

No. 786,701.

PATENTED APR. 4, 1905.

D. B. WILLIAMS.
AUTOMATIC COMPRESSION LUBRICATOR.

APPLICATION FILED MAY 27, 1904.

Fig. 1.

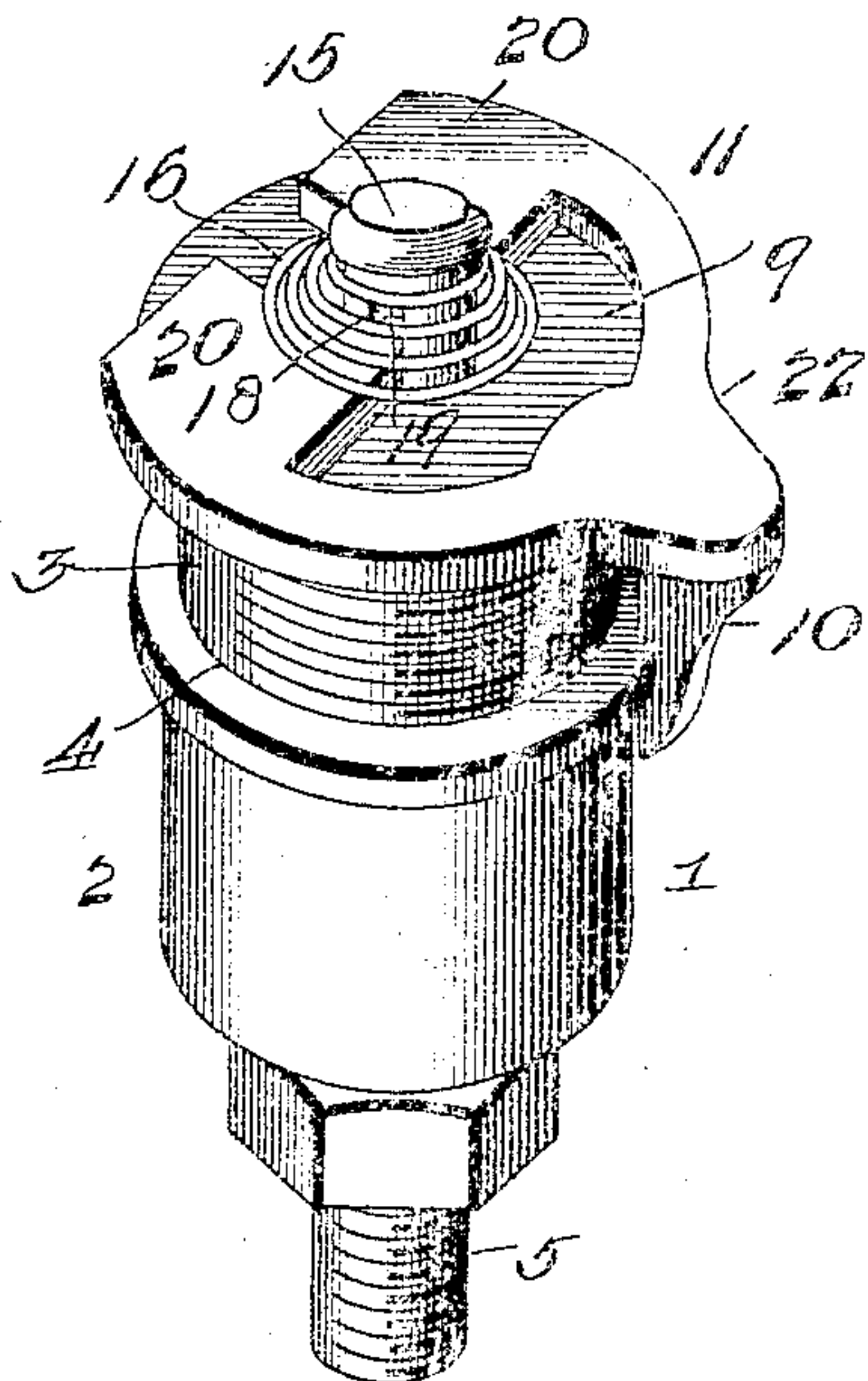


Fig. 2.

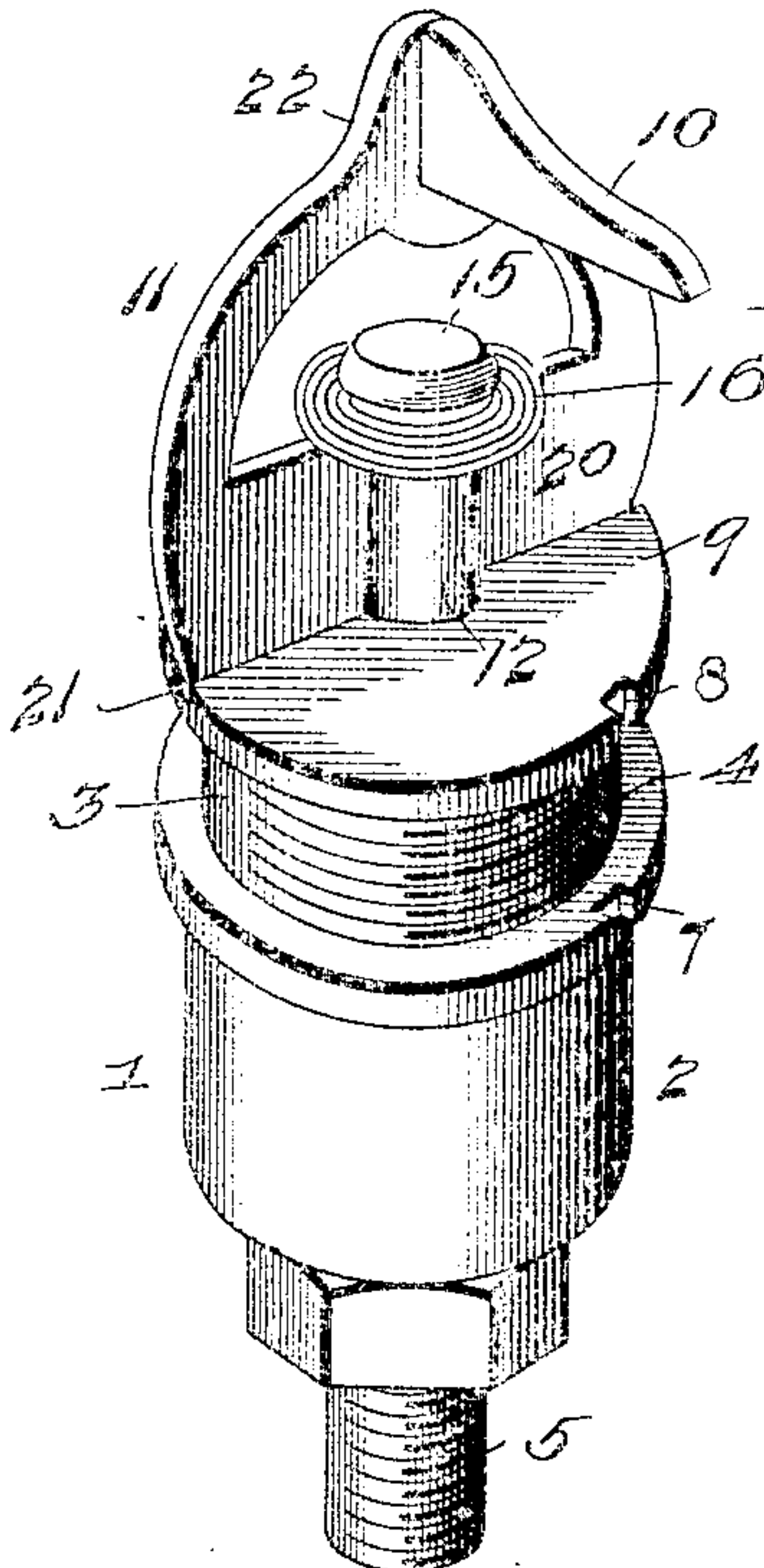


Fig. 3.

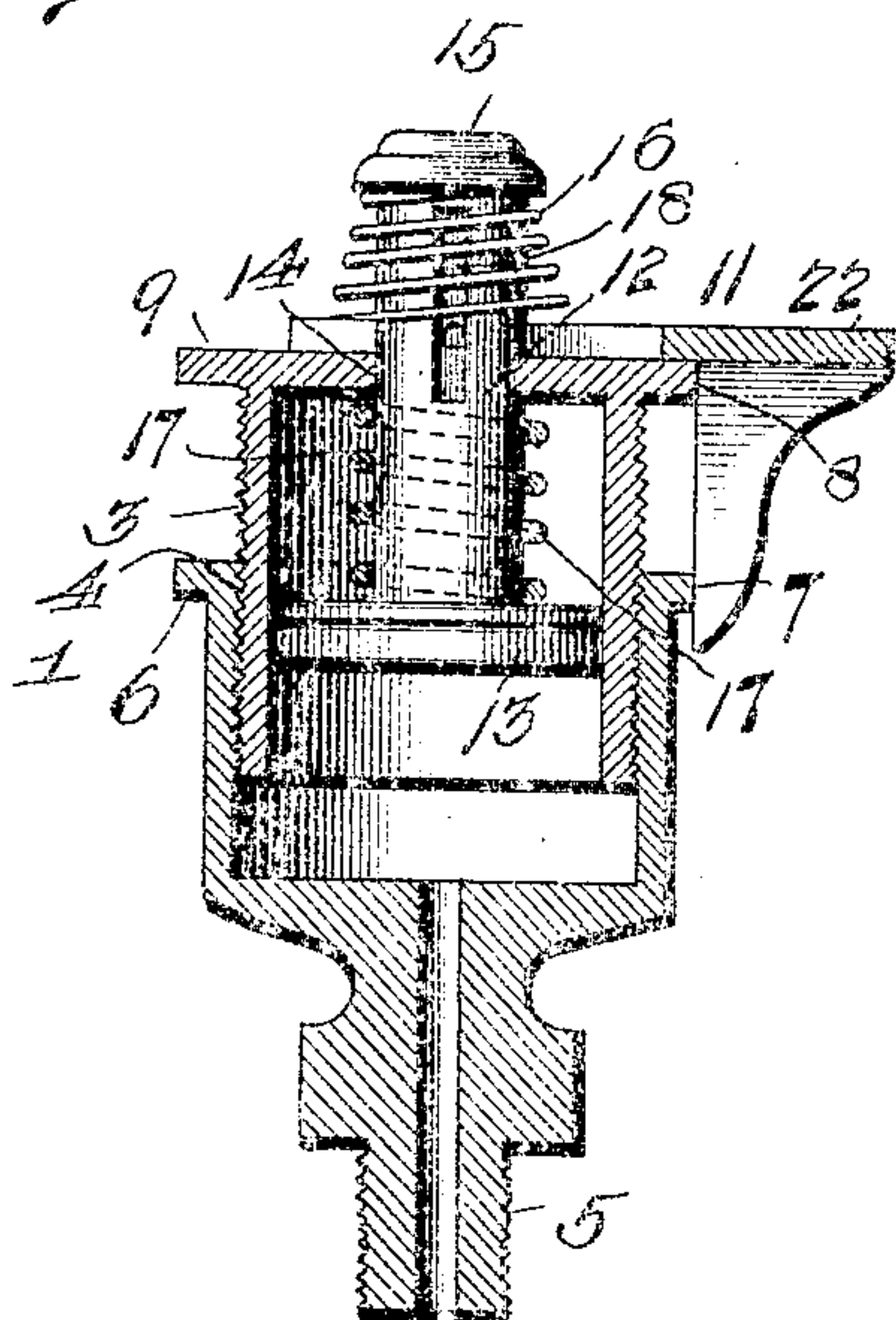
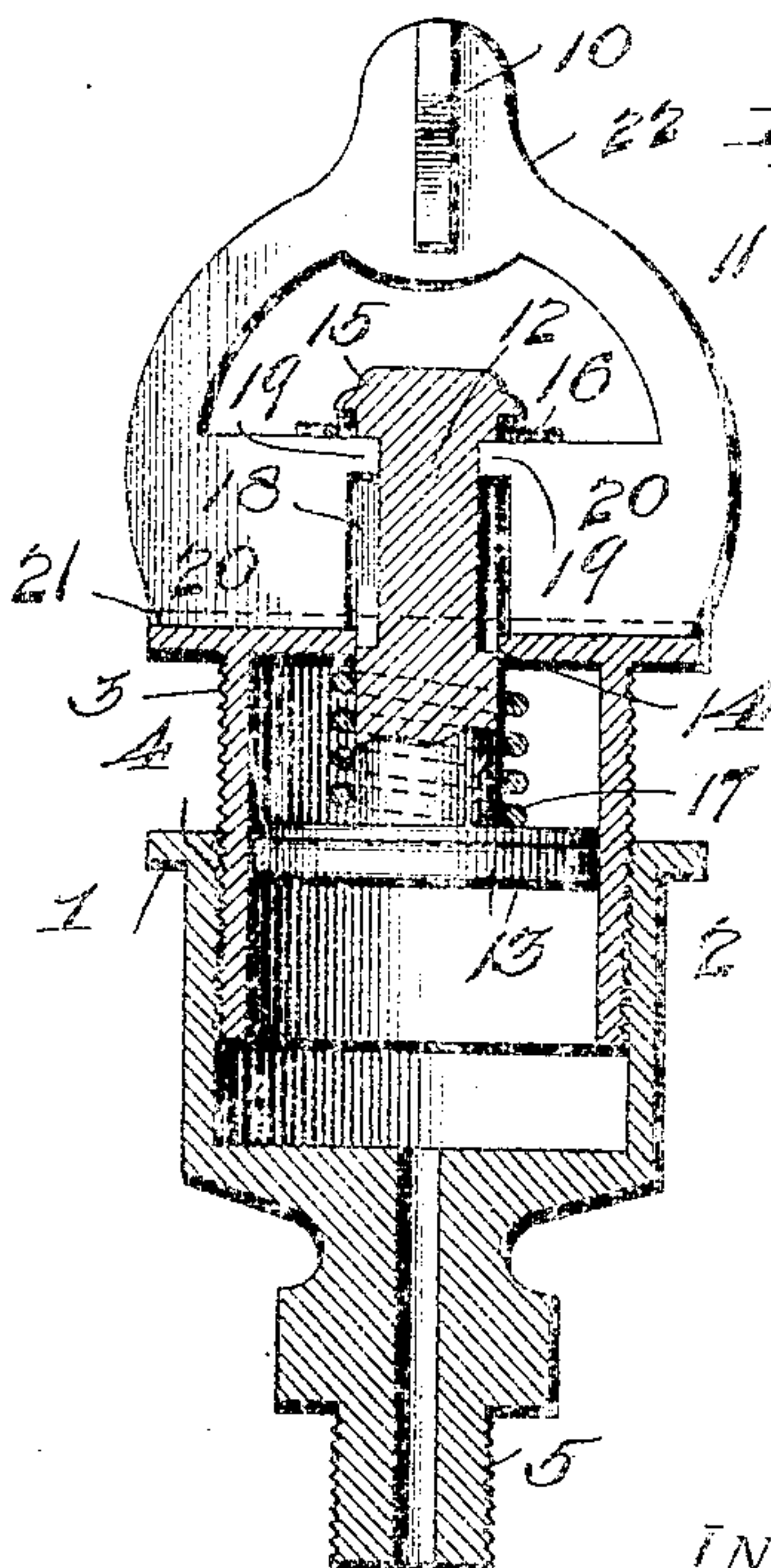


Fig. 4.



WITNESSES:

J. L. Knochman
G. V. Forbes

INVENTOR

DICK B. WILLIAMS

By

S. P. Holmstedt
Attorney

UNITED STATES PATENT OFFICE.

DICK B. WILLIAMS, OF SCOTTTDALE, PENNSYLVANIA, ASSIGNOR TO
LACKAWANNA LUBRICATOR AND MANUFACTURING COMPANY,
A CORPORATION OF PENNSYLVANIA.

AUTOMATIC COMPRESSION-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 786,701, dated April 4, 1905.

Application filed May 27, 1904. Serial No. 210,086.

To all whom it may concern:

Be it known that I, DICK B. WILLIAMS, a citizen of the United States, residing at Scottsdale, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Compression-Lubricators, (Case A,) of which the following is a specification.

This invention relates to that type of lubricators commonly termed "grease-cups," adapted for lubricating purposes generally.

A special object of the invention is to provide a grease-cup or lubricator possessing special utility in connection with motor-vehicles.

To this end the invention contemplates a novel construction wherein the separate parts or members of the cup are readily separable for refilling purposes, while also being associated with means for locking together the separate parts of the cup when the lubricator is in action and for locking the piston in an inactive position when the vehicle is at rest or it is not desired for the lubricator to feed.

With these and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts, as hereinafter more fully described, illustrated, and claimed.

The essential feature of the invention involved in the novel means employed for locking together the separate parts of the cup or receptacle and for relieving the piston from the tension of the pressure-spring is necessarily susceptible to structural change without departing from the scope of the invention; but a preferred embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a compression-lubricator constructed in accordance with the present invention and showing the locking device in its lowered position for locking together the separate members of the

cup. Fig. 2 is a similar view showing the locking device swung to its upright position, in which position the separate members of the cup are unlocked and the piston is released from the tension of its pressure-spring. Fig. 3 is a vertical sectional view of the cup with the parts arranged as shown in Fig. 1. Fig. 4 is a vertical sectional view at right angles to that indicated in Fig. 3 and showing the parts in the position illustrated in Fig. 2.

Like reference-numerals designate corresponding parts in all figures of the drawings.

The cup body or receptacle indicated in entirety by the numeral 1 essentially comprises separate cup members 2 and 3, the tubular portions of which are adjustably connected together through the medium of the threaded connection 4, thus providing means whereby the capacity of the lubricant-chamber may be varied and the members readily separated for refilling purposes. The lower cup member 2 is provided with the usual outlet-nipple 5, adapted to be fitted in the ordinary way to the part to be lubricated and at its upper end is formed with an outturned flange 6, provided therein with a catch-notch 7, corresponding to a similar catch-notch 8, formed in the peripheral edge of the cover 9, carried by the upper cup member 3. These notches when brought into the same vertical plane are adapted to be engaged by the inner edge of a lock-finger 10, carried by a lever-locking device 11, which provides a lock for both the piston and the cup.

The lever-locking device 11 is arranged to operate above the cover 9 and coöperates with said cover and also with the sliding stem 12 of the piston-head 13, working within the cup body or receptacle. The stem 12 works through a guide-opening 14, provided in the cover 9, and is provided at its upper extremity with a shouldered head 15, between which and the turning portion of the lever-locking device 11 is arranged a lock-holding spring 16, which serves to maintain the locking device firmly in interlocked en-

gagement with the separate members of the cup, as may be plainly seen in Figs. 1 and 2 of the drawings.

The piston or follower 13 is held under
5 pressure against the lubricant within the cup or receptacle by the main inner pressure-spring 17, interposed between the upper side of the piston and the upper head of the cup or receptacle, and when said spring is free to
10 act the pressure thereon is sufficient to cause the lubricant to be forced out through the nipple 5 to the point of distribution upon the part to be lubricated. The sliding stem 12, which carries the piston or follower 13, is
15 provided in opposite sides thereof with longitudinally-disposed slide-grooves 18, adapted to be slidably and rotatably engaged by the combined pivot and holding studs 19, projecting inwardly from opposite side portions
20 of the turning part 20 of the lever-locking device 11. This turning part 20 of the lever-locking device is in the form of a flat fulcrum bar or plate disposed at opposite sides of the longitudinal plane of the stem 12, and said
25 studs 19 are disposed at or contiguous to what may be termed the "inner edge" of said fulcrum bar or plate, while an opposite edge of said bar or plate is adapted to snap into engagement with a transversely-disposed retaining-groove 21, formed across the upper
30 face of the cover 9, carried by the upper cup member 3.

As stated, the lever-locking device 11 consists of a swinging or turning lever, essentially consisting of a yoke-shaped member
35 provided at one end with the fulcrum bar or plate 20 and extended at one side of said bar or plate into an opening lever-arm portion 22, at the extremity of which is provided the
40 offset lock-finger 10 and which extremity also forms a finger-piece to permit of the convenient raising and lowering of the locking device.

When the cup or receptacle is filled with
45 lubricant, the locking device 11 is lowered, so that the lock-finger 10 thereof couples together the parts 2 and 3 of the cup. In this position of parts the stronger inner pressure-spring 17 is free to exert its tension or pressure with a consequent feeding of lubricant
50 out of the cup. When it is desired to stop the feeding—as, for instance, when a vehicle is at rest or when it is desired to refill the lubricator—the locking device is swung upward. This upward movement of the locking
55 device first uncouples the two parts of the cup and at the same time takes the tension of the inner pressure-spring off the piston and locks the piston in an inactive position. It will be seen that during the turning
60 movement of the locking device the combined pivot and holding studs 19 not only turn in the slide-grooves 18, but also move to the upper ends of such grooves and lift the
65 piston. At the same time the outer edge of

the fulcrum bar or plate 20 snaps into the retaining-groove 21 and is held firmly therein by the lock-holding spring 16.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described lubricator will be readily apparent without further description. 70

Having thus described the invention, what is claimed as new is— 75

1. In a lubricator of the class described, a receptacle comprising separate detachably-connected cup members, a spring-actuated piston, and a pivotal lever-lock comprising means, when in one position, for locking the
80 cup members together, and also comprising means, when in another position, for locking the piston in an inactive position.

2. In a lubricator of the class described, a receptacle comprising separate detachably-
85 connected cup members, a spring-actuated piston, and a lever-lock comprising means for locking the cup members together and also for lifting the piston by lever action to a non-feeding position. 90

3. In a lubricator of the class described, a receptacle comprising separate detachably-connected cup members, a spring-actuated piston, and a lever-lock having a combined
95 lifting and locking connection with the piston-stem and also having a locking member for engagement with the separate cup members.

4. In a lubricator of the class described, a receptacle comprising separate detachably-
100 connected cup members, a spring-actuated piston, and a swinging lever-locking device having a fulcrum mounting upon the cup, and a locking member for engagement with the separate cup members, said lever-locking
105 device also having a combined lifting and locking connection with the stem of the piston.

5. In a lubricator of the class described, a receptacle comprising separate detachably
110 and adjustably connected cup members each having a catch-notch, a spring-actuated piston having a stem sliding through the upper cup member, and a spring-held lever-lock pivotally connected with the piston-stem
115 and having a fulcrum engagement with the upper cup member, said lever-lock being provided with a lock-finger for engagement with the catch-notches of both of the cup members. 120

6. In a lubricator of the class described, a receptacle comprising separate detachably
125 and adjustably connected cup members, each having a catch-notch and the upper cup member being provided with a transversely-disposed retaining-groove, a spring-actuated piston having a stem sliding through the cover of the cup and provided at its upper end with a shouldered head and at an intermediate point with opposite longitudinally-
130

disposed sliding grooves, a yoke-shaped locking-lever provided with a lever-arm having a lock-finger for engagement with the catch-notches and with a transverse fulcrum bar
5 or plate having at or contiguous to one edge inwardly-disposed combined pivot and holding studs engaging said slide-grooves, the opposite edge portion of said fulcrum bar or plate being adapted to move into and out of
10 engagement with said retaining-groove, and

a lock-holding spring interposed between the head of the piston-stem and the fulcrum bar or plate of said lever-locking device.

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

DICK B. WILLIAMS.

Witnesses:

J. M. STAUFFER,

ARTHUR B. LOUCKS.