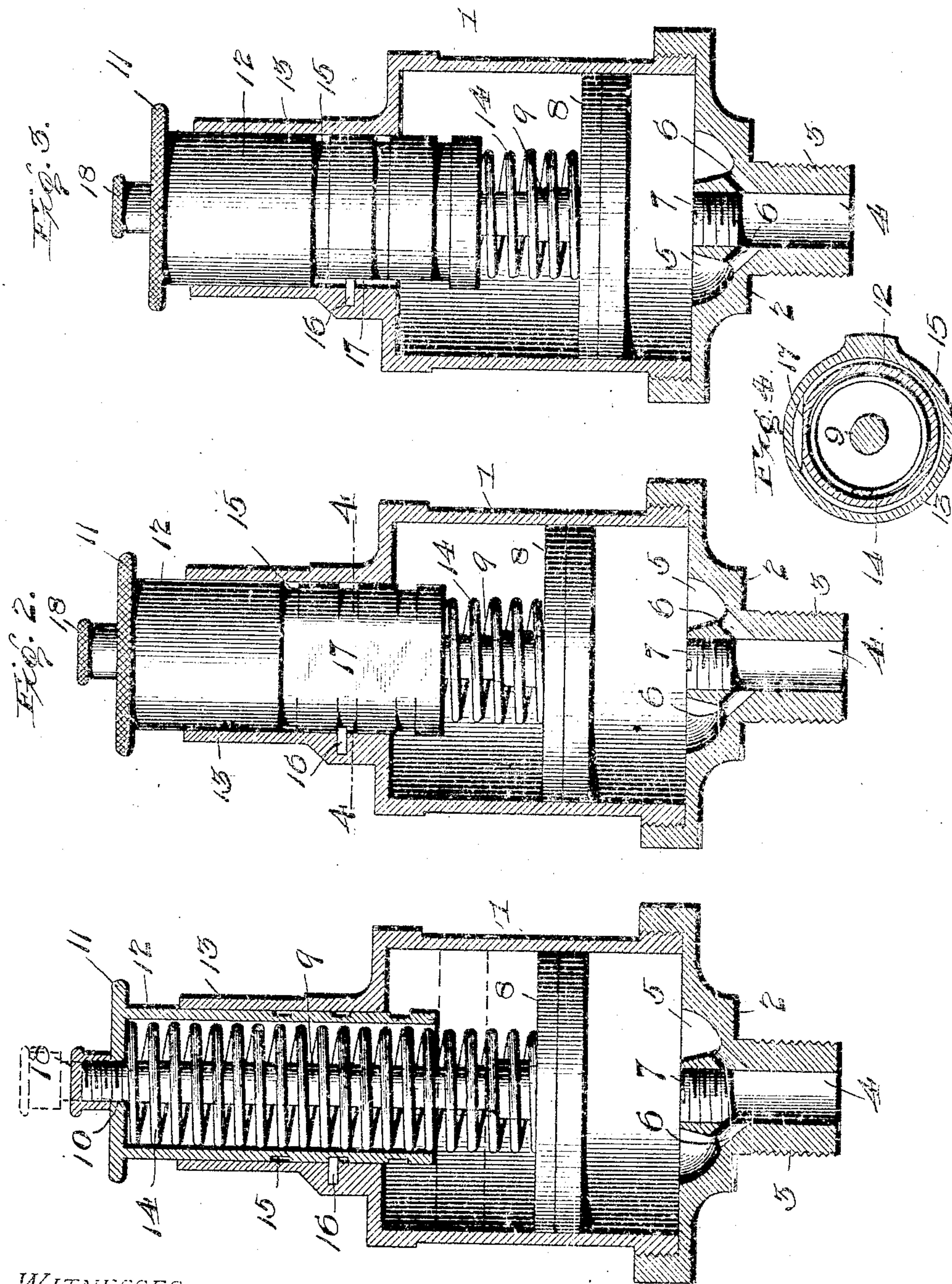


No. 786,702.

PATENTED APR. 4, 1905.

D. E. WILLIAMS.
AUTOMATIC COMPRESSION LUBRICATOR.

APPLICATION FILED MAY 27, 1904.



WITNESSES:
J. R. Noctable
G. V. Forbes

Fig. 1.

INVENTOR
DICK B. WILLIAMS

BY
D. H. Holman
Attorney

UNITED STATES PATENT OFFICE.

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

AUTOMATIC COMPRESSION-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 786,702, dated April 4, 1905.

Application filed May 27, 1904. Serial No. 210,087.

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 B,) of which the following is a specification.

This invention relates to force-feed lubricators of the type known as "grease-cups" and embodying a spring-pressed or spring-actuated piston or follower which serves to press the lubricant out of the cup or receptacle and force it to the part to be lubricated.

A special object of the invention is to provide simple and improved means for regulating the tension of the pressure-spring according to the requirements of the feed and the quantity of lubricant in the cup or receptacle.

With these and many 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 arrangements of parts, which will be hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a vertical sectional view of a force-feed lubricator or grease-cup embodying the present invention. Fig. 2 is a similar view showing the tension-regulator in elevation to expose the flattened clearance-face for quick adjustment purposes. Fig. 3 is a view similar to Fig. 2, showing the tension-regulator turned to a position for bringing the flat clearance-face into the plane in the catch or holding-stud. Fig. 4 is a detail cross-sectional view on the line 4-4 of Fig. 2.

Like numerals designate corresponding parts in the several figures in the drawings.

The lubricator embodying the present invention includes in its general organization a grease cup or receptacle 1, containing the lubricant. This grease cup or receptacle may be of any desired shape or capacity, but preferably is provided with a detachable bottom cap 2, having an outlet-nipple 3, designed to be

screwed or otherwise fitted to the part to be lubricated and provided therethrough with a delivery-passage 4, through which the lubricant is delivered. In the construction shown the bottom cap 2 is provided in the upper face thereof with a discharge-gutter 5, the base of which is pierced by a plurality of ports 6 in communication with the delivery-passage 4, and the outlet ends of which ports are controlled through the medium of a regulating-screw 7, adjustably mounted in the upper end of the passage 4. This construction provides means for regulating the quantity of flow through the delivery-passage.

The cup or receptacle 1 containing the lubricant also accommodates for movement therein a close-fitting piston or follower 8, carried at the lower end of the sliding piston-stem 9, working through the guiding-opening 10, formed centrally in the flanged adjusting-head 11 at the upper end of the tubular tension-regulator 12. This tension-regulator 12 is in the form of an elongated tube rotatably and slidably fitting in the guiding-sleeve 13, projecting from the top of the cup or receptacle 1, and is designed to house therein the main pressure-spring 14. This spring is arranged about the sliding piston-stem 9 and has its opposite ends bear, respectively, against the head 11 of the tension-regulator and the upper side of the piston or follower 8. The said piston or follower 8 is caused to press upon the lubricator at any desired pressure, according to the tension of the main pressure-spring 14. This tension is regulated through the adjustment of the tubular tension-regulator 12, which is designed to be adjusted up and down within the guiding-sleeve 13 and held fixed at the desired adjustment through the medium of a locking connection between the regulator and the cup or receptacle. The locking connection between the adjustable tension-regulator and the cup or receptacle is provided for by constructing the tubular part of the tension-regulator 12 with a series or plurality of spaced annular locking-grooves 15, each of which is designed to have the shouldered por-

tion thereof turned into locking engagement with a catch-stud 16, rigidly fitted to the guiding-sleeve 13 or other suitable part of the cup or receptacle and projecting inwardly into the longitudinal plane of the tubular tension-regulator. By reason of having a series of the locking-grooves 15 at spaced intervals, each of which is designed to separately engage the stud 16, means are necessarily provided for holding the tension-regulator at variable points within the guiding-sleeve, and hence serving to regulate the tension of the pressure-spring according to the requirements of the lubricator.

15 In order to effect a quick longitudinal adjustment of the tubular tension-regulator 12 and permit any of the grooves to become interlocked with the stud 16, the present invention contemplates providing the tubular part of the tension-regulator 12 with a longitudinally-disposed flattened clearance-face 17, formed on the exterior surface of the tube and extending across the plane of the several locking-grooves, thereby interrupting the ribs forming said grooves. The flattened clearance-face 17 lies in the plane of the bases of the grooves, so that when such face is brought into the plane of the stud 16, as shown in Fig. 3, the tubular tension-regulator may be adjusted longitudinally within the guiding-sleeve and then turned to bring any desired groove into engagement with the stud 16, according to the tension to be placed upon the pressure-spring.

35 As stated, the piston-stem 9 slidably works through the guiding-opening 10 at the upper end of the tension-regulator and preferably

has fitted on its exterior terminal a cap-piece 18, which constitutes a limiting-stop for the stem when moved inward to its extreme limit, as plainly shown in Fig. 1 of the drawings. 40

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described force-feed lubricator will be readily apparent without further description, and it will be understood that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the scope of the invention or sacrificing any of the advantages thereof. 50

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is— 55

In a lubricator of the class described, a cup or receptacle provided with a guiding-sleeve and an inwardly-projecting catch-stud, a tubular tension-regulator slidable and rotatable within the guiding-sleeve and provided in its tubular part with a plurality of spaced annular locking-grooves and with a longitudinally-disposed flattened clearance-space crossing the plane of the grooves and interrupting the ribs forming the same, the piston, and a spring interposed between the piston and the tension-regulator. 60

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

DICK B. WILLIAMS.

Witnesses:

J. M. STAUFFER,
ARTHUR B. LOUCKS.