

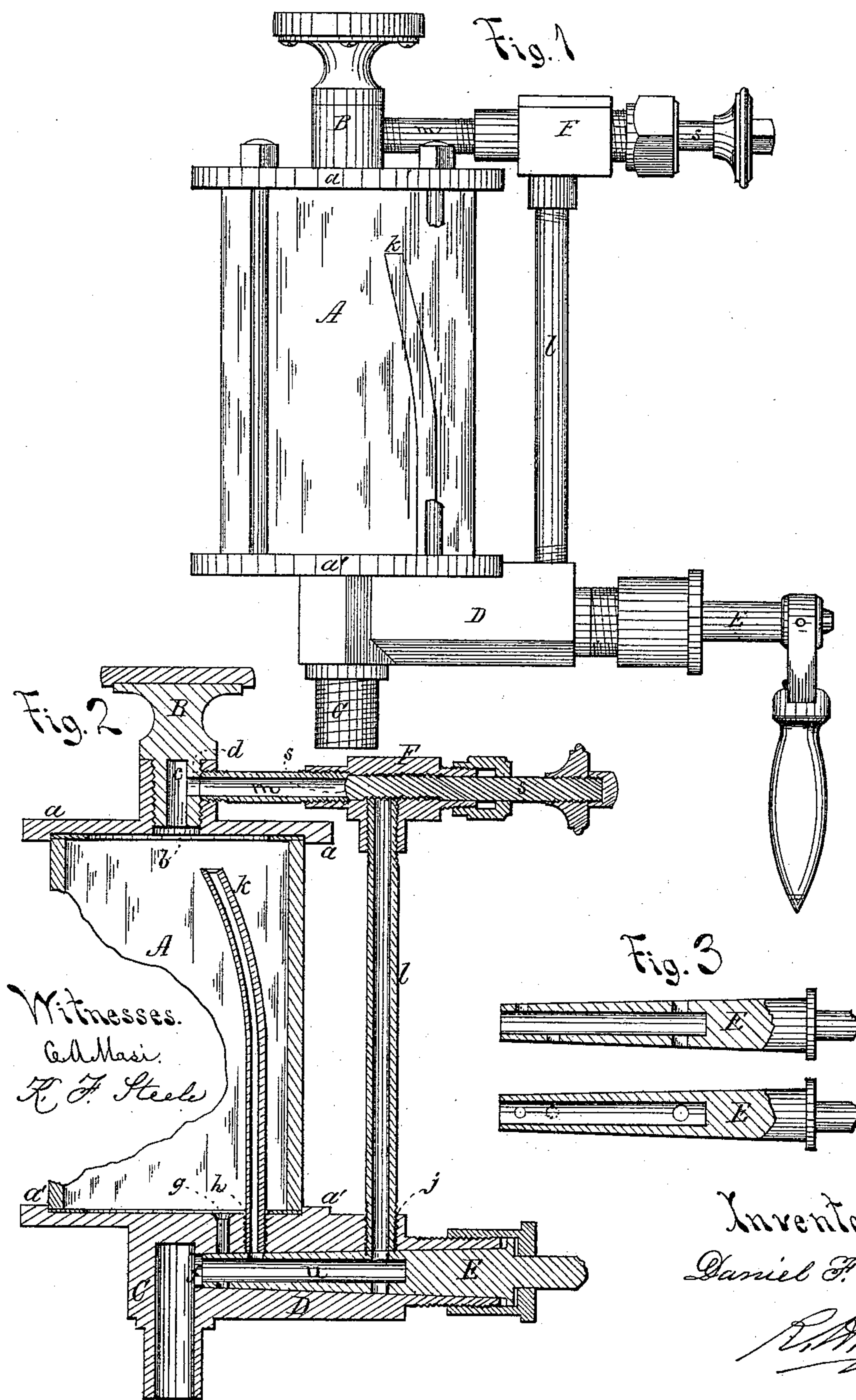
(No Model.)

D. F. TAFT.

SIGHT FEEDING LUBRICATOR.

No. 338,650.

Patented Mar. 23, 1886.



Inventor.
Daniel F. Taft.
R. F. Steele
Atty.

UNITED STATES PATENT OFFICE

DANIEL F. TAFT, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR OF ONE
HALF TO JACOB B. HADLEY, OF SAME PLACE.

SIGHT-FEEDING LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 338,650, dated March 23, 1886.

Application filed December 21, 1885. Serial No. 186,373. (No model.)

To all whom it may concern:

Be it known that I, DANIEL F. TAFT, a citizen of the United States of America, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Lubricators, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention is an improved sight-feeding lubricator, and embraces, in brief, the following novel features: A vertical steam-condensing and oil cylinder, of glass, or other transparent material, closed at both ends by metallic top and bottom, and having three ports—one through the top of the cylinder for the entrance of oil and steam, and two through the bottom thereof, one of the latter for the vent of water from condensed steam, the other for the exit of lubricating-oil through a pipe, the lower end of which screws into said oil-vent and therefrom rises nearly to the top of said inclosing-cylinder; also, said cylinder furnished with a close-bore screw-stopple for its top port, and with a close-bore screw-fitting for its lower steam-connective end; also, conducting from the steamway of said end fitting around the outside of the cylinder to the close-bore of said top port stopple is a return-bent or angle pipe for the passage of steam into the top of said oil-receiver, the upper and horizontal portion of said steam-pipe being furnished with a steam-controlling screw-valve; and, finally, the lower portion of the steamway through said angle-pipe, also horizontal in position, is furnished with a steam-faucet, the externally-tapering and ground-jointed spigot of which has triple ports, the outermost and inmost of which correspondingly and simultaneously open both the steamway of said angle-pipe and said water-vent whenever the handle of said spigot or turn-plug is placed vertically upward, and when said handle is placed vertically downward the said steamway is simultaneously opened with said oil-vent and said water-vent closed; and, further, when said handle is placed horizontally to either side, all of said ports and vents are closed, all of which and their purposes are hereinafter more fully described and illustrated by the accompanying drawings, in which like letters

designate identical parts of my invention in the different figures, respectively.

Figure 1 is a side elevation of said device, showing the relative positions and fittings of the different parts and the spigot-handle of said steam-faucet turned down. Fig. 2 is a longitudinal section of the same, showing the same relative positions of the several parts; and Fig. 3 shows in longitudinal section two views of the spigot or turn-plug of said steamway-faucet, the upper one being supposed to have said spigot-handle turned up, while in the lower one said handle is supposed to be turned horizontally sidewise.

The letter A represents said oil-receiver and steam-condenser, the cylindrical portion of which is made of vitreous or other transparent material, and is closed in at the ends by the metallic disks *a* and *a'*, properly countersunk into their inner surfaces to receive the annular ends of said cylinder and the elastic gaskets, which constitute their packing. Said disk-heads are tightly held in place by screw threaded and nutted tie-rods, as shown, and said cylinder being intended for use in a vertical position, the upper disk, *a*, is provided with an externally-flanged port, *b*, within the flange-tube of which is suitably screwed the externally-threaded stopple B. Said stopple has a close-bore, *c*, with an entrance-port, *d*, near its top, through which passage-way steam is forced into the receiver A, the steam being received while said stopple is screwed in place, and the oil poured in when the stopple is withdrawn for that purpose. Suitably screwed upon the bottom of said lower disk-head, *a'*, or forming part of the same in one piece, as shown, is a screw-plug or steam-fitting, C, by which to connect the receiver A with any steam-communicative part of a steam-engine requiring lubrication. Said fitting has a close bore and exit-port, similar to those of the stopple B, by which steam is passed into said pipeway around the receiver and into its top port, subject to the co-operative control of said screw-valve above and the spigot below. Said steamway is made as follows: An arm, D, forming a rigid part of the fitting C, and projecting horizontally from the same, has a reversely-tapering bore, *f*, cut longitudinally through its center, which forms not

only the said exit-port of said fitting, but also the ground-joint seat of said spigot or turn-plug E, as shown, which controls the first portion of said steamway, together with the flow of lubricating-oil and exit of water from said receiver. Into said spigot-seat *f* are vertically drilled, as shown, the tripet bores *g*, *h*, and *j*, the first forming said water-vent, the next forming the oil-vent through the inscrewed and bent pipe *k*, and the last forming the screw-seat for the vertical steam-pipe *l*, which last pipe forms the screw-jointed connection between the first portion, *f*, and the second portion, *m*, through said screw-valve F of said circuitous steamway from the fitting C to the entrance-port *b* of the receiver A. The screw-valve F forms the screw-union of the vertical pipe *l* and the horizontal pipe *m*, the outer end of which last is cupped to form the steam-tight valve-seat of the counter-shaped point of the screw-plug *s*, which, by screwing out or in, completely controls the quantity of steam to be admitted into the receiver. The turn-plug or spigot E has a very smoothly-made external taper to tightly fit into said reversely-tapering valve-seat *f*, and is furnished with three ports—one made diametrically through both sides of its close bore *u*, and the other two made each through opposite sides of said close-bore shell—each of said ports being made to correspond in position, in the length of said spigot, to said water, oil, and steam vents, respectively, as shown. This arrangement of said triple ports is for the purpose of allowing the steam to pass into, while the oil is passing out of, said receiver, whenever said valve F is opened, and also of closing said oil-vent whenever said water-vent is open.

The operation of the lubricator is as follows: Close the valve F and turn the handle of the spigot E either way into a horizontal position, which closes all the vents *g*, *h*, and *j*. Then withdraw the screw-stopple B and pour the lubricating material into the receiver A through the open port *b*, after which close the top of the receiver by said stopple, and turn said spigot-handle down. When a sufficient quantity of lubricating-oil having been introduced—say, the receiver two-thirds full—the live steam is caused to pass through said circuitous steam-way into the receiver by regulatively opening the upper screw-valve. This valve being closed, a rapid condensation soon takes place, both in the receiver and in the vertical pipe *l*, which causes the oil to rise to the surface of the water in the receiver and to trickle through the pipe *k*, the condensed steam being prevented exit from the receiver by the closure of its water-vent. Meanwhile the pressure of the con-

densed steam in the pipe *l* causes a counter-current of water to set toward the fitting or connective tube C, carrying the lubricant along with it to the point of friction. By simply reversing, when desired, the present position of the spigot-handle downward to a vertical position upward, the water-vent of the receiver is opened, the lower part of the pipe *l* remains also open, and the oil-vent is closed, which allows gathered water to escape and clear the steam-way, and also makes the lubricator ready to repeat the above-described process at will; therefore,

What I claim as new, and desire to secure by Letters Patent, is—

1. In the lubricator herein described, the transparent oil-receiver and steam-condensing cylinder having gasket-packed and rod-stayed metal ends, the vertically steam connective and fitting tube, and triple ports—one of entrance atop and two of exit at bottom—in combination with the externally-circuitous steam-pipe way, commencing at said steam-fitting tube and ending at said receiver-entrance through its screw-stopple tube, said connected steamway-pipes having the horizontal screw-valve above, and the externally-tapering and horizontally-seated spigot-valve below, the latter furnished with a close bore tapped with triple ports, one of which passes diametrically through the spigot-tube and the other two separately entering the same on opposite sides and parallel with said diametrical port, and all of said spigot-ports made to be correspondingly adjustable and mutually co-operative with said receiver-exits, steam passage-way, and upper screw-valve, substantially as and for the purposes herein specified.

2. In the sight-lubricator herein described, the oil-receiver and steam-condenser having the vertically-connective steam-fitting upon its lower end, the screw-stoppled entrance-port through its top, and the two exits through its bottom, one of which latter leads directly into the reversely-tapering spigot-valve seat below and the other into the same through a service-pipe rising from said exit into the upper portion of said receiver, in combination with the screw-connective pipes of the externally-circuitous steamway herein described, furnished with the upper screw-valve and the lower triple-vented spigot-valve, substantially as and for the purposes herein specified.

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

DANIEL F. TAFT.

Witnesses:

THOMAS S. BUTMAN,
HERMAN L. WILLS.