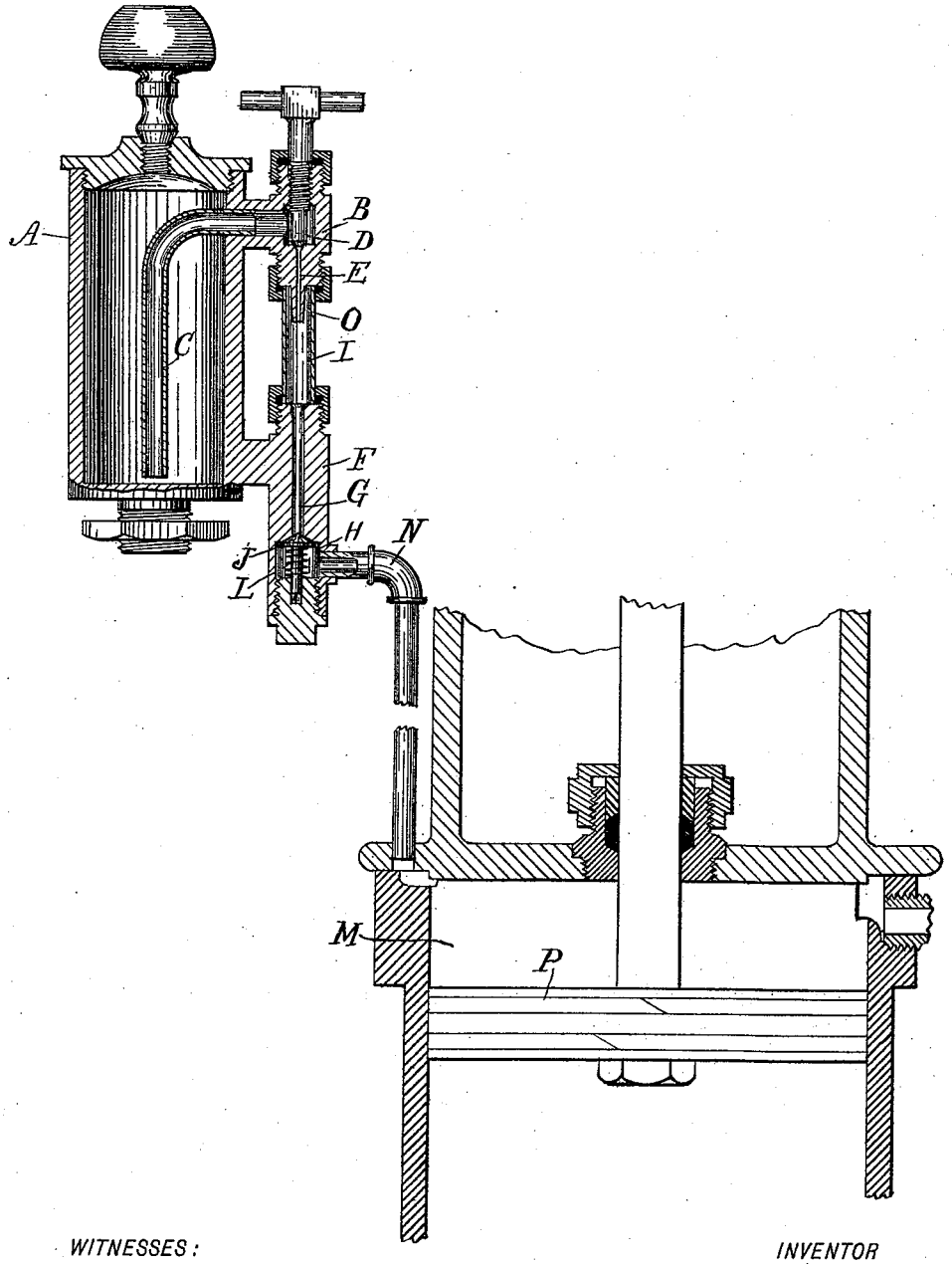
(No Model.)

A. R. HOY.

LUBRICATOR.

No. 492,018. Patented Feb. 21, 1893.



WITNESSES:

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LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 492,018, dated February 21, 1893.

Application filed August 27, 1892. Serial No. 444,324. (No model.)

To all whom it may concern:

Be it known that I, ASA R. HOY, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Air-Pump Lubricators, of which the following is a specification.

My invention relates to an improved device for supplying oil to the interior of the cylinder of the air-pump used in connection with automatic air-brake systems.

The object of my improvement is, to provide means whereby a small amount of oil may be carried at regular intervals to the interior of the air-pump cylinder by the action of the pump.

The accompanying drawing illustrates my invention.

The figure represents a central vertical section of the lubricator and a portion of an air-pump.

In the drawing, A, indicates a closed reservoir for oil.

B, is a branch extending from reservoir A, and communicating therewith through tube C, which extends nearly to the bottom of the reservoir. Mounted in the upper part of branch B, is a stop valve D, which is seated in the upper end of a narrow duct, E, extending vertically through the lower part of branch B, and a drip tube, O, formed thereon. Extending from the lower part of reservoir A, in line with branch B, is a branch F, having a vertical channel, G, formed therein, which terminates at its lower end in a valve-chamber, H. Branches B and F, are connected by a glass tube, I. The lower end of channel G, is closed by a valve, J, the stem of which slides vertically in the lower closed end of the valve-chamber, the valve being held normally against its seat so as to close the lower end of channel G, by means of a light spiral spring, L. A pipe, N, leads from the valve-chamber H to the upper part of the air-pump-cylinder M.

The operation of my device is as follows;—Reservoir A, is designed to be mounted on a suitable bracket in the engineer's-cab of a locomotive. The reservoir having been partly filled with oil and the piston P of the air-pump having been put in motion, valve D is raised slightly from its seat so as to establish communication between duct E, and the tube C. At each downward stroke of the piston of the air-pump a partial vacuum is formed in valve-chamber H and the passages connecting it with the interior of the oil reservoir. A small portion of oil is thus drawn from the reservoir into duct E, and is held in suspension therein; not enough oil being drawn over at each stroke of the piston to form a drop at the end of the drip-tube, O. On the return stroke of the air-pump piston the air from the pump is prevented from passing into channel G by means of the valve J, which is held normally against its seat by means of the spring L, and is tightly closed by the air-pressure beneath it. At each successive stroke of the air-pump piston, an additional quantity of oil is drawn over into duct E, until a drop is formed on the lower end of tube O, and falls therefrom, through the glass tube I, into the channel G. At the next downward stroke of the piston the oil in channel G is drawn past valve J into the valve-chamber H, and flows from thence, by the force of gravitation, through pipe N into the upper end of the air-pump cylinder.

By the use of this device the amount of oil delivered to the air-pump is dependent on the movement of the pump, and a greater or less supply, for a given rate of movement, can be perfectly controlled by the adjustment of valve D.

I claim as my invention—

As a new article of manufacture, the above described lubricating device, consisting of the reservoir provided with branch B having duct E, tube C connecting said branch with the lower part of the reservoir, stop-valve D, arranged to close the entrance to duct E, branch F connected with the reservoir and provided with channel G, valve-chamber H, valve J, and pipe N leading from said valve-chamber, all arranged substantially as and for the purpose set forth.

ASA R. HOY.

Witnesses:
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