W. M. WATSON.

CAR AXLE BOX.

No. 184,451. Patented Nov. 14, 1876.

Fig. 1.

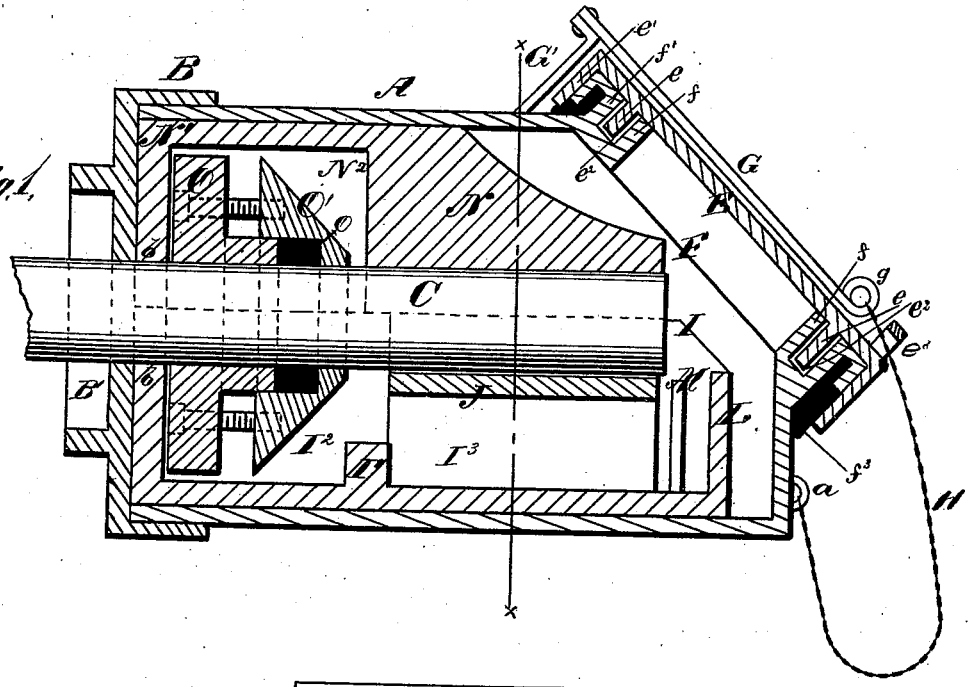
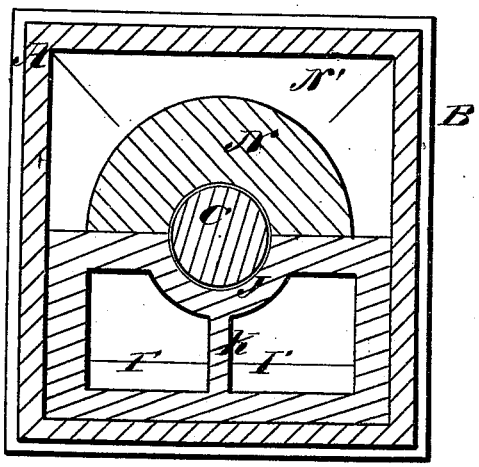


Fig. 2.



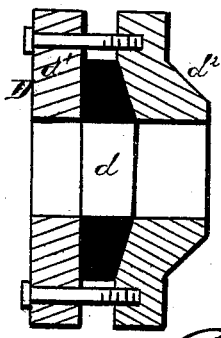


Fig. 3.

WITNESSES

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WILLIAM MEDD WATSON, OF TONICA, ILLINOIS.

IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **184,451**, dated November 14, 1876; application filed August 12, 1876.

To all whom it may concern:

Be it known that I, WILLIAM M. WATSON, of Tonica, in the county of La Salle and State of Illinois, have invented a new and valuable Improvement in Car-Axle Boxes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my axle-box; and Fig. 2 is a transverse vertical sectional view thereof. Fig. 3 is a detail view of the same.

This invention is an improvement on a car-axle box which is described and claimed in Letters Patent No. 175,534, granted to W. M. WATSON March 28, 1876.

The nature of my present invention consists in an oil-receptacle under the bearing of the axle, to allow the oil, when once used, to flow back and be used again, with an oil-trough arranged under the compound stuffing-box to wet the edge of the same, and collect all entering dust; also, in a device for gaging and indicating the supply of oil in the box at any any time; and, finally, it consists in the combination of the above-named parts, and in various auxiliary devices, hereinafter more fully set forth.

In the accompanying drawing, A indicates the outer casing of the axle-box, and B a metal cap, which fits over the inner end of the same. Cap B is provided with a central perforation, *b*, through which passes car-axle journal C. E is a rectangular cover, which closes opening F at the front of said axle-box. Through said opening the lubricating-oil is supplied to the journal and bearings. Around said opening F are secured two flanges, *f f'*, leaving a channel, e^2, between them. Cover E is provided with similar flanges *e* e^1, leaving a channel between them. Said flanges and channels aid in making a very tight joint, as shown in Fig. 1, and in this they are assisted by a strip of leather, or similar packing, f^3, which is secured to the outside of the outer flange f^1 on the said axle-box. Said cover E is locked in place, when opening F is closed, by a pivoted arm, G, which is attached to a lug or plate, G', on the top of axle-box casing A. The free end of said pivoted arm is provided with a loop or hook, *g*, to which is secured one end of a chain, H. Said chain passes through an ear, e^3, on cover E, and the other end of said chain is attached to an ear, *a*, on the lower part of the front end of said axle-box casing. The function of said chain is to prevent cover E from being separated from said axle-box casing and lost by the jarring of the cars or otherwise. I designates an oil-receptacle, which is placed under journal C, and is divided into two compartments, I^2 and I^3, by a cross-partition, I^1. J is the lower brass or bearing, which may be supported on a longitudinal partition, K, of outer compartment I^3.

The oil-box is filled with waste or wool, and the oil is fed to the axle or journal C by capillary attraction. The oil, being drawn inward by the revolution of the journal, and having performed its duty in lubricating the axle, is dropped into trough I^2 of the oil-box, and all oil in said trough that rises above the partition I^1 will flow into the oil-receptacle I^3 for use again.

On the front of said outer compartment I^3 projects the front L, which closes said compartment, and is constructed so that its upper edge is only as high as, or a very little higher than, the lower side of journal C. This construction enables the oilman to ascertain at a glance whether said oil-receptacle is properly supplied with oil. M is a small post or stud set in the front part of outer compartment I^3. It serves as a gage. When the oil reaches the top of said gage-post M the oilman will know that said oil-receptacle I is sufficiently supplied. N is the upper bearing, which is provided with a rearward enlargement, N^1, that has on its under side a chamber or recess, N^2. The front part of upper bearing N rests upon the journal C, and enlargement N^1 of said upper bearing rests upon oil-receptacle I over compartment I^2. I^2 and N^2 thus communicate, and constitute, taken together, a trough surrounding a compound packing-box and collar, consisting of two inflexible rings, O O', having any sort of compressible packing material *o* between them.

The said rings and axle turn together, but the irregularities of the road cause the cars to sway, and make it necessary to provide that the axle may be drawn partially out of the box, and this frequent drawing in and out will in time wear the said packing-rings loose upon the said axle, so as to allow the oil to pass out between said axle and said packing. To remedy this defect the screws are tightened, so as to draw the rings O O′ closely together, and to compress the packing upon the axle, thus preventing the waste of oil. One function of the above-described compound packing-box and collar is to confine the oil entirely to the inside of the car-axle box, thereby avoiding the waste of said oil; another is, to form an oil-lute to exclude the dust from the oil-receptacle and adjacent parts. This is facilitated by the fact that the lower parts of rings O O′ turn in oil. When stopped by said compound packing the oil runs back into the front part of compartment I^3, where it is used again, as already described.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a car-axle box, an oil-receptacle, I, arranged under the axle-journal, and provided with a gage-post, M, substantially as and for the purpose set forth.

2. In a car-axle box, the removable oil-receptacle I, provided with gage-post M, and divided into two compartments, I^2 and I^3, by means of partition I^1, substantially as and for the purpose set forth.

3. Upper bearing N, having enlargement N^1 and recess or chamber N^2, in combination with oil-receptacle I, having compartment I^2, and with compound packing-collar O O′, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM MEDD WATSON.

Witnesses:

ELIAS W. WOOD,

K. OAKS.