

No. 792,432.

PATENTED JUNE 13, 1905.

F. P. MAIZE.
OIL CUP.

APPLICATION FILED SEPT. 19, 1904.

Fig. 1

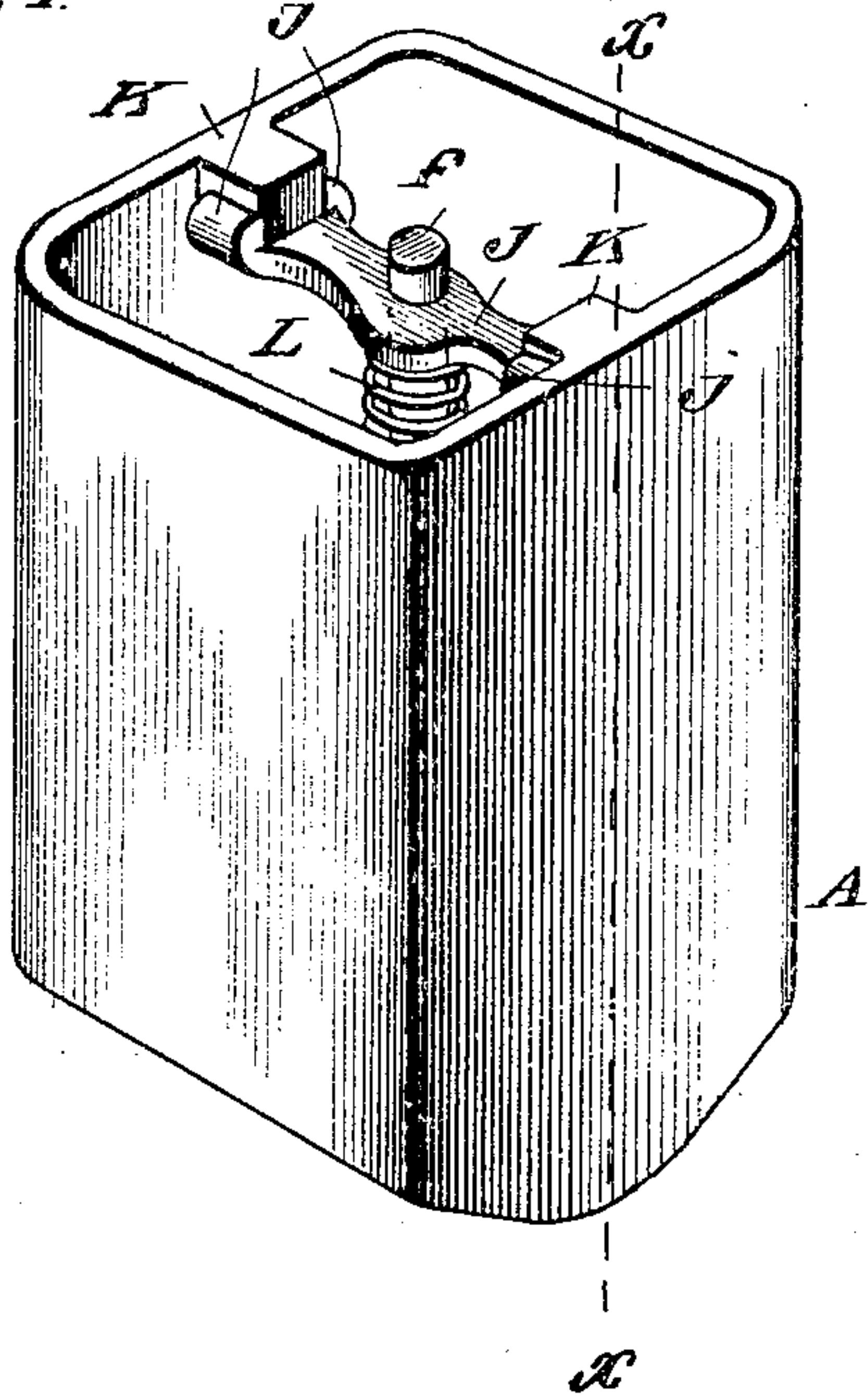


Fig. 2

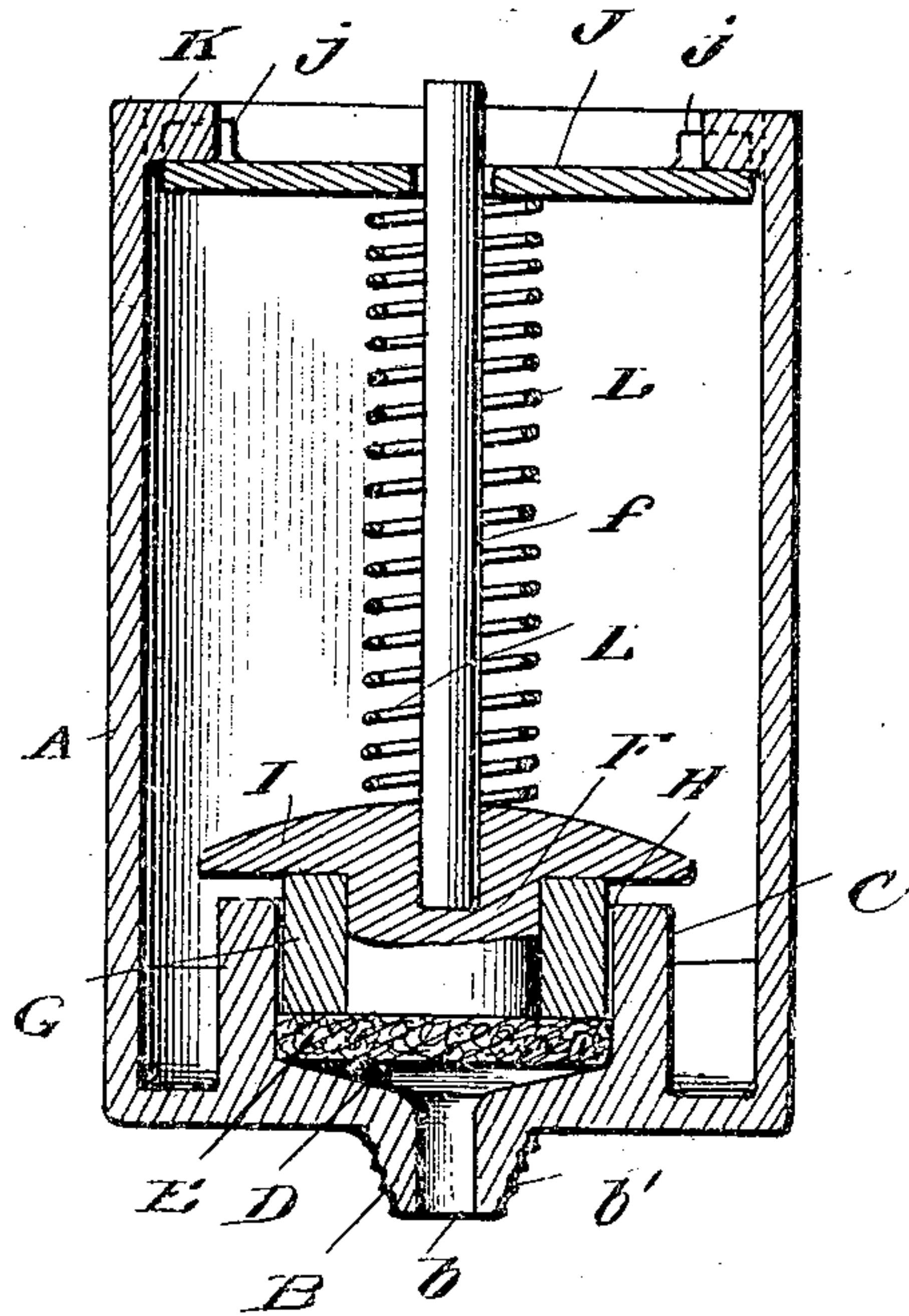


Fig. 3

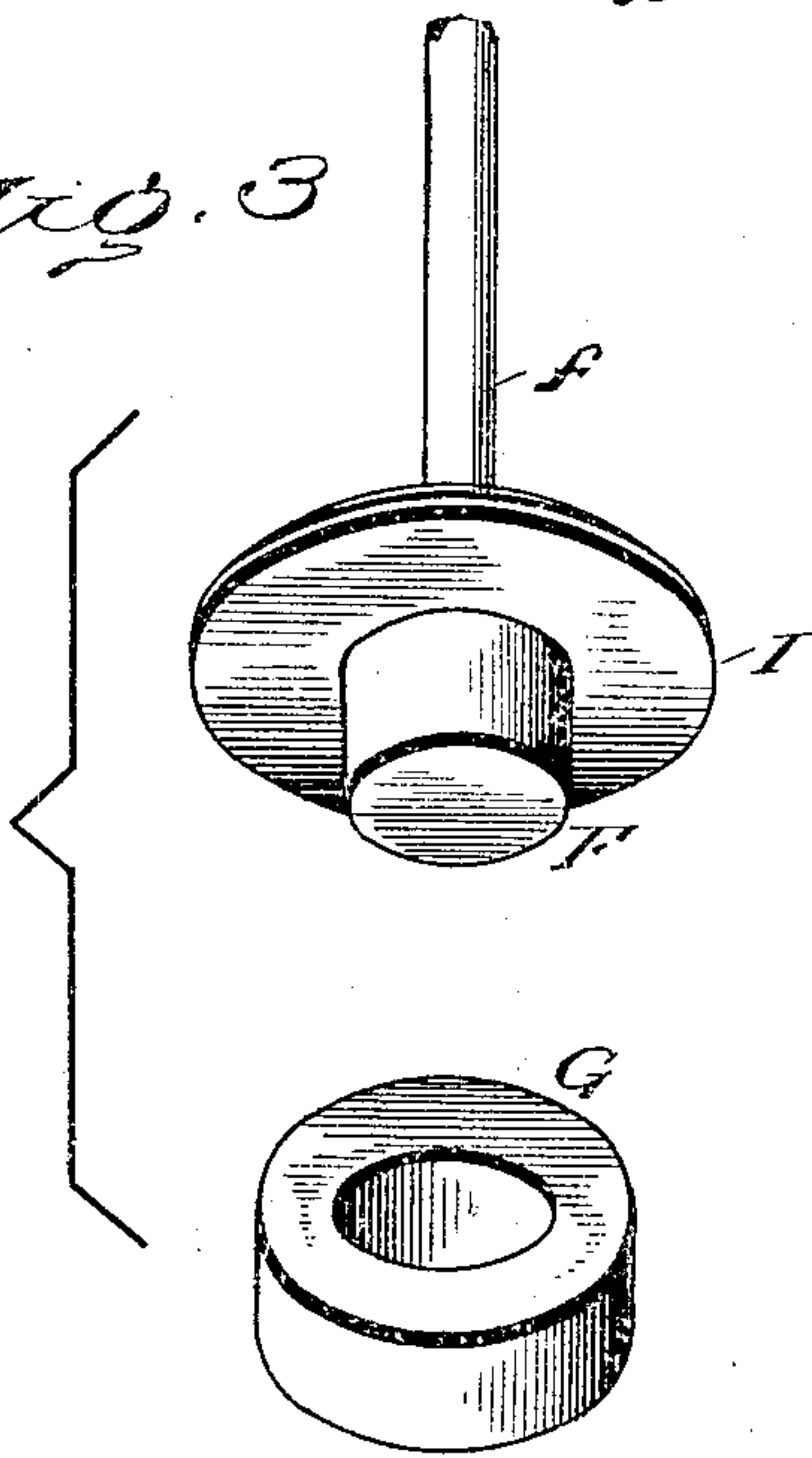
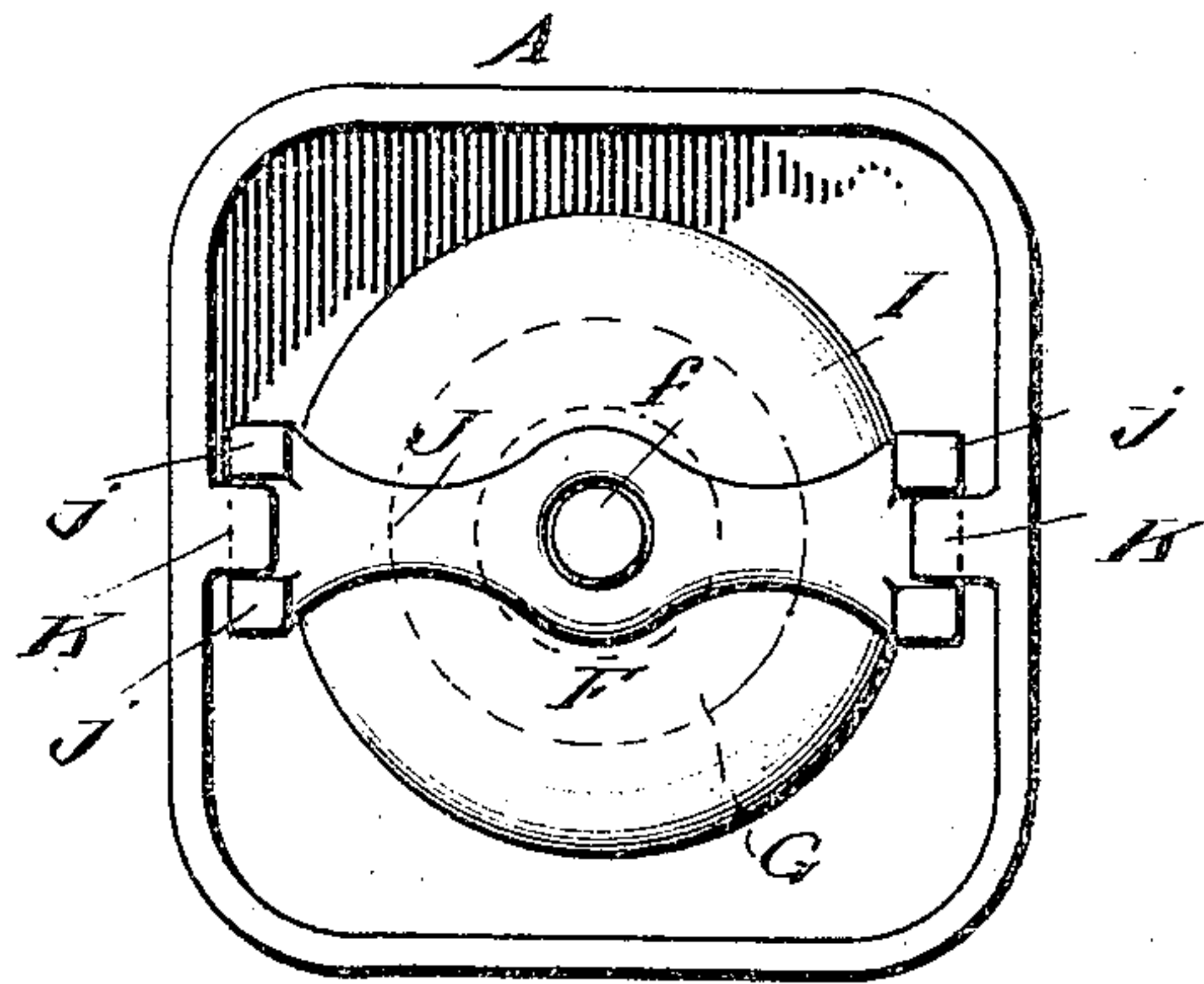


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

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OIL-CUP.

SPECIFICATION forming part of Letters Patent No. 792,432, dated June 13, 1905.

Application filed September 19, 1904. Serial No. 225,056.

To all whom it may concern:

Be it known that I, FRANK P. MAIZE, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Oil-Cups, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in oil-cups; and it pertains more particularly to that class used to lubricate the bearings on vehicles of any description.

The object of my invention is to provide an oil-cup of this character which is to automatically regulate the feed of oil therefrom by the vibration or jar caused by the movement of the vehicle and which would cease to feed when the vehicle or engine is standing or stopped.

Another object of my invention is to provide means for absolutely preventing any dirt or sediment from passing to the bearings and also providing means whereby the amount of oil fed may be readily changed.

A still further object of my invention is to provide a more simple, cheap, and effective device of this character than has heretofore been produced.

In the accompanying drawings, Figure 1 is a perspective view of my improved cup with the cover or cap removed. Fig. 2 is a vertical sectional view taken on the line *x x*, Fig. 1. Fig. 3 is a perspective view of the feed-plunger detached, showing the plunger-ring removed. Fig. 4 is a top plan view with the cover removed.

Referring now to the drawings, A represents the cup, which is preferably of the form shown, although the same may be round or of any other cross-sectional shape, as this forms no part of my invention. The lower end of said cup is provided with a downwardly-extending nipple B, which is provided with an opening *b* therethrough, through which passes oil from the cup. The said nipple is provided with external screw-threads *b'*, by means of which it is readily screwed within the journal-box, and thus firmly secured thereto. Surrounding the upper end of said opening *b* within the cup is an upwardly-projecting chamber C, which is considerably larger than the open-

ing *b* and is provided at its lower end with a conical-shaped seat D, which communicates with the said opening, the purpose of which will be hereinafter more fully described.

Resting upon the conical-shaped seat D is a flat washer E, which may be of any desired thickness and is of a size to snugly fit within the chamber C, thus completely covering the lower end of the same. The object of having the said chamber C is to provide a working barrel for the piston, and the object of extending it upward to the distance shown is to allow all of the sediment to settle in the bottom of the cup A and not to pass within the chamber, which would prevent the free passage of the oil through the same and would also allow some of the sediment to pass to the parts to be lubricated. Resting in said chamber C is a piston F, which is provided with an upwardly-extending arm *f*, which serves as a guide for the working of the same up and down. The said piston is provided with a ring G, preferably made of brass and snugly fitting the plunger and held thereon by friction. The outer circumference of the said ring G is such that there is a slight space H between the same and the inside wall of the chamber C, thus allowing the oil to work down around the ring and pass to the felt washer. The said ring G being only frictionally held upon the plunger, it will be readily understood that it can be removed and one of less or greater circumference placed thereon, thus increasing or decreasing the feed around the ring and increasing or decreasing the amount of oil fed when the plunger is reciprocating.

The plunger F, just above the ring G, is provided with a flange I of a diameter sufficiently large to extend out beyond the outer edge of the chamber C, thus covering the same and preventing any sediment in the oil above from entering the space H. The upper face of such flange is convexed, thus preventing the sediment from remaining upon the same, but causing it to slide therefrom into the bottom of the cup A, surrounding the chamber C. The said arm *f* of the plunger extends upward and passes through an opening in the guide J, the said guide having at its ends upwardly-projecting members *j*,

which are adapted to pass on each side of the lug K, carried by the upper inner face of the cup A. The guide is placed therein with the members *j* projecting upward, and surrounding the arm is a coil-spring L, which has its lower end resting upon the flange I of the plunger and holding the same upon the felt washer within the chamber C, and the upper end of the spring bears against the under face of the guide J and holds the outer ends thereof interlocked with the lugs carried by the inner face of the cup A. When it is desired to remove the plunger for any purpose whatever, the guide J is depressed until the upwardly-projecting members are brought below the lugs K, and when partially rotated the guide and plunger may be removed.

It will be readily seen that a device of this character when placed upon a car, wagon, or motor-vehicle is bound to be jarred more or less by the movement of the car, and said jarring causes the plunger and ring carried thereby to move up and down, thus causing the felt washer to be alternately compressed and released and the oil alternately absorbed by the washer and then forced therefrom through the opening below. When the plunger is moved upward, the felt absorbs the oil which has passed around the ring, so that the inner face of the ring and the periphery of the plunger regulates the amount of oil to be fed to the washer. The said conical-shaped seat upon which the felt washer rests will allow of the oil flowing down through the opening more readily when the washer is compressed, as it starts to be compressed at its edges first.

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

40 1. The combination of an oil-cup having a

chamber therein provided with a conical seat in its lower end, a felt washer within said chamber and resting upon the seat, and a piston loosely fitting within said chamber and adapted to be moved, said piston having a flange extending over the chamber. 45

2. The combination of an oil-cup having a chamber therein, a felt washer within the lower end of the said chamber, and a piston loosely fitting said chamber and adapted to compress said washer. 50

3. The combination of an oil-cup having a chamber therein provided with a conical seat at its lower end, a fabric washer resting upon the said seat, a piston loosely mounted in said chamber and adapted to be moved, and a coil-spring normally exerting a downward pressure on the piston. 55

4. The combination of an oil-cup having a chamber therein provided with a conical seat in its lower end, a fabric washer resting on said seat, and a piston loosely fitting in said chamber. 60

5. The combination of an oil-cup having a chamber therein provided with a conical seat in its lower end, a fabric washer resting on said seat, a piston within said chamber, a ring carried by the piston and fitting said chamber, said piston having a flange carried by the upper end thereof and covering the upper end of said chamber, and a spring normally holding the said piston in its downward position. 65 70

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

FRANK P. MAIZE.

Witnesses:

LEONARD G. TOOMEY,
P. E. WAMPLER.