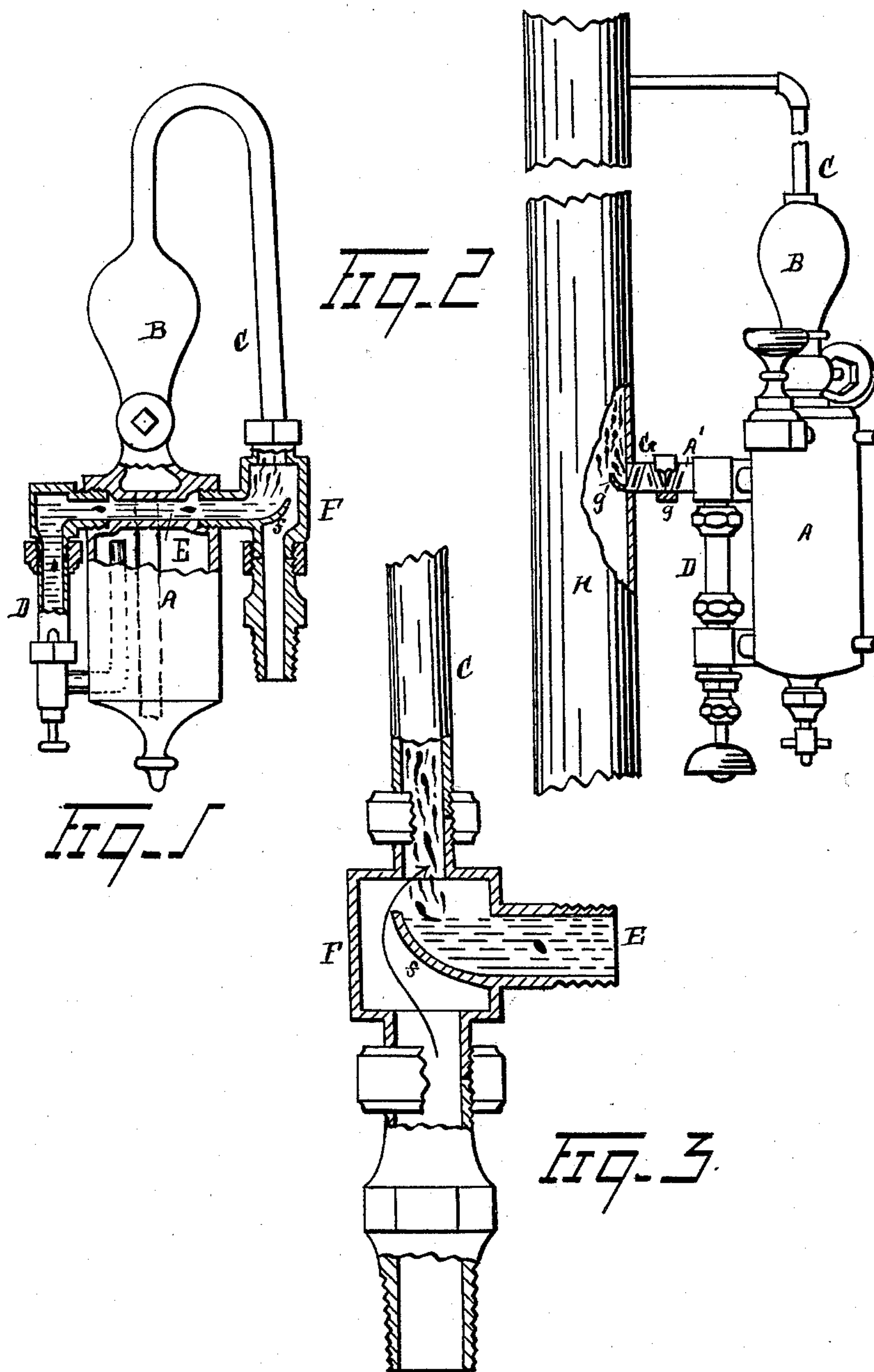


(No Model.)

E. McCOY.  
LUBRICATOR.

No. 465,875.

Patented Dec. 29, 1891.



Witnesses  
John Schuman.  
Charles F. Salow.

Inventor  
Elijah McCoy  
By his Attorney  
Newell S. Wright.



# UNITED STATES PATENT OFFICE.

ELIJAH MCCOY, OF DETROIT, MICHIGAN.

## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 465,875, dated December 29, 1891.

Application filed July 10, 1890. Serial No. 358,249. (No model.)

*To all whom it may concern:*

Be it known that I, ELIJAH MCCOY, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Lubricators; and I 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 drawings, which form a part of this specification.

My invention relates to certain new and useful improvements in a lubricator-supporting arm, and has for its object a construction whereby a sight-feed chamber connected with a lubricator will fill quickly with condensed water, all as hereinafter specified and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a lubricator, showing parts in section, the lubricator in this instance being more especially adapted for an air-brake, traction-engine, and steam-pump lubricator where a perpendicular arm is employed. Fig. 2 is a view in perspective showing parts in section, the lubricator in this instance being more particularly adapted for use upon stationary engines where a horizontal arm is used. Fig. 3 is a view of the supporting-arm in detail, showing parts in section.

I carry out my invention as follows:

A represents the oil-chamber of the lubricator.

B is the condensing-chamber, and C the steam-tube leading thereto. This steam-pipe is located outside the condensing-chamber and is exposed to the atmosphere to promote rapid condensation therein before the steam enters the condensing-chamber, the steam-pipe preferably entering the top of the condenser.

D is a sight-feed glass, and E is a channel connecting the supporting-arm and the steam-pipe with the sight-feed chamber, through which condensed water is led from said pipe to said chamber.

F is a perpendicular hollow supporting-arm, as shown in Fig. 1, through which steam is led to the steam-pipe C.

In sight-feed lubricators as heretofore con-

structed it is well known that it takes some considerable time for the sight-feed chamber to fill with condensed water. The steam was allowed to enter the sight-feed chamber, the sight-feed glass assisting to condense the steam. The consequent changes of temperature has resulted in frequent breakage of the glasses. My invention is designed to overcome these difficulties. To this end I construct the supporting-arm with a diverting-lip *f*, extended into the perpendicular steam-channel and beyond the inner perpendicular surface on the side from which said lip is projected. It is well understood that as the steam condenses in the steam-pipe C the water condensed therefrom runs down the interior surface of the channel. As lubricators with their supporting-arms have heretofore been constructed without the lip *f*, there has been nothing to turn the condensed water into the channel E from the pipe C to the sight-feed chamber, requiring, as above observed, a considerable time to fill the sight-feed chamber with water condensed from the steam admitted thereto, the condensed water from the pipe C running down the side thereof and directly down the side of the channel in the supporting-arm without being diverted to the channel E. By interposing the lip *f*, however, in the channel of the supporting-arm beneath the lower end of the perpendicular steam-pipe communicating therewith the water descending the sides of the said steam-pipe is caught by the lip *f*, thereby diverted quickly in a quantity amply sufficient to instantly fill the sight-feed glass. The result is that the sight-feed glass is kept cool. The condensed water filling the sight-feed chamber prevents the entrance of steam thereinto. The sight-feed glasses are therefore protected from sudden changes of temperature, and breakage is thereby prevented. The oil in the oil-chamber is also kept from being overheated, the water filling the sight-feed chamber and the channel E all the time. The gaskets, too, are not exposed to overheating and consequent injury. At the same time the water filling the conduit E carries the oil in drops through. In a vertical supporting-arm, as shown in Figs. 1 and 3, I prefer to have the diverging lip extend entirely across the mouth of the channel of the steam-pipe C and under-



neath the same, the steam-channel of the supporting-arm being sufficiently enlarged to permit such an extension of the lip and still allow sufficient room for the passage of the steam about said lip into the steam-pipe C. The same principle is carried out in a horizontal supporting-arm for attaching a lubricator to the steam-pipe of a stationary engine, as shown in Fig. 2. In this case G denotes the supporting-arm provided with a screw-tapped connecting-head *g* for receiving the usual threaded arm A', of any ordinary lubricator. The arm G is threaded to engage in the steam-pipe H and provided with a diverting-lip *g'*, projecting into the steam-pipe and beyond the adjacent inner surface of said steam-pipe sufficient to effectually turn a desired quantity of condensed water into the sight-feed chamber, the action being obviously the same in the horizontal supporting-arm as in the perpendicular arm shown in Figs. 1 and 3.

Instead of making the supporting-arm in two connected parts G and A', as in Fig. 2, the entire arm may be constructed in a single piece within the scope of my invention.

In the drawings the condensed water is shown descending in drops to the diverting-lips.

I prefer that the sight-feed chamber should be located on the side of the oil-reservoir opposite the supporting-arm to carry the sight-feed chamber more conveniently away from the supporting-arm. I prefer, also, that the channel E should extend across the top of the oil-reservoir, as shown.

What I claim as my invention is—

1. An air-brake lubricator consisting of an oil-receptacle, a condensing-chamber communicating therewith, a hollow supporting-arm, a steam-pipe located outside the condensing-chamber connecting the said arm with the

top of said chamber, a sight-feed chamber communicating at its lower end with the oil-reservoir, a channel E, communicating with the upper end of the sight-feed chamber and with the supporting-arm and steam-pipe, and a diverting-lip arranged within the hollow arm at the point of the intersection of the channel E therewith, said lip projecting upward from the same side as the channel, between said channel and the steam-passage, through said arm to a point on a line with the upper wall of said channel, and across the entrance to said steam-pipe and below the same, substantially as described.

2. An air-brake lubricator consisting of an oil-receptacle, a condensing-chamber communicating therewith, a hollow supporting-arm, a steam-pipe located outside the condensing-chamber connecting the said arm with the top of said chamber, a sight-feed chamber communicating at its lower end with the oil-reservoir, a channel E, extending across the top of the oil-reservoir communicating with the upper end of the sight-feed chamber and with the supporting-arm and steam-pipe, and a diverting-lip arranged within the hollow arm at the point of the intersection of the channel E therewith, said lip projecting upward from the same side as the channel, between said channel and the steam-passage, through said arm to a point on a line with the upper wall of said channel, and across the entrance to said steam-pipe and below the same, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

ELIJAH MCCOY.

Witnesses:

N. S. WRIGHT,  
CHARLES F. SALOW.