

(No Model.)

2 Sheets—Sheet 1.

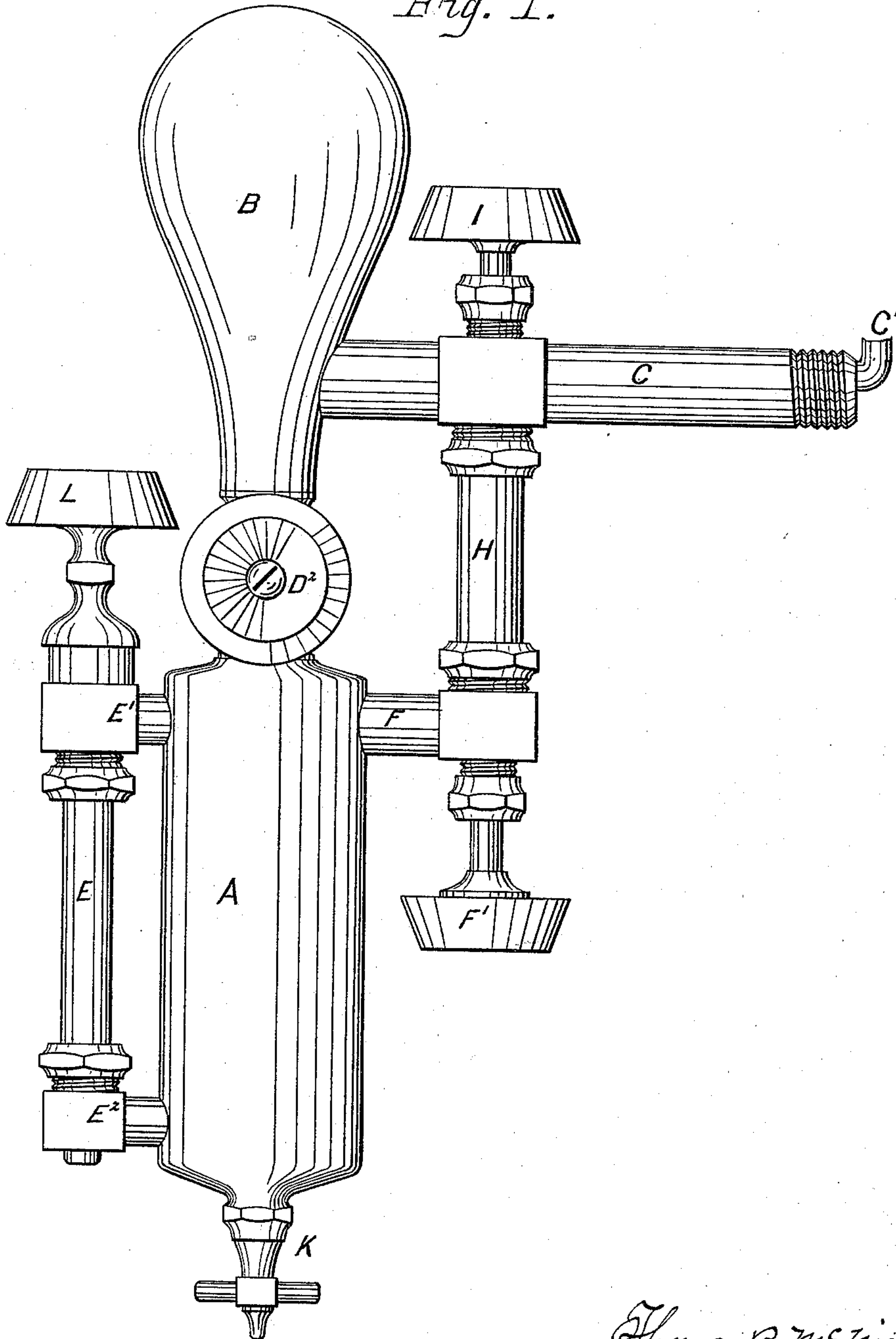
T. B. McNIECE.

LUBRICATOR.

No. 330,914.

Patented Nov. 24, 1885.

Fig. 1.



WITNESSES:

James F. Duhamel
R. S. Ferguson

Thomas B. McNiece

INVENTOR:

by
Dodgson
Sims, Attys.

(No Model.)

T. B. McNIECE.

2 Sheets—Sheet 2.

LUBRICATOR.

No. 330,914.

Patented Nov. 24, 1885.

Fig. 3.

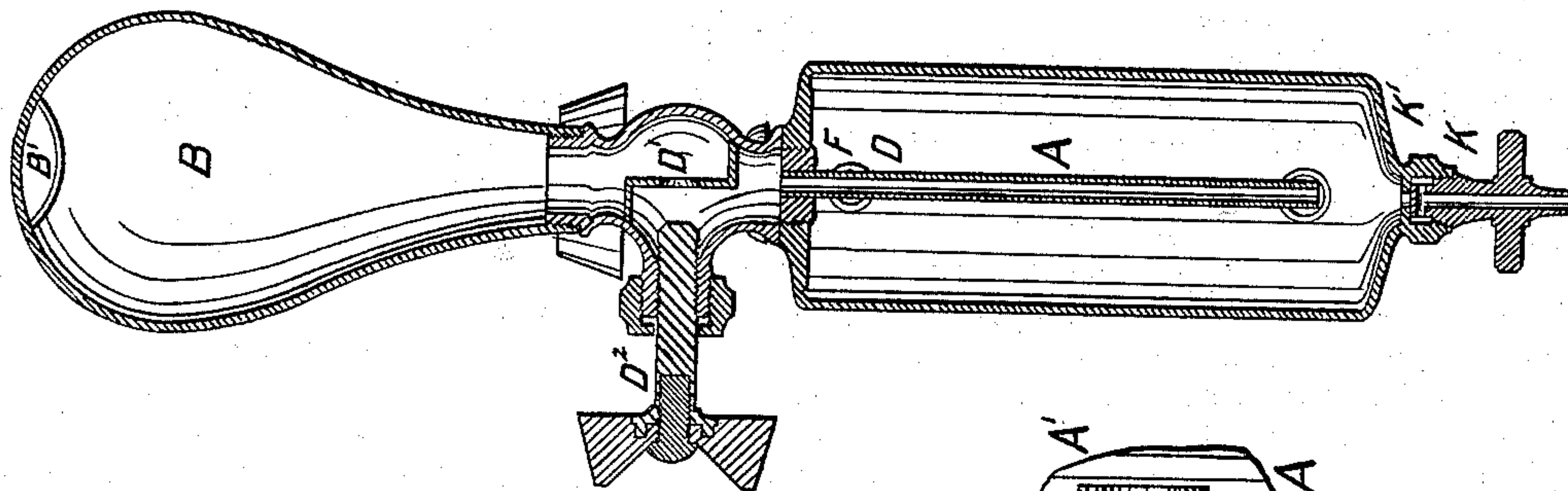


Fig. 4.

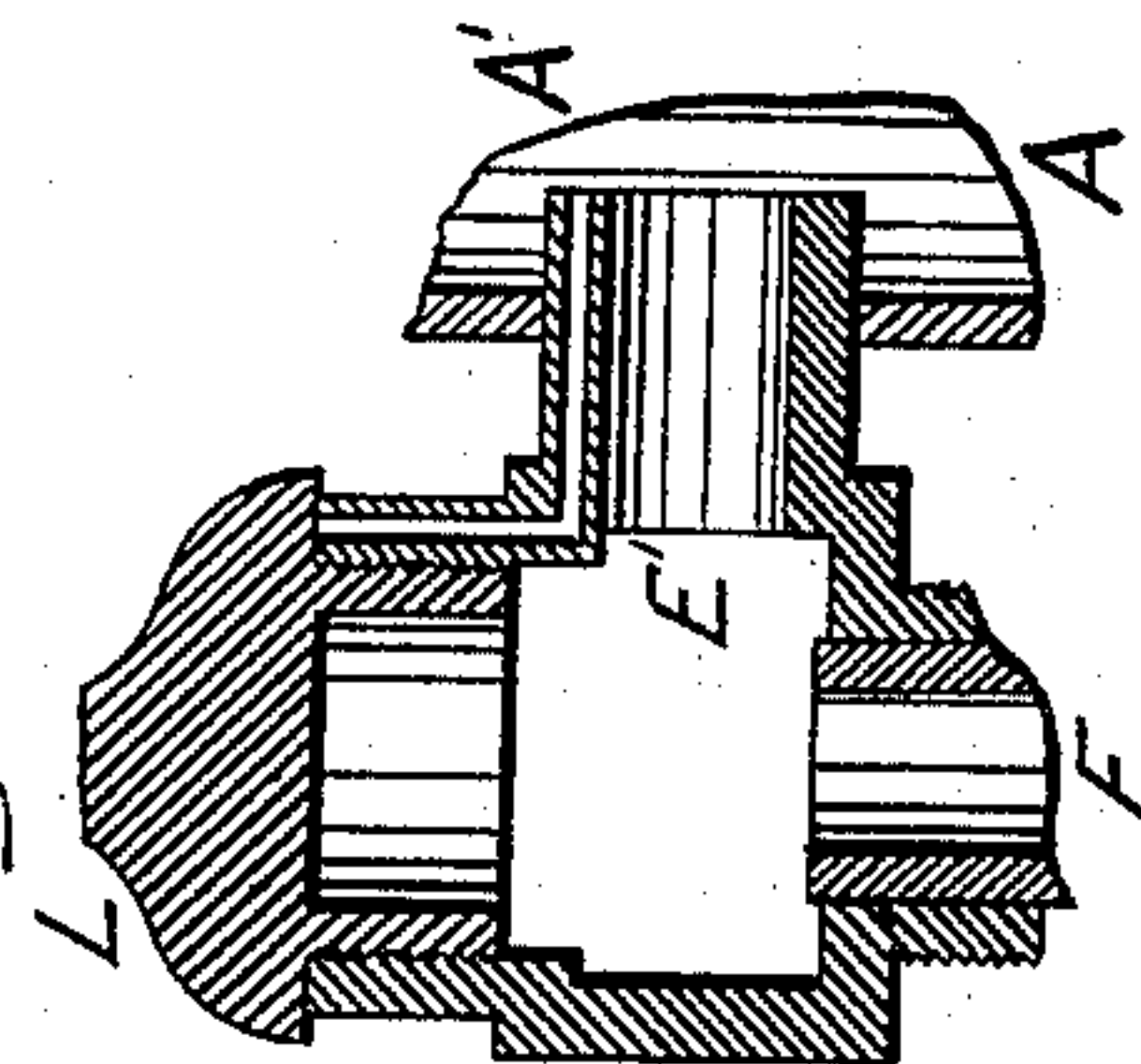
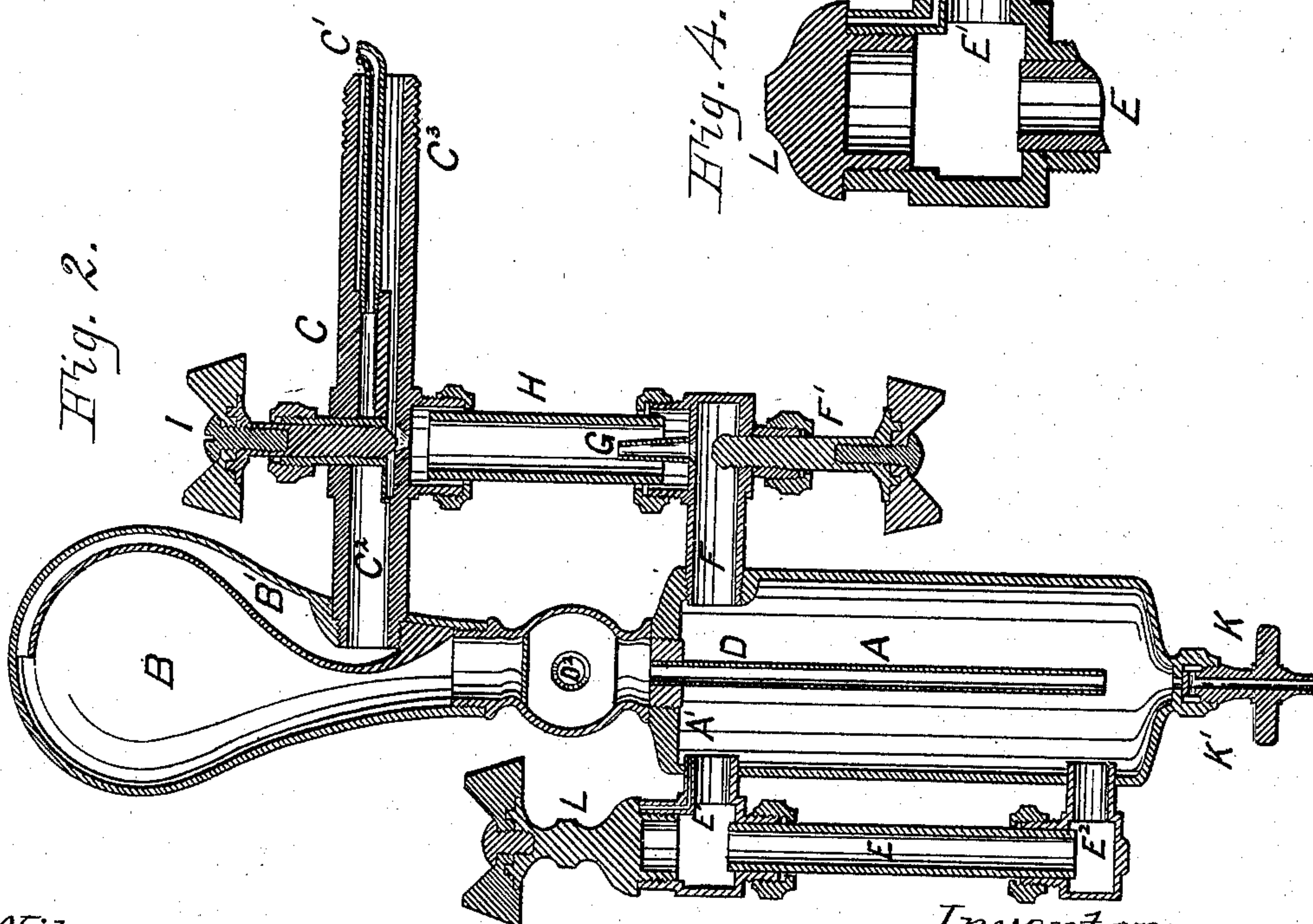


Fig. 2.



Witnesses:

James F. DuHamel,
R. J. Ferguson

Inventor:
Thomas B. McNiece,
by Rodgers & Co.,
his Attys.

UNITED STATES PATENT OFFICE.

THOMAS B. MCNIECE, OF DETROIT, MICHIGAN, ASSIGNOR TO THE MICHIGAN LUBRICATOR COMPANY, OF SAME PLACE.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 330,914, dated November 24, 1885.

Application filed June 8, 1885. Serial No. 167,990. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. MCNIECE, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Lubricators, of which the following is a specification.

This invention belongs to that class of lubricators which are used for oiling the cylinders and valves of steam-engines, and in which the oil is expelled from a chamber by the pressure of a column of water, which gradually displaces the oil as the water flows into the oil-chamber beneath the oil.

In the annexed drawings, making part of this specification, Figure 1 is an elevation. Fig. 2 is a vertical central section. Fig. 3 is a vertical central section made on a plane at right angles to that shown in Fig. 2; Fig. 4, a sectional view showing the air-vent.

The same letters are employed in all the figures in the indication of identical parts.

A is the oil-chamber, over which is placed the condensation or water chamber B. This chamber has on the interior a diaphragm forming an induction-chamber for steam, B'. This may be cast with the chamber B, or instead of the diaphragm a tube may be used to conduct the steam to the top of the condensation-chamber. C is a tubular arm by which the apparatus is attached to the steam-pipe. It is made in two divisions, one of which, C' C'', carries the steam from the dry-pipe or other steam pipe or chamber to which the arm C is attached, passing around the valve-stem I to the chamber or tube B', which delivers it into the top of the chamber B. Another division, C³, forms a duct by which the oil may be delivered without encountering the current of steam passing to the condensation-chamber. The water of condensation flows down through the pipe D, which delivers it at the bottom of the oil-chamber. In the neck which connects the oil and water chambers is a diaphragm, D', Fig. 2, with a hole for the downflow of the water, the sides of which form a seat for the valve D², by the adjustment of which the passage of water can be cut off or regulated, so as to control the discharge of oil. As water descends into the oil-chamber and displaces the oil, the amount of displacement can be seen through the transparent tube E, which is con-

nected at E' and E² with the interior of the oil-chamber. As the oil is displaced by the water, it will flow out of the escape-pipe F, its flow being regulated or prevented by the valve F', which acts against a valve-seat in the orifice of discharge in the upper part of pipe F. The oil in escaping passes through the nipple G, which is inclosed in the transparent tube H. This tube H, being in communication with the steam pipe or chamber through the duct C³ when the valve I is opened, will be filled with steam at first, and then with water, the product of the condensation of the steam, through which the oil, rising from the nipple G drop by drop, will be visible. In the lower end of the oil-tube I place a valve, K, having a port, K', through which the entire contents of the apparatus may be drained. Another form of valve or a mere stop cock or plug may be used for the purpose of valve K. This arrangement of the different chambers so that they all drain into the oil-chamber, and thus permit their discharge at a single vent, is peculiar to this instrument. While the water-chamber B and sight-feed tube H receive their steam to be condensed independently, they have the same channel through which their contents can be discharged. Separate passages, each provided with a screw cap or plug, have heretofore been usually required to fill the oil-chamber and vent the air contained therein. In order to do this by moving a single plug, I bore an air-vent, A', in the shell of the oil-chamber, as shown in Fig. 2, and more clearly in Fig. 4, as this terminates in the upper edge of the tube when the oil is poured in at the top of the gage E, the shoulder of the plug L closes the air-vent, so that when the plug is screwed out the air-vent is open, and it is sealed by putting in the plug.

I am aware that it is not broadly new to so construct a lubricator that the opening and closing of the oil-supply inlet shall also effect the opening and closing of the air-vent, and hence I do not claim this idea, broadly.

I am aware that a lubricator has been patented in which is combined an oil-chamber, a condensation-chamber above the same, a gage-tube applied to the oil-chamber, a sight-feed tube communicating with the oil-chamber, and an outlet-valve at the bottom of the oil-

chamber; but in said lubricator the outlet or mouth of the passage of communication from the water-chamber to the oil-chamber being elevated above the bottom of said chamber, and an upwardly-bent tube being employed between said chambers, it is impossible to completely drain the water-chamber of said device. While, therefore, I do not broadly claim the combination set forth, I believe myself to be the first to construct such a device with a straight or direct passage of communication connecting the bottom of the water-chamber with the oil-chamber.

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

1. The herein-described lubricator, consisting of oil-receptacle A, condensation-chamber

B, communicating with oil-receptacle A by a straight tube, D, steam-inlet B', steam-ducts C', C², and C³, gage E, outlet F, sight-tube H, and outlet valve and ports K K.

2. In combination with oil-chamber A and condensation-chamber B, gage E, provided with air-vent A', and cap L, applied to said tube and adapted to simultaneously open the gage for admission of oil and the vent for escape of air, and to simultaneously close the same.

Executed by me in the presence of two subscribing witnesses.

THOMAS B. McNIECE.

In presence of—

R. MASON,

F. W. MARVIN.