T. SAYLES.

Car-Axle Lubricator.

No. 107,631. Patented Sept. 20, 1870.

Fig. 1

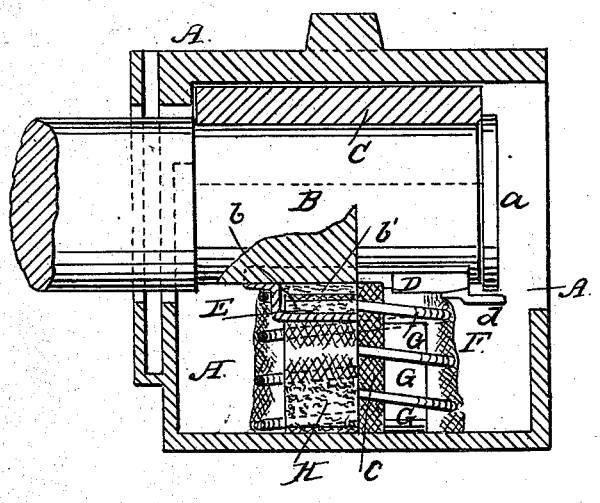


Fig. 3

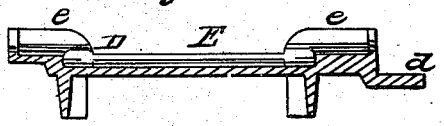
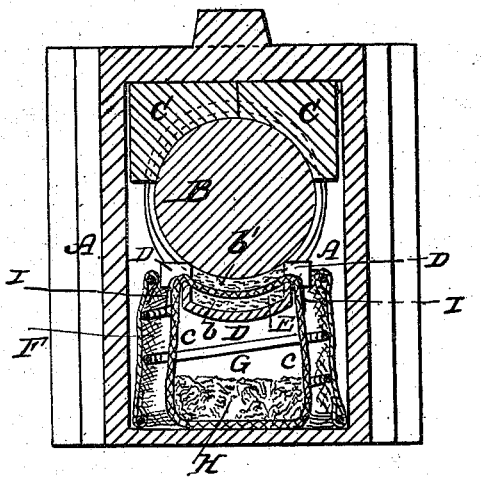


Fig. 2



Witnesses

M. M. Lamphin

Geo. Beecher

Inventor

Thos Sayles

UNITED STATES PATENT OFFICE.

THOMAS SAYLES, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN CAR-AXLE LUBRICATORS.

Specification forming part of Letters Patent No. **107,631**, dated September 20, 1870.

To all whom it may concern:

Be it known that I, THOMAS SAYLES, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Axle Lubricators; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, which forms part of this specification.

This invention relates more particularly to certain improvements in a lubricator for car-axles which form the subject of Letters Patent of the United States granted on the 16th day of March, 1869, to Isaac P. Wendell and Thomas Sayles, as the sole assignees of one Mark C. Hubbard, the inventor of said improved lubricator.

The invention consists in providing the pad-holding chamber with rims or upwardly-projecting flanges, whereby the pad, which comes in contact with the journal when the lubricator is in position, will be retained in place without sewing, and in such manner that it can be removed when worn, and replaced by a new one, without removing the lubricator from the journal-box.

It further consists in the combination, with the pad-holding chamber and its supporting-spring and wick or oil-conductor, of a sponge or other suitable absorptive material, placed wholly or partially within the said sustaining-spring, for purposes hereafter to be described.

It further consists in the combination, with a pad-holding chamber and its sustaining-spring, of a jacket which incloses the spring in such manner as to prevent the dust and dirt, which is constantly entering the journal-box, from lodging upon and adhering to the wick or oil-conductor, and thereby greatly impairing its conducting qualities; and it serves also to prevent the surging of the oil in the box while the train is in motion, and consequently the leakage of oil from the oil-box.

It further consists in the combination, with such pad-holding chamber and wick or oil-conductor, of a protecting covering, placed over said wick in such manner as to protect it from the dust, which enters the box and would otherwise adhere to it in quantities sufficient to impair its qualities as an efficient conductor of the lubricating-liquid to the pad or pads.

In the accompanying drawing, Figure 1 is a longitudinal vertical section of a journal-box, showing, partly in section and partly by side elevation, the improved lubricator above referred to, and also showing my present improvement applied thereto. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a longitudinal vertical central section of the pad-holding plate, alone.

A designates a car-journal box; B, the journal, with a collar, *a*, upon its end, and C the journal-bearings, all of the construction in common use. D is a curved plate, provided with a chamber, E, into which chamber is placed a pad, *b*, of felt or other fibrous material of suitable absorptive qualities, which pad is supplied with the lubricating-liquid by means of a wick or other suitable conductor, *c*.

The said pad-holder D is held up, so as to keep its pads or their equivalent pressed against the journal, by a spring—a spiral spring, G, for instance; and I will here remark that I prefer to make the lower coil or coils of such spring of sufficient diameter to extend laterally across the box, and consequently maintain its position in a better manner than when the coils are of equal diameter, as shown in the patent hereinbefore referred to. The wick passes down the inside of the spring, over the edges of the plate D.

The pad-holding plate D is provided with a lug or projecting piece, *d*, at one end, and in such manner as to extend under the collar *a* on the end of the journal; and the said plate is also provided with rims or upwardly-projecting flanges *e e e e* at its corners, for the purpose of holding in place a pad of felt or other suitable absorptive material, *b'*, which pad is held in contact with the journal, and supplied with the lubricating-liquid by means of the wick *c* and pad *b*. The advantages arising from the combination with the pad-holding plate of the lug *d* and rims *e* will be readily understood.

The pad *b'* is cut of such size as to fit upon the plate D and be retained in place by the rims *e* without the necessity of sewing it in position, as was found necessary to do with the corresponding pad upon a plate of the construction shown and described in the said patent to Wendell and Sayles, and hence the pad *b'* can be removed and replaced without any trouble whenever it is necessary so to do.

The lug *d*, when the pad *b'* is new, lies some

distance below the collar of the journal, as shown in Fig. 1, and as the pad wears the said lug comes closer and closer to the said collar, and in this way the exact condition of the pad *b'* can be ascertained; and, moreover, by placing the hand upon the lug *d* the plate D can be tipped so as to permit the withdrawal of one pad and insertion of another.

F designates a jacket, which incloses the spring G. This jacket may be made of any suitable material. This jacket performs two very important functions: First, it surrounds and incloses the wick or oil-conductor *c*, and prevents the dust and dirt, which enters the journal-box in large quantities, from adhering to the wick, and thereby materially impairing its efficiency as an oil-conductor. By thus protecting the wick it is at all times in operative condition as an oil-conductor. Second, the spring, with this jacket applied to it, on account of the position of the spring in the journal-box, forms a partition, which will prevent the surging of the oil from end to end of the box, as will be clearly understood by reference, first, to Fig. 2, where its position across the box is shown, and then to Fig. 1, where the oil is shown as contained on each side of it. It will therefore be observed that the oil cannot acquire sufficient momentum to slop out of the journal-box to any extent.

H designates a piece of sponge applied to the lower part of the wick for the purpose of absorbing oil and keeping the wick well fed with the same. As an equivalent for a sponge, any suitable material which will absorb the lubricating-liquid will answer.

I, Fig. 2, designates the covering, of any suitable material, which is placed over the wick where the same emerges from the spring to cross the plate—that is, it is arranged so as to cover the exposed parts of the wick, and its office is to shield the wick from the dust which enters the journal-box, dust often entering the box and lodging and adhering to the wick in such quantities as to impair the efficiency of the wick as a good conductor of the lubricating-liquid.

The covering I effectually shields the exposed parts of the wick, and is a most desirable feature in a lubricator of the construction herein described and referred to.

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

1. The combination, with a pad-holding plate, D, of rims or upwardly-projecting flanges *e*, secured to or cast with the said plate, and forming guards to prevent the pad from accidental lateral or longitudinal displacement, substantially as and for the purpose herein specified.

2. The combination, with the pad-holding plate D, spring G, and wick or conductor *c*, of a jacket, F, substantially as and for the purposes herein specified.

3. The combination, with a spring, G, plate D, and wick or oil-conductor *c*, of a sponge, H, or other suitable absorptive material, to act either as a feeder to the wick or as a barrier or partition across the journal-box, substantially as and for the purpose herein specified.

4. The combination, with the wick or oil-conductor *c* and pad-holding plate D, of a covering, I, to act as a shield for the said wick, substantially as herein specified.

THOS. SAYLES.

Witnesses:
F. B. BEECHER,
H. SCHUYLER ROSS.