

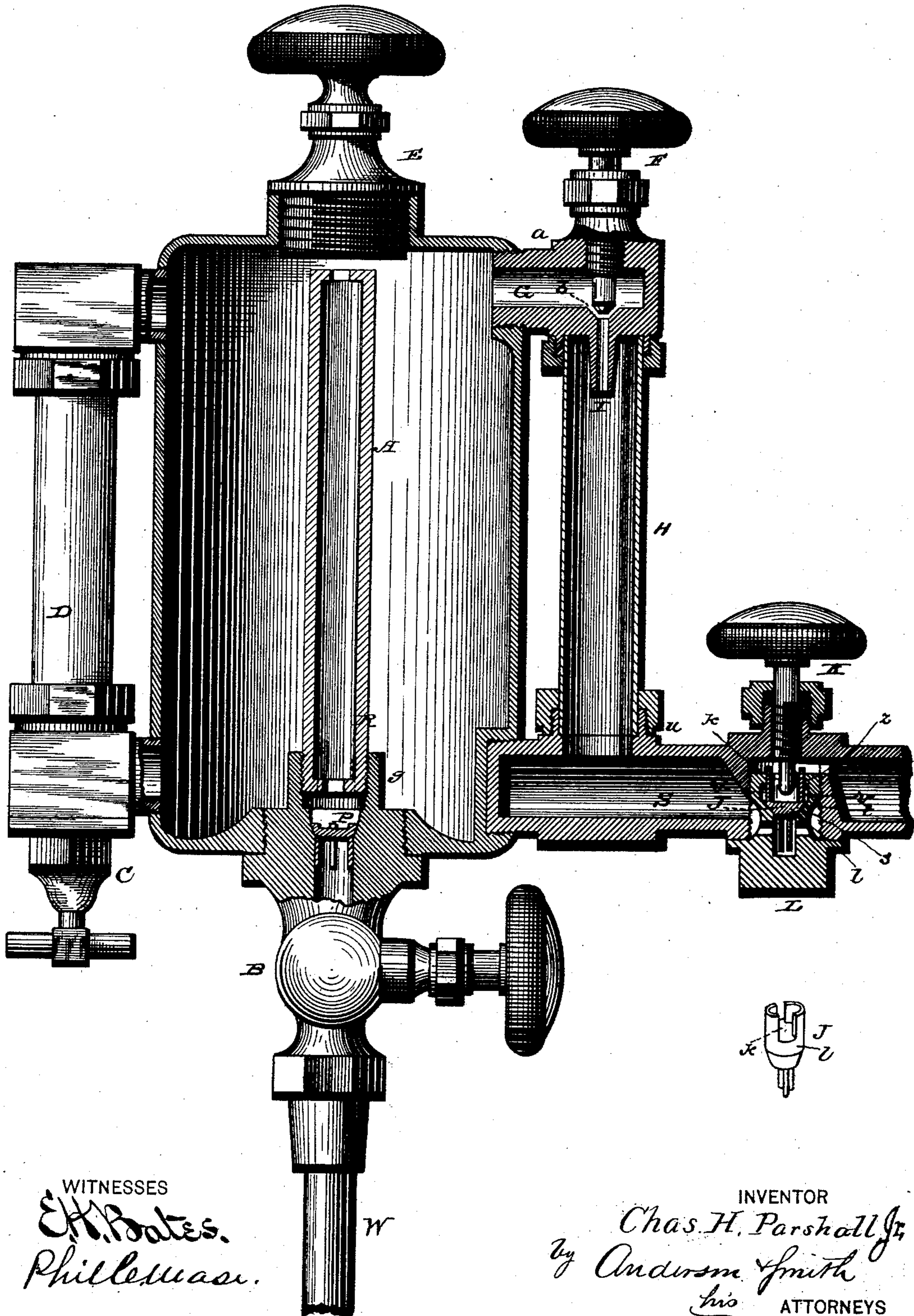
(No Model.)

C. H. PARSHALL, Jr.

LUBRICATOR.

No. 328,335.

Patented Oct. 13, 1885.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

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## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 328,335, dated October 13, 1885.

Application filed March 14, 1885. Serial No. 152,879. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. PARSHALL, Jr., a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Lubricators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to  
10 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 forms a part of this specification.

15 The figure of the drawing is a sectional view.

This invention relates to lubricators for steam-engines, being, however, more especially intended for locomotive-engines; and it consists in the construction and novel arrangement of devices, all as hereinafter set forth, and pointed out in the appended claims. In this lubricator the water is supplied through an opening in the bottom by a pipe leading from the boiler, and connected therewith below the low-water line, so that the water will  
20 at all times be present in said pipe.

In the accompanying drawing the letter A represents the oil-reservoir.

B is a valve in the pipe which supplies the water from the boiler. The upper end of this pipe is screwed up through the bottom of the oil-reservoir, a threaded opening being provided for the purpose.

35 R is an extension of the water-pipe, extending to nearly the top of the reservoir.

P is a check-valve, located at the connection of the pipe with the reservoir, which, when closed, prevents any backflow of oil into the boiler. Above the valve P a bridge may be  
40 provided, which prevents the valve P from being forced higher than the lift required, and keeps it in proper position for closing.

C is the valve for drawing off the water. This is made in connection with the glass tube  
45 D, which is parallel with the reservoir A and communicates with the same, serving to show the amount of water and oil in the reservoir.

E is the oil-filling plug at the top of the oil-reservoir.

50 F is the valve to regulate the feed of the oil. This valve is provided with a threaded stem

working in a threaded bearing in the arm *a* of the reservoir, located at the upper portion thereof, said arm being hollow and communicating with the interior of the reservoir by the opening G. This opening G is provided with a valve-seat, *b*, below the valve F, said valve-seat having a central opening or discharge, which extends downward through the dropper point or nipple I.

60 H is a glass tube surrounding the nipple above, and extending downward to a pipe, S, and connected with the same by a nut, *u*. This glass tube shows the oil falling in visible drops through the same. The nipple I extends below the nut *u*, and is so made in order that the rate of discharge of the drops can be easily noted and regulated.

J is a double-seated automatic valve in the pipe or passage S, which is designed to close and form an oil trap. The lower end of the valve J is provided with the ordinary conical face. The seat *s* of the main body of the valve-plug L is concave and recessed in its side wall, as indicated at *v*, so that the ground-surfaces *z* and *t* of the plug L, above and below, are true to the valve J, while at the recess *v* the plug L is of larger size. The body of the valve is made with lateral openings *k* above its cylindrical base *l*. When the valve is slightly lifted from its seat, the oil will pass freely out of the side openings by way of the recess in the plug L; but when the valve is in a higher position it will close the oil-passage. When raised to its upper position, it closes and prevents the oil from flowing too freely when the steam is cut off from above the point at which the lubricator is attached—as, for instance, in the dry-pipe of a locomotive.

85 K is a regulator-screw adapted to regulate the lift of the double-seated valve J.

L is a plug or removable seat for the valve J, which is designed to be easily taken out, when it is required to remove the valve J, without detaching any other working part of the lubricator.

W indicates the water-pipe which communicates with the valve.

The oil passes from the glass tube H through the pipe or passage S to the parts to be lubricated.

The glass tubes are connected to bearings,

which are secured to the oil-reservoir by the packing-nuts *u u'*.

The operation is as follows: When placed, for instance, in the cab of a locomotive, the pipe *S* is connected to the dry-pipe or to pipes leading directly to the steam-chest, which are usually under the covering of the boiler. The oil passes down through the glass tube *H* in visible drops, falling by gravitation. The lower end of the pipe *W* is secured to the boiler below the low-water line. The pressure in the boiler forces the water into the oil-reservoir through the valve *B* and through the check-valve, and the specific gravity of the water being greater than that of the oil, the latter is lifted to the top of the oil-reservoir and passes through the opening *G* and the regulating-valve *F* to the sight-feed chamber *H*, whence it passes by the pipe *S* to the parts to be lubricated.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a lubricator, of an automatic double-seat valve closing in its highest and lowest portions and having a

passage between the upper and lower ground seat-surfaces, substantially as specified.

2. The combination, with the oil-passage of a lubricator, of the double-seat automatic oil-check valve *J*, having the lateral openings *k* in its cylindrical portion, substantially as specified.

3. In a lubricator, the combination, with the oil-reservoir and the check-valve at its base in the water-supply, of the rim-wall projecting above the check-valve and forming a water-trap to prevent the backflow, substantially as specified.

4. In a lubricator, the combination, with the oil-reservoir having its water-supply at its upper end and its oil-outlet above, the water-trap below, of the lateral glass chambers *D* and *H*, the regulator drop-valve *F*, and the discharge-passage *S*, having the double-seat automatic oil-trap valve, substantially as specified.

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

CHAS. H. PARSHALL, JR.

Witnesses:

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