S. RUSHWORTH.

LUBRICATOR.

No. 192,193. Patented June 19, 1877.

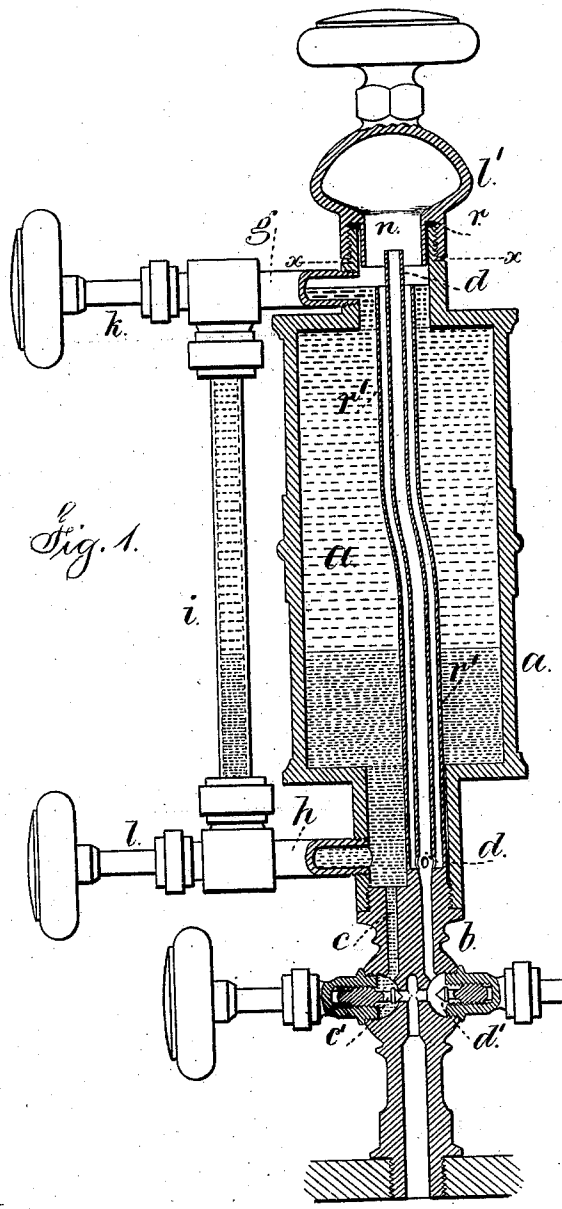
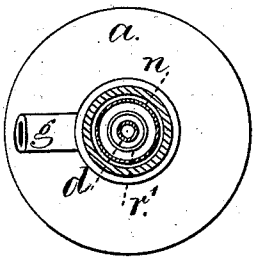


Fig. 1.

Fig. 2



Witnesses,

Chas. H. Smith

Harold Serrell

Inventor

Samuel Rushworth.

per Lemuel W. Serrell Att'y

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL RUSHWORTH, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND JOHN G. CRAWFORD, OF SAME PLACE.

IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. **192,193**, dated June 19, 1877; application filed September 27, 1876.

To all whom it may concern:

Be it known that I, SAMUEL RUSHWORTH, of the city and State of New York, have invented an Improvement in Lubricating Apparatus for Engines, &c., of which the following is a specification:

This invention is for facilitating the condensation of the steam that passes up into the oil-holding vessel, and consists in the combination, with the oil-holding vessel and its cocks and tubes, of a hollow condensing-cap and a downward-projecting tube that passes around the upper end of the discharge-steam pipe, so that the water of condensation will be delived close to the steam-pipe instead of being scattered into the oil or melted tallow, or passing into the glass indicating-tube.

In the drawing, Figure 1 is a vertical section of the gage, and Fig. 2 is a plan at the line *x x*.

The oil or tallow receptacle *a* is provided with the attaching stem *b*, in which are two tubes, one of which, *c*, leads to the bottom of the oil-vessel *a*, and the other leads up to the steam-pipe *d*, and there are valves *c'* and *d'* to the respective pipes.

There are also lateral branch pipes *g* and *h*, with valves *k* and *l*, to the gage-glass *i*, by means of which the oil-level and the level of the accumulation of water of condensation can be observed. These parts are somewhat similar to those heretofore constructed.

Upon the top of the oil-vessel *a* the cover *l'* is screwed, and there is a packing washer, *r*, to make the joint steam-tight, and this cover *l'* is hollow, and there is a pipe, *n*, passing down from the hollow portion of the cover through the neck, and extending down below the upper end of the steam-pipe *d*, such pipe *n* being of a larger diameter than the pipe *d*, so as to surround the same. There is also a pipe, *r'*, surrounding the steam-pipe *d*, and the upper end is below the lower end of the pipe *n*.

The valves *c' d'* are to be shut and the cover *l'* removed when the lubricating material is supplied into the oil-vessel, after which the cover is replaced. When the valve *d'* is opened, the steam passes, by the tube *d*, into the upper part of the oil-vessel, and into the hollow cover, and the pressure is equalized instantly. The cover *l'*, however, acts as a condenser, and the water of condensation drips from the lower edge of the tube *n*, and, being heavier than the oil, displaces and floats the same, and the oil runs over the edge of the tube *r'*, down the same through the opening in the tube *d* and passage-ways to the portion of the engine to be lubricated. The oil will be thus supplied with more or less rapidity, according to the speed with which the water of condensation accumulates.

By the use of my hollow cover the rapidity of condensation is promoted, and the difficulty heretofore experienced from the slowness of the operation of these lubricators is avoided.

In cases where the glass gage is used, the upper connecting-tube *g* must be at or below the surface of the oil, in order that the water may displace the oil in the glass gage to the same level as in the oil-vessel.

The water of condensation, dripping from the edge of the tube *n*, sinks through the oil and does not become mixed with the same, nor pass into the upper part of the glass gage, as frequently happens in lubricators in which the condensation takes place in the oil-vessel only.

I claim as my invention—

In a lubricating apparatus, the pipes *r'* and *d*, vessel *a*, and valves *d' c'*, in combination with the hollow condensing-cover *l'*, and pipe *n*, substantially as and for the purposes set forth.

Signed by me this 25th day of September, A. D. 1876.

SAML. RUSHWORTH.

Witnesses:

HAROLD SERRELL,

CHAS. H. SMITH.