J. C. HILL.

GREASE CUP CAP FOR LOCOMOTIVE SIDE ROD CUPS.

APPLICATION FILED FEB. 26, 1915.

1,167,177. **Patented Jan. 4, 1916.**

Fig. 1.

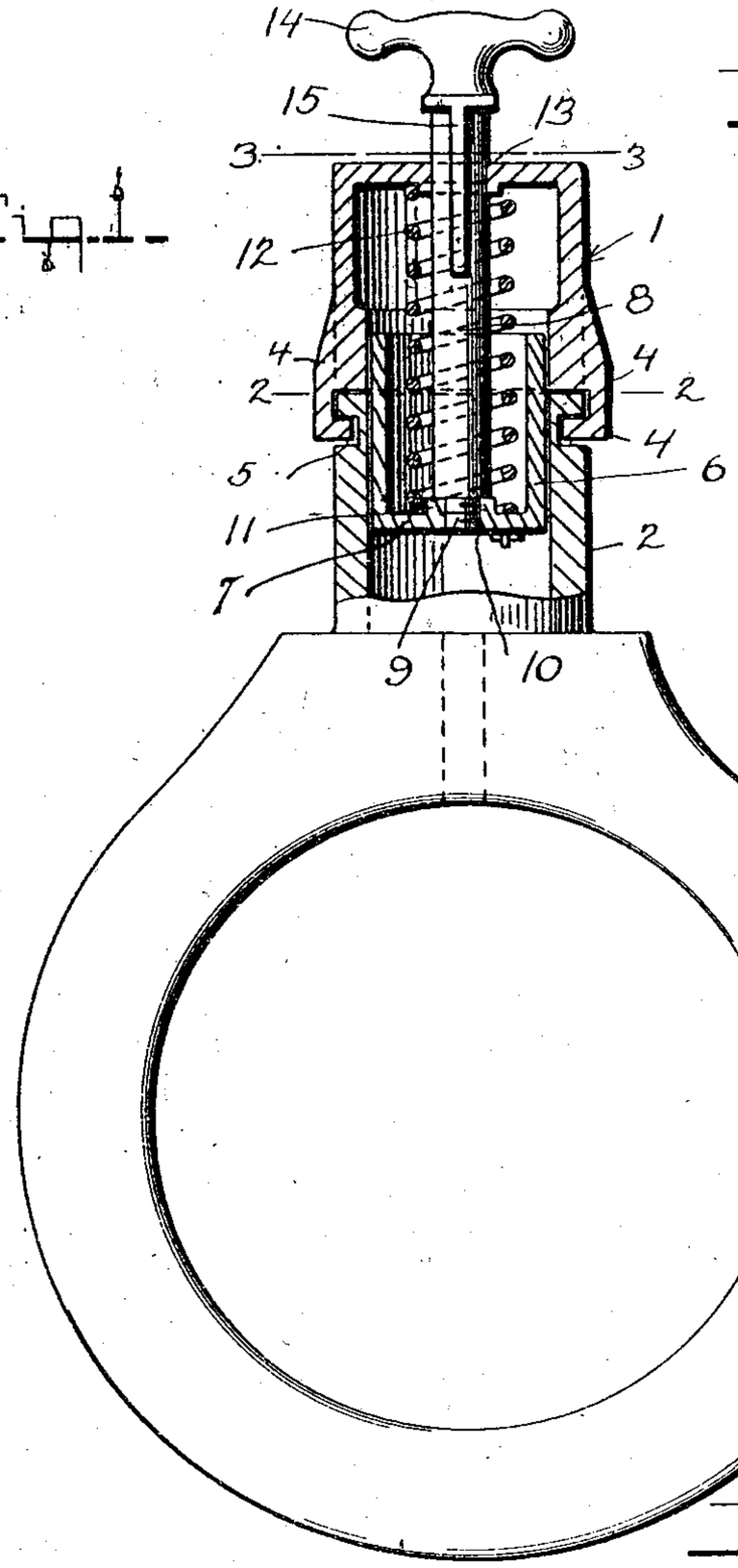


Fig. 2.

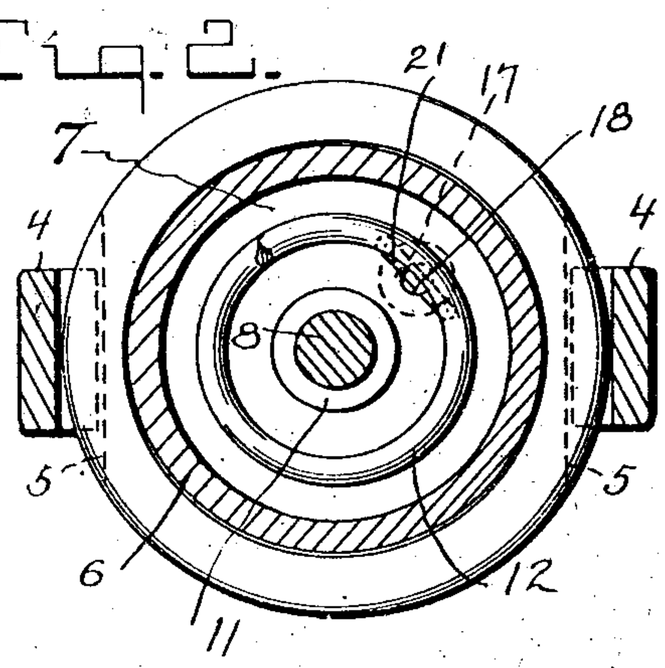


Fig. 5.

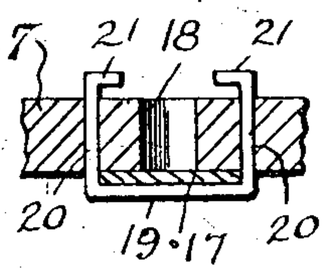


Fig. 3

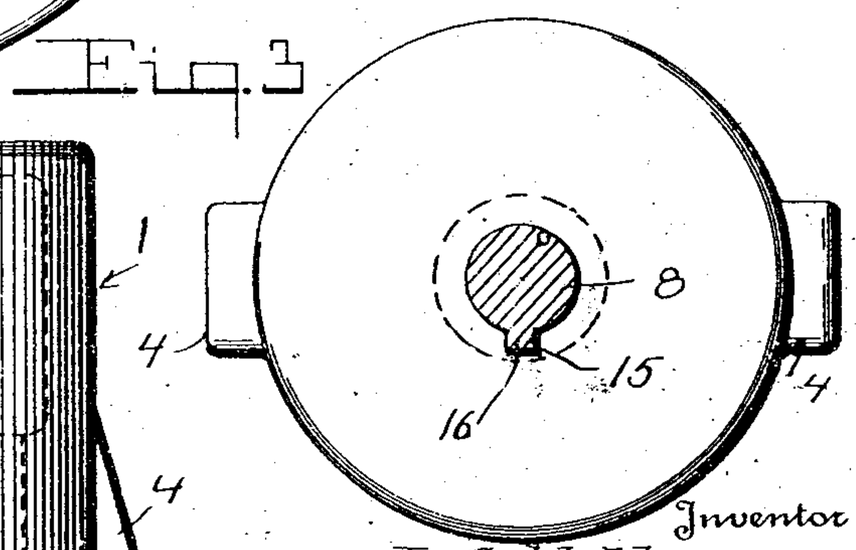
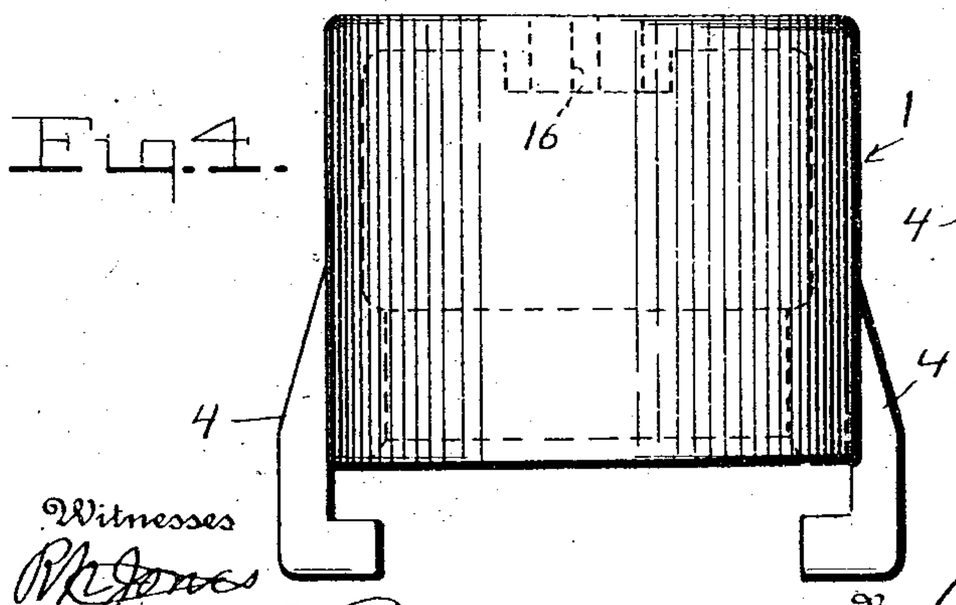


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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GREASE-CUP CAP FOR LOCOMOTIVE-SIDE-ROD CUPS.

1,167,177. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed February 26, 1915. Serial No. 10,776.

To all whom it may concern:

Be it known that I, JOHN C. HILL, a citizen of the United States, residing at Erwin, in the county of Unicoi and State of Tennessee, have invented certain new and useful Improvements in Grease-Cup Caps for Locomotive-Side-Rod Cups; 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.

The invention relates to a grease cup cap for locomotive side rod cups.

The object of the present invention is to improve the construction of grease cup caps and to provide a simple, practical, and efficient grease cup cap of strong and durable construction adapted to be readily applied to grease cups of locomotive side rods now in use and capable of exerting a pressure against the contents of the grease cup for forcing a hard grease lubricant into the bearings.

A further object of the invention is to provide a grease cup of this character equipped with a spring and a plunger actuated by the spring to exert the desired pressure on the lubricant and maintained in a depressed position to retain the cap on the grease cup.

With these and other objects in view the invention consists in the construction and novel combination and arr ngement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing Figure 1 is a vertical sectional view of a grease cup cap constructed in accordance with this invention and shown applied to locomotive side rods, Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1, Fig. 3 is a similar view on the line 3—3 of Fig. 1, Fig. 4 is a side elevation of the cup detached. Fig. 5 is a detail sectional view illustrating the construction of the automatic valve of the plunger.

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

In the accompanying drawing in which is illustrated the preferred embodiment of the invention, 1 designates a cylindrical grease cup cap of the same diameter as the grease cup 2 of a locomotive side rod 3 and provided at opposite sides with depending lugs 4 of substantially L-shape adapted to engage in horizontal side grooves 5 cut or otherwise formed in the outer faces of the side walls of the grease cup 2 and located adjacent to the upper edge thereof as clearly illustrated in Fig. 1 of the drawing. This construction interlocks the cap with the grease cup and enables the cap to slide on and off the cup.

The grease cap is retained on the grease cup by a hollow substantially cylindrical plunger 6, open at the top having a lower end wall 7. The plunger 6 is provided with a central stem 8 having a lower threaded end 9 engaging a threaded opening 10 in the lower end wall of the plunger, the lower end wall 10 being preferably provided with a boss 11 surrounding the opening 10 at the inner or upper face of the end wall 7. The hollow plunger which fits the interior of the grease cup and grease cap is urged downwardly by a coiled spring 12 surrounding the stem and interposed between the lower end wall of the plunger and the top of the cap which is provided with a central opening 13 for the passage of the stem. The stem 8 which extends through the opening 13 is provided at its upper end with a suitable handle 14 and it has a longitudinal rib 15 at one side extending downwardly from the handle and movable through a notch 16 in the wall of the opening 13. The plunger is adapted to be drawn upwardly or outwardly by the stem and carry the rib 15 beyond the cap and the stem and plunger are then rotated to move the rib out of alinement with the slot 16. This will lock the spring in a compressed condition and maintain the plunger in an elevated position above the upper edge of the grease cup 2 so that the cap may readily slide on and off the same. The coiled spring which applies pressure to the hard grease or other lubricant is also adapted to maintain the plunger in its lower or depressed position, that is, below the upper edge of the cup to retain the cap thereon. When the plunger projects below the upper edge of the cup, the cap is held against lateral sliding movement. The plunger is equipped with a valve 17 consisting of a disk arranged to cover and uncover the opening 18 in the lower end wall of the plunger and connected with the latter by a substan-

tially U-shaped supporting member 19 of approximately U-shape provided with parallel side arms 20 slidable through the lower end wall of the plunger and having angularly bent terminals 21 at their upper ends to form stops for limiting the downward movement of the valve which opens automatically when the plunger is moved upwardly. The valve closes automatically and is maintained in its closed position through contact with the lubricant.

What is claimed is:—

1. The combination with a grease cup, of a cap arranged upon the upper edge of the cup and slidably interlocked with the same and movable transversely to engage it with and disengage it from the cup and a spring actuated plunger operating in the cup and extending through the cap, said plunger being arranged to normally extend into both the cup and the cap to maintain the cap against sliding movement.

2. The combination with a grease cup provided in its exterior with opposite grooves, of a cap fitted on the grease cup and having depending approximately L-shaped lugs slidably engaging the grooves, and a spring actuated plunger extending through the cap and projecting below the upper edge of the cup to maintain the cap in interlocked relation with the cup.

3. The combination with a grease cup, of a cap slidably interlocked with the cup and movable transversely to engage it with and disengage it from the same, said cap being provided with a central opening and having a notch in one side thereof, and a spring actuated plunger operating in the cup and the cap and extending through the latter, said plunger maintaining the cap in interlocked relation with the cup and provided with a rib movable through the said notch and adapted to support the plunger out of engagement with the cup.

4. The combination with a grease cup, of a grease cup cap fitted on the upper edge of the cup and slidably interlocked therewith and movable transversely into and out of engagement with the same, a hollow plunger operating in the cup and the cap and normally extending into both of said parts to prevent sliding movement of the cap and provided with a lower end wall having a valve, a stem connected with the plunger and a spring for urging the plunger downwardly or inwardly.

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

JOHN C. HILL.

Witnesses:
L. P. ALLEN,
J. M. SHAW.