(No Model.)

A. BRAUER.

CAR AXLE LUBRICATOR.

No. 551,360. Patented Dec. 17, 1895.

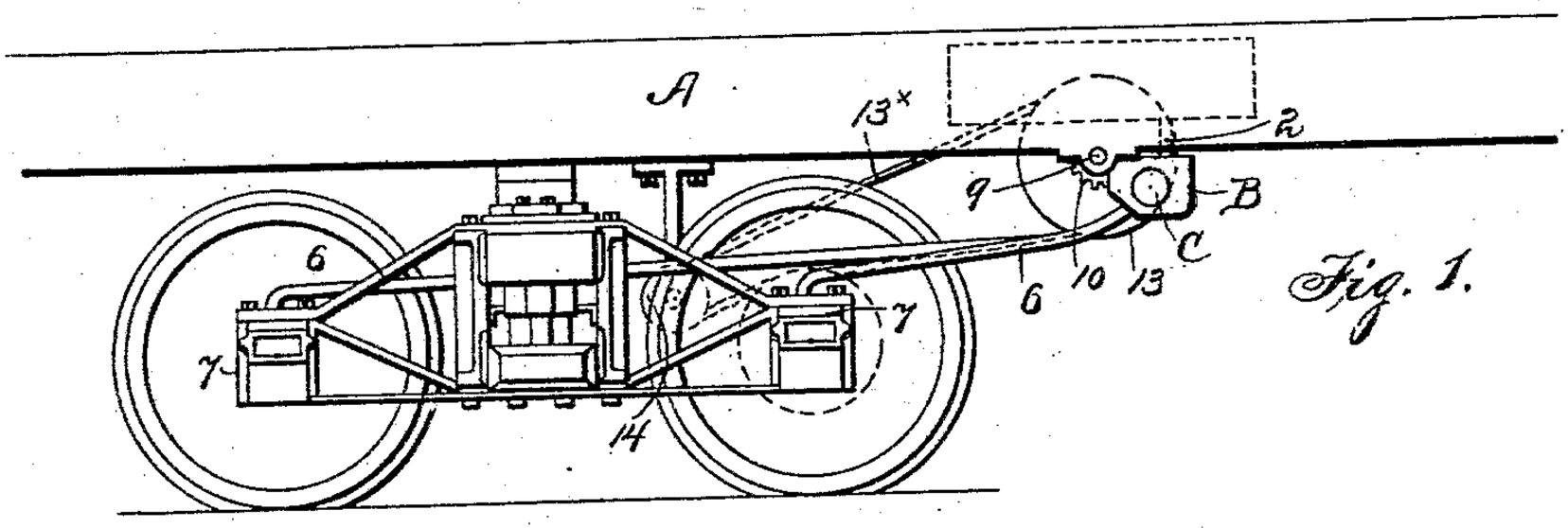


Fig. 1.

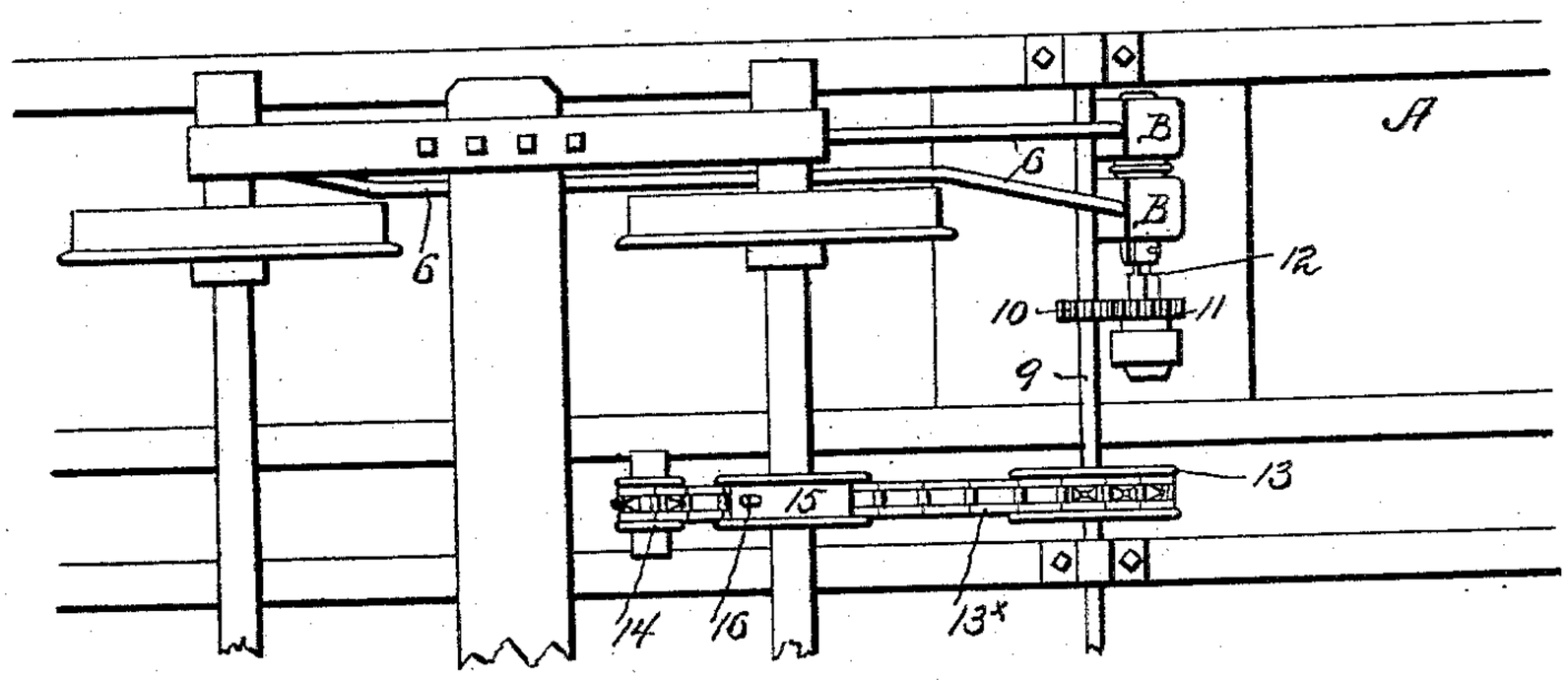


Fig. 2.

Fig. 3.

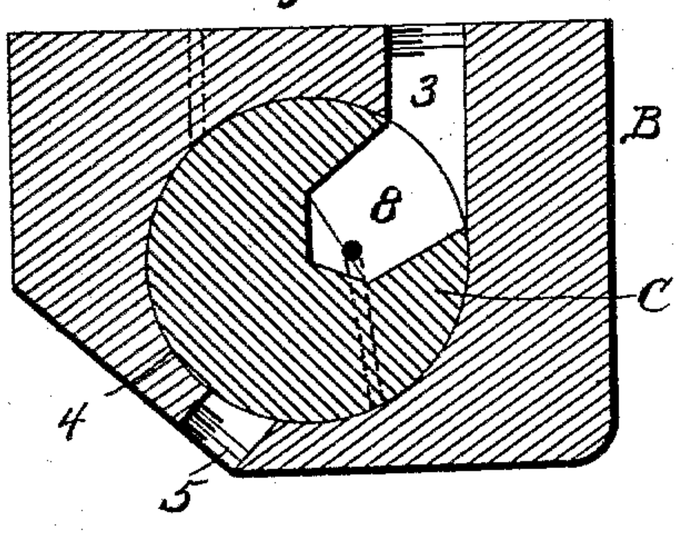
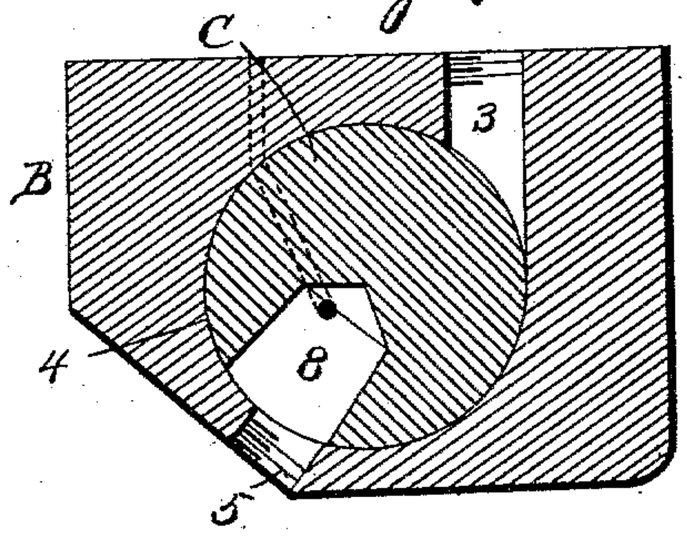


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALBERT BRAUER, OF PITTSBURG, PENNSYLVANIA.

CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 551,360, dated December 17, 1895.

Application filed September 21, 1895. Serial No. 563,236. (No model.)

To all whom it may concern:

Be it known that I, ALBERT BRAUER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car-Axle Lubricators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to improvements in automatic lubricators for car-axles; and the object is to provide an automatically-operated mechanism whereby a lubricating medium will be conveyed to the axle of the car in regular quantity and at determined intervals, as hereinafter will be fully specified.

I have fully and clearly illustrated my improvements in the accompanying drawings, wherein—

Figure 1 is a side view of a car-truck and part of the body of the car having my invention applied thereto. Fig. 2 is a bottom plan view showing the arrangement of the several elements of the apparatus and the operating mechanism. Fig. 3 is a vertical transverse section through the pipe-box and the oil-cup shaft, showing the cup in the shaft in position to receive the oil from the well or supply-box. Fig. 4 is a similar view showing the oil-cup in position to discharge the oil into the pipe leading to the place of deposit or journal-box.

Referring to the drawings, A designates the car-frame, to which at some convenient place thereon is secured an oil well or box 1, (shown in Fig. 1 in dotted lines,) from which box lead drip-pipes 2 into the pipe-box. The oil-box is provided with any suitable cover to exclude the dust and dirt from the oil and to prevent the oil from wasting by splashing or agitation.

B designates the pipe-box having an induction-port 3, threaded at its upper end to take the lower threaded end of a drip-pipe leading from the oil-reservoir, and having a discharge-port 5, threaded to hold the threaded end of a conduit-pipe 6, which is carried to the journal-box 7 of the car-axle, substantially as shown in Fig. 1 of the drawings.

In the bearing of the pipe-box is accurately fitted an arbor or shaft C, provided with an oil-cup 8, made of the dimensions to hold the quantity of oil necessary or desired to be conveyed to the shaft or axle to be lubricated. The oil-cup 8 is located in the shaft so as to register with the induction and discharge ports as the shaft is rotated. In order that the shaft may be itself lubricated, small drips or ways are made leading from the cup to the outer surface of the shaft, as shown in dotted lines in Figs. 3 and 4.

To rotate the oil-cup shaft I provide differential mechanism consisting of the following-described combined and arranged elements: To the car is suitably journaled a shaft 9, on which is mounted a gear-wheel 10, which engages with a gear-wheel 11 on the oil-cup shaft, or it may be mounted on a short shaft, coupled to the oil-cup shaft proper, as shown at 12 in Fig. 2 of the drawings. This coupled and detachable connection permits the oiling mechanism to be disconnected when not required for lubrication. On the shaft 9 is mounted a sprocket-wheel 13, on which is arranged sprocket-chain $13^{\times}$ passing over an idler sprocket-wheel 14, suitably mounted and journaled substantially as shown in the drawings. Movement is imparted to the sprocket-chain by means of wheel 15 on an axle of the car-wheels, the wheel 15 being provided with one or more sprockets or lugs 16, to engage with the sprocket-chain.

The adjustment and arrangement of the mechanism should be such that the accelerated rotation of the wheel on the car-axle shall turn the oil-cup shaft at a comparatively slower speed and so that there shall be just sufficient oil deposited and discharged to supply the points requiring lubrication.

The operation of the apparatus is clearly perceived from the foregoing description in connection with the drawings, but may be stated as follows: As the car travels in its course the wheel on the car-axle imparts motion to the chain at every engagement of the sprocket-pin in its perimeter with a link of the chain whereby the shaft with gearing in engagement with the oil-cup shaft is rotated and the cup filled from the supply source and discharged into the pipes to the place requiring lubrication.

The oil-cup shafts may be extended and carry more than one pipe-box, as shown in

the drawings, it being the better construction to thus combine and consolidate the pipe-boxes with a single oil-cup shaft.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car axle lubricator, the oil box having drip pipes secured thereto, pipe box into which the drip pipes lead, said pipe box being provided with induction and discharge ports, the oil cup shaft or arbor having formed therein the oil cup, the shaft 9, having mounted thereon a gear wheel 10 which meshes with a gear wheel 11 mounted on the oil cup shaft, the conduit pipe 6, the shaft 9 having the sprocket wheel mounted thereon, car wheel axle provided with sprocket wheel mounted on an axle journaled in the car frame, sprocket chain passed over the sprocket wheels mounted on their respective shafts whereby motion is communicated to the oil cup shaft for lubricating the car axles, all combined substantially as described.

2. The combination, with a car body, of an oil box, a drip-pipe connected thereto, a pipe-box into which the drip-pipe leads, said box provided with induction and eduction ports, an oil shaft or arbor in said box having a cup registering with the induction and discharge ports, and rotatable means connected with the car axle for causing the turning of the oil-cup shaft to cause the oil to be conveyed to the axle to be lubricated, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT BRAUER.

Witnesses:
A. G. HEYLMUN,
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