

No. 819,693.

PATENTED MAY 1, 1906.

F. W. EDWARDS.
SIGHT FEED LUBRICATOR.
APPLICATION FILED APR. 15, 1905.

2 SHEETS—SHEET 1.

Fig. 3.

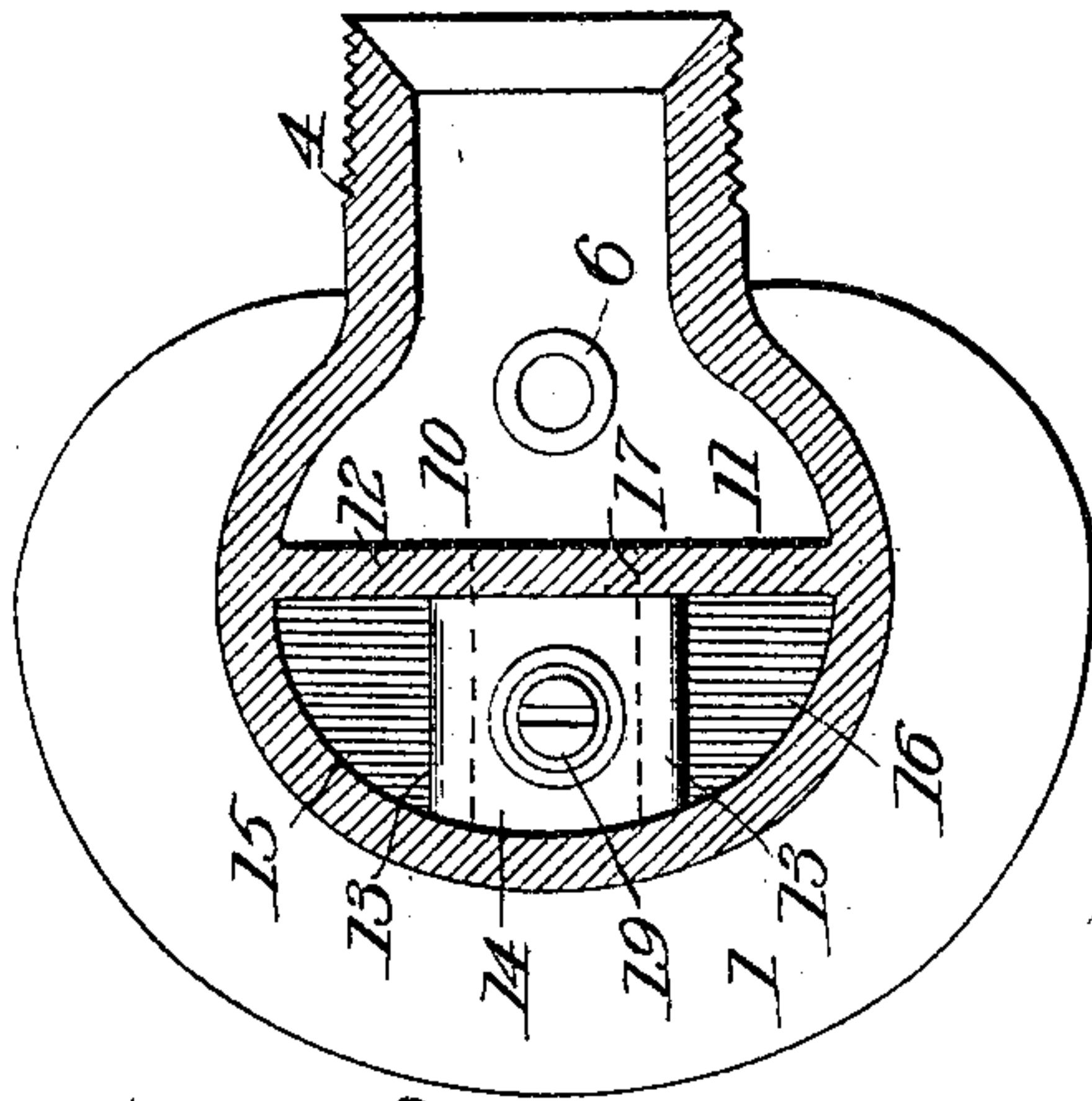


Fig. 4.

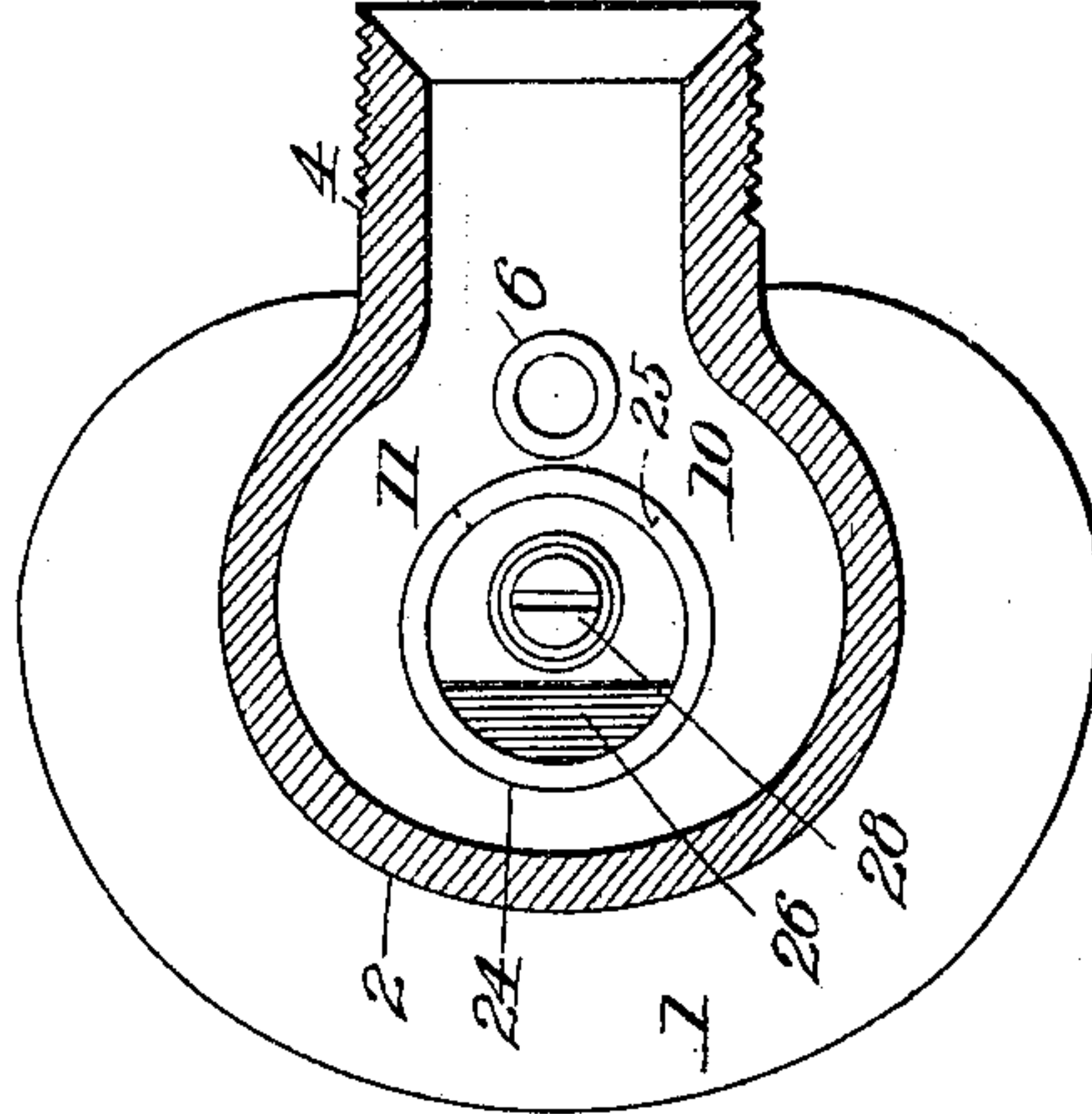


Fig. 2.

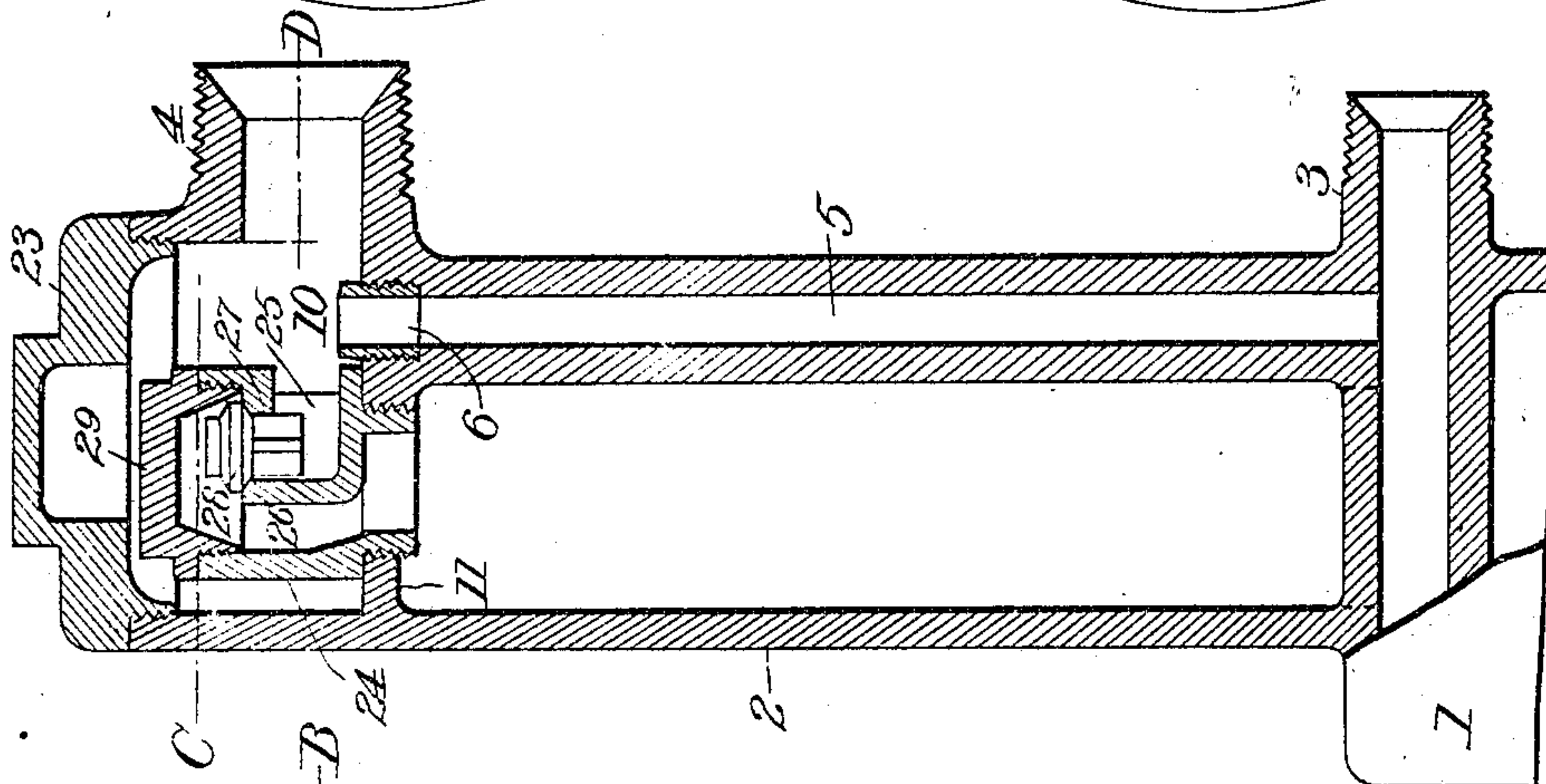
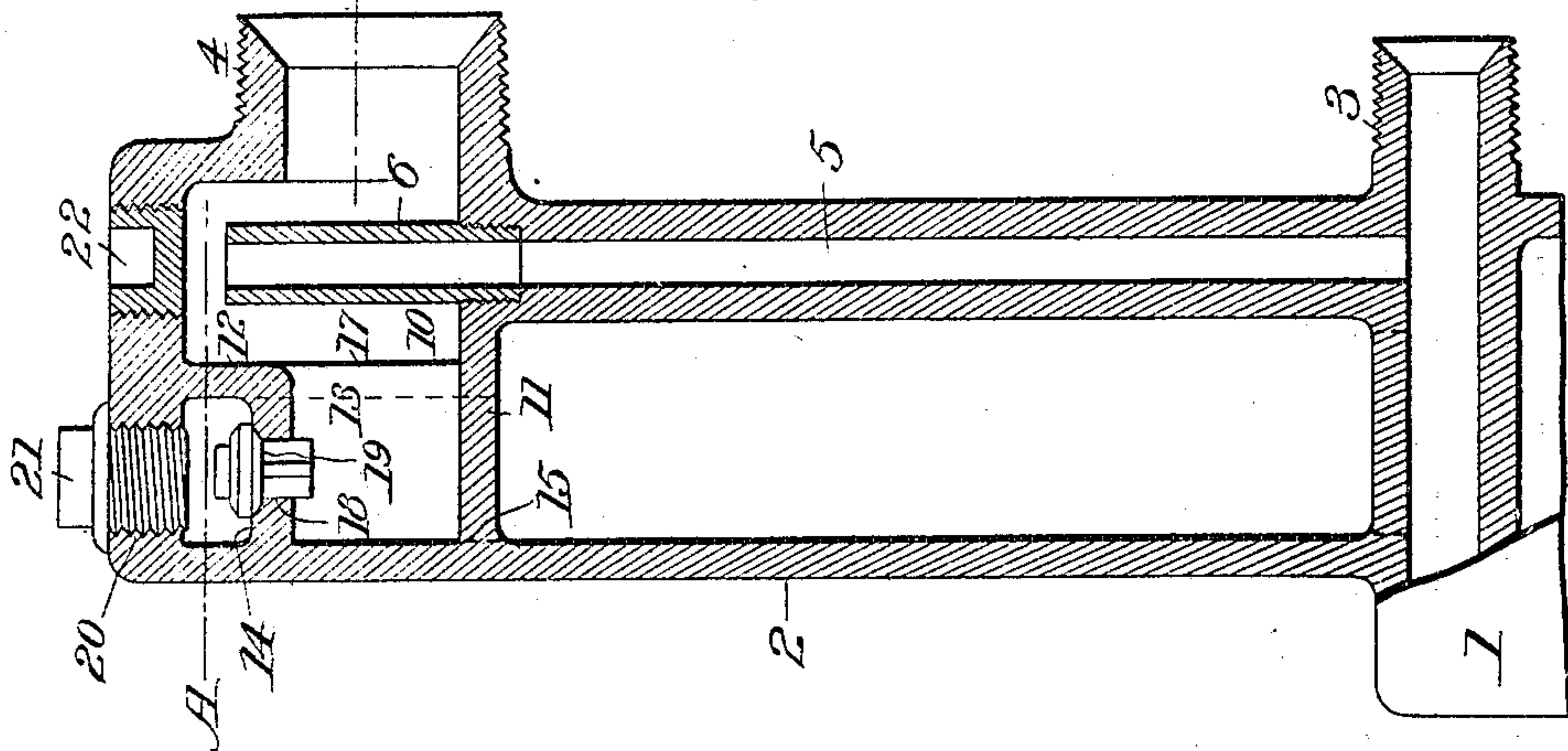


Fig. 1.



WITNESSES:

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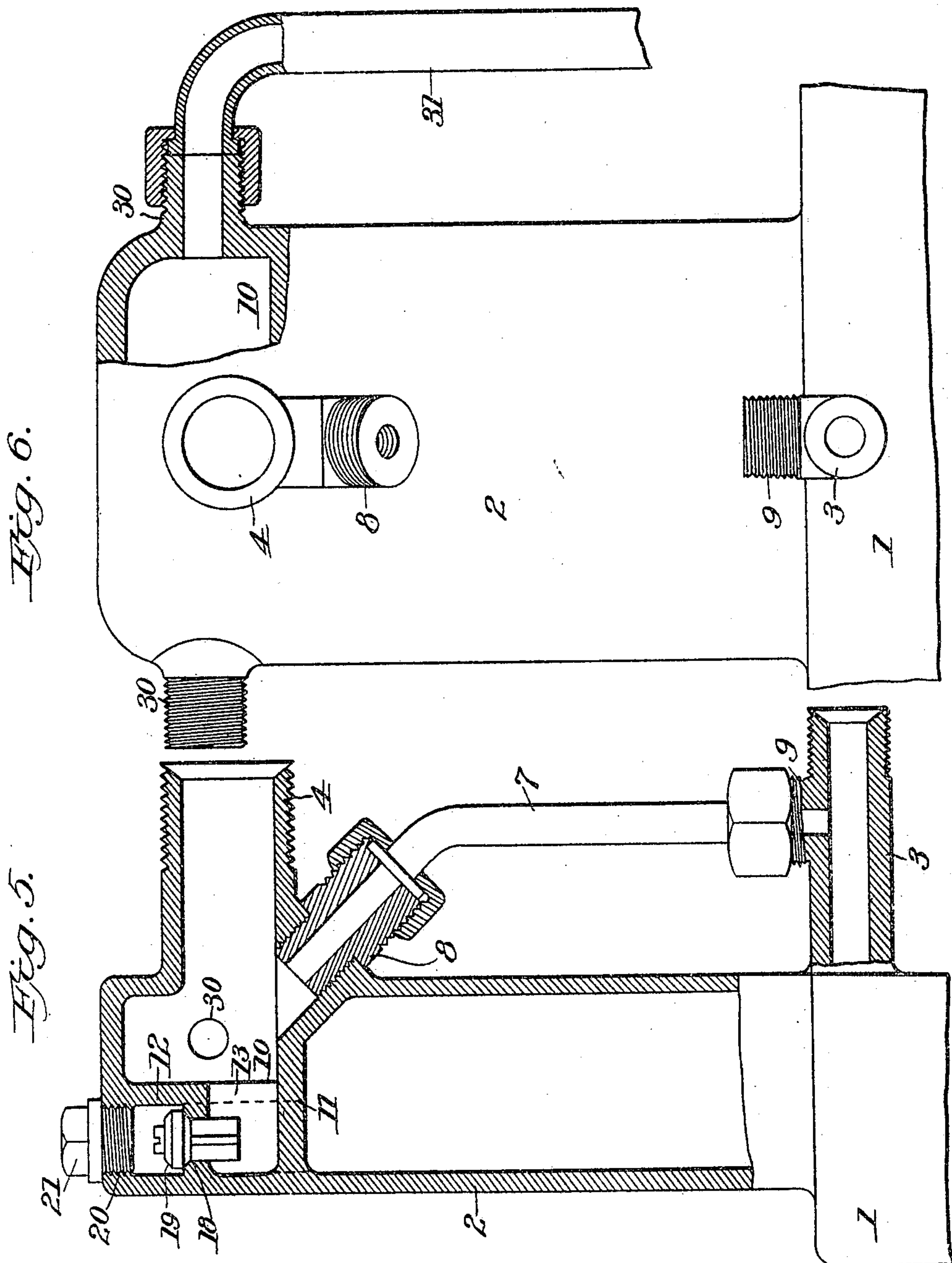
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2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK W. EDWARDS, OF LOGANSFORT, INDIANA, ASSIGNOR TO THE CHICAGO LUBRICATOR COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SIGHT-FEED LUBRICATOR.

No. 819,693.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed April 15, 1905. Serial No. 255,797.

To all whom it may concern:

Be it known that I, FRANK W. EDWARDS, a citizen of the United States, residing at Logansport, in the county of Cass and State of Indiana, have invented a certain new and useful Improvement in Sight-Feed Lubricators, of which the following is a full, clear, and exact description.

The invention herein is in part divided out of my application for patent for sight-feed lubricators filed March 4, 1904, Serial No. 196,599. (Patented June 20, 1905, No. 792,764.)

The invention relates particularly to a condenser used in that class of lubricators commonly known as "sight-feed condensation-displacement lubricators."

The invention consists of a condenser preferably cast integral with the oil-bowl and having in its top a boiler-connection chamber in which is an integral or applied valve-body containing a check-valve to provide against the siphoning of the lubricator in case the engine should be housed or otherwise left with the water-valve and steam-supply valve opened and the throttle-valve closed, as I will proceed now more particularly to set forth and claim.

In the accompanying drawings, illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a vertical section illustrating the condenser with an integral valve-body. Fig. 2 is a vertical section illustrating an applied valve-body. Fig. 3 is a horizontal section taken substantially in the plane of line A B, Fig. 1. Fig. 4 is a horizontal section taken substantially in the plane of line C D, Fig. 2, with the screw-plug removed. Fig. 5 is a horizontal section of a condenser having an integral valve-body and illustrating a different form of connection. Fig. 6 is a rear elevation of the construction shown in Fig. 5, partly in section.

As shown in the several forms of the invention herein illustrated, the oil-bowl 1 and the condenser 2, with suitable communicating passages between them, may be a single casting, the condenser being of elliptical or other cross-section. The oil-bowl has the oil-pipe connection 3 and the condenser has the boiler or steam connection-nipple 4. In Figs. 1 to 4 the steam-circulating pipe 5 between

the oil-pipe connection and the boiler-connection nipple is made integral with these parts and the condenser and oil-bowl; but this pipe is extended above the boiler connection by an inserted pipe 6. (Shown in full in Fig. 1 and broken off in Fig. 2, so as not to obstruct the view of the interior.) As shown in Fig. 5, the steam-circulating pipe 7 is applied externally to an obliquely-projecting nipple 8 on the condenser and a vertical nipple 9 on the oil-pipe connection.

In Figs. 1, 3, 5, and 6 the upper portion of the condenser is formed as a chamber 10, separated from the condenser by a horizontal wall 11, vertical walls 12 and 13 and the horizontal wall 14 constituting, with walls 12 and 13, the valve-body. The wall 11 has openings 15 16 located next to the vertical walls 13 and on opposite sides of the valve-body, and these openings afford communication between the chamber 10 and the condenser proper, as explained next. The vertical wall 12 has an opening 17 beneath the valve-body, and the valve-body has a port 18 opening into it from the chamber 10, this valve-body communicating laterally with the openings 15 and 16. The port 18 has in it the check-valve 19, arranged so that the steam entering through nipple 4 may lift the check-valve and pass through the valve-body and the openings 15 and 16 into the condenser; but upon recurrence of a vacuum at any point below the check-valve and outside of the condenser the check-valve will be seated to prevent egress by siphoning of the contents of the condenser and oil-bowl.

Access is had to the check-valve through an opening 20 in the wall of the condenser, which opening is normally closed by a screw-plug 21.

The extension-pipe 6, rising in the chamber 10, insures a supply of steam for the circulating-pipe, and with it the overflow of condensation will find a natural drain into the steam-boiler.

In Fig. 1 there is a screw cap or plug 22 in the condenser above the pipe 6, so as to render the pipe accessible, while in Fig. 2 the whole top of the chamber 10 or condenser is made as a screw plug or cap 23 to cover and uncover both the check-valve and the pipe 6.

In Figs. 2 and 4 the valve chamber or body 24 is made as a separate structure adapted to

be screwed into the horizontal wall 11, and it is made with a channel 25, communicating with the steam connection 4, and is also provided with a channel 26, which opens into the condenser. Interposed between these channels and in a seat 27 is a check-valve 28. This check-valve opens freely to permit the passage of steam into the condenser and closes automatically to prevent egress from said condenser, as in the case of the check-valve in Figs. 1, 3, 5, and 6. The valve-body 24 has a screw-cap 29 to close it, so that access may be readily had to the channels and to the check-valve.

In Fig. 6 the nipples 30 are for the steam-pipes, as 31, for supplying steam to the tallow or lubricant pipes.

These and other variations of the principle of the invention are within the scope and spirit of this case, and it is particularly noted in this connection that the condenser and the oil-bowl may be separately made instead of being cast integral, as already intimated.

What I claim is—

1. A lubricator of the class described, having an integral oil-bowl and condenser, the condenser having a chamber in its top, a valve-body arranged in said chamber, and a check-valve in said valve-body.

2. A lubricator of the class described, having an integral oil-bowl and condenser, the oil-bowl having an oil-pipe connection and the condenser a boiler connection, an integral communicating pipe between them, a valve-body arranged in the upper end of the condenser, and a check-valve in said body and controlling the passage of steam into the condenser.

3. A lubricator of the class described, having an integral oil-bowl and condenser, the oil-bowl having an oil-pipe connection and the condenser a boiler connection, an inte-

gral communicating pipe between them having an overflow extension, a valve-body arranged in the upper end of the condenser, and a check-valve in said body and controlling the passage of steam into the condenser.

4. A lubricator of the class described, having a condenser provided at its top with a boiler connection, a steam-chamber adjacent to said connection and having walls closing said chamber from the condenser, one of said walls having a port in it, and a check-valve in said port opening with the steam-pressure and closing automatically against the condenser-pressure.

5. A lubricator of the class described, having a condenser provided at its top with a boiler connection, a steam-chamber adjacent to said connection, an applied valve-body arranged in said chamber and having channels for opening communication into the condenser, and a check-valve interposed in said channels and controlling the flow of fluid into and out of the condenser.

6. A lubricator of the class described, having an oil-bowl and condenser, the oil-bowl having an oil-pipe connection, and the condenser having a boiler connection, a communicating pipe between these connections, a steam-chamber adjacent to the boiler connection and having walls closing said chamber from the condenser, one of said walls having a port in it, and a check-valve in said port opening with the steam-pressure and closing automatically against the condenser-pressure.

In testimony whereof I have hereunto set my hand this 3d day of April, A. D. 1905.

FRANK W. EDWARDS.

Witnesses:

GEORGE M. DICKSON,
DAVID A. ECKERMAN.