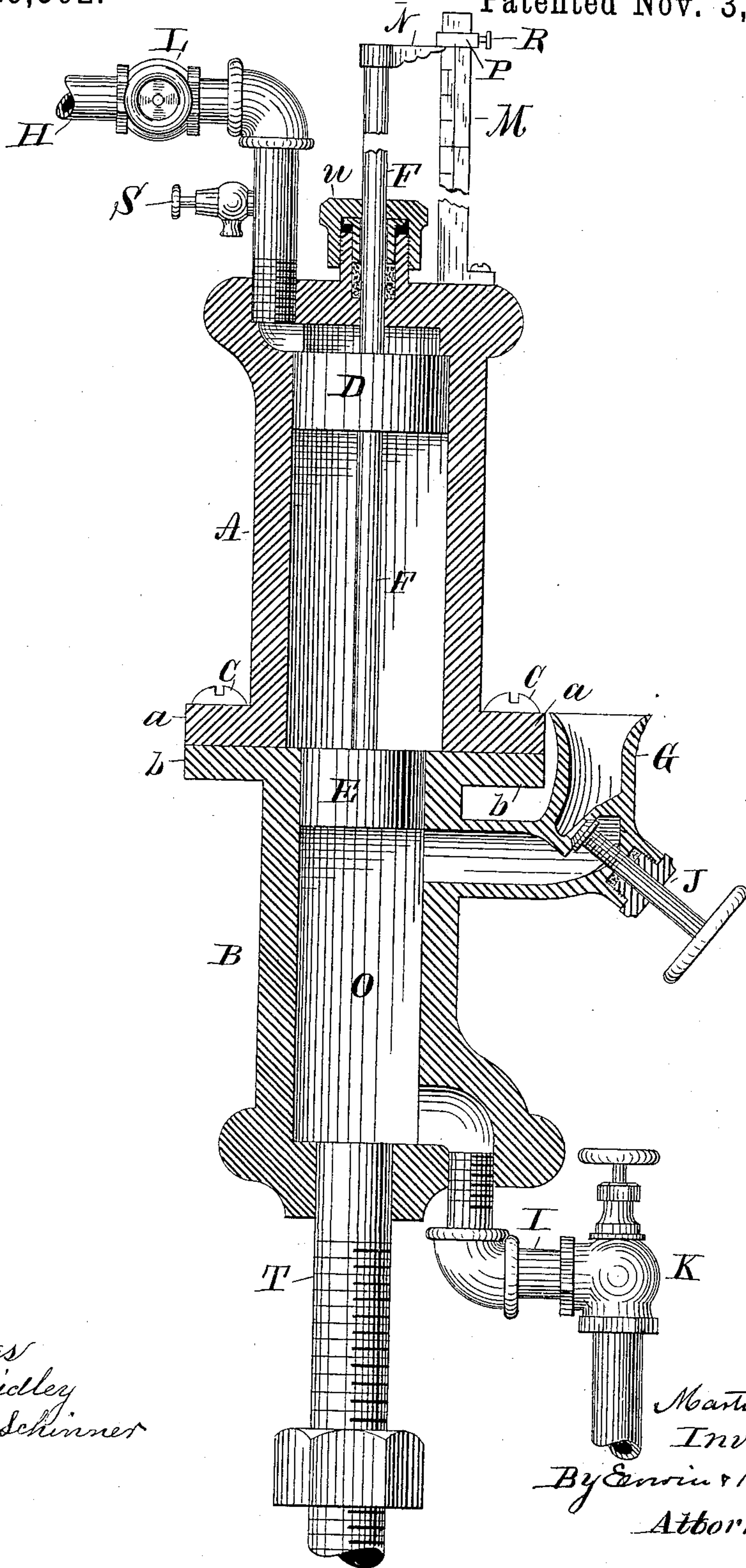


(No Model.)

M. STRODER.
LUBRICATOR.

No. 329,502.

Patented Nov. 3, 1885.



Witnesses
G. M. Gridley
Matthew Skinner

Martin Stroder
Inventor
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UNITED STATES PATENT OFFICE.

MARTIN STRODER, OF CHICAGO, ILLINOIS.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 329,502, dated November 3, 1885.

Application filed October 20, 1884. Serial No. 145,940. (No model.)

To all whom it may concern:

Be it known that I, MARTIN STRODER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lubricators; 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, reference being had to the accompanying drawing, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide an apparatus by which oil may be automatically injected against steam-pressure into the interior parts of an engine, and the same is explained by reference to the accompanying drawing, which represents a longitudinal vertical section thereof.

My apparatus consists of two cylinders, A and B, of unequal diameters, which are connected together by the flanges *a* and *b* and bolts or screws C, pistons D and E, connecting piston-rod F, oil-duct G, inlet steam-duct H, outlet oil-duct I, globe-valves J, K, and L, gage M, and pointer N.

In operating my device oil is first introduced beneath the piston E through the duct G, the valve J being open and valves K and L being closed. The space O being filled with oil, the valve J is closed, and the valves K and L are opened. This being done, steam enters through duct H above and upon piston D, whereby the piston D, rod F, and piston E are forced downward by the excess of pressure upon the piston D, which excess of pressure corresponds to the difference in the diameters of said pistons, thus forcing the oil from the space O out through the duct I and into the steam-pipe connected with the interior parts of the engine, whereby such interior parts are lubricated. The rapidity of the discharge of oil from the space O is governed by the adjustment of the valve K, and the quantity discharged in a given time is ascertained by the movement of the pointer N over the scale-standard M, the starting-point of the pointer N being shown by the adjustable slide P upon the standard M, said slide being adjusted at such point by the set-screw R. Thus it is obvious that, the starting-point of observation being fixed by the slide

P, the discharge is readily ascertained for any given time by the movement of the pointer N over said scale M. The discharge, being found to be too fast or too slow, is readily regulated, as mentioned, by the adjustment of the valve K. If desired to fill the lubricator when there is no steam on, the pistons may, if at the lower extremity of their movement, be drawn upward to the position shown by taking hold of the upper end of the piston-rod F. If, however, the lubricator is under steam-pressure, the piston may be forced upward by the pressure of the steam entering through duct I, the valves J and L being closed and the duct H opened to the atmosphere through the valve S. It is obvious that the steam-pressure from above the valve E will be thus excluded, and the air or steam above piston D is free to escape through valve S as the pistons are forced upward by steam-pressure from below upon the piston E.

T is a shank for attaching the lubricator to the steam-pipe or other support.

U is a stuffing-box by which steam is prevented from escaping around the upper end of the piston-rod F.

I am aware that a plunger having bearing-surfaces of different diameters has previously been used in a lubricator having cylinders of unequal diameters, as shown in United States Patent No. 240,509, dated April 26, 1881, and I therefore disclaim such form of lubricator as my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a lubricator for steam-engines, the combination of the cylinders A and B, of unequal diameters, two separate pistons, D and E, of unequal diameters, operating in their respective cylinders, connecting piston-rod F, protruding at its upper end through the upper end of such cylinder A, ducts H and I, communicating with their respective cylinders A and B, and oil-duct G, provided with valve J, substantially as and for the purpose specified.

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

MARTIN STRODER.

Witnesses:

JAS. B. ERWIN,

MATTHEW SCHINNER.