

No. 708,022.

Patented Sept. 2, 1902.

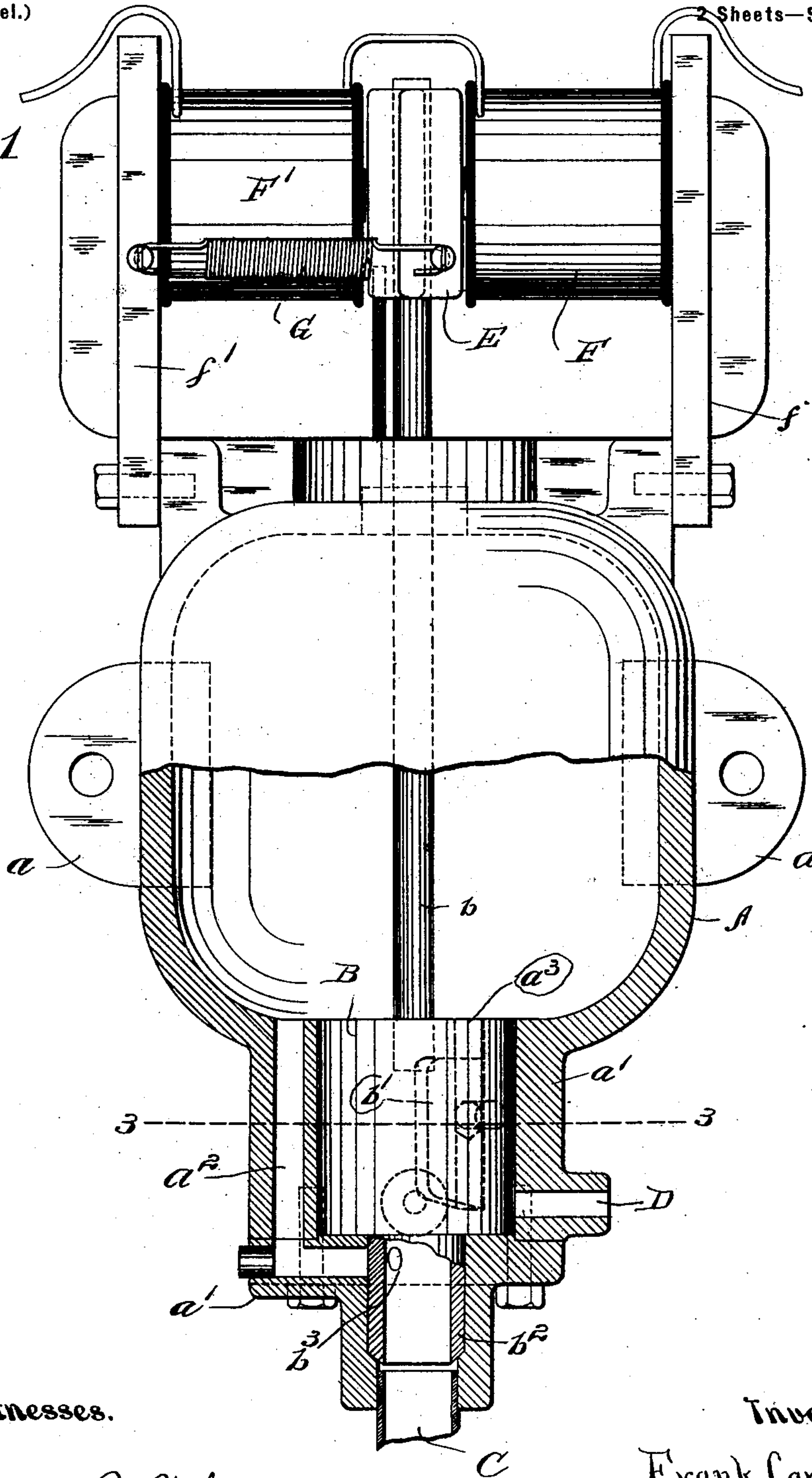
F. CARTLIDGE.  
LUBRICATOR.

(Application filed Aug. 3, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1



Witnesses.

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2 Sheets—Sheet 2.

Fig. 2

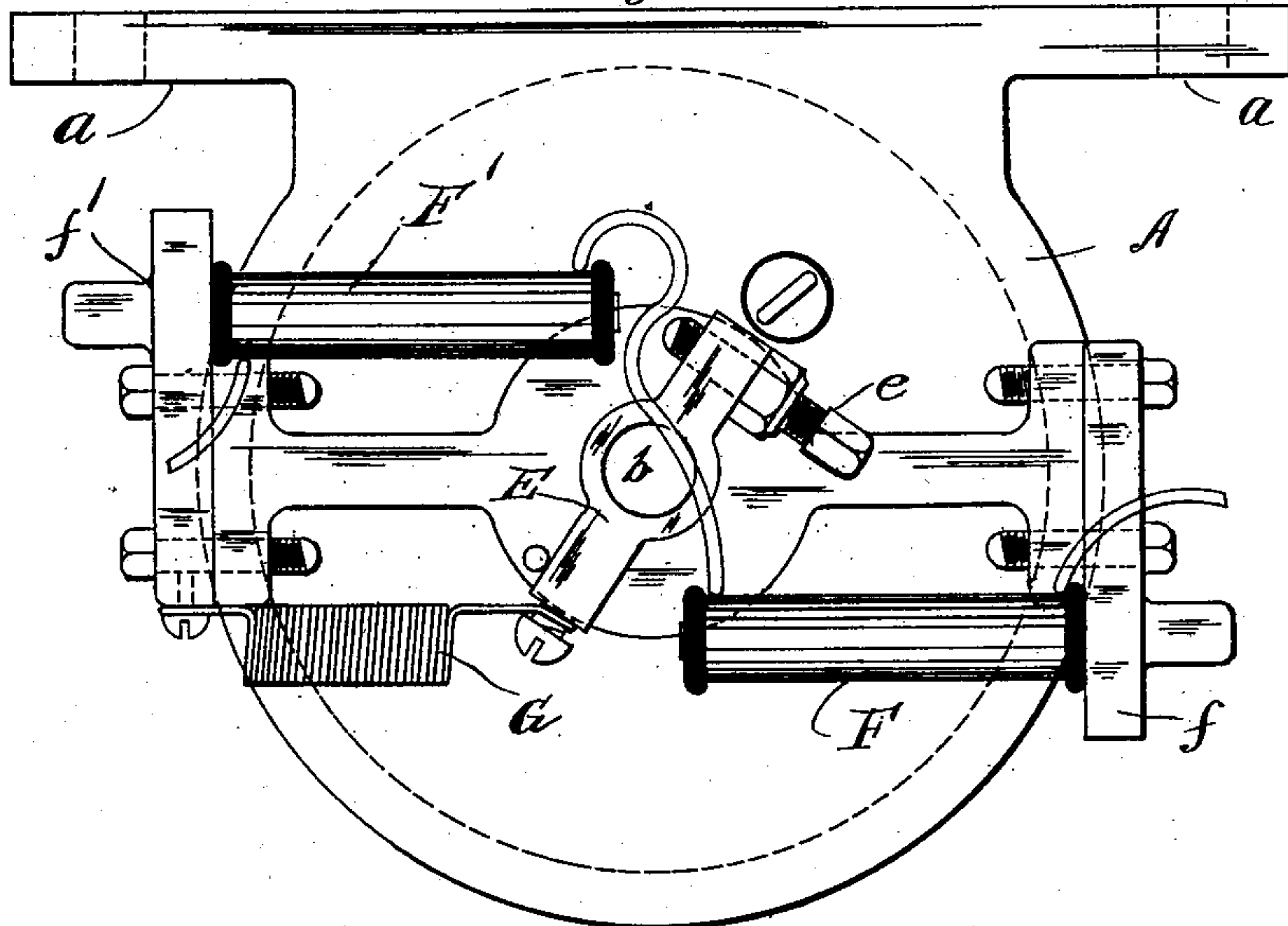


Fig. 3

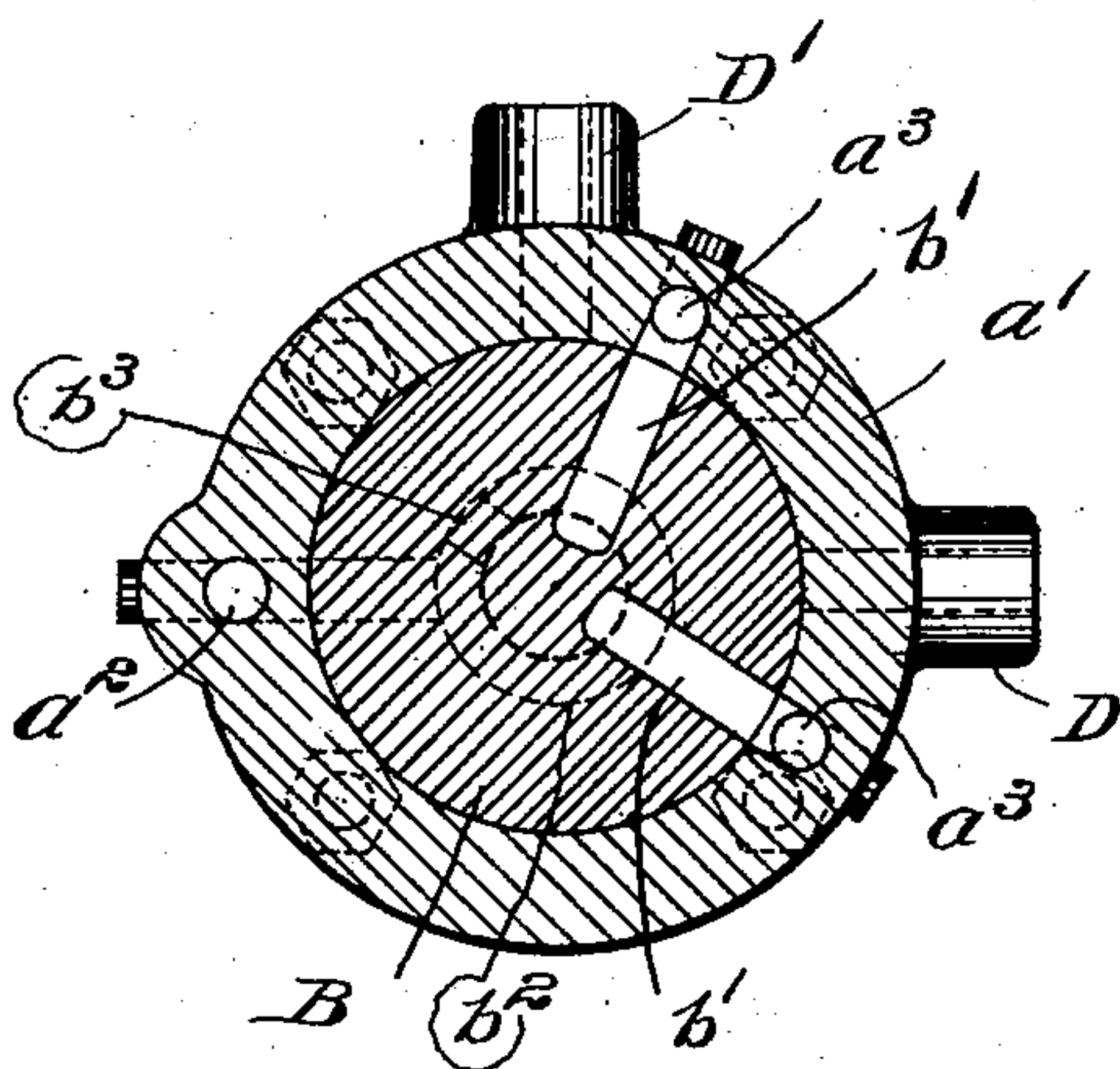
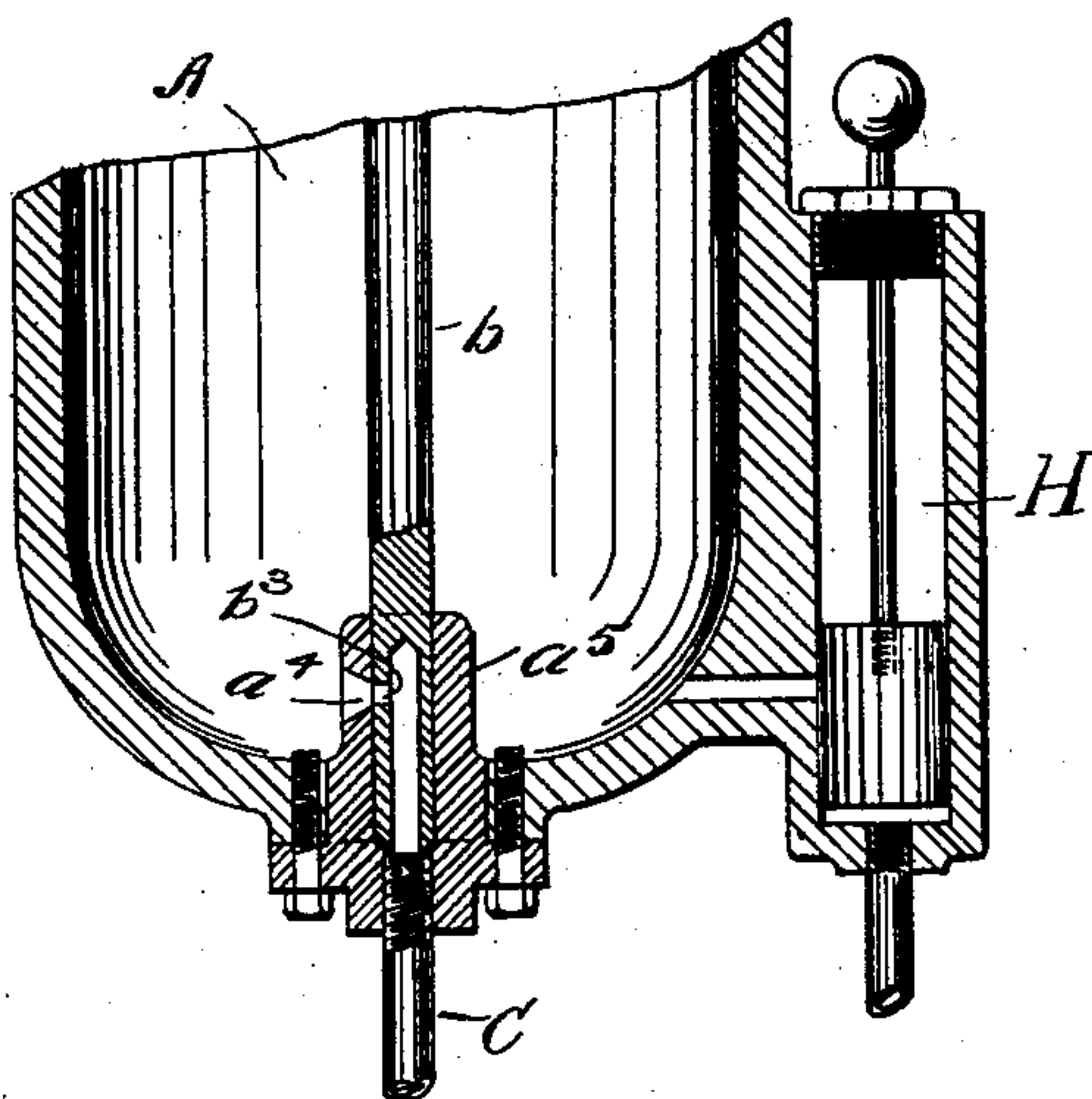


Fig. 4



Witnesses.

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# UNITED STATES PATENT OFFICE.

FRANK CARTLIDGE, OF CHICAGO, ILLINOIS, ASSIGNOR TO MORGAN-GARDNER ELECTRIC COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION.

## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 708,022, dated September 2, 1902.

Application filed August 3, 1901. Serial No. 70,710. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK CARTLIDGE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lubricators, of which the following is a specification.

This invention relates to lubricators or oilers for lubricating machines of various kinds and is especially designed to furnish means whereby one or more bearings or devices may be supplied with oil from a common source of supply and means whereby the oil will be allowed to flow when the machine is started and stopped as the machine is stopped or a determined amount of oil brought into position to be presented to one or more bearings.

It consists in the novel combinations and such operative mechanism as will be more specifically described and claimed hereinafter.

In the drawings, Figure 1 is a sectional view of a lubricator embodying a portion of this invention. Fig. 2 is a plan view of the same. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 shows a modified form of construction.

A represents an oil-receptacle adapted to contain a supply sufficient to run the machine any desired length of time. It is provided with lugs  $a$  for attaching to a convenient support. A vertical valve-stem  $b$ , running through the receptacle, is secured to a valve B, provided with one or more chambers  $b'$  and a depending tubular extension  $b^2$  of smaller diameter. The valve B and its extension  $b^2$  fit in a casing  $a'$  at the bottom of the receptacle A. A by-pass  $a^2$  in the casing leads from the receptacle to a point below the valve and is adapted to furnish communication at times through an opening  $b^3$  in the tube  $b^2$  and from thence through a pipe C to the bearing to be oiled. Ports  $a^3$  in the casing register at times with the chambers  $b'$  and furnish means for filling said chambers. As the valve is oscillated said chambers are brought to register with openings to outlet-pipes D D', which run to bearings to be supplied with a determined amount of oil. The upper end of the stem  $b$  passes out through a bearing in the top of the receptacle A and has an ar-

mature E secured thereto. Electromagnets F F' are mounted on brackets  $f f'$  on the receptacle A in such position as to attract the ends of the armature E and oscillate the stem  $b$ . A spring G holds the armature normally away from the magnets, and in this position the opening  $b^3$  is out of register with the by-pass and the chambers  $b'$  are in register with the ports  $a^3$ , allowing the chambers to be filled. When a current is sent through the coils of the electromagnets, the armature is attracted, the stem  $b$  is turned, and the opening  $b^3$  brought to register with the by-pass, allowing the oil to flow out through the tube C to the bearing. At the same time the chambers  $b'$  are brought to register with the openings to the pipes D D' and their contents allowed to discharge. A set-screw  $e$  in the armature E is used to adjust the amount of movement of the stem, and consequently the flow of oil.

In the modified form of construction shown in Fig. 4 the lower end of the stem  $b$  is bored to form an outlet to the pipe C, and the oil is admitted through a lateral opening  $b^3$ , which registers with an opening  $a^4$  in a seat  $a^5$ , provided at the bottom of the receptacle for the stem  $b$ . Normally the passage is closed; but when the stem is turned and the openings brought to register the oil will flow until again cut off.

In case there are bearings into which it is desired to pump oil a small hand-pump H is provided at the side of the receptacle A and is supplied therefrom.

A common form of machine in combination with which this device is adapted to be used is the electric chain-machine used in coal-mining.

I am aware that other equivalent devices will readily suggest themselves as coming within the scope of this invention, which I do not limit to the exact construction shown; but

What I claim is—

1. In a lubricating device, the combination of a receptacle, a casing at the bottom of said receptacle, inlet and outlet ports in said casing, a valve in said casing with chambers communicating alternately with said inlet and outlet ports, a tubular extension on said

- valve, a by-pass leading from the receptacle to said extension, a lateral orifice in said extension adapted to register with said by-pass, a stem for said valve, an armature on said stem, a spring holding said valve in a normal position, an electromagnet for turning said stem, and a set-screw in said armature for limiting the amount of revolution, substantially as described.
- 10 2. In a lubricating device, the combination of a receptacle, a casing at the bottom of said receptacle, inlet and outlet ports in said casing, a valve in said casing with chambers communicating alternately with said inlet and outlet ports, a tubular extension on said valve, a by-pass leading from the receptacle to said extension, a lateral orifice in said extension adapted to register with said by-pass, a stem for said piston and means for turning said stem.
- 15

FRANK CARTLIDGE.

Witnesses:

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