

(No Model.)

E. L. POST.
JOURNAL BOX.

No. 418,960.

Patented Jan. 7, 1890.

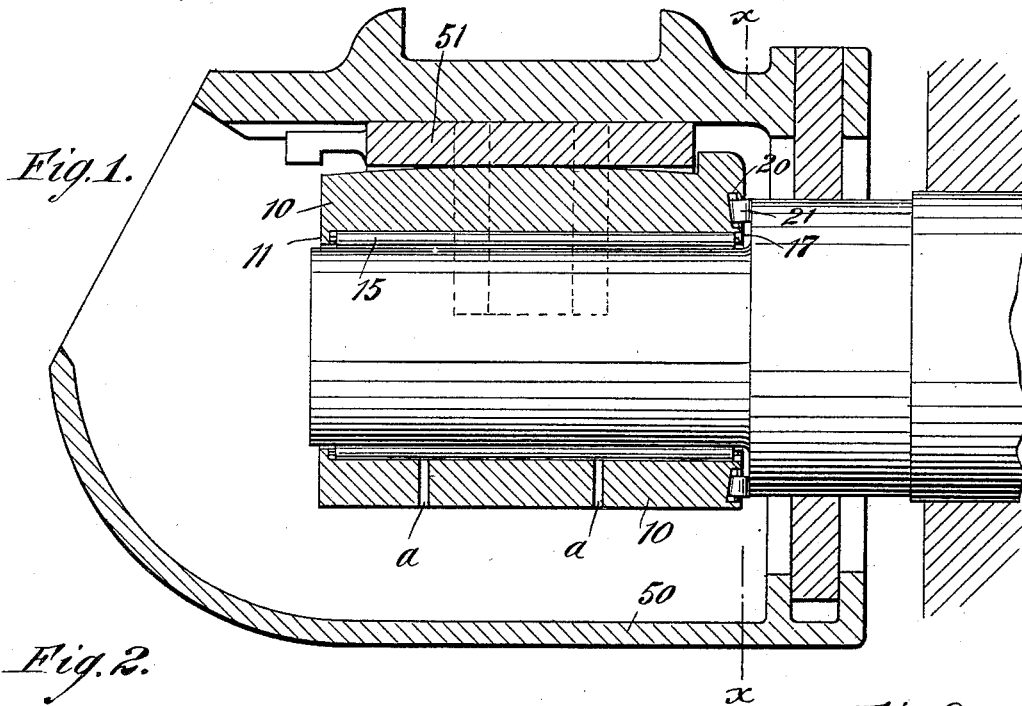


Fig. 2.

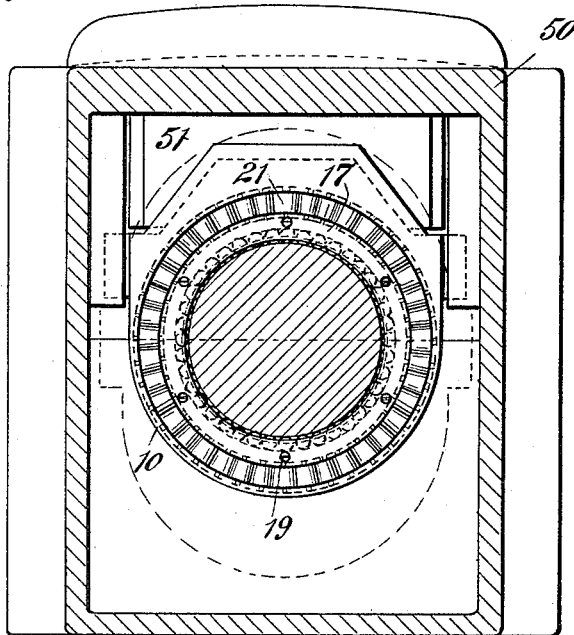
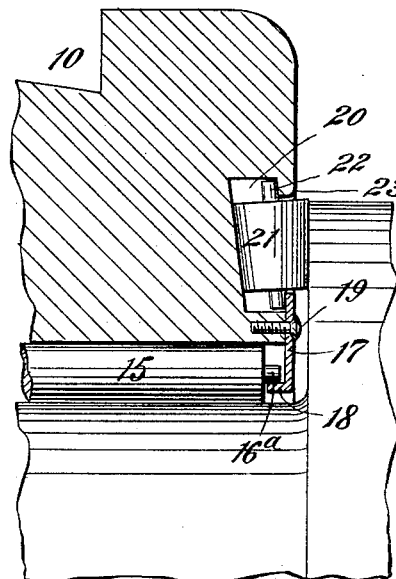
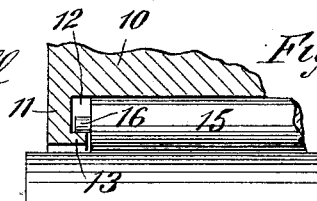


Fig. 3.



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UNITED STATES PATENT OFFICE.

EZRA L. POST, OF NEW YORK, N. Y.

JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 418,960, dated January 7, 1890.

Application filed January 2, 1889. Serial No. 295,117. (No model.)

To all whom it may concern:

Be it known that I, EZRA L. POST, of the city, county, and State of New York, have invented a new and Improved Journal-Bearing, of which the following is a full, clear, and exact description.

This invention relates to journal-bearings, the object of the invention being to produce a bearing which will operate with a minimum amount of friction, and one wherein the parts shall be so arranged that very little friction will be produced at times when the journal-shaft is revolving and the bearing is subjected to side-thrust.

To the end named the invention consists, essentially, of a bearing provided with a continuous series of anti-friction rolls, a roll-holding attachment, and radial anti-friction rolls, arranged as will be hereinafter more fully described, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a central longitudinal sectional view of my improved journal-bearing, the bearing being represented as it would appear when arranged for use in connection with a car-axle. Fig. 2 is a cross-sectional view on line *xx* of Fig. 1. Fig. 3 is an enlarged detail view in partial section, the view being given to illustrate the roll-holding attachment; and Fig. 4 is a detail view representing the construction preferably employed to hold the opposite end of the roll.

In the drawings, 10 represents a journal-bearing box, said box being formed at one end with a flange 11, in the inner face of which there is cut a groove 12, whereby there is formed a flange 13.

In connection with the box 10, I arrange a series of rolls 15, that are placed side by side against the inner peripheral face of the box, each of these rolls being provided with a trunnion 16, which said trunnions rest within the recess 12, the flange 13 acting to prevent the displacement of the rolls. The opposite ends of the rolls 15 are formed with trunnions 16^a, and in connection with these trunnions I arrange a circular plate 17, having an inwardly-

extending annular flange 18, which holds the rolls in place after they have been arranged as above described, the plate 17 being held to the box 10 by screws 19, as many of such screws being employed as may be necessary to impart the required rigidity to the plate.

Upon the inner end of the box 10, I form a groove 20, the inner defining wall of which is inclined, as shown, and within the groove I mount trunnion-rolls 21, said rolls being in the form of the frustum of a cone. The outer trunnions 22 of the rolls 21 bear against the inner face of a flange 23, while the lower trunnions bear against the plate 17, which slightly overlaps the recess 20. The inclination of the inner wall of the recess 20 should be such that the outer sides of the rolls 21 will be in a plane that is at right angles to the axis of the journal-opening, the axes of the rolls 21 extending in radial lines, as shown in Fig. 2.

In arranging the bearing above described for use in connection with a car-axle, the box 10 would be of proper form to fit within a journal-box such as the one shown at 50, the usual journal-bearing key 51 being arranged as indicated in the drawings; but, although the bearing is illustrated in connection with a car-axle, I desire it to be distinctly understood that it could be used for any kind of journal-bearing.

By supporting the rolls 15 by the flanges 13 and 18, I provide for the withdrawal of the axle or journal at such times as may be desired, the flanges acting as supports for the rolls, the flange 23 and the plate 17 acting in a similar manner in connection with the rolls 21.

If desired, slots *a* might be formed in the bottom of the box 10, through which any grit or any particles of metal broken from the rolls or journal could pass from the box.

Instead of forming the flanges 13 and 23 integral with the box 10, I might connect plates to the box and thus form said flanges.

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

1. The combination, with a journal-bearing box, of abutting radial anti-friction rolls arranged within a recess formed in one end of the box, as and for the purpose stated.

2. The combination, with a journal-bearing

box, of abutting radial anti-friction rolls carried thereby, and an axle formed with a collar arranged to bear directly upon the anti-friction rolls, substantially as described.

- 5 3. The combination, with a journal-bearing box, of anti-friction rolls formed with trunnions, a flange 13, connected to the journal-bearing box, and a plate formed with an inwardly-extending annular flange, said plate
10 being arranged for connection with the journal-box, substantially as described.

4. The combination, with a journal-bearing box 10, having a flange 13, a recess 20, and a flange 23, of rolls 15, having trunnions 16 and 16^a, conical rolls 21, formed with trunnions, 15 and a plate 17, formed with the flange 18, all the parts being arranged substantially as described.

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Witnesses:

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