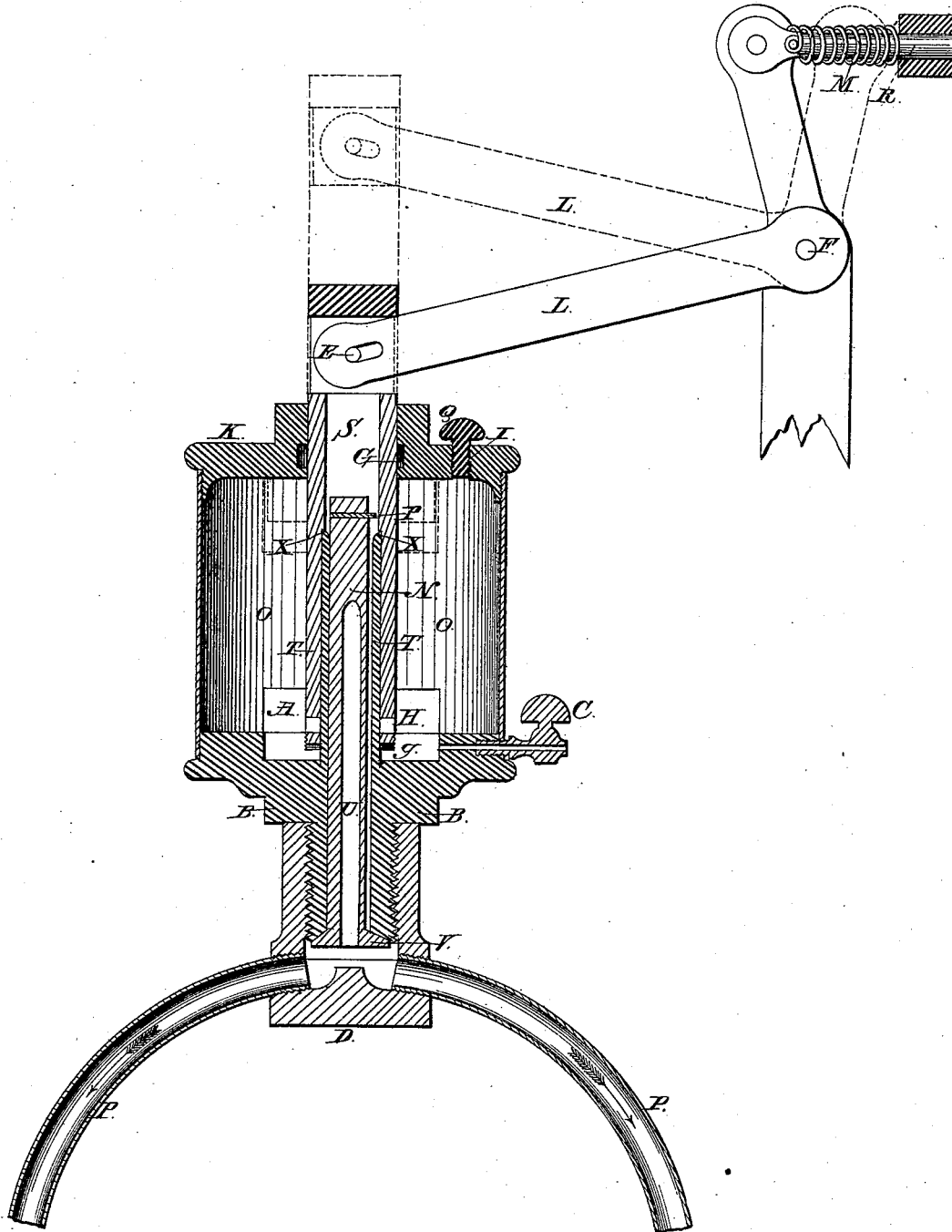


E. M. HUMSTONE.
 Oiler for Steam-Engine.

No. 211,661.

Patented Jan. 28, 1879.



Attest:

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UNITED STATES PATENT OFFICE.

EDWIN M. HUMSTONE, OF EDGEFIELD, TENNESSEE.

IMPROVEMENT IN OILERS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. **211,661**, dated January 23, 1879; application filed April 20, 1878.

To all whom it may concern:

Be it known that I, EDWIN M. HUMSTONE, of the town of Edgefield, in the county of Davidson and State of Tennessee, have invented a new and useful Improvement in Oilers for Steam Chests and Cylinders for Locomotives and Steam-Engines, which improvement is fully set forth in the following specification and accompanying drawing.

The object of my invention is to furnish an oiler for locomotives and steam-engines which will supply at any time a given measure or quantity of oil or tallow to the steam chest or cylinder, and at the same time distributing it equally between two cylinders, if desired, and so arranged as to keep the tallow or oil always melted, and so that it can be operated from the cab of the locomotive.

In the drawing, which is a vertical section through the center of the oiler, O O is a cylindrical chamber containing the melted tallow or oil, having the top K, which is screwed on, and the bottom B, to which is attached the tube T, and also to which is fastened the distributing-chamber D by means of the screw-threads at the bottom. The oiler may be attached to the steam-chest direct by means of said screw.

Through the top K there is a hole, I, which is stopped by the screw-plug Q. Sliding through a circular hole in top K and packed by the gasket G is the sleeve S, the lower end of which is screwed into the bottom of the annular cup A, and near the bottom A are the holes H H in the sleeve S, which becomes smaller in interior diameter at X X, and thus forms a shoulder, which rests on top of tube T.

To the top of the sleeve S the end of the bent lever L is attached by the pin E passing through a slotted hole in L. The lever L turns on a fixed pivot or with a shaft at F, which shaft may be used to move at the same time a similar lever, at its other end, connecting with another and similar cup or oiler.

The bent lever has attached to it the rod R. The spring M holds the lever in the position shown by the full lines.

Below the bottom of the sleeve S, where it screws into the cup A, is the gasket *g*, which is a packing for the sleeve S and the annular cup A when sliding on the tube T. Within the tube T slides the valve-stem N, which guides

the conical valve V. The valve V and the stem N have a hollow, U, extending through them nearly to the top of the stem N. The stem N is triangular in horizontal section, the rounded apices of the triangle bearing against the tube T, and so guiding the stem N. Through the top of stem N is the pin P. Below the valve V is the distributing-chamber D, to which are screwed the cylinder or steam-chest pipes *p p*. Screwing into the bottom of the oil-chamber O is the cock C.

It will be seen from the foregoing that by a pull on the rod R the lever L may be made to raise the sleeve S, and with it the annular cup A, all into the positions shown by the dotted lines. A cupful of the melted tallow or oil, which, by giving the cup the proper size, may be made the exact quantity of oil or tallow which it is desired to use at one time, will thus be raised to the top of the oil-chamber O, and will flow through the holes H and between the triangular stem N and the tube T, in which it slides, and will then descend to the valve V. When the steam is shut off from the cylinder or steam-chest and does not enter the pipes *p p*, the valve V, being unsupported by the pressure of the steam, will drop until stopped by bearing against the parts of the distributing-chamber D, or when the distributing-chamber is not used by the pin P. The valve will thus be opened to a very small extent, and the oil or tallow slowly and gradually flow out. When the distributing-chamber is used the oil or tallow will thus be guided so as to flow equally into the pipes *p p*, and thence to move either one or both steam chests or cylinders. The gasket *g* will prevent the oil or tallow from passing under the annular cup A and between the sleeve S and the tube T, and so to the valve V. The bearing of the shoulder X on the top of the tube T is an additional device to prevent the oil or tallow from passing from between the sleeve S and the tube T. The steam filling the hollow U will keep the tallow melted and at all times ready to flow.

The plug Q may at any time be unscrewed and the oil-chamber O filled through the opening I. Any water in the oil-chamber O may be drained off at the bottom by means of the cock C.

The method in general use for oiling valves

and cylinders is attended with difficulty, considerable risk, and great waste.

My invention prevents waste and removes all difficulty and risk by doing away with the necessity for the fireman or engineer leaving their cab, and so arranged as to be under the full control of the engineer.

In the automatic oil-cups now in use the amount of oil and the time of using the same cannot be regulated and controlled.

My invention is such that the oil or tallow is under the full control of the engineer, and only so much oil or tallow need be used, and at such times, as may be desired.

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

1. The annular cup A, the pin P, the dis-

tributing-chamber D, the hollow in the valve-stem, U, the gasket G and g, the sleeve S, the holes H H, and the shoulder X, substantially as shown and described.

2. The combination, in an oiler, of the bent lever L, the pivot or shaft F, the rod R, the pin E, the sleeve S, the holes H H, the oil-chamber O, the gaskets G and g, the tube T, the annular cup A, the shoulder X, the valve V, the triangular valve-stem N, and the hollow U, the spring M, the cock C, the screw-plug Q, the distributing-chamber D, and the pipes p p, all arranged substantially as shown and described.

EDWIN M. HUMSTONE.

Witnesses:

HORACE H. HARRISON,
JOHN McCLELLAND.