O. ROBIRDS.

Car-Axle Journal and Box.

No. 93,348. Patented Aug. 3, 1869.

Fig. 1.

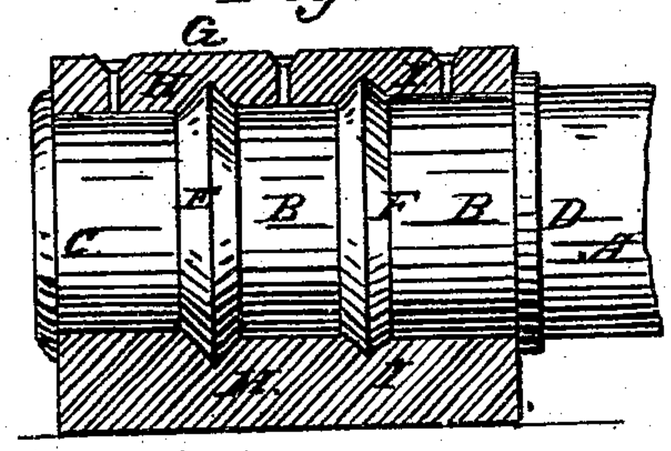


Fig. 2.

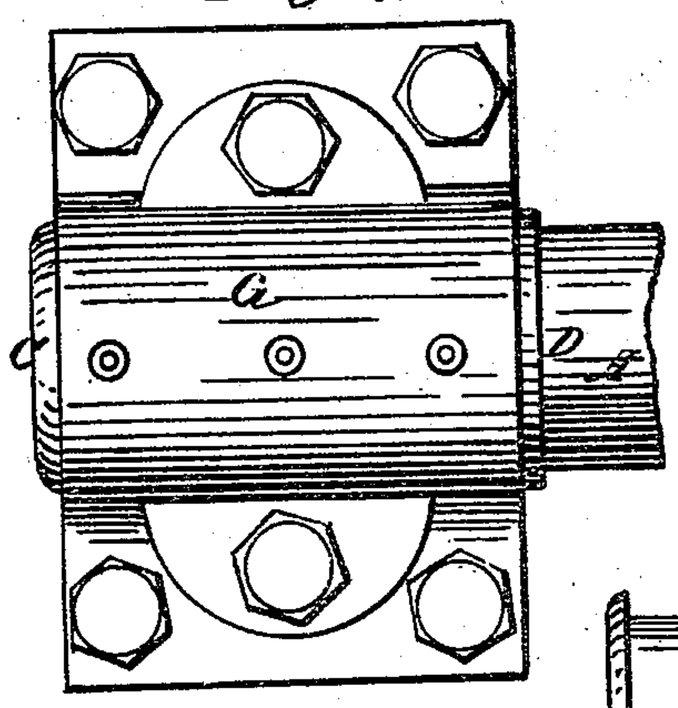


Fig. 4.

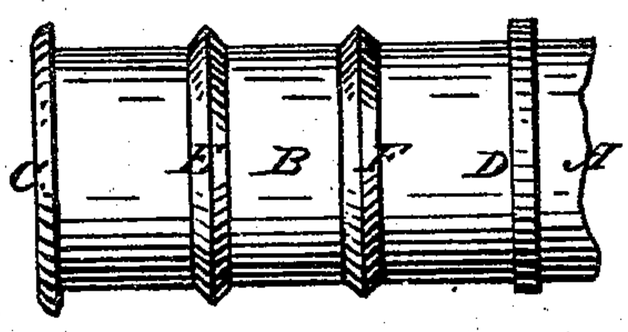
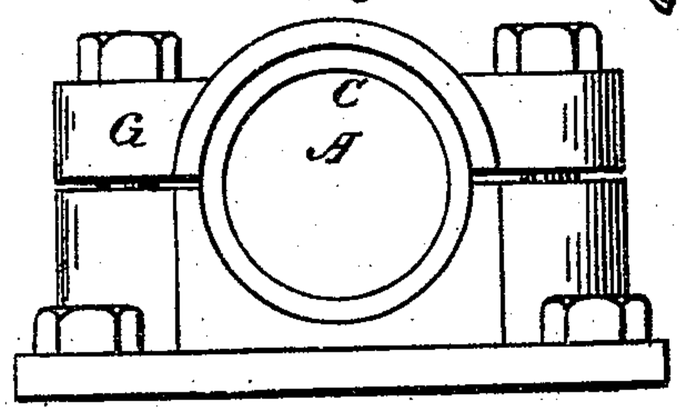


Fig. 3.



Witnesses.

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OBY ROBIRDS, OF ST. LOUIS, MISSOURI.

Letters Patent No. 93,348, *dated August* 3, 1869.

IMPROVED RAILWAY-CAR-AXLE JOURNAL AND BOX.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, OBY ROBIRDS, of St. Louis, in the county of St. Louis, and State of Misssouri, have made certain new and useful Improvements in Axle-Journals and Boxes for Railroad-Cars, and similar purposes; and I do hereby declare this to be a full and true description thereof, ref- ring to the accompanying drawings, and to the letters of reference marked thereon.

It is well known that the weight of and on railroad-cars and similar vehicles of traffic, is transmitted by proper journal-boxes upon journals of the car-axles, these being secured to the wheels, and as said wheels are frequently inclined from a vertical position, (for instance, in passing curved portions of the track,) the journal-boxes then have a tendency to lateral movement, and to restrain this the journals have collars, the edges whereof project perpendicularly above the journals, and above t bearing-surfaces of the journal-boxes or the brasses therein.

The collars aforesaid are usually arranged with only a small projecting surface, in order that the wheels may be passed over said collars, and be secured upon the part of the axle within or between the journals, and this occasions great wear of said collars, and also of the journal-boxes or their brasses, in the usual vibrations and lateral movements due to ordinary movement in running upon railroad-tracks.

The nature of this invention is in the use of a series of ∧-shaped collars, between the end collars usually constructed upon car-axles, and in the formation of corresponding indentations for said ∧-collars in the journal-boxes, and in the manner of reinforcing said portion of the journal in the manner now to be described.

To enable those skilled in these arts to make and use my said improvements, I will now give a detailed description thereof, referring to the accompanying

Figure 1, as a vertical sectional elevation; to

Figure 2, as a plan; to

Figure 3, as an end view; and to

Figure 4, as an elevation of the axle-journal without reinforced end.

I form the axle A, of the usual material, and arrange the same with the journal B between the end collars C and D.

Said journal will be divided (usually in equal parts) by the ∧-collars E and F, and as the end of the journal nearest to the collars D, acts more directly to transmit the strain from the journal-box to the wheels, which are usually secured to the axle between the opposite collars D of the axle,) I reinforce said end by making the part of the journal between the collars F and D of greater diameter, as in fig. 1, indicated at B'.

The inclined sides of the collars E and F, I prefer to make at angles of forty-five (45) degrees to the surface of the journal B.

In case that it is not deemed essential to increase the strength of the journal near the collar D, then the journal B may be kept to a uniform diameter, as where the weight on the journal is equally distributed, the journal then is arranged as indicated in fig. 4.

The journal-box G is placed between the collars C and D, and has annular indentations H and I, corresponding to the projecting collars E and F. The general arrangement of said boxes may be otherwise, in any manner usual or deemed advisable.

It is plain that under lateral thrusts, the collars E and F, owing to increased surface obtained by the inclination of their sides, act efficiently to retain the journal-boxes, and that said inclination of the sides of said collars acts to "ease off" or reduce the jar due to the usual side sway or movement of railroad-cars in passing curves or rails of unequal height.

The arrangement of a number of collars intermediate of the ends C and D, affords, also, additional safety in case the journal is broken at an intermediate point, since the parts of said journals between each collar E and F, and the end collar D, are of themselves a complete security against lateral disengagement.

The annular indentations of the boxes G, as at H and I, act to retain oil, and thus lubricate the journal.

The arrangement of journal and journal-box, as aforesaid, may be usefully applied to all classes of axles or shafts, when there is a tendency to lateral play; and in all cases of applying the features of this invention, the number of ∧-collars used, and to a certain extent the angle of inclination of the inclined sides of said collars, is determined in the discretion of the mechanic by the character and amount of the lateral strain which may act upon the axle or shaft.

Having thus fully described my invention,

I do not claim reinforcing the journal, or placing intermediate collars thereon; but

What I do claim, is—

The journal increased in size as the inner collar D is approached, by reinforcements, which are separated by ∧-collars E and F, or such thereof as may be deemed necessary, substantially as and for the purposes set forth.

OBY ROBIRDS.

Witnesses:

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