

No. 610,222.

Patented Sept. 6, 1898.

T. BLOM.  
LUBRICATOR.

Application filed Aug. 14, 1896.)

(No Model.)

FIG 1

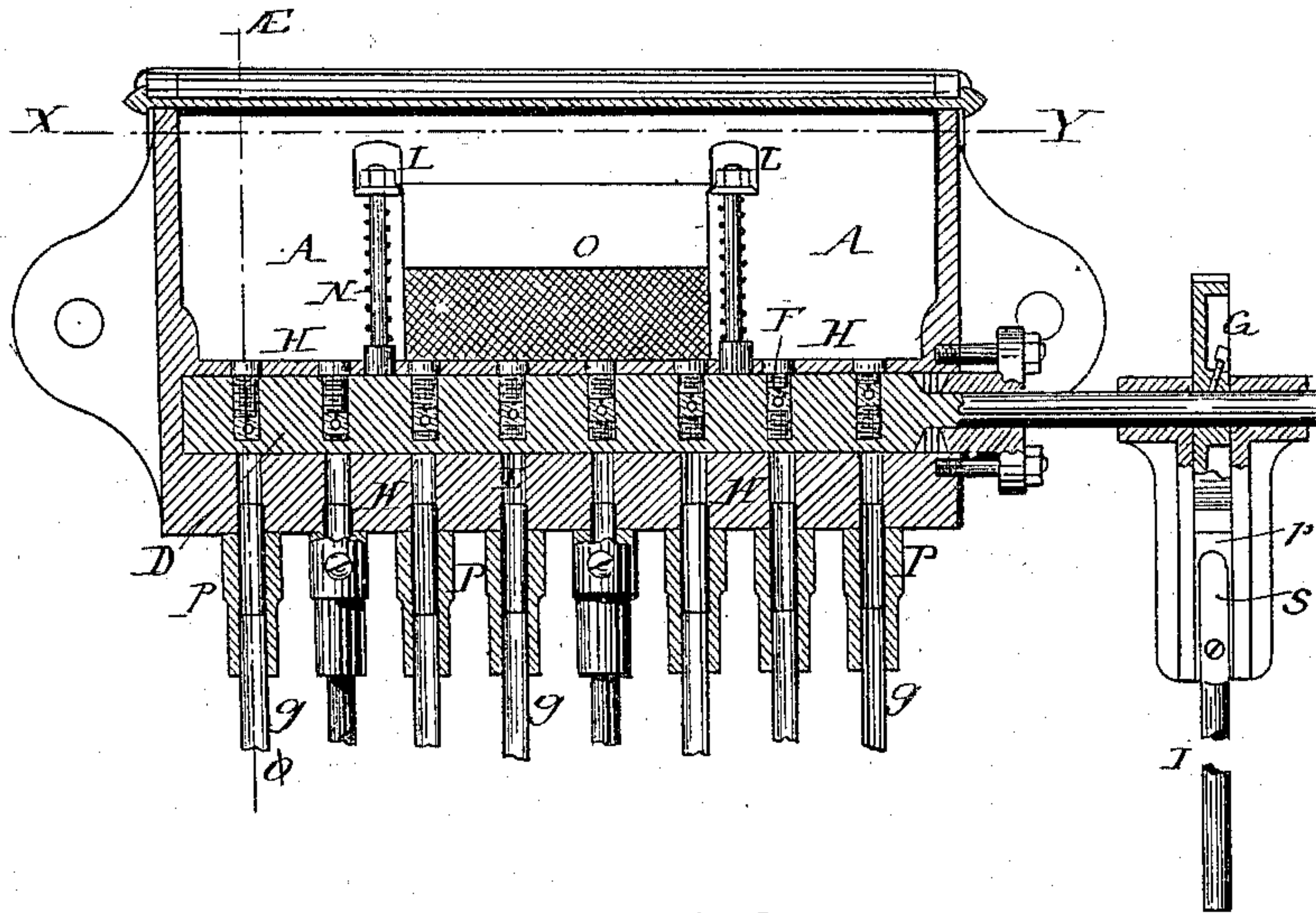


FIG 2

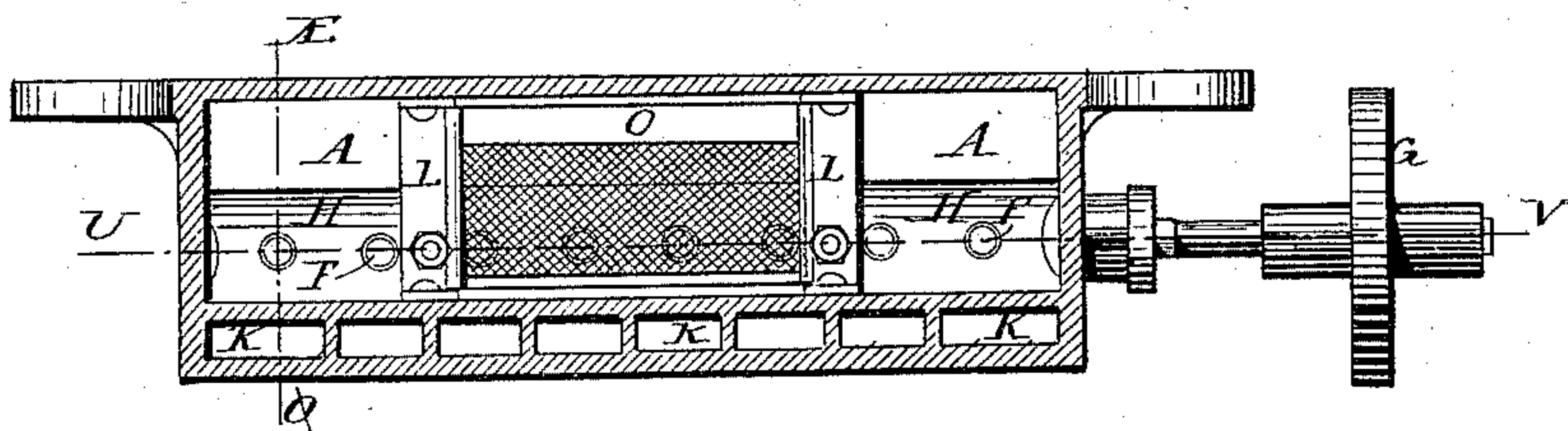


FIG 3

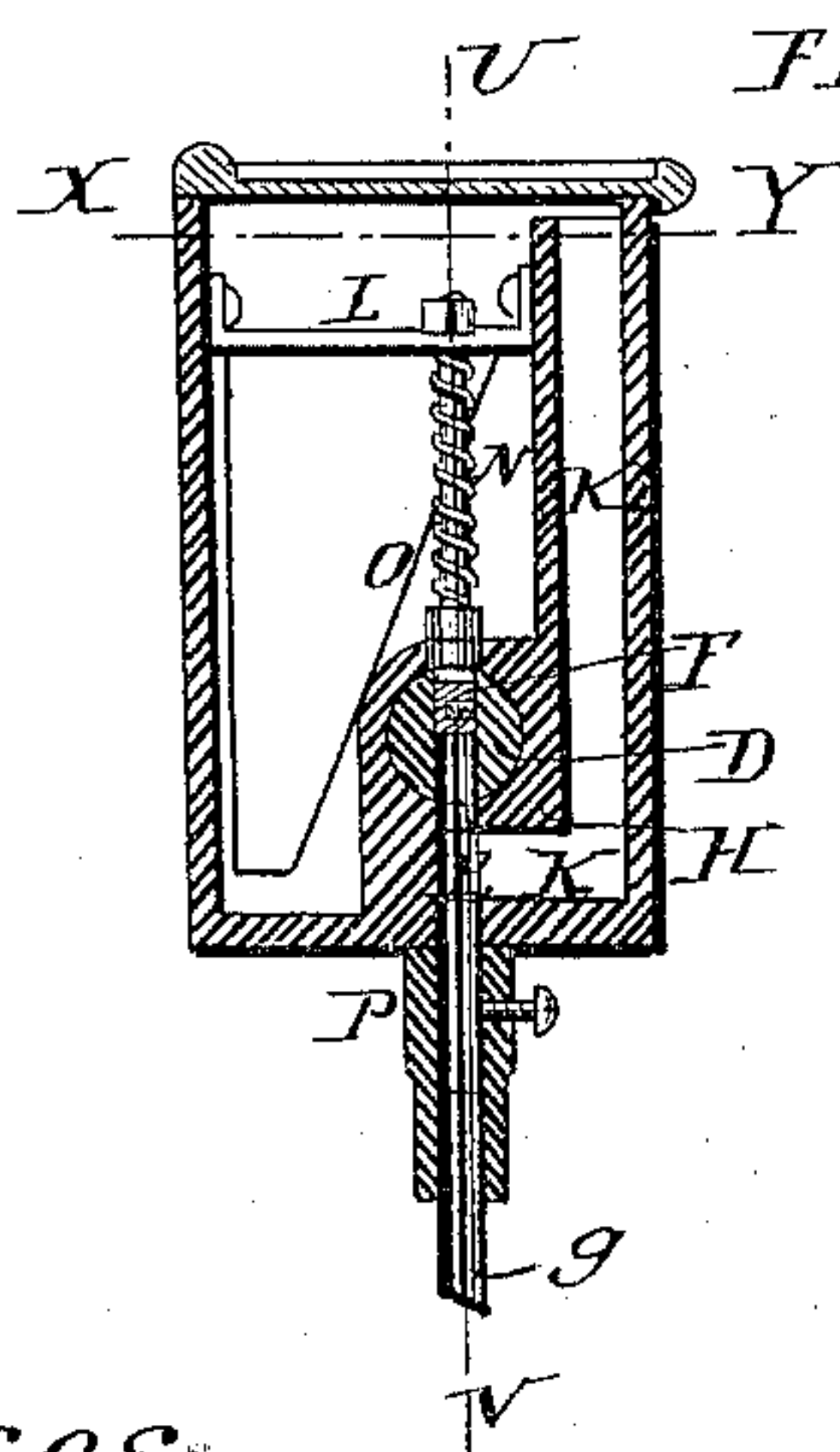
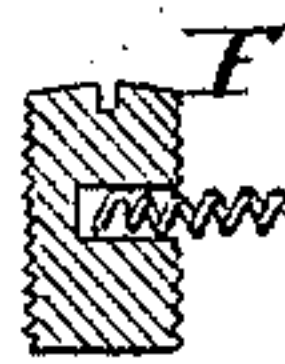


FIG 4



Witnesses  
O. Munk  
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Inventor  
T. Blom  
by *[Signature]*  
Attorneys



# UNITED STATES PATENT OFFICE.

TAGE BLOM, OF COPENHAGEN, DENMARK.

## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 610,222, dated September 6, 1898.

Application filed August 14, 1896. Serial No. 602,746. (No model.) Patented in England January 20, 1890, No. 1,003, and in Germany September 26, 1891, No. 59,024.

*To all whom it may concern:*

Be it known that I, TAGE BLOM, a subject of the King of Denmark, residing at Copenhagen, in the Kingdom of Denmark, have invented certain new and useful Improvements in Lubricating Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as it appertains to make and use the same.

The invention has been patented in England, No. 1,003, dated January 20, 1890, and in Germany, No. 59,024, dated September 26, 1891.

This invention relates to an automatic central lubricating apparatus by which an arbitrary number of bearings can uniformly and safely be lubricated independently of the temperature of the oil and of the quantity of oil contained in the apparatus. The apparatus is arranged in such a manner that exactly the required quantity of oil is conveyed to the separate bearings and the conveying of oil is regulated while the machine is working. From twenty-five per cent. to fifty per cent. of lubricating material will be saved by the use of this construction.

The apparatus is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of the apparatus on the line *uv* of Figs. 2 and 3. Fig. 2 is a horizontal longitudinal section on the line *xy* of Figs. 1 and 3; Fig. 3, a vertical transverse section on the line *AQ* of Figs. 1 and 2; Fig. 4, a detail on an enlarged scale.

The apparatus consists of a box *A*, in whose bottom a cylinder *D*, of steel or other suitable material, is fitted. The cylinder is provided with flutings with a fine screw-thread, in which low screws *F* are screwed, by means of which the depth of the flutings can be regulated. The sides of the screws *F* are provided with flutings, as will be seen from Fig. 4, and a spiral spring is arranged in those flutings, which presses the screws tightly in the screw-thread, so that they cannot move after having been inserted. The cylinder has as many flutings as there are feed-tubes *g* for the bearings that have to be lubricated.

These pipes *g* are put in sockets *P*, screwed in borings *E*, made in the bottom of the box *A*, exactly outside of the flutings in the cylinder *D*.

The pipe *g* can be provided with longitudinal slits immediately below the apparatus and surrounded by rotary casings, also provided with longitudinal slits, which when in their normal position cover the slits of the pipes, but when rotated so that both slits are superposed give access into the pipe *g*.

Outside of the apparatus a ratchet-wheel *G* is keyed upon the extremity of the cylinder *D*, into which a click *p*, fixed at the extremity of the lever *i*, engages, which is connected with one of the balances, eccentrics, &c., of the machine and pushes forward the ratchet-wheel for the distance of one tooth at each revolution of the machine. The engaging of the click is regulated by the spring *S*.

*K* are air-channels leading from the upper part of the machine down to the borings *E* in its bottom.

The cylinder *D* is pressed down by the spiral spring *N*, the effect of which is that the same fits always closely in its bearing at the bottom of the apparatus.

*L* is a frame or box which carries an oblique metallic filter *O*, through which the oil which fills the machine must pass before it can reach the cylinder *D* and which retains the impurities that may be in it.

The apparatus works as follows: The oil is poured in the box *A* through the filter *O*, after the screws have been first adjusted, deeper or less deep, according to whether it is desired to convey much or little oil to the corresponding journal-bearing. During the operation of the machine the cylinder *D* is turned, and when its flutings are turned downward they will let the oil run in the borings *E*, connected with the air-channels *K*, the effect of the latter being that the oil does not stick in the cylinder.

If the operations of the apparatus should stop for some reason or other, the lubricating can be effected directly through the air-channels *K*.

The air-ports *K* will serve as by-pass pas-

sages for the oil in case the valve should fail to work. It will only be necessary to remove the cover of the device and introduce the oil to these passages in case the valve should become inoperative.

I claim as my invention—

1. In combination, a casing comprising a cylindrical portion, a series of inlet-openings leading thereto from the interior of the casing, a series of outlet-openings extending from the cylinder, a series of right-angular passages extending vertically of the casing and connected with the discharge-openings below the cylinder, a rotary valve having a series of openings extending through the same to register with the inlet and discharge openings and the screw-threaded plugs arranged in the opening of the valve and ad-

justable therein and means for turning the rotary valve, substantially as described. 20

2. In combination in a lubricating device, the casing, a movable valve therein having an opening therethrough, a port leading to the valve, and an exit leading from the valve and an air-port extending past the valve and independent thereof to connect with the outlet-port whereby the said air-port may serve as a conduit for the lubricating material in case of failure of the valve, substantially as described. 25 30

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

TAGE BLOM.

Witnesses:

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FRITZ EMIL POYDA.