Nov. 27, 1923. 1,475,378

J. R. FLEMING

JOURNAL BOX SEAT

Filed March 2, 1922

Fig. 1

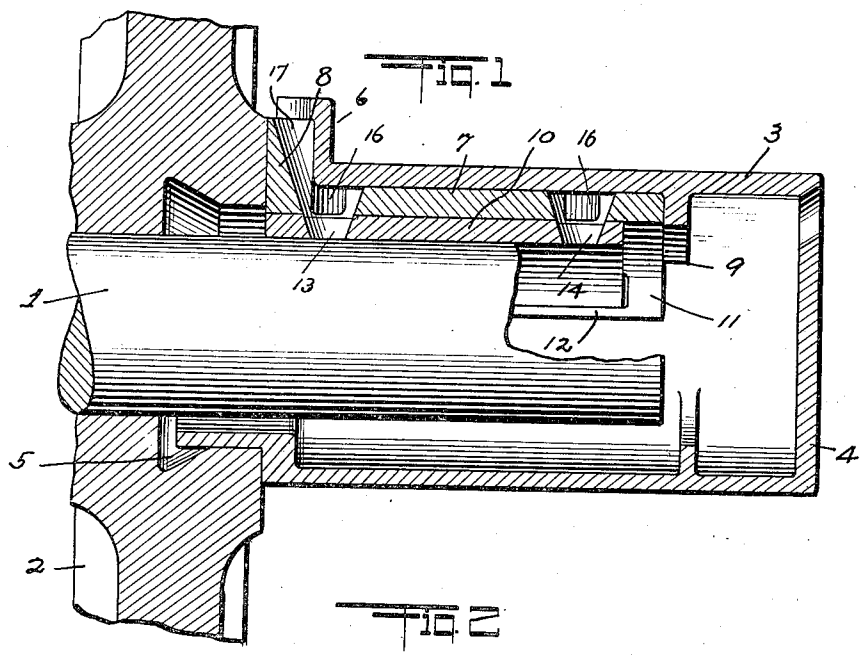


Fig. 2

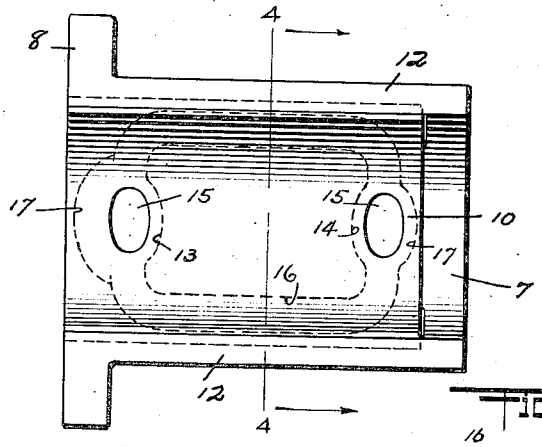


Fig. 3

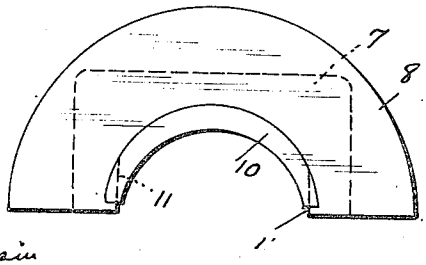
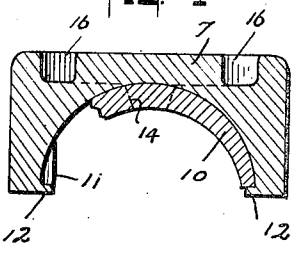


Fig. 4



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UNITED STATES PATENT OFFICE.

JAMES R. FLEMING, OF SCRANTON, PENNSYLVANIA.

JOURNAL-BOX SEAT.

Application filed March 2, 1922. Serial No. 540,553.

To all whom it may concern:

Be it known that I, JAMES R. FLEMING, a citizen of the United States, and a resident of Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Journal-Box Seats, of which the following is a full, clear, and exact description.

This invention relates to axle boxes and in particular to the type adapted for use in connection with mine cars and trucks, and more especially to improvements in the axle box shown and described in my reissued Letters Patent No. 13,976, dated September 7, 1915, and my particular object is to provide in conjunction with such an axle box, a removable seat which can be used between the journal block and the axle to take the wear that would ordinarily occur in the journal block.

Another object is to provide a seat which will be shaped to compensate for the amount of wear received thereby at the point where the load is at a maximum, so that lost motion between the axle and the axle box will be practically eliminated.

A further object is to provide a seat of this character which can be readily replaced, thus eliminating the necessity of providing an entire new journal block in cases where the wear ordinarily affects said block, and thereby decreasing the operating costs of the mine cars and trucks.

Drawings.

Figure 1 is a sectional elevation of a car wheel, axle and axle box with my seat applied thereto.

Figure 2 is a bottom plan view of the journal block or chair having incorporated therein my seat.

Figure 3 is an end view of the journal block or chair as illustrated in Figure 4, the part of the journal block that abuts against the car wheel being shown.

Figure 4 is a section taken on the line 4—4 of Figure 2, the seat being broken away to show the lugs formed in the journal block for retaining the same.

Description.

Referring generally to the construction described in detail in my patent mentioned above, the end of the car axle 1 having a wheel 2 mounted thereon is housed in an axle box which comprises a bracket 3, which is adapted to be secured to the underside of the side sill of a mine car or truck.

The lower portion 4 of the axle box extends into a lubricant chamber 5 formed in the wheel 2, the portion 4 itself constituting a lubricant retaining chamber.

The journal box or bracket 3 is arranged to seat a journal block or chair 7 against the inner side of its upper wall portion, and is provided at one end with an outstanding semi-circular flanged portion 6 for the seating therein of a similarly shaped flange 8 formed at the outer end of the block or chair 7. This flange 8 is of a relatively greater thickness than the body portion of the block or chair 7, and cooperates with the abutted flanged portion 6, of the journal box or bracket 3, in a manner to resist undue wear on the parts. Depending inwardly from the upper wall portion of the journal box or bracket 3 is a lug 9 which is abutted by the inner end of the block or chair 7, when the flange 8 of the latter is properly seated in the flanged portion 6.

The chair 7 is hollowed out to receive a semicircular seat 10 which extends from the front face thereof to a point adjacent its end where it abuts against the oppositely disposed lugs 11 formed by the hollowing-out operation. This cutting also leaves projections 12 on the lower edges of the chair which maintain the seat within the journal block or chair 7.

The seat 10 is preferably made of some malleable material such as brass and is formed to provide for a relatively greater thickness at the top thereof than at the edges. The seat is driven into the chair and its end is flush with the flange 8 thereon.

It is apparent then, that when the seat becomes worn it can be readily withdrawn and a new one inserted, thus saving the remaking of a new journal block or chair 7 which is of harder material and more expensive than the seat. Further, the seat being of a malleable substance is capable of use in its rough state, that is no machine work would be required on the face which bears on the steel axle end 1, as the seat would soon be worn smooth by the axle without injury to the latter.

The greater thickness of the seat at its top portion compensates for the greater wear at that point due to the fact that the load is carried at the top surface of the axle, and

the wear on the sides of the seat would be slower due to a relatively smaller amount of friction.

For purposes of lubrication I have provided the seats with receptacles 13 and 14. The receptacles 13 and 14 have inner openings 15 where the oil rests directly upon the axle 1. The two receptacles are connected by lateral passages 16 which as shown best in Figure 4 of the drawings are cast in the upper part of the seat and adjacent the lateral edges thereof in the thickened portion of the material.

To accommodate the introduction of oil or other lubricant to the receptacle 13 the front of the flange 8 is cut away at a central point to form the passage 17 which opens upward and is arranged to register with an opening 6′ formed centrally of the outer portion of the flanged portion 6. Lubricant may now be discharged into the opening 6′ and the passage 17 when the wheel 2 is so arranged that the space between the spokes thereof is in line with the said opening 6′.

It is obvious that when oil or flowing lubricant is poured into the opening 6′, the same will flow downwardly of the passage 17 and into the receptacle 13 and from thence by way of the lateral passage 16 to the inner receptacle 14.

Claims.

1. In a device of the class described, an axle, a journal box for said axle, an outstanding semi-circular flanged portion formed at one end of said journal box, a chair removably mounted within said journal box, a flange formed at the outer end of said chair and adapted to seat in the flanged portion of said journal box, a lug formed inwardly of said journal box between the ends thereof and adapted to be abutted by the inner end of said chair, an axle seat detachably mounted in said chair, and means for introducing lubricant to said axle through said journal box, said chair and said axle seat.

2. In a device of the class described, an axle, a wheel on said axle, a journal box for said axle and arranged in abutting relation to the hub portion of said wheel, a chair removably mounted within said journal box, cooperative thrust wear compensating means formed on said journal box and said chair, an axle seat detachably mounted in said chair, and means for introducing lubricant to said axle and the hub portion of said wheel through said journal box, said chair and said axle seat.

3. In a device of the class described, an axle, a journal box for said axle, a chair carried within said journal box, an axle seat carried by said chair, registering lubricant receptacles formed in said chair and said axle seat, said chair having lubricant conducting passages connecting the receptacles thereof, and means for introducing lubricant through said journal box to said passages and the receptacles connected thereby.

4. In a device of the class described, an axle, a journal box for said axle, an outstanding flanged portion formed at one end of said journal box, a chair carried within said journal box, a flange formed at the outer end of said chair and adapted to seat in the flanged portion of said journal box, an axle seat carried by said chair, registering lubricant receptacles formed in said chair and said axle seat, said chair having lubricant conducting passages connecting the receptacles thereof, and means for introducing lubricant through the flanged portions of said journal box and said chair to said passages and the receptacles connected thereby.

JAMES R. FLEMING.