(No Model.)

B. LIEBING.

LUBRICATOR.

No. 509,668. Patented Nov. 28, 1893.

Fig. 1.

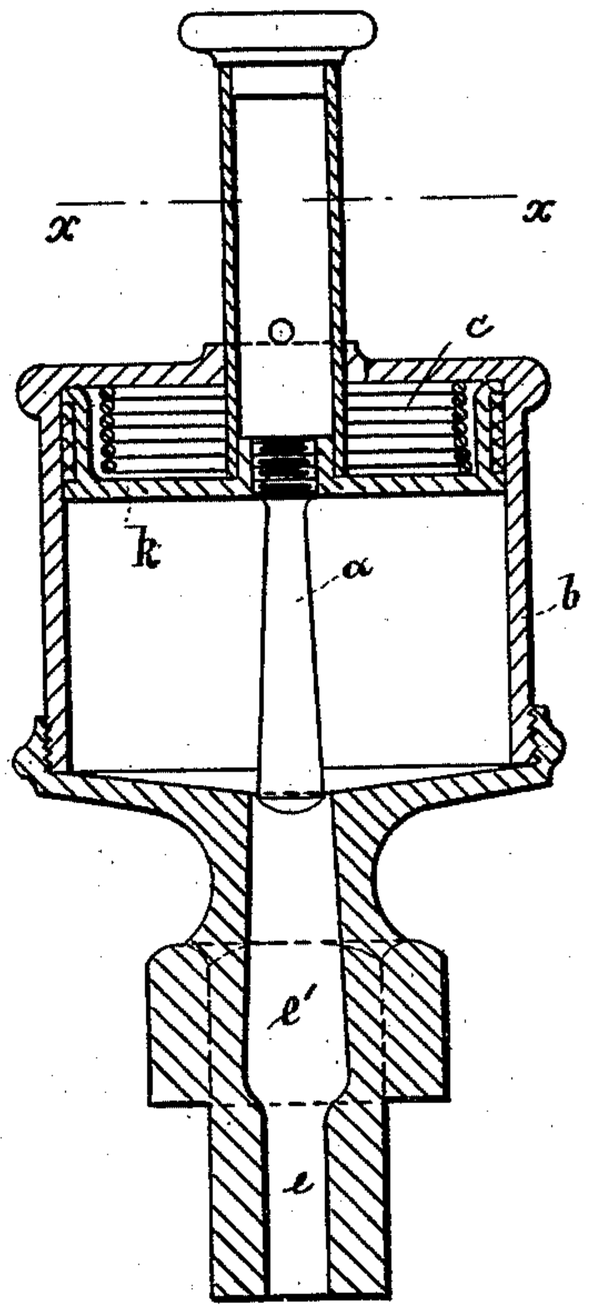
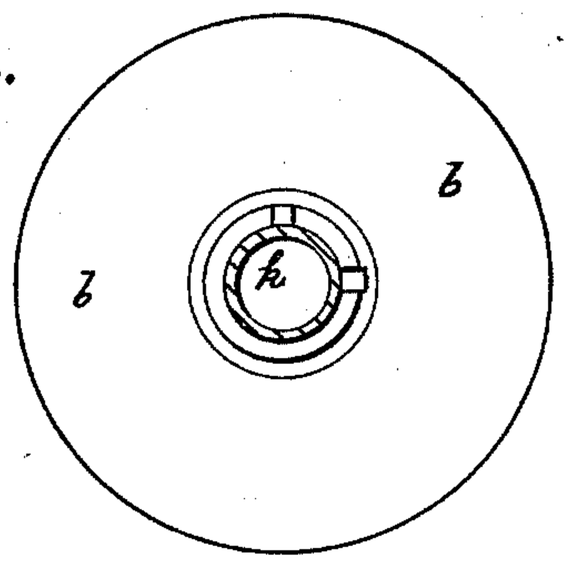


Fig. 2.



Witnesses:
Wm. Schulz.
A. Longhmans.

Inventor:
B. Liebing, per
Roeder & Briesen, attys.

THE NATIONAL LITHOGRAPHING COMPANY.
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BERNHARD LIEBING, OF BAROP, GERMANY.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 509,668, dated November 28, 1893.

Application filed March 17, 1893. Serial No. 466,423. (No model.) Patented in Germany April 5, 1891, No. 59,568.

To all whom it may concern:

Be it known that I, BERNHARD LIEBING, a subject of the German Emperor, residing at Barop, in Germany, have invented certain new and useful Improvements in Lubricators, (for which I have obtained a patent in Germany, No. 59,568, dated April 5, 1891,) with description as follows:

This invention relates to a lubricator which is constructed with a view of effecting a uniform feed of the lubricant. To produce this result, the piston of the lubricator is provided with a tapering horn, that descends within a corresponding chamber of the discharge tube, so that the discharge orifice is increased as the spring pressure diminishes.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved lubricator. Fig. 2 is a cross section on line *x*, *x*, Fig. 1.

The letter *b*, represents the cup of the lubricator, provided with the piston *k*, which is forced down by spring *c*. To the piston *k*, there is secured a conical horn *a*, directly opposite the discharge tube *e*. This tube is provided with a chamber *e'*, that has a contracted mouth and gradually widens from such mouth downward. As the piston gradually descends within the cup, the horn gradually descends within the chamber. But in so descending, the thickened lower end of the horn will gradually pass into a wider part of the chamber, to enlarge the size of the annular discharge orifice formed around the horn. When therefore the piston is on top and the spring pressure is greatest, the discharge orifice is smallest, while when the piston is at the bottom and the spring pressure is least, the discharge orifice is greatest. By the continued increase of the diameter of the discharge orifice, a uniform, economical and positive lubrication is thus effected. The lubricator may be applied in any position and to any kind of movement. The horn *a* is screwed into a tapped opening of the piston and may be readily interchanged, so that horns of various thicknesses and causing different degrees of lubrication may be used with the same cup.

What I claim is—

The combination of a lubricating cup having a spring piston with a tapering horn secured to the piston and with a discharge tube having a corresponding chamber that widens from top to bottom and that is engaged by the horn, substantially as specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

BERNHARD LIEBING.

Witnesses:

WILLIAM ESSENWEIN,

RUDOLPH FRICKE.