

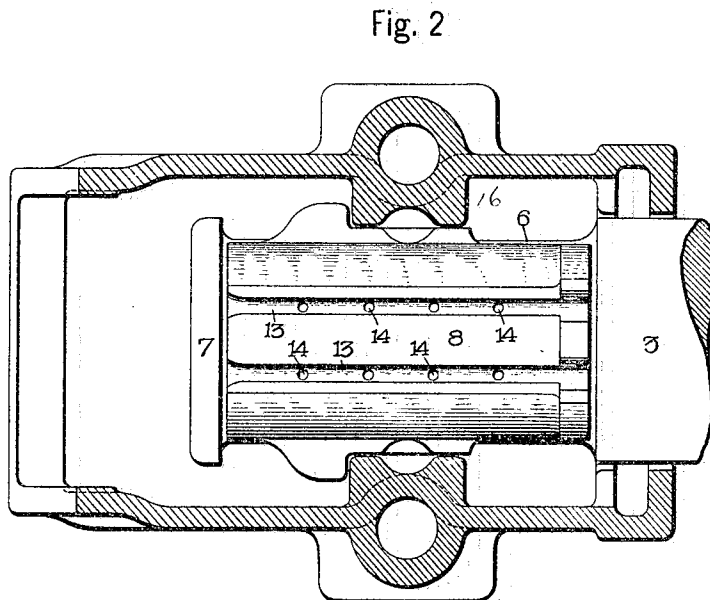
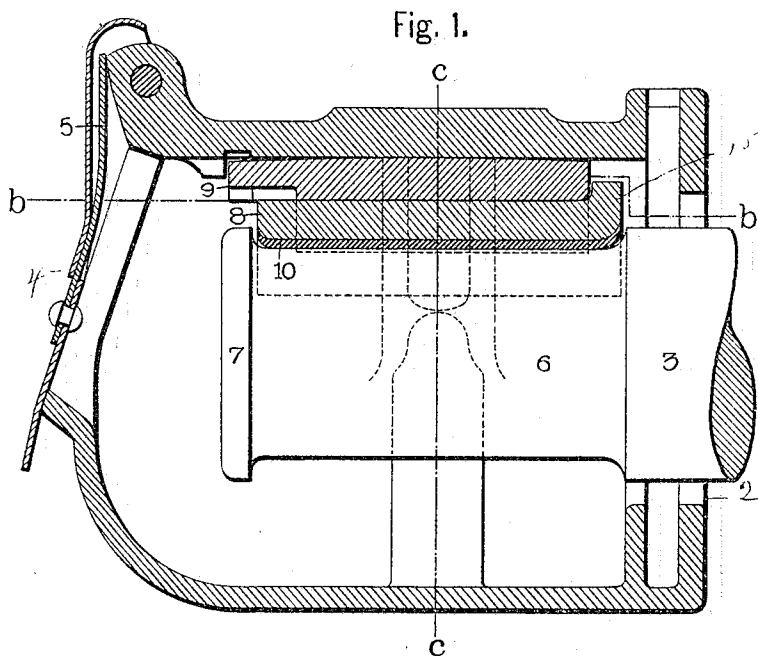
No. 809,635.

PATENTED JAN. 9, 1906.

J. R. SCHRADER.
CAR JOURNAL BOX.

APPLICATION FILED DEC. 5, 1904.

2 SHEETS—SHEET 1.



Witnesses.

L. M. Bangster.
Geo. A. Neubauer.

John R. Schrader. Inventor.

By *Geo. A. Neubauer* Attorney.

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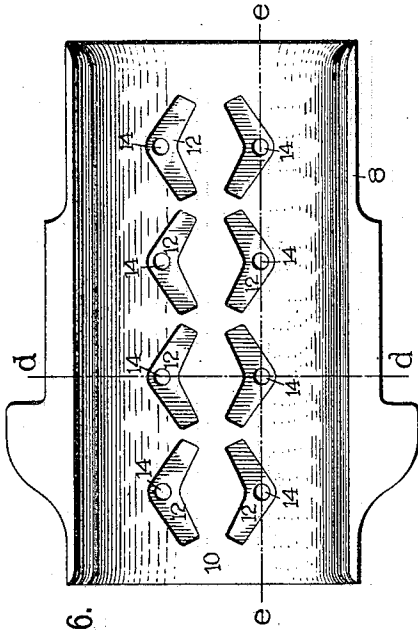


Fig. 6.

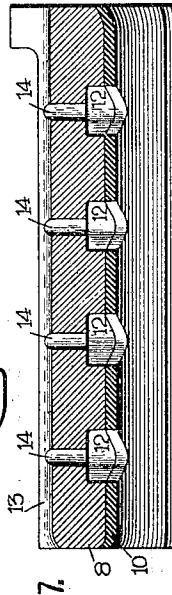


Fig. 7.

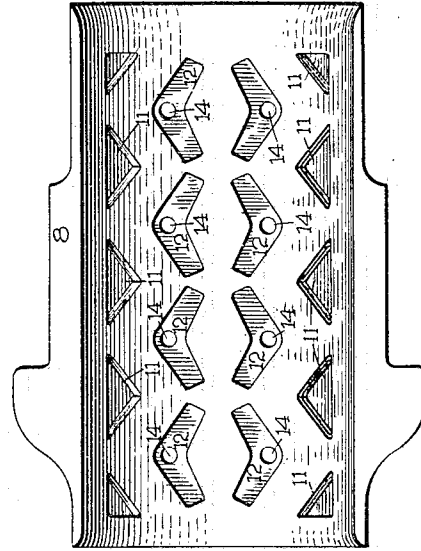


Fig. 8.

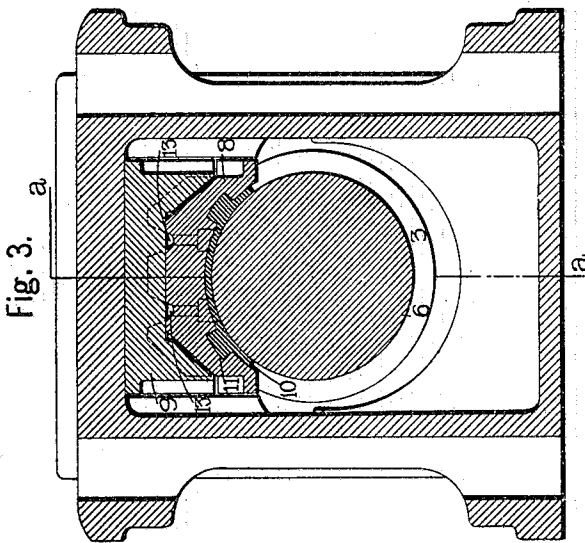


Fig. 3.

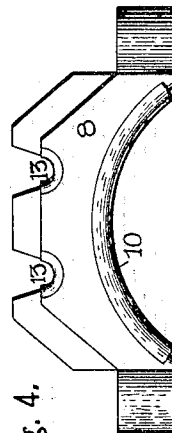


Fig. 4.

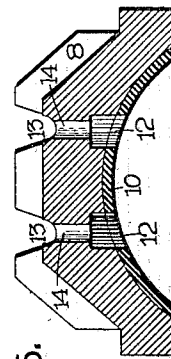


Fig. 5.

Witnesses.
L. M. Sangster.
Geo. A. Neubauer

John A. Schrader. Inventor.
By *L. M. Sangster* Attorney.

UNITED STATES PATENT OFFICE.

JOHN R. SCHRADER, OF BUFFALO, NEW YORK.

CAR JOURNAL-BOX.

No. 809,635.

Specification of Letters Patent.

Patented Jan. 9, 1906.

Application filed December 5, 1904. Serial No. 235,467.

To all whom it may concern:

Be it known that I, JOHN R. SCHRADER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Car Journal-Boxes, of which the following is a specification.

This invention relates to an improved car journal-box, and chiefly to the novel form of bearing employed in said box, which is provided with an oil-pocket to make it self-lubricating, an opening leading from said pocket to the top surface of the bearing, and means on the top surface of said bearing-block for conducting oil from the opening to a point directly over the axle, whereby oil is automatically forced by the rotation of the car-axle into the oil-pocket and upward through the opening to the top surface, and thence through the conducting means to a point over the axle, from where it drops by gravity upon the axle-surface, thereby providing an automatic overhead feed upon the car-axle.

The objects of the invention are to materially decrease the oil consumption, and thereby increase the distance a car may run before requiring another supply of oil in the journal-box, to thoroughly and perfectly lubricate the contacting surfaces of the car-axle and journal-bearing box, and to produce an automatic top oil-feed upon the axle, and thus obviate any overheating of parts, which produces what are known to railroad men as "hot boxes."

The invention also relates to certain features of construction, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a central section through a journal-box and bearing on line *a a*, Fig. 3, showing a side elevation of a fragment of the car-axle. Fig. 2 is a horizontal section on line *b b*, Fig. 1, showing a plan view of the bearing-block and a fragment of the car-axle, the lid of the journal-box being omitted. Fig. 3 is a transverse section on line *c c*, Fig. 1. Fig. 4 is an enlarged detached end view of the bearing-block. Fig. 5 is a transverse section through the bearing-block on line *d d*, Fig. 6. Fig. 6 is an enlarged detached bottom view of the bearing-block. Fig. 7 is a longitudinal section through the bearing-block on line *e e*, Fig. 6. Fig. 8 is a detached bottom view of the bearing-block with the Babbitt metal re-

moved to show the recesses for locking it in place.

In referring to the drawings in detail like numerals designate like parts.

The box 1 is provided with the usual opening 2 for the insertion of the car-axle 3 and a hinged lid 4, which is held in place by a spring 5. The car-axle 3 is provided with a reduced bearing-surface 6 and an enlarged end 7, and a bearing-block 8 is placed upon the bearing-surface of the axle and is retained in place by a wedge 9. The bearing-block 8 is of curved form in cross-section and is lined with an antifricton-surface 10, of Babbitt or other suitable metal or material. The lining 10 is curved to the periphery of the reduced portion 6 of the axle and is wedge-locked to the block by having portions thereof run into triangular recesses 11 in the block-surface.

The inner curved surface of the bearing-block is provided with a series of recesses 12, which are preferably arranged in two longitudinally-extending rows. These recesses are substantially V-shaped in form and constitute pockets, which fill gradually with oil as it is picked up by the axle-surface passing through the oil in the journal-box and carried on said axle-surface to the pockets. The pockets not only serve to collect and retain oil, but also to distribute the oil between the opposed surfaces of the car-axle and bearing-block—in fact, forming oil-reservoirs where they are most needed, and thus rendering the parts self-lubricating.

The bearing-block 8 is provided on its upper surface with one or more longitudinal grooves 13, which extend to at least one edge of the bearing-block and terminate vertically over the axle, so that oil will drop by gravity from the groove end directly upon the axle, and a series of openings 14 extend from these grooves through the block into connection with the oil-pockets 12, so that a surplus of oil in the pockets is forced upward through the openings 14 into the grooves 13 and flows in said grooves to the ends of the bearing-block and then downward by gravity upon the car-axle.

This construction when a train equipped with these improved journal-boxes is running rapidly and the oil-pockets are filled automatically produces an oil-feed upon the axle, which is the most perfect way of lubrication.

The bearing-block is provided with the

usual abutment 15, and the wedge 9 is held against lateral movement by the shoulders 16.

The operation of the device is as follows: When the train is running, oil is forced into 5 and automatically stored in the oil-pockets, and as these pockets become filled the resulting pressure forces oil up through the openings 14 into the top grooves 13, which in turn guide the oil to their terminations vertically 10 over the axle, whence it drops by gravity upon the axle.

The great advantages of this improved bearing-block are that it serves to collect and distribute oil not only between the block it- 15 self and the axle, but also to produce an automatic overhead feed upon the car-axle, that it saves and economizes in oil, enabling a train to run a greater distance before replenishing the journal-boxes, and that it obviates the 20 danger of overheated and smoking journal-boxes, which are known to railroad men as "hot boxes."

I claim as my invention—

1. In a car journal-box, the combination 25 with the body thereof and a car-axle, of a bearing-block provided with an oil-pocket in its curved under side, an opening leading through the block from said pocket to the top thereof, and a groove in the top of said block 30 which communicates with the opening and terminates at the block end over the axle, whereby the rotation of the car-axle fills the oil-pocket and forces oil through the opening to the top whence it flows through the groove 35 to its termination and then downward by gravity upon the car-axle to produce an automatic overhead oil-feed, substantially as set forth.

2. In a car journal-box, the combination

with the body thereof and a car-axle, of a 40 bearing-block provided with a series of oil-pockets in its curved under side, and a groove in its side connected by openings with said oil-pockets; said groove extending to one 45 end of the block over the axle whereby oil is conducted to the end of the bearing-block over the car-axle, for the purposes specified.

3. In a car journal-box, the combination with the body thereof and a car-axle, of a 50 bearing-block provided with a series of oil-pockets in its curved under side, a plurality of grooves in its top side extending to at least one end of said bearing-block and over the axle whereby the oil may drop by gravity 55 upon the axle, and openings extending from the oil-pockets to the grooves, whereby when the car is traveling the rotation of the axle will force oil into the recesses and up through the openings into the top grooves thereby pro- 60 ducing an automatic overhead feed directly upon the car-axle.

4. In a car journal-box, the combination with the body thereof and the car-axle, of a 65 bearing-block upon said axle having a longitudinal series of enlarged pockets on its under curved side, one or more grooves in the top of said block extending the full length thereof and vertical channels connecting said 70 enlarged pockets with the groove or grooves whereby the axle is adapted to pick up oil from the box and to convey it to the pockets and thence through the channels to the afore- said groove or grooves from which latter the oil returns by gravity to lubricate the axle.

JOHN R. SCHRADER.

Witnesses:

L. M. SANGSTER,
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