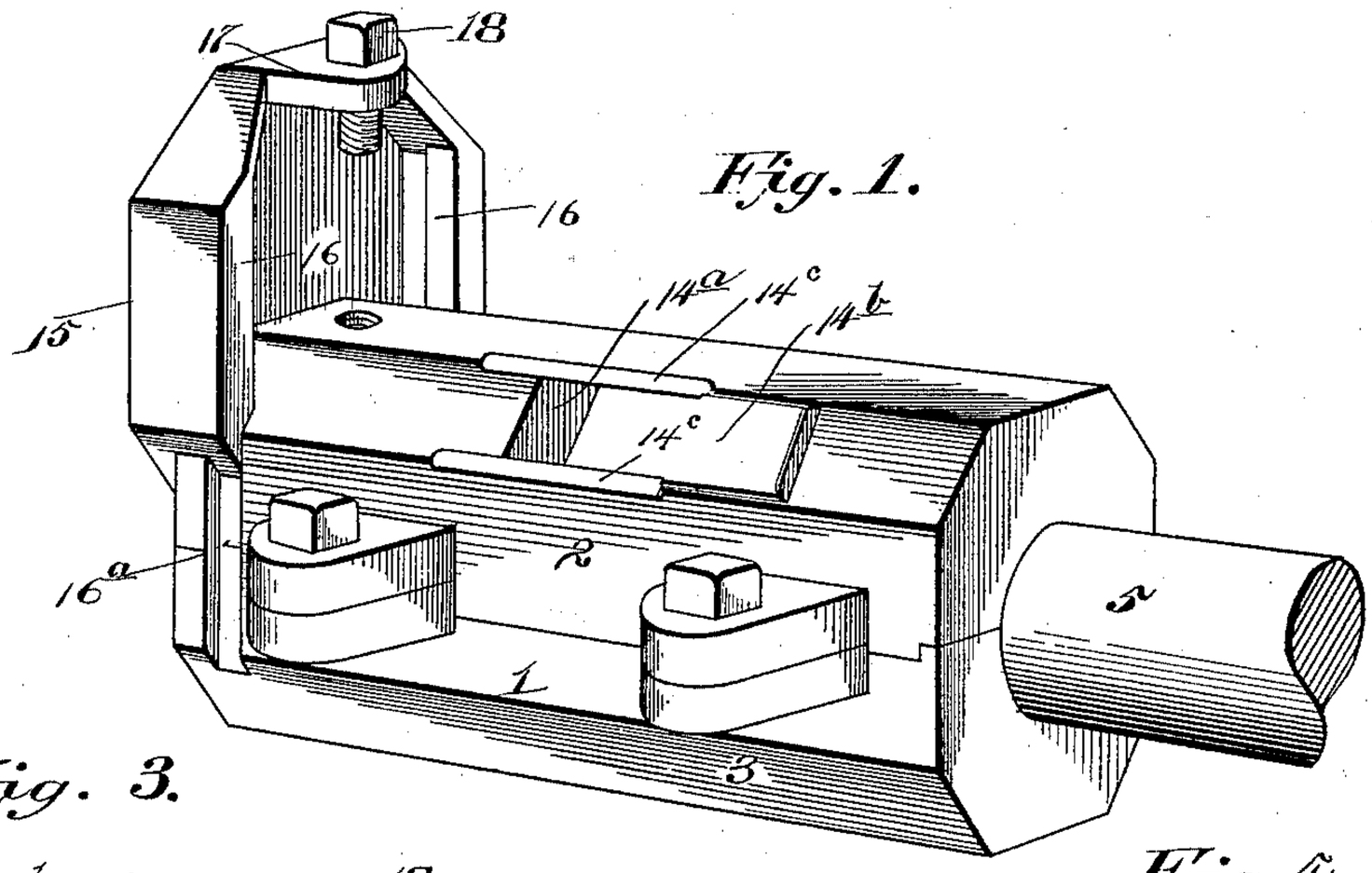


Fig. 1.

Fig. 3.

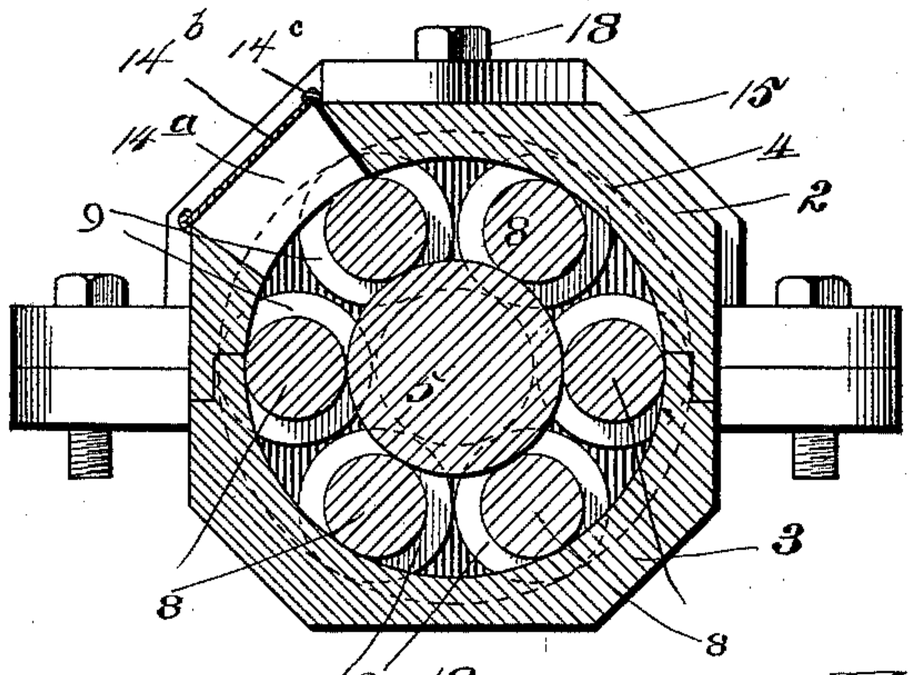


Fig. 4.

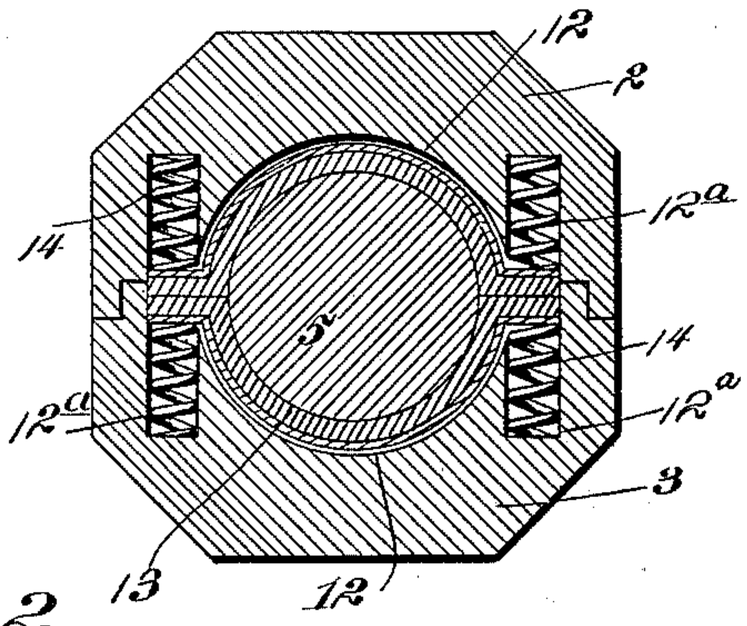
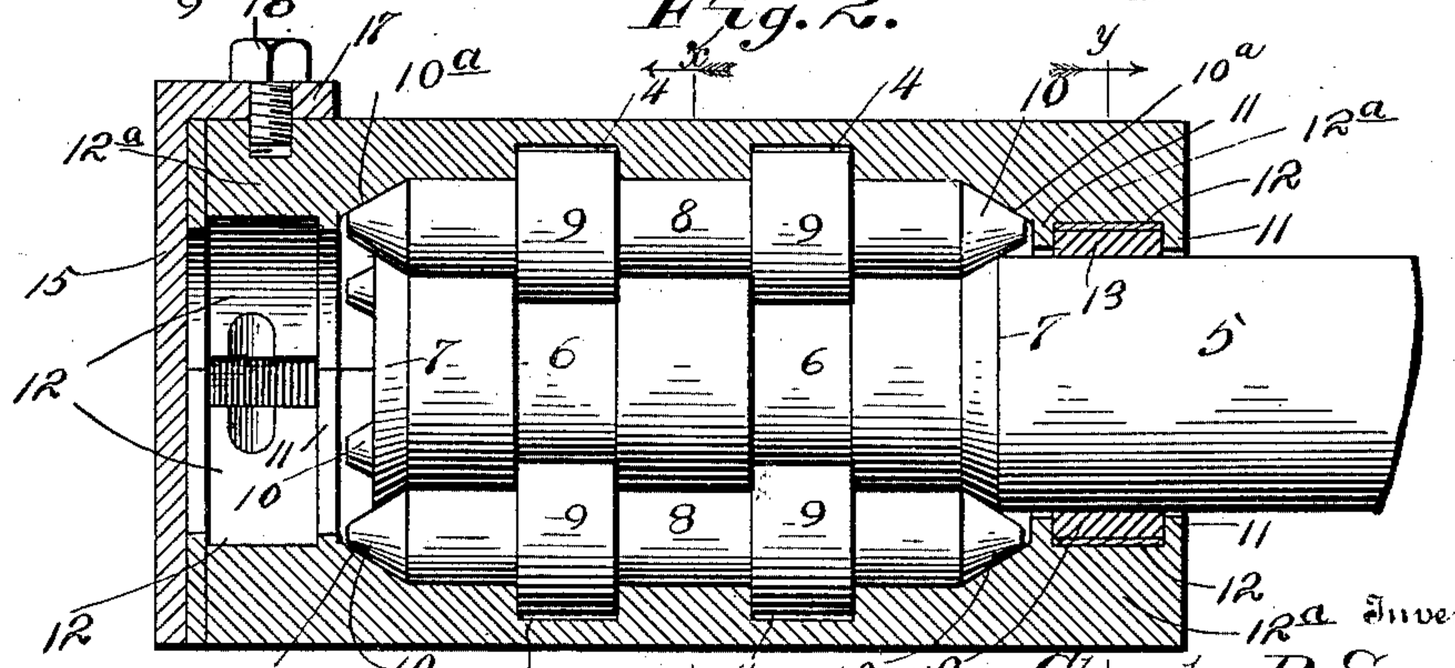


Fig. 2.



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UNITED STATES PATENT OFFICE.

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JOURNAL-BEARING.

SPECIFICATION forming part of Letters Patent No. 613,083, dated October 25, 1898.

Application filed September 22, 1897. Serial No. 652,594. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ROBERT SMITH, a subject of the Queen of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Journal-Bearings; 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.

This invention relates to journal-bearings, and has for its main object to provide a bearing the construction of which will reduce to a minimum the friction between the parts and at the same time exclude dust, dirt, and other foreign matter and maintain the lubricating material in a clean state.

The detailed objects and advantages of the invention will become apparent in the course of the following description.

The invention consists in a journal-bearing embodying certain novel features and details of construction and arrangement of parts, as hereinafter described, illustrated in the drawings, and pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a perspective view of the improved journal-box, showing the cap or lid raised. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a transverse section on the line *x x* of Fig. 2. Fig. 4 is a transverse section on the line *y y* of Fig. 2.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the drawings, 1 indicates the journal-box, which is constructed in two parts 2 and 3, each formed with channels or recesses 4, spaced apart in the inner surfaces of the box-sections and so arranged that when the sections of the box are brought together the channels or recesses will register, thus forming continuous channels or recesses extending entirely around the inner surface of the box.

5 designates the journal, which is adapted for use in connection with the box and is provided with channels or recesses 6, which come opposite the channels in the box. Said journal is further provided with inclined annular shoulders 7, for a purpose hereinafter described. Interposed between the box and the journal are antifriction-rollers 8, having annular enlargements 9 so spaced apart that they will enter the recesses in the journal 5 and the channels 4 in the box. These enlargements on the rollers are for the purpose of preventing the rollers from moving endwise, and therefore it is not necessary that the enlargements should extend to the bottoms of the recesses 6 in the journal and the channels 4 in the box. The rollers are formed with cone-shaped ends, as indicated at 10, adapted to engage inclined shoulders 10^a near the ends of the journal-box.

The ends of the sections of the box are provided with semicircular flanges 11, with intervening recesses 12, having spring-seats 12^a extending tangentially to the journal, said recesses being for the reception of any suitable packing material 13, which material is kept in close contact with the journal at each end of the box by spiral springs 14, resting in the spring-seats 12^a.

In practice the halves or sections of the box are preferably constructed in such manner that they can be placed one upon the other from above and beneath the journal. As is common in this class of journal-boxes, the sections are provided with corresponding ears or lugs having perforations adapted to register and to receive bolts by which the sections are firmly secured together. For convenience the box is provided with a transverse opening 14^a, through which oil is passed when it is necessary to lubricate the rollers, said opening being covered by a slide 14^b, working between rabbeted guides 14^c. The rollers may be inspected through said opening when it is desired to ascertain the condition thereof.

When the box is applied to a journal, the packing material will be used at one end of the box only, the outer end of the box being covered by a cap or lid 15, which is provided with flanges 16 at opposite sides designed to enter grooves 16^a, formed in the sides of the box. As a means for more firmly securing the cap or lid, an ear 17 is provided at the top edge of the cap, which extends a short distance upon the top of the box, said ear having an opening to receive a screw which enters a threaded socket in the top of the box.

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

The combination with a sectional journal-box having near its ends internal annular flanges and oblique or inclined inner surfaces, and having intermediate channels, the opposite side walls of which are parallel to each other, of a series of rollers provided with annular enlargements, the opposite side walls of which are parallel to each other and perpendicular to the axis of the journal, said enlargements extending into the channels in the box, the rollers having conical ends designed to bear against the inclined surfaces of said flanges, and a shaft or journal extending axially through the box and provided with oblique annular shoulders designed to bear against the opposite conical ends of the rollers and having recesses to receive the enlargements upon the rollers, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES ROBERT SMITH.

Witnesses:
THOMAS SMALLEY,
ANDREW FITZPATRICK.