John J. Lehaye,
Impd. Axle Box.

116721 PATENTED JUL 4 1871

Fig. 1.

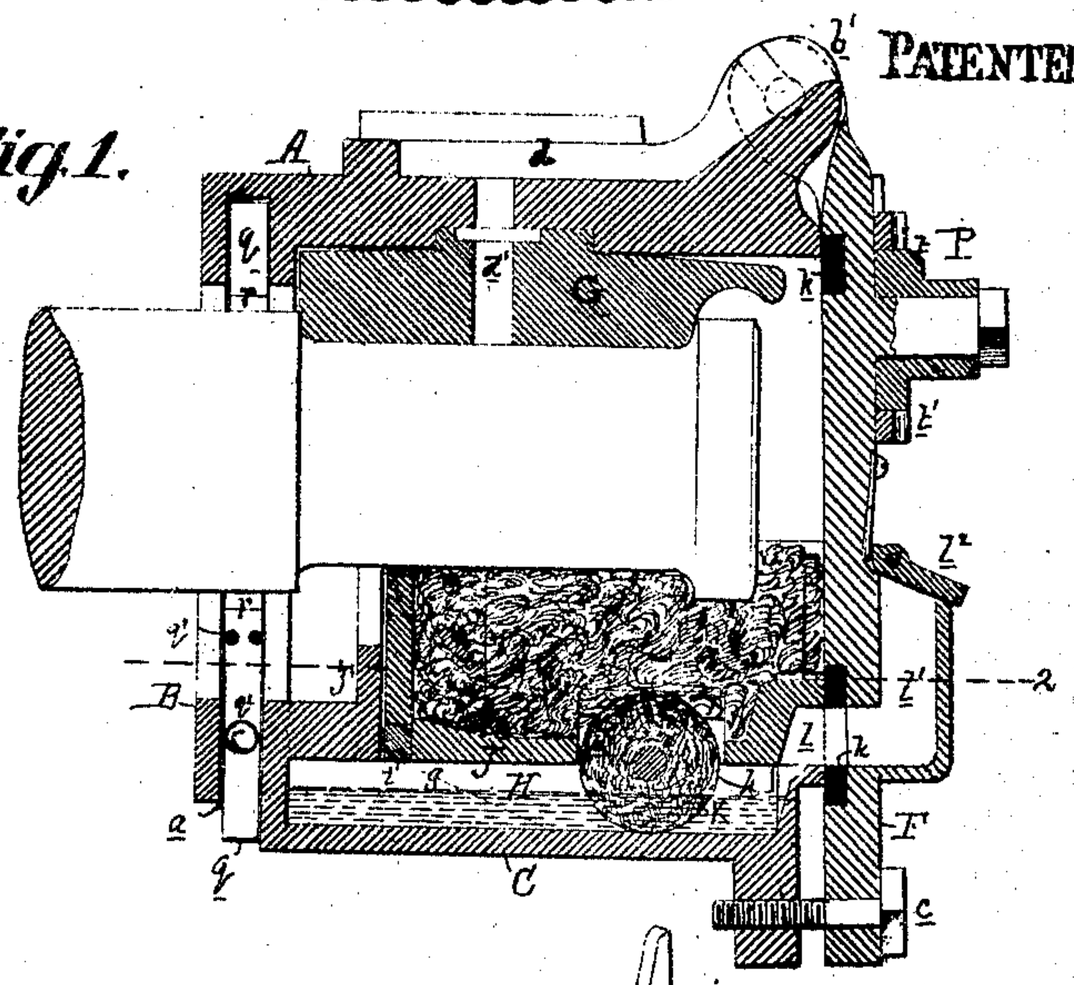


Fig. 5.

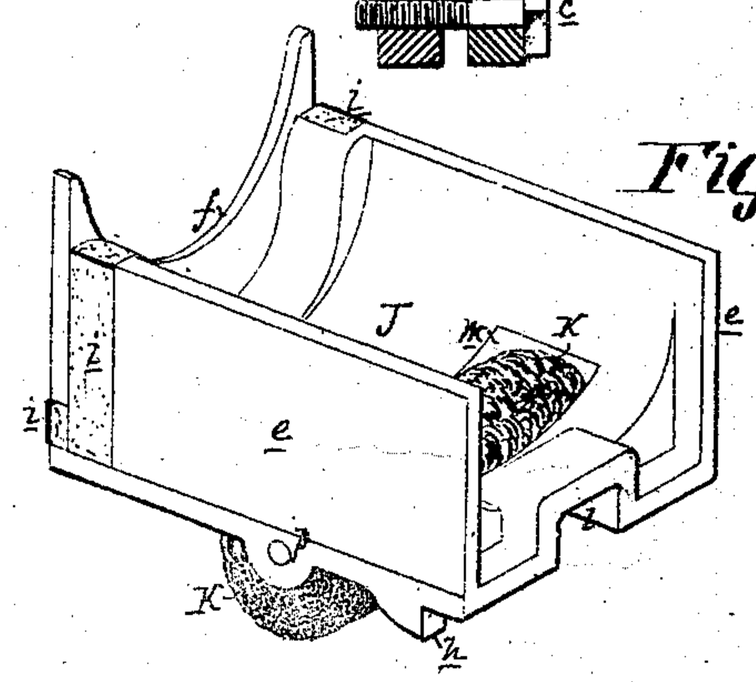


Fig. 4.

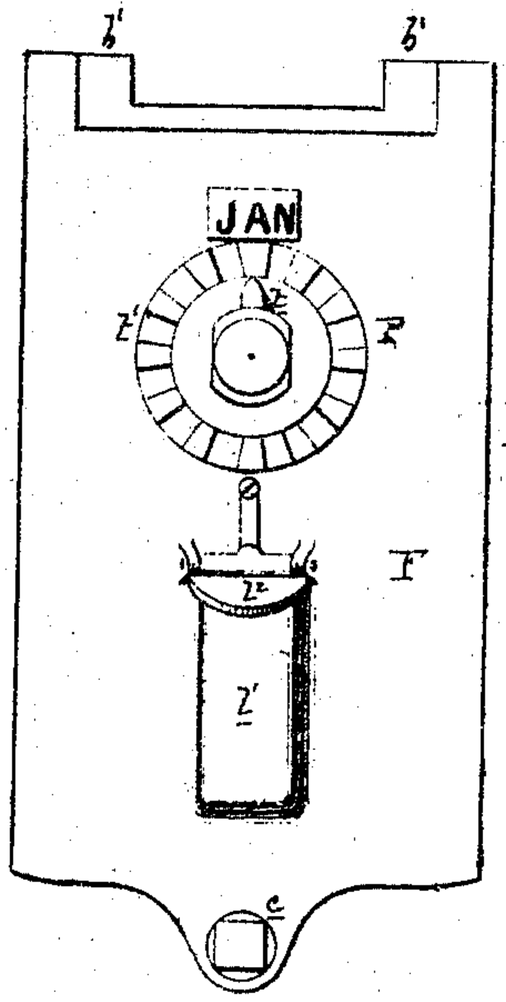


Fig. 2.

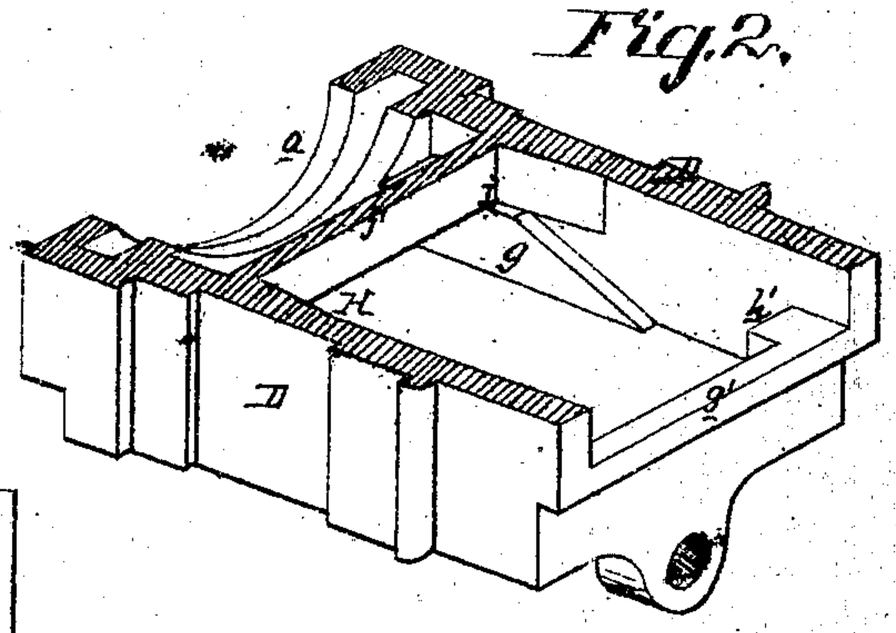
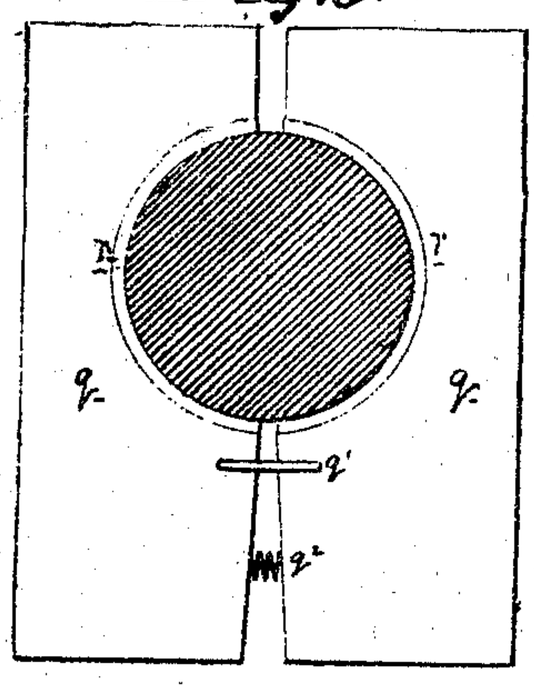


Fig. 6.



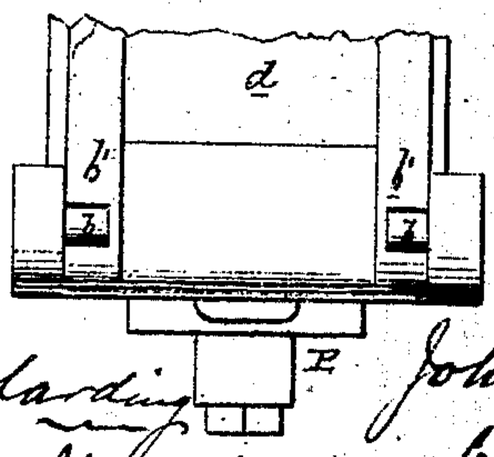


Fig. 3.

Witnesses:
Jno. B. Harding
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Shrewsbury & Son

116,721

UNITED STATES PATENT OFFICE.

JOHN JOSEPH LAHAYE, OF READING, PENNSYLVANIA.

IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. 116,721, dated July 4, 1871.

To all whom it may concern:

Be it known that I, JOHN JOSEPH LAHAYE, of Reading, county of Berks, State of Pennsylvania, have invented an Improved Axle-Box, of which the following is a specification:

My invention consists of certain improvements, too fully described hereafter to need preliminary explanation, for that class of axle-boxes which is furnished at the bottom with a chamber or reservoir for lubricating material.

Figure 1 is a sectional plan of my improved axle-box; Fig. 2, a sectional perspective view of the same on the line 1 2, Fig. 1; Fig. 3, a plan view of the front portion of the box; Fig. 4, a view of the lid of the box; and Figs. 5 and 6, detached views illustrating portions of my invention.

A represents the top of the box; B, the back; C, the bottom; D D, the opposite sides; and F, the lid at the front of the box, the latter being vertical, or nearly so, instead of inclined, as usual, owing to a compact arrangement, hereafter described, of the parts at the bottom of the box. There is the usual opening in the back of the box for the reception of the axle, and recess *a* for the packing material, and within the box, between the top of the same and the journal of the axle, is the ordinary brass or bearing G. The lid F, instead of being hinged in the usual manner, is provided with two pivots, *b b*, so adapted to slots or recesses formed on the outer edges of lugs *b'* at the top of the box that they can be readily lifted out of and removed from the same when it becomes necessary to entirely detach the lid; and the latter is provided at its lower end with a bolt or screw, *c*, by which it can be secured to the box when closed. The lugs *b'*, above referred to, extend back over the top of the box, and are joined together at their rear ends so as to form a shallow chamber, *d*, for a purpose described hereafter, the said chamber communicating with the journal of the axle through holes *d'* in the top of the box and bearing. In the bottom of the box there is a chamber, H, containing lubricating material to be fed to the journal. In ordinary boxes this chamber is formed between a false bottom or partition cast in the box at a short distance above the bottom plate C, which plan adds considerably to the cost of the box, owing to the increased difficulty of casting the same, and the chamber, when thus permanently formed, cannot be readily cleaned when it becomes choked with sediment or gummy oil. I have entirely overcome these objections and attained other advantages by the use of a detachable partition, J, beneath, and between which and the bottom of the box the oil-chamber is formed. This detachable partition, as will be best observed in Fig. 5, has vertical sides *e e*, a rounded interior, and a vertical flange, *f*, at its rear end, the latter, when the partition is fitted into the box, being almost, but not quite, in contact with the journal of the axle. In introducing the partition into the box it is inclined downward at its rear end so that the flange *f* may clear the journal, and it is raised to a proper horizontal position, as it is pushed backward, by inclined ways or ledges *g* cast in the box, and upon the top of which its rear end rests. The front end of the said partition rests upon a ledge, *g'*, at the front of the box, and it is prevented from moving forward when the lid is open by lugs *h h* on its under side, which strike corresponding lugs *h'* in the box. In order to prevent any possibility of the escape of lubricating material at the back of the box the sides and rear end of the partition are packed with cork or other suitable material *i*, which is forced between inclined projections *j j* on the sides of the box, and against a flange, *j'*, at the rear of the latter, by the pressure of the lid of the box against the front end of the detachable partition, such pressure being regulated by the screw *c*. It will thus be seen that no lubricating material can escape from the back of the box without passing over the flange *f* of the partition, which is of sufficient height to prevent such escape. The escape of lubricating material at the front of the box is prevented by the usual cork packing *k*, let into the lid. This packing forms the joint between the passage *l*, beneath the partition, and communicating with the oil-reservoir and the passage l^1, formed in the lid for the introduction of lubricating material. The passage l^1 is capped as usual with a spring cover, l^2. An opening, *m*, is cut in the partition for the passage of lubricating material into the space beneath the journal, this space being filled with a mass of cotton-waste, which absorbs and supplies the journal with the lubricating material. In boxes of this class a wick is sometimes employed to convey the oil from the reservoir to the mass of waste above, and sometimes a por-

tion of the waste itself is made to serve as a wick, the partition being provided with flanges to prevent the said waste from spreading into the reservoir. In the present instance I employ a tubular wick or roller, K, hung to a pin, *p*, within the opening *m*, and extending down into the reservoir and also into the space occupied by the cotton-waste. I have found that the roller answers effectually as a conveyer, and is not so apt to become clogged as an ordinary wick or mass of cotton-waste extending down into the reservoir. It can be turned from time to time so as to present new surfaces to the oil and waste. In supplying the box with oil the passage l^1 in the lid may be completely filled without risking any overflowing at the back of the box, as the roller and waste above will always absorb the small quantity of oil that may be contained in the said passage. By using the detachable partition J and arranging the parts as above described I am enabled to dispense with or considerably shorten the usual inclined passage at the front of the box leading to the reservoir, and can therefore shorten the box itself at the bottom and arrange the lid nearly vertically, as shown, and thus considerably reduce the weight of the box. For the purpose of preventing the admission of dust at the back of the box I arrange in the usual recess *a* a packing consisting of two thin pieces of wood, *q q*, hinged together at q^1 and forced together at their upper ends by a spring, q^2. These pieces of wood are fitted to the axle, as shown in Fig. 6, and are each faced with a narrow strip of leather, *r*, which is caused to bear against the axle by the spring. An effectual packing, much cheaper than if made entirely of leather, is thus obtained. In order to enable the attendant whose duty it is to fill the boxes with oil to ascertain, without examining the interior of each box, what time has elapsed since the filling of the same, I propose to attach to the lids of the boxes an indicator, P, of the character shown in Fig. 4. This indicator consists of a movable pointer, *t*, arranged upon a disk, *t'*, the periphery of which is divided into twelve equal parts corresponding to the months of the year. Each of these points may be marked with the name of the month; but it will be sufficient to mark one only, as shown. If the box is filled with oil in the month of January the pointer is turned to the mark corresponding with that month, and is there permitted to remain until the box is again filled, when it is adjusted a second time. The pointer can be arranged so as not to be readily turned by unauthorized persons. This indicating device may be arranged upon any part of the box, or upon the car or truck adjacent to the box. The space or chamber *d* at the top of the box is intended to be filled with a lubricating composition too hard to be melted by the heat of the sun, but which will be melted and flow through the hole *d'* to the journal when the box becomes heated in consequence of a lack of oil in the reservoir and in the cotton-waste beneath the journal.

I claim—

1. An axle-box, provided with a detachable partition, J, arranged above the bottom to form an oil-chamber, and so fitted within the box that the escape of oil from the chamber, except at the outlet provided for the same, is prevented, all as set forth.

2. The said detachable partition, in combination with the inclined lugs *g* and ledge *g'* of the box, by which it is raised to and supported in a horizontal or nearly horizontal position, as specified.

3. The cork or other packing at the rear end and sides of the said detachable partition, in combination with the flange *j'* and inclined inner edge *j* of the box.

4. The tubular wick or roller K, arranged so as to be revolved in the opening *m* of the detachable partition and extending into the oil-reservoir H, as described.

5. The partition J, constructed and fitted to the box so as to leave between the front end of the partition and the box a passage, *l*, which communicates with the passage in the lid, as specified.

6. The packing at the rear of the box, consisting of wooden strips *q q*, adapted to the recess *a* and axle, faced with leather or other suitable material *r*, hinged together at the point q^1 and acted on by a spring, q^2.

7. The combination of the said detachable partition, provided with packings at the side and back, and the lid of the box by which the partition is forced back into its place, as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN JOS. LAHAYE.

Witnesses:

WM. A. STEEL,

JNO. B. HARDING.