(No Model.) 2 Sheets—Sheet 1.

B. A. BURGESS.

LUBRICATOR.

No. 518,585. Patented Apr. 24, 1894.

Fig. I.

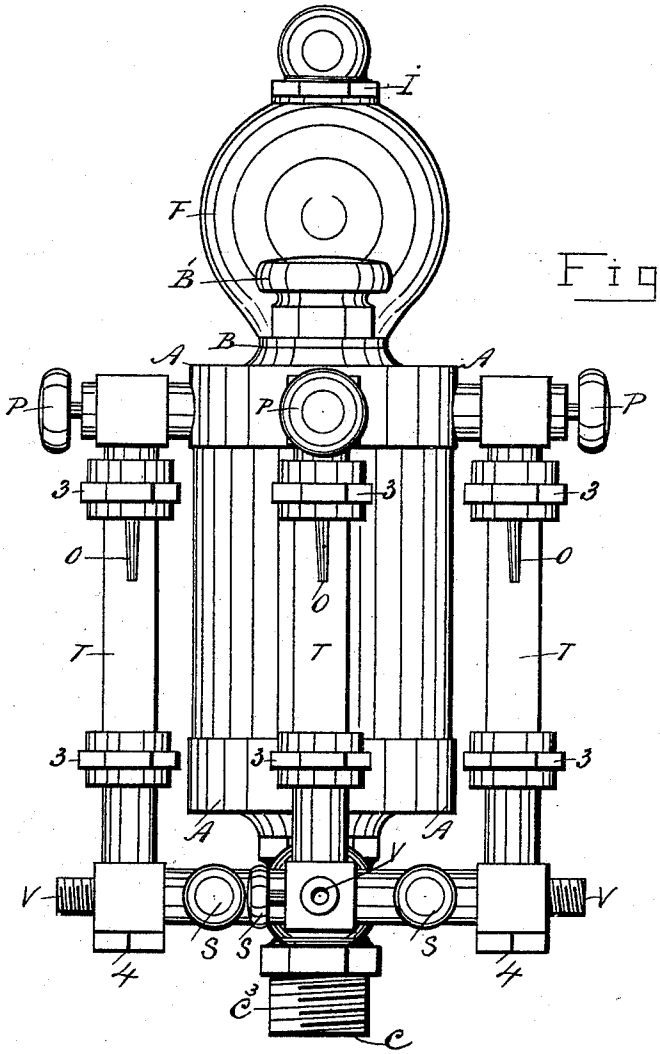
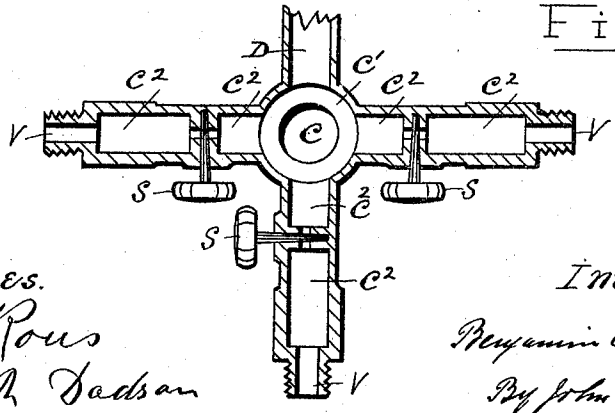


Fig. III.



Witnesses.
D. P. Rous
John A. Dodson

Inventor.
Benjamin A. Burgess
By John H. Hendry
His Attorney.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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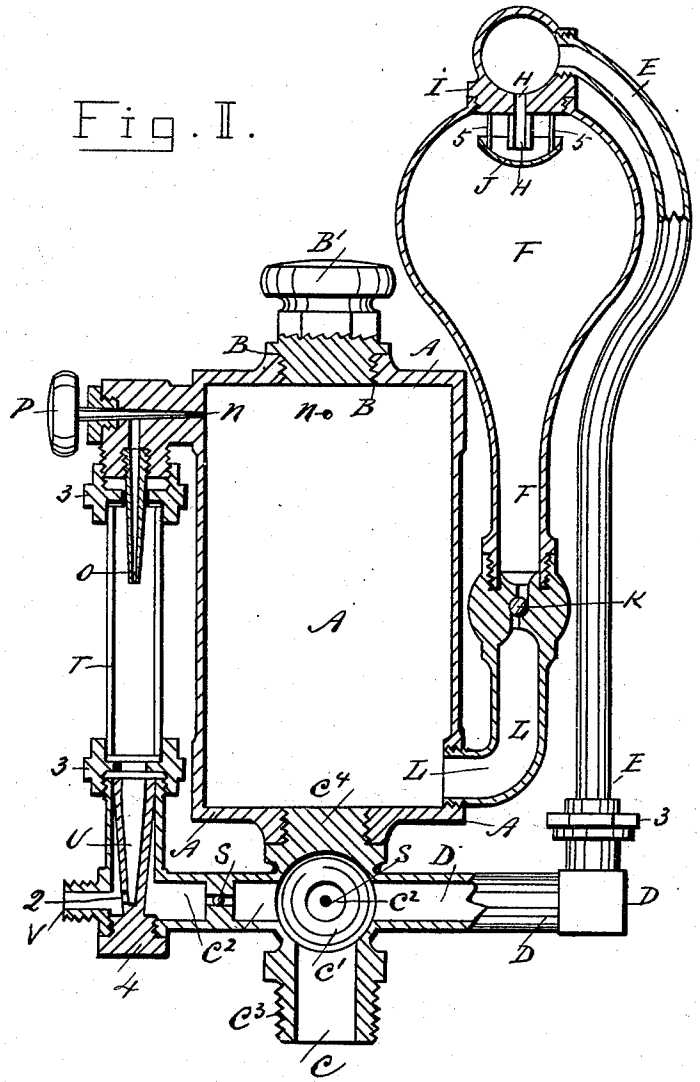
Fig. II.



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UNITED STATES PATENT OFFICE.

BENJAMIN A. BURGESS, OF HAMILTON, CANADA.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 518,585, dated April 24, 1894.

Application filed December 11, 1893. Serial No. 493,357. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN A. BURGESS, a subject of the Queen of Great Britain, residing at Hamilton, in the county of Wentworth, in the Province of Ontario, Dominion of Canada, have invented a new and useful Lubricator, of which the following is a specification.

My invention relates to improvements in three-way, sight-feed steam lubricators, consisting of the combination of an oil cylinder, steam-condensing chamber, and steam inlet, and three-way sight-feeds, all connected by means of tubes, and arranged and devised in such a manner that the same shall be capable of introducing the oil, drop by drop, by means of pressure, thus becoming vaporized.

The objects of my invention are, to provide means to introduce a regular and continuous lubrication to the valves and cylinders of the engine, in a defined and regulated manner, the oil passing in sight, by drops, as forced by the volume of weight of water in the condensing chamber. By the application of live steam behind the vaporized oil, the said oil is forced through the three ways to its destined place at any distance. The object is also to afford facilities for the proper adjustment or regulation of the valves, in order to admit more oil, or to cut off the supply or outlet of any or all of the feed ways. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure I is a front elevation of my improved three-way, sight-feed steam lubricator for valves, &c. Fig. II is a sectional side elevation of the same. Fig. III is a plan in section through a longitudinal line of the lower three-way feeds.

Similar letters and figures refer to similar parts throughout the several views.

In the drawings, the oil cylinder is indicated by the letter A, and its upper oil entrance by B, and the cover by B′. The steam is admitted through the inlet, *c*, of lower shank, *c′*, thence through the horizontal stem, D, and passing through the vertical and bent tube, E, which is connected to elbow of said stem, and into the upper part of the condensing chamber, F, by means of the small aperture, H, in the upper plug, I. When the steam has passed through the said aperture, H, it strikes the round and concaved steam deflector, J, thus spreading itself against the upper part of the condenser, F, and running down the sides thereof, in a condensed form, and forming a body of placid water in the condenser. The lower part of this condenser is screwed into the upper end of an elbow pipe, L, which is supplied with a valve, K, in order to regulate the flow of water to the lower part of the oil cylinder, A, into which said elbow pipe, L, is screwed. By the action of this water rising in the lower part of cylinder, the oil is forced to the upper part of said cylinder, thence through the three apertures, *n*, thence through the three sight-feeds, *o*, each of which is regulated by a valve, P. The oil, when dropping from the lower ends of these sight-feeds, is perceptible in the interior of the glass tubes, T. The oil, when dropped from the said upper feeds, drops into the lower feeds, U, the lower and outer parts of which, have an aperture, 2, through which the oil passes from the said lower feeds. As this oil is leaving these lower feeds, it is forced to its destination by means of live steam from the aforesaid steam inlet, *c*, which passes into its central chamber, *c′*, thence through the three ways, c^2, and through the regulation valves, *s*, to and behind the said drops of oil from apertures, 2, and out through the outlets, V, onto which may be screwed connection pipes to carry the vaporized oil to places desired. The shank, c^3, when screwed in position to receive live steam, supports the whole lubricator, and the blank shank, c^4, screws into the lower part of cylinder, thus supporting the same. The ordinary glands, 3, are applicable to the connections. The lower screwed plugs, 4, form the lower blank end of the lower down feeds, U, and may be easily removed for cleansing purposes. The concaved steam deflector, J, hereinbefore mentioned, is supported by the plug, I, by means of two or more braces, 5, in position, in close proximity to the inner end of apertured plug, I.

The glass tubes for sight feed are indicated by T in the drawings. This deflector as an

assistant steam exhauster, and the three-way sight feeds, are important elements in my invention.

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

1. In a lubricator, the reservoir A, having an upper oil inlet B′, said reservoir having the discharge passages on three sides valves P in said passages, the three feed branches in communication with said passages and having regulating valves *s*, the steam pipe D, the vertical bent tube E connected thereto, in combination with the condenser F, supplied with steam deflector J, and a pipe L having a valve therein connected to the lower end of said condenser and opening into the reservoir, substantially as described.

2. In a lubricator, the combination of the reservoir A, the shank c^4 screwed into the lower end thereof provided with a steam inlet *c*, lateral feed branches extending therefrom, having regulating valves therein, said feed branches communicating with the oil discharge passages and said steam inlet, the steam pipe D, the condenser and connections from said pipe D, the condenser and connections from said pipe D thereto, the plug I screwed into the upper part of said condenser, having an aperture H and steam deflector J, a pipe L having a valve therein and connected to the lower end of said condenser and opening into the reservoir, and the oil discharge passages leading from the reservoir having valves P therein, substantially as described.

3. The combination of the reservoir A, having oil inlet B and discharge passages on three sides thereof, sight feeds O communicating with said passages and having the tapered feed plugs U with apertures 2 therein, valves P in said discharge passages, the shank c^4 screwed into the lower part of the reservoir, and provided with a steam inlet *c* and lateral feed branches c^2, valves *s* in said branches, the condenser and connections thereto leading from said steam inlet *c*, the plug I in the top of the condenser and having aperture H with deflector J, the pipe L having a valve therein and connected to the lower end of said condenser and opening into the reservoir, substantially as described.

BENJAMIN A. BURGESS.

Witnesses:
JOHN H. HENDRY,
D. P. ROUS.