E. L. FAUL.

CANDLESTICK LUBRICATOR.

APPLICATION FILED APR. 22, 1908.

1,036,205. Patented Aug. 20, 1912.

Fig. 1.

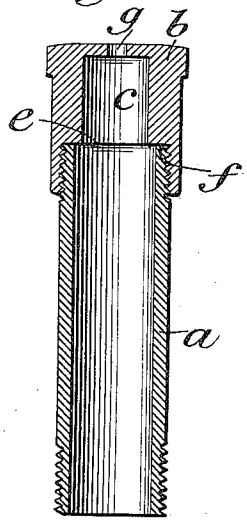


Fig. 2.

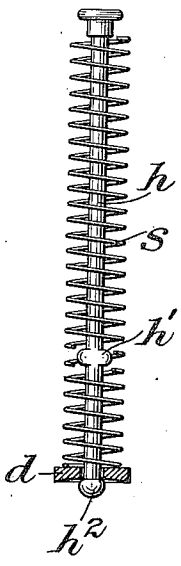


Fig. 3.

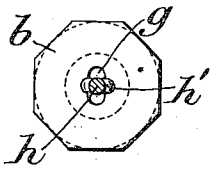


Fig. 4.

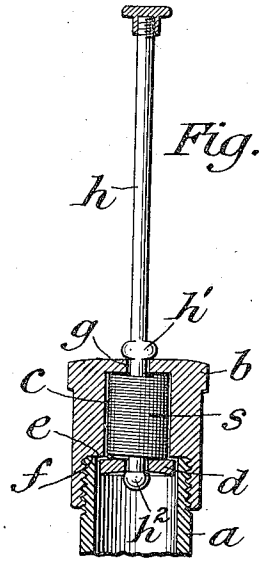
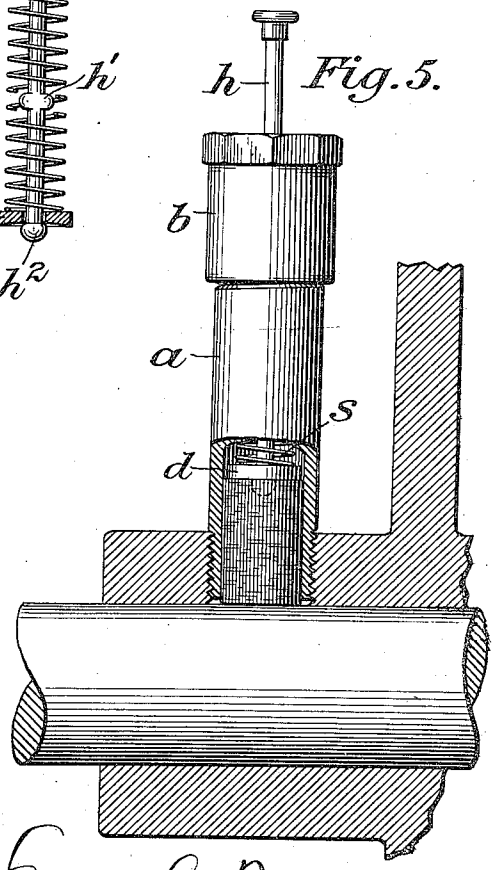


Fig. 5.



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UNITED STATES PATENT OFFICE.

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CANDLESTICK-LUBRICATOR.

1,036,205. Specification of Letters Patent. Patented Aug. 20, 1912.

Application filed April 22, 1908. Serial No. 428,692.

To all whom it may concern:

Be it known that I, EDWIN L. FAUL, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Candlestick-Lubricators, also known as "Pulley-Tubes", of which the following is a full, clear, and exact specification, reference being had to the accompanying drawing, wherein—

Figure 1 is a sectional view of the tube and cover of my improved candlestick lubricator; Fig. 2 an elevation of the stem and of the spring-actuated plunger set thereon; Fig. 3 a top view of the cover; Fig. 4 a fractional sectional view of the parts joined together, showing the stem locked in the cover and the plunger held in its receded position, with the spring housed in the recess of the cover; and Fig. 5 shows my improved candlestick lubricator, applied in operative position set in the hub of a loose pulley for lubricating the same.

My invention relates to lubricating apparatus or pulley tubes used, as their name indicates, mainly for lubricating loose pulleys, and consists of an improved construction of such candlestick lubricators or pulley tubes, as hereinafter more fully set forth. These lubricators usually consist of a tube adapted to be screwed into a correspondingly screw-threaded bore in the hub of the loose pulley, a cover, and of a plunger, acted upon by a spring so as to press the stick of lubricator, called candle, through the open end of the tube upon the shaft, whereon the loose pulley rotates.

My improved candlestick lubricator comprises a tube *a*, a removable, perforated cover *b*, stem *h*, sliding through the aperture in the cover, a plunger *d* fitted into the tube *a* and slidably mounted on the stem, and a spiral spring *s* set on the stem between the plunger and the top of the cover *b*. The tube *a* is preferably screw-threaded on both ends, the screwthread on one end serving for securing the lubricator in the hub of the pulley, and the screwthread on the other end of the tube serving for affixing thereto the cover *b*. A recess *c* is provided in the cover *b* for housing therein the spring *s* when compressed, by withdrawing plunger *d* from the tube, and a device for holding the plunger and the spring *s* within the cover, as hereinafter more fully set forth.

Candlestick lubricators are preferred to the so-called oil cups for this particular use, being not only more economical and efficient in lubricating the pulley, but also, because they do not throw off oil and yet keep the shaft, whereon the pulley rotates, well lubricated. They are, however, liable to be rendered inoperative if the tube is filled to the edge with the lubricating candle, because if the cover is then screwed upon the tube, the spring is forced into the candle, is jammed, and may also be clogged by the lubricant; in any event it is excessively compressed. Thereby the action of the spring and of the plunger are very much impeded and frequently rendered wholly ineffective. And again, in the candlestick lubricators heretofore used the plunger *d* was affixed to the end of the stem *h*, which necessitates the withdrawing of the stem to its full length from the cover, thus almost doubling the length of the lubricator when refilled. Such candlestick lubricators having the plunger affixed to the end of the stem, cannot well, and in fact are not used on small pulleys, because the space between the hub and the rim of the pulley is not sufficient to accommodate such candlestick lubricator with the stem of the plunger drawn out to nearly its full length. The use of such short candlestick lubricators as could be used on such small pulleys is objectionable, because it requires a too frequent refilling of the tube.

To avoid the use of desirably long candlestick lubricators in small pulleys, and to avoid the possibility of rendering the lubricator inoperative as above explained, I mount the plunger *d* slidably on the stem *h* instead of securing it rigidly thereto, as was done heretofore, and I provide a recess *c* in the cover *b* for housing therein the spring *s* when the plunger *d* is withdrawn from the tube. The recess *c* is made sufficiently wide and deep to amply accommodate the spring and to give it play for reacting upon the plunger *d* when released, but it is desirable to make it of a smaller interior diameter than the diameter of the plunger *d* to prevent the plunger being forced into the recess. With this object in view I also provide the interior annular shoulder *e* in the cover *b*, abut-

ting against the rim *f* of tube *a* when the cover of the lubricator is screwed thereon. Considering that the main function of this stem is to serve as guide for the plunger and to keep it in a position as near at right angles to the axis of the tube *a* as it can be done, I have experimented with a candlestick lubricator, wherein I have used the plunger mounted slidably on the stem, and found, that it is not necessary to have the plunger *d* rigidly affixed to the stem *h* and that it may be slidably mounted thereon without impairing its usefulness. It is not even necessary to fit the plunger *d* very snugly upon the stem, but some fastening device, such, for instance as the head h^2 must be provided for holding the plunger upon the stem against the action of the spring. When the plunger *d* is slidably mounted on stem *h* the latter may be pushed into the lubricating candle when the tube *a* is filled nearly up to the rim *f* and the space between the hub and the rim of the pulley is not sufficient to permit leaving the stem projecting to its full length from the cover *b* when the lubricator is filled. The plunger *d* stays on top of the candle and acts upon it, pressed by spring *s* in the same manner as when the plunger is affixed to the end of the stem. The object of slidably mounting the plunger *d* on the stem *h* would also be accomplished by constructing the stem *h* of telescopic tubing, but the method previously described is more practical.

For a better convenience in using my improved candlestick lubricator, that is, for better convenience in refilling and setting it, I make the opening *g* for the stem *h* of the plunger, in the cover of the lubricator elliptical, as shown in Fig. 3, and I provide on the stem of the plunger a correspondingly-shaped boss h^1 at a distance from the plunger *d*, sufficient to bring it outside of the cover *b* when the plunger is withdrawn in the position shown in Fig. 4, and yet to leave a slight clearance between the plunger and the interior shoulder *e* of the cover. Then by turning the stem approximately 90°, the plunger is locked in its position. In place of boss h^1 a cross-pin may be used to the same advantage. This locking device greatly facilitates the handling of my improved candlestick lubricator in refilling the cup when the cover *b* must be removed and set on again.

I claim as my invention:—

In a candlestick lubricator, the combination with a tube, provided with means for securing it in the hub of a pulley, of a perforated cap, adapted to be secured on the other end of the tube and having a recess therein of a smaller diameter than the tube; a rod, inserted through the perforation of the cap and having a knob on each end thereof; a plunger, slidably mounted on the rod and fitted into the tube, and a spring on the rod, between the plunger and the cap; the knob on the end of the rod holding the plunger on the rod but permitting the rod to be pushed into the candlestick, substantially as herein shown and described.

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