W. H. & F. C. BURDEN.

Car-Axle Oiler.

No. 226,710. **Patented April 20, 1880.**

Fig: 1.

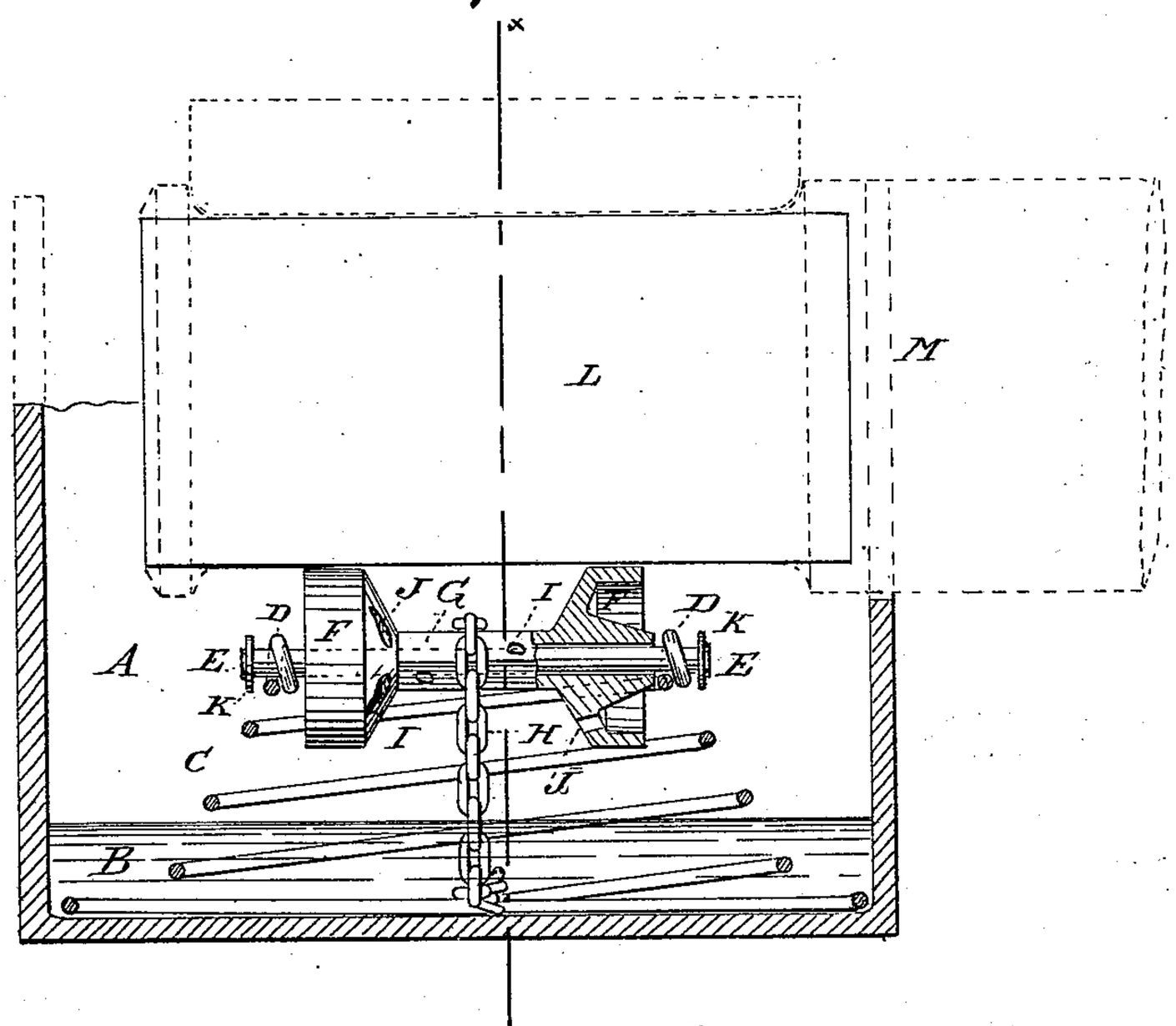


Fig: 2.

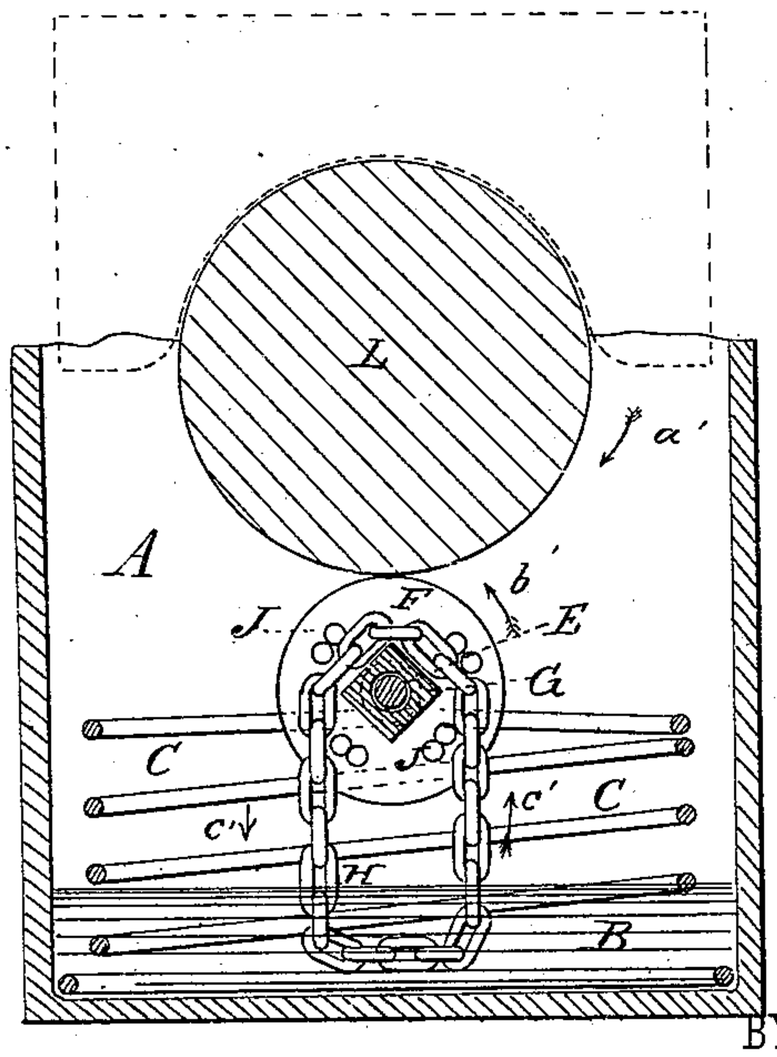
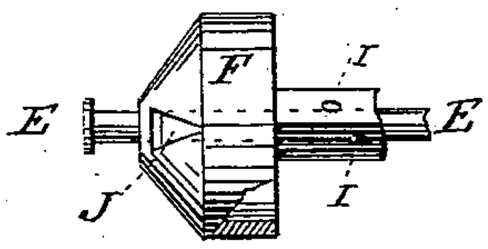


Fig: 3.



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UNITED STATES PATENT OFFICE.

WILLIAM H. BURDEN AND FREDERICK C. BURDEN, OF CLEVELAND, OHIO.

CAR-AXLE OILER.

SPECIFICATION forming part of Letters Patent No. 226,710, dated April 20, 1880.

Application filed November 10, 1879.

To all whom it may concern:

Be it known that we, WILLIAM H. BURDEN and FREDERICK C. BURDEN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new Improvement in Car-Axle-Journal Oilers, of which the following is a specification.

The object of our invention is to provide a new and improved car-axle-journal oiler which is simple in construction and effective in use.

The invention consists of two conical wheels connected by a square shaft and pressed against the journal by a spiral spring contained in the journal-box, upon which spring the shaft of these wheels rests. An endless chain is suspended from this shaft and extends into the oil in the journal-box.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of our improved car-axle-journal oiler. Fig. 2 is a cross-sectional elevation, on the line *x x*, Fig. 1, of the same. Fig. 3 is a modification of the conical wheel F.

Similar letters of reference indicate corresponding parts.

A represents an axle-box containing a quantity of oil or other suitable lubricating material, B. The box A also contains a spiral spring, C, the upper coil of which is provided with a loop, D, on each side, into which loops a rod, E, passes, upon which the conical wheels F F′, connected by the square hollow shaft G, are mounted. An endless chain, H, is suspended from the square shaft G and dips into the oil, as shown. The shaft G and the wheels F F are provided with perforations I I and J J, respectively.

The conical wheels F F may be inclined toward each other or from each other, as may be desired, the former arrangement being shown in the drawings.

Small heads or plates K K prevent the rod E from slipping out of the loops D D.

L represents the journal of the car-axle M.

The wheel represented in Fig. 3 may be used in place of the wheels shown in Figs. 1 and 2.

The operation is as follows: Assuming that the axle M rotates in the direction of the arrow *a′*, the wheels F F and the hollow shaft G will rotate in the direction of the arrow *b′*, for the spring C presses the peripheries of the wheels F F onto the periphery of the journal L with sufficient force to insure a rotation of the wheels F F, and the periphery of the journal L is larger than that of the wheels F F, and consequently the latter will rotate more rapidly than the former. As the shaft G is square or angular in cross-section it will cause the endless chain H to move in the direction of the arrows *c′ c′* as soon as the journal L rotates in the direction of the arrow *a′*. As the chain H extends into the oil B it draws up a continuous supply of oil in its movements. Part of the oil raised by this chain H flows along the shaft G through the perforation I I in the shaft G and lubricates the rod E. The greater part of the oil glides down the inclines of the conical wheels F F to the periphery of these wheels, and from there is deposited onto the periphery of the journal L. Some of the oil passes through the perforations J J in the conical wheels F F, flows down to the inner surface of the periphery of the wheels F to the edge of this periphery, and from there also passes onto the periphery of the journal L. In this manner an adequate quantity of oil is continually supplied to the journal as soon as the same rotates.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the car-axle journal L with the conical wheels F F, connected by a hollow square shaft, G, the spiral spring C, and the chain H, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the oil-receptacle A with the chain H, the spring C, the rod E, and the conical wheels F F, connected by a hollow square shaft, G, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:
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