(No Model.)

B. B. BUTT.

JOURNAL BEARING AND BOX.

No. 244,849. Patented July 26, 1881.

Fig. 1.

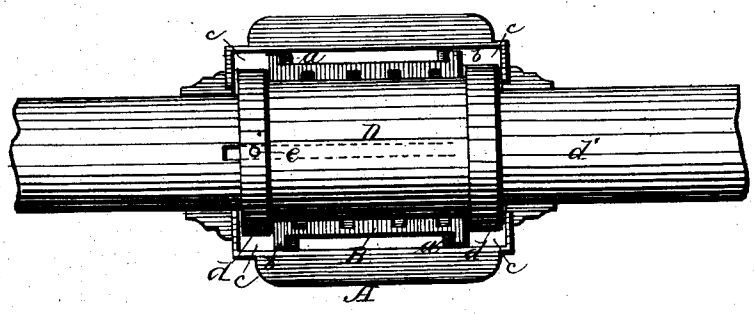


Fig 2

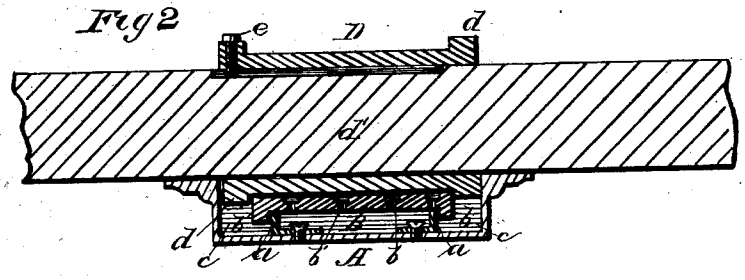


Fig. 3.

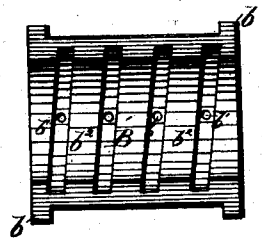
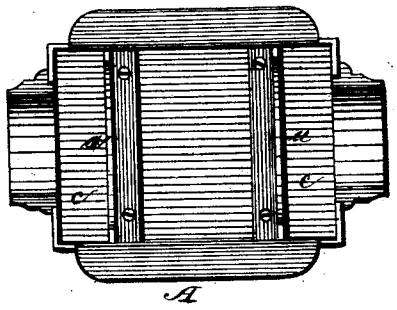


Fig. 4.



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JOURNAL BEARING AND BOX.

SPECIFICATION forming part of Letters Patent No. 244,849, dated July 26, 1881.

Application filed April 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, BOZWELL B. BUTT, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented a new and useful Improvement in Non-Ringing Journal Bearings and Boxes; of which the following is a full, clear, and exact description, reference being had to the drawings hereto annexed.

The object of my invention is to provide a self-oiling journal bearing and box which shall prevent the waste of oil, the accumulation of dust, the ringing or cutting of the journal, and the heating of the box.

My invention consists in the combination of an oil-box, a non-ringing spiral bearing, and enlarged journal of peculiar construction, as hereinafter described.

In the accompanying drawings, Figure 1 represents a top view of the journal-bearing and lower half of the box; Fig 2, a vertical section of the same; Fig. 3, an inner view of one-half of the box, and Fig. 4 one-half of outer box or reservoir.

Referring to the drawings, A represents an external shell or box for receiving the oil, having two curved supports, *a*, secured to its bottom near its ends, which are arranged in a vertical position and at such a distance apart as to allow the exterior collars, *b*, of the box B to overlap their outer sides.

The box or bearing B, which consists of two semi-cylindrical sections, is provided with a spirally-ribbed surface on its inner side, with rectangular channels between the ribs, having perforations *b'* leading to the oil-receptacle below. The length of box B is such as to leave a space or chamber, *c*, between it and the ends of the oil-receptacle A for receiving the collars *d* of the enlarged or raised journal D. This journal may be cast or forged upon the shaft *d'*, but I prefer to make it in the form of a sleeve secured to the shaft by a screw, *e*, engaging with a key-seat in the shaft, so as to allow the shaft to be adjusted endwise without displacing the journal and its bearing.

It is designed that the outer shell or receptacle shall be large enough to form spaces at the ends, between the bearing B and its end walls, sufficient for containing a good supply of oil, in order that it may not be necessary to replenish the same, except after long intervals of time. In this manner all openings for supplying oil to the receptacle are dispensed with, and the possibility of dust accumulating about the bearing entirely avoided. The receptacle is to be filled, both its two end spaces and its central portion, until the level of the oil rises to the lowest part of the surface of the shaft *d'*, and then entirely and securely closed by its top portion, which is the exact counterpart of the bottom.

As thus constructed, the journal and its bearing or box will be partially immersed in oil and consequently thoroughly lubricated, while the oil cannot be wasted. The advantage of the spirally-ribbed bearing-surface is that the journal will be wiped over in the direction of its length at each revolution, and thereby not only freed from all possible coatings of grit, which will escape into the channels between the spiral ribs, but by the angularity of the said ribs all cutting or ringing of the journal will be effectually prevented. The greater the inclination of the spiral ribs within certain limits the better this object will be accomplished, and I may therefore vary their arrangement as desired. My invention, of course, is adapted for use upon all kinds of vehicles, as well as machinery, but when used on railway-cars the oil-receptacle will be made comparatively large, whereby a sufficient quantity of oil may be supplied for running a great distance, and at the same time for preventing undue heating of the box.

A slight modification of the above consists in dispensing with the perforations *b'* in the box B, and using the central portion of the shell or receptacle for holding water to prevent the heating of the box.

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

1. The combination, with a shaft, of a removable journal which is adapted for being adjusted longitudinally upon the shaft, substantially as shown and described, whereby the shaft may be adjusted endwise without displacing its bearings, as set forth.

2. The combination, with a shaft having a

longitudinal key-seat in its surface, of a sliding journal having a radial key, substantially as shown and described.

3. The combination of a shaft having a raised journal, a bearing having a spirally-ribbed bearing-surface, and an oil-receptacle having vertical supports, substantially as shown and described.

4. The combination of a raised journal consisting of a sleeve having exterior collars at its ends and keyed to a shaft, so that the latter may have endwise movement with a bearing having on its inner surface spiral ribs and intermediate recesses provided with perforations, and supported in an oil-receptacle having vertical supports, substantially as shown and described.

5. The combination of an oil-receptacle having chambers at its ends for containing oil, and a central chamber for containing water, with a bearing having exterior ribs or collars at its ends, and a journal having exterior collars at its ends, substantially as shown and described.

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