

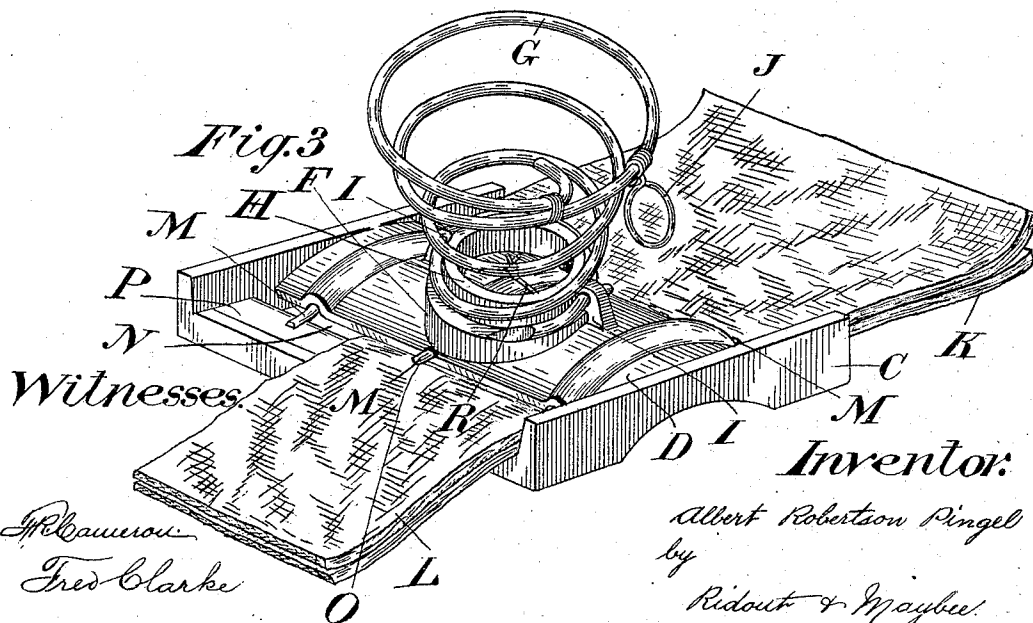
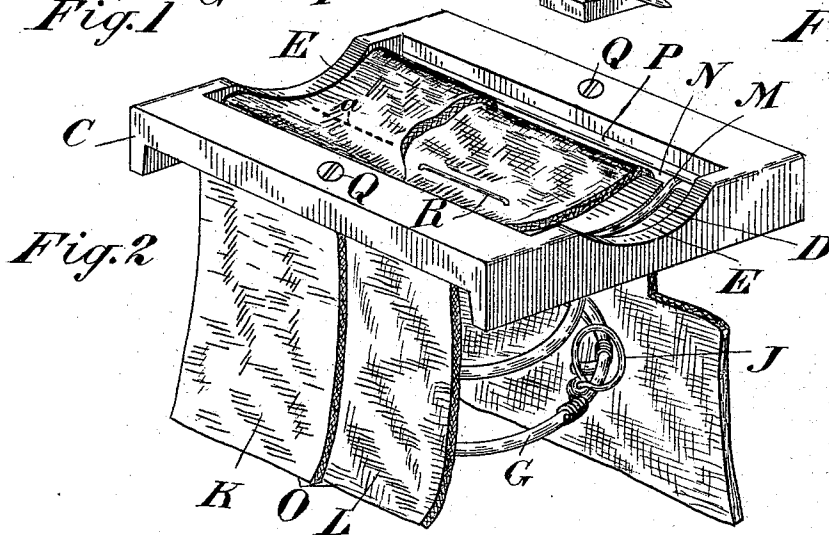
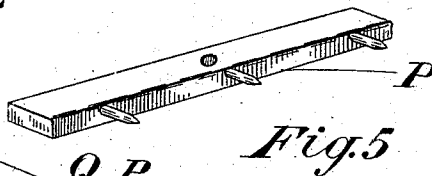
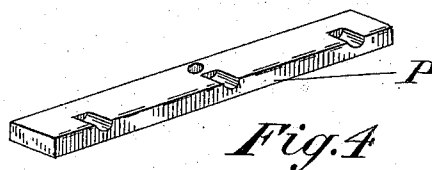
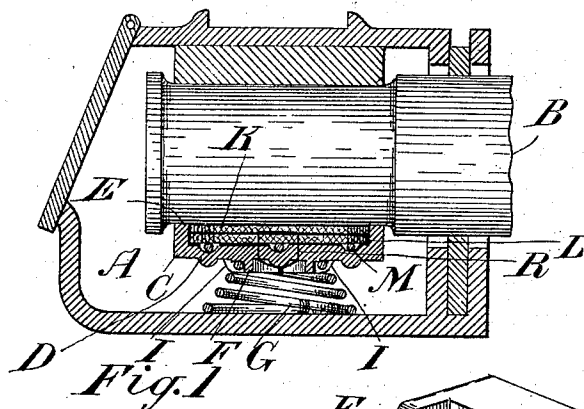
(No Model.)

2 Sheets—Sheet 1.

A. R. PINGEL.
CAR AXLE LUBRICATOR.

No. 555,827.

Patented Mar. 3, 1896.



Witnesses:
Fred Clarke

Inventor:
Albert Robertson Pingel
by
Ridout & Maybee
Attys.

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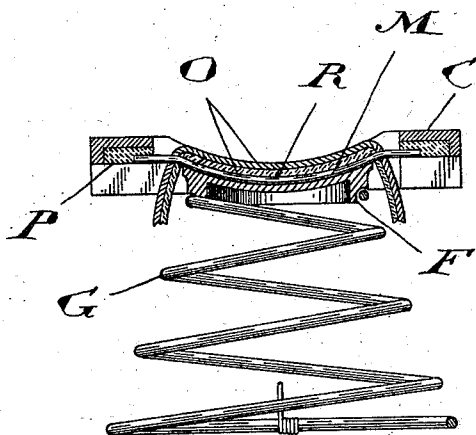


Fig. 6

Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT R. PINGEL, OF LONDON, CANADA.

CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 555,827, dated March 3, 1896.

Application filed June 4, 1895. Serial No. 551,643. (No model.)

To all whom it may concern:

Be it known that I, ALBERT ROBERTSON PINGEL, of the city of London, in the county of Middlesex and Province of Ontario, Canada, have invented certain new and useful Improvements in Car-Axle Lubricators, of which the following is a specification.

My invention relates to certain improvements in a car-axle lubricator described in United States Letters Patent No. 457,023, to Best, dated August 4, 1891, and has for its object, first, to provide means whereby the oil is properly drawn up to the axle, even though the surface of the wick in contact with the axle has its pores filled up and is rendered smooth by the friction of the axle; second, to provide means for retaining the lubricating-wick or wicks in position without preventing capillary attraction by compressing the material of which it is formed; third, to improve the construction of the retaining-spring and its connection to the casting so as to facilitate the introduction of the apparatus into and its withdrawal from the axle-box.

It consists in the peculiar construction, arrangement, and combinations of parts hereinafter more particularly described and then definitely claimed.

In the accompanying drawings, Figure 1 is a longitudinal section of a car-axle box provided with my improved lubricator. Fig. 2 is a perspective view of the lubricator removed from the box, partly broken away. Fig. 3 is a similar view of the under side of the lubricator. Fig. 4 is a perspective detail of a modified form of the retaining-pieces. Fig. 5 is a perspective detail showing an alternative arrangement of the wick-holding wires. Fig. 6 is a vertical section of parts of my device.

In the drawings like letters of reference indicate corresponding parts in the different figures.

A is the car-axle box of ordinary construction, and B is the axle of the car.

C is a casting extending from side to side of the axle-box and having its central portion D concaved, as shown. At each end of this portion raised rims E are provided which closely fit the car-axle. On the under side of the casting C a seat F is formed (see Fig. 3)

on which rests the upper coil of the tapered coil-spring G.

H is the annular rim of the seat F.

I are lugs located at opposite sides of this rim, in which holes are formed, through which is passed the upper coil of the spring G, as shown. By tapering this spring I am enabled to make it lie very close to the casting C, which is an improvement, aiding in inserting it into the axle-box, as in many cases very little room is left through which this may be done. The tapering of this spring further permits of the attachment of the loop J, which may be either independently connected, as shown, or else formed on the end of the spring G. With this loop a hooked instrument may be engaged when it is desired to withdraw the apparatus from the axle-box. This loop could not be conveniently connected to the parallel-sided coiled spring shown in the patent previously referred to, as it would still further interfere with the compression of the spring when the lubricator is being inserted into or withdrawn from the axle-box. In this patent also one wick is shown, whereas in my improved device two wicks K and L are used. The wick in contact with the axle is always liable to have its pores filled up and its surface rendered smooth by the friction of the axle so that its power of drawing up oil by capillary attraction is materially lessened. To overcome this difficulty I provide the lower wick, L, which keeps the upper wick constantly supplied with lubricant, as it is out of contact with the axle and therefore cannot have its pores filled up and its power of raising lubricant destroyed.

In the invention described in the above-mentioned Letters Patent the ends of the wick were connected to the lower coil of the spring to prevent the wick being drawn around by the rotary motion of the axle. In practice this was not found to work satisfactorily, and it became necessary to devise some means of holding the wick closer to the point where the pull occurred and yet without in any way interfering with the capillary attraction of the wicks by compressing them.

In Fig. 2 will be seen a curved wire M, lying in a groove formed in the upper surface of the

central concave portion D of the casting C. Three of these wires are necessary, one at each end and one in the middle of the casting. The pointed ends O of these wires M project across the slots N, through which the ends of the wicks pass. As will be seen in Figs. 3 and 6, these ends are pressed into wooden retaining-pieces P, held in place by the bolts Q. From this construction it follows that the wicks are securely held at three points on each side of the axle without in any way being compressed.

In order to prevent the wicks being displaced by catching on the collar on the end of the axle it is necessary to sew the two together, as indicated at *a* in Fig. 2, and to connect the lower one to the casting C by means of a wire R passing through holes in the same, as seen in Figs. 2 and 3. This securely retains the wicks in position without allowing the connection to come in contact with the axle, and as the wicks are sewed together a close connection is insured for the transference of the lubricant from the lower wick to the upper.

The great feature in the means of holding the wicks from being moved by the rotation of the axle is to have wires crossing the slots N; and a retaining-piece of metal grooved to receive the points O of the wires M could be substituted for the wooden retaining-pieces P, (see Fig. 4,) or instead of passing the wires from one side of the casting to the other through grooves short points could be connected to the retaining-pieces P of sufficient length to cross the slot through the wick. This form is shown in Fig. 5. Other equivalent means could be substituted for the retaining-pieces shown, or the wires M with their points could be formed integral with the casting C.

From the above description and the drawings it will be seen that my lubricator is a great improvement on those now known, and that the lubricator is greatly increased in its efficiency and utility.

What I claim as my invention is—

1. In a car-axle lubricator, a casting having a concave portion and a slot on each side thereof, in combination with suitable means to hold the casting against the axle; a wick extending across the concave portion and extending across the slots through the wick to hold it in position, substantially as and for the purpose specified.

2. In a car-axle lubricator, the casting C, provided with a concave portion D and slots N, in combination with the spring G; a wick extending across the concave portion D and through the slots N; wires M lying in grooves in the concave portion D, and extending across the slots N through the wick; and retaining-pieces P suitably held in position, substantially as and for the purposes specified.

3. In a car-axle lubricator, the casting C provided with a concave portion D and slots N, in combination with the spring G; two wicks K and L sewed together at *a* and extending across the concave portion D and through the slots N; wire R connecting the lower wick to the concave portion D; wires M lying in grooves in the concave portion D and extending across the slots N through the wicks; and retaining-pieces P, suitably held in position, substantially as and for the purpose specified.

London, May 28, 1895.

A. R. PINGEL.

In presence of—

WM. J. CLARKE,

FRED. W. NEWTON.