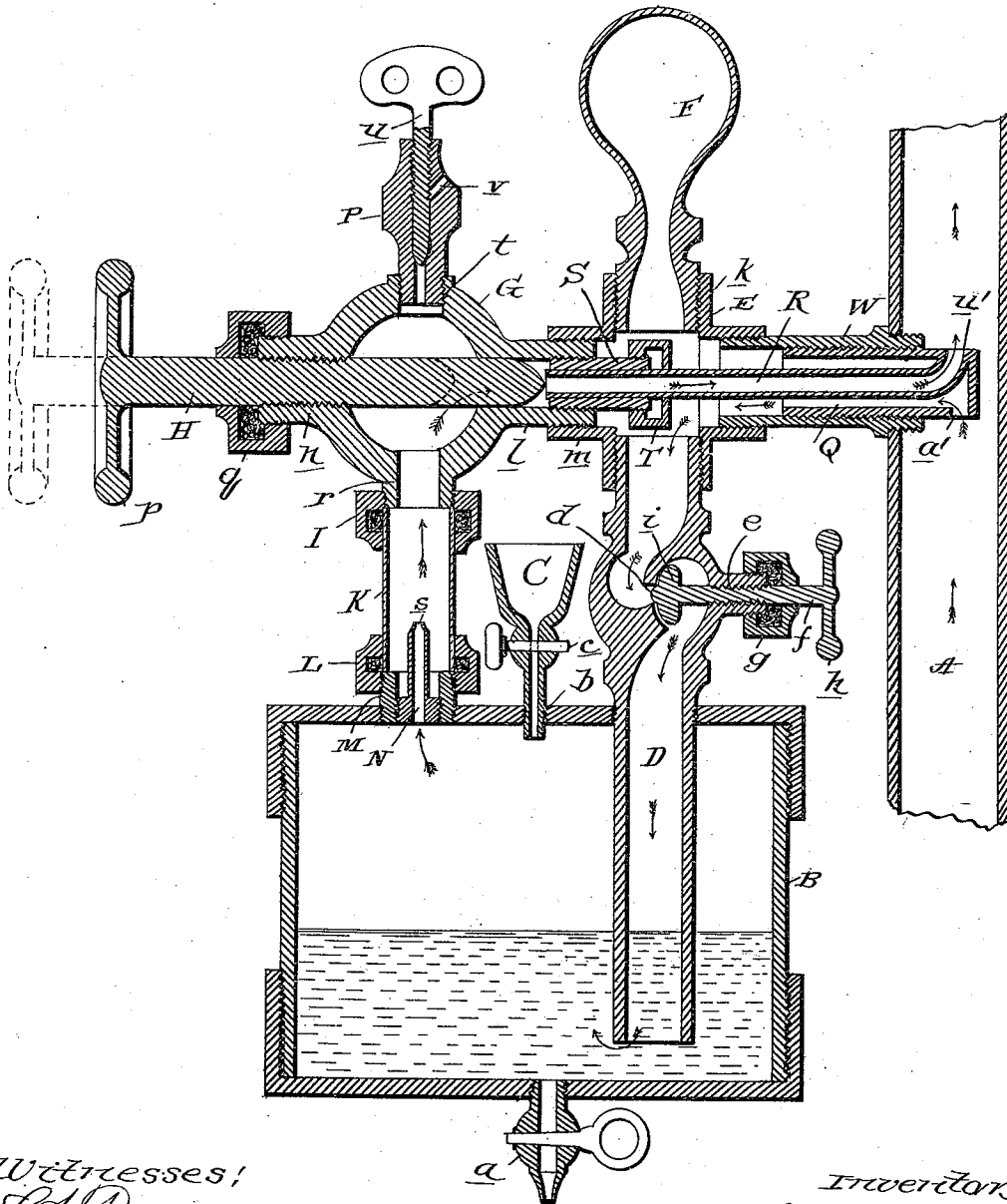


(No Model.)

ALLEN & J. J. KIMBALL.
FABRICATOR.

No. 501,627.

Patented July 18, 1893.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALLEN R. QUEEN AND JOHN JESSE KIMBALL, OF LARNED, KANSAS; SAID
QUEEN ASSIGNOR TO JOHN J. NESBITT, OF SAME PLACE.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 501,627, dated July 18, 1893.

Application filed March 31, 1893. Serial No. 468,461. (No model.)

To all whom it may concern:

Be it known that we, ALLEN R. QUEEN and JOHN JESSE KIMBALL, citizens of the United States, residing at Larned, in the county of Pawnee and State of Kansas, have invented certain new and useful Improvements in Lubricators; and we 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 which it appertains to make and use the same.

This invention has relation to an improvement in lubricators such as used for forcing oil into the boiler of an engine for preventing the formation of scales and incrustation, and removing the same when formed, and the novelty will be fully understood from the following description and claims when taken in connection with the annexed drawing, in which the figure is a vertical sectional view of our improved device with a portion of the pipe attached, which may be a steam or water pipe for connecting the lubricator with a boiler.

Referring by letter to said drawing: A, indicates a pipe which may be a steam or water pipe and may lead to a boiler, and B, indicates a tank or reservoir, which is designed to hold both oil and water. This tank is provided in its bottom with drain cock *a*, and in its top with a filling aperture *b*. In this filling aperture we arrange a funnel mouthed receiver C, carrying a spigot or key *c*, so as to conveniently fill oil into the tank and check or control such filling.

D, indicates a water pipe. This pipe passes through the top of the tank B, and extends well into the same so as to pass beneath the bottom of the oil therein and into the water. This water pipe is provided at a suitable point in its length with a valve seat *d*, and a threaded bearing *e*, which extends laterally and supports a valve rod *f*. This valve rod is surrounded at the point where it enters the threaded bearing, with a stuffing box *g*, and has a hand grasp or wheel *h*, on its outer end, and a valve head *i*, on its inner end, adapted to control and regulate the supply of water from the pipe A, and through the pipe D, into the tank. The upper end of this pipe D, is screw threaded as shown, and arranged upon said end is a cruciform or four way casting

E, one branch of which is received by the upper end of said pipe D, and the opposite vertical branch *k*, of said coupling or casting, receives the lower threaded end of an air or condensing chamber F.

G, indicates a casting which is hollow, and is also provided with four screw threaded branches; there being two vertically disposed opposite to each other and two horizontally disposed, and opposite to each other. The inner horizontal branch *l*, takes into the screw threaded branch *m*, of the casting E, and bearing in the screw tapped branch *n*, of the casting G, is a valve rod H, for controlling the supply of oil. This valve rod has its inner end beveled or pointed, and passes into the branch *l*, and its opposite end is provided with a wheel or handle *p*, and a suitable stuffing box or packing gland *q*, is arranged upon the branch *n*, where the valve rod enters. The depending branch *r*, of the casting G, is externally screw threaded and receives a packing gland or stuffing box I, into which the upper end of the sight tube K, is received; the opposite or lower end of said sight tube being received in a similar gland or stuffing box L, which is in turn secured to a short vertical pipe M, and this vertical pipe is screwed at its opposite end into the top wall of the reservoir as shown.

N, indicates a vertically disposed drop tube which has an enlarged external base, externally threaded, and is screwed into the short vertical pipe M, and this drop tube has a small outlet or discharge *s*, at its upper end and within the sight tube.

P, indicates an air cock. This air cock is screwed into the screwed tapped aperture *t*, of the casting G, and has a threaded bore to receive the threaded stem *u*, of the valve; an obliquely arranged vent aperture *v*, being placed in the body of said valve.

Q, indicates a horizontal pipe. This pipe is of a peculiar construction having formed within it a tubular branch R, which extends from the inner end of said pipe and passes through a short pipe S, which carries at one end a suitable stuffing box T, and has its opposite end taking into the internal threads on the branch *l*, of the casting G; the extended end of the tube R, being designed to be closed

by the inner end of the valve rod H, for controlling the outlet of the oil. The outer end of this tube R, which is designed to admit oil into the water or steam pipe A, opens upwardly as shown at *u'*. The outer end of the pipe Q, has a downward opening *a'*, which leads into the steam or water pipe A, and from this opening water or steam is admitted into the pipe Q, and exterior to the tubular portion R.

W, indicates a pipe which connects the steam or water pipe A, with one branch of the coupling E, and within this pipe which is internally threaded, is screwed the pipe Q, and consequently the tubular extension R, which is formed integral therewith.

In operation the water in pipe A, enters the pipe Q, through the aperture *a'*, and passing from thence in the direction of the arrows outside of the tube R, down through the pipe D, into the tank or reservoir; being controlled and regulated by the valve in said pipe. As the water enters the tank and raises the oil therein, the oil will be forced out through the tube or nipple *s*, into the sight tube, and from thence into the casting G, when by opening the valve H, the oil will pass through the tube R, out through the opening *u'*, and off to the boiler. The passage of the oil can be regulated and controlled by the use of the valve H. The inlet of water can be controlled by the valve *i*, and the tank can be drained by the drip cock *a*, when it is desired. As water enters the sight tube, it will be seen that the oil may be discharged from the nipple or tube N, upwardly in drops.

When it is desired to use the device for forcing refined oil into a boiler, the drip cock should be first closed and the filling aperture opened by manipulating the key *c*. The air cock should also be opened. Oil should then be filled into the tank through the funnel shaped receiver C, after which the filling aperture should be closed, and the air cock should also be closed. The valve H, should then be opened and the valve *i*, also opened sufficient to force the oil in drops through the sight feed glass or tube, the supply and discharge being controlled by manipulating the valve *i*, and H.

While we have described specifically and

in detail, the parts of the exact construction and combination shown, yet we are aware that some of the parts will permit of modifications and we reserve the right to make such changes as may fairly fall within the scope of our invention.

Having described our invention, what we claim is—

1. The combination with a water or steam pipe and an oil and water reservoir; of a lubricator, connected with the reservoir by a pipe extending well into the same and carrying a valve, a coupling on the upper end of said pipe, an air or condensing chamber arranged on one branch of the coupling, a pipe connecting the coupling with the steam or water pipe, a pipe arranged within said connecting pipe, and having an internal tube, the outer passage of which connects the steam or water pipe with the pipe leading to the oil and water chamber, a valve for closing one end of the tubular extension, a second coupling or casting, having an air cock on one branch, a sight tube depending from an opposite branch, a valve for controlling the oil through the tubular extension, and a vertically disposed nozzle or tube leading from the oil tank into the sight tube, all adapted to operate, substantially as and for the purposes specified.

2. In a lubricator, substantially as described, the combination with a steam or water pipe, and an oil and water reservoir; of the horizontal pipe Q, tapping said oil and water pipe, and having the central, longitudinal tube R, passing through the short pipe *s*, said pipe Q, having the openings *a'*, and *u'*, in its end tapping the steam or water pipe, the valve rod H, adapted to close the inner end of the tube Q, the tank B, the sight tube K, the drop tube N, arranged in the base of the sight tube, and suitable valves for opening and closing communication for the oil and water, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

ALLEN R. QUEEN.

JOHN JESSE KIMBALL.

Witnesses:

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