

No. 755,120.

PATENTED MAR. 22, 1904.

F. W. EDWARDS.
AUXILIARY SIGHT FEED FOR LUBRICATORS.

APPLICATION FILED JAN. 18, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

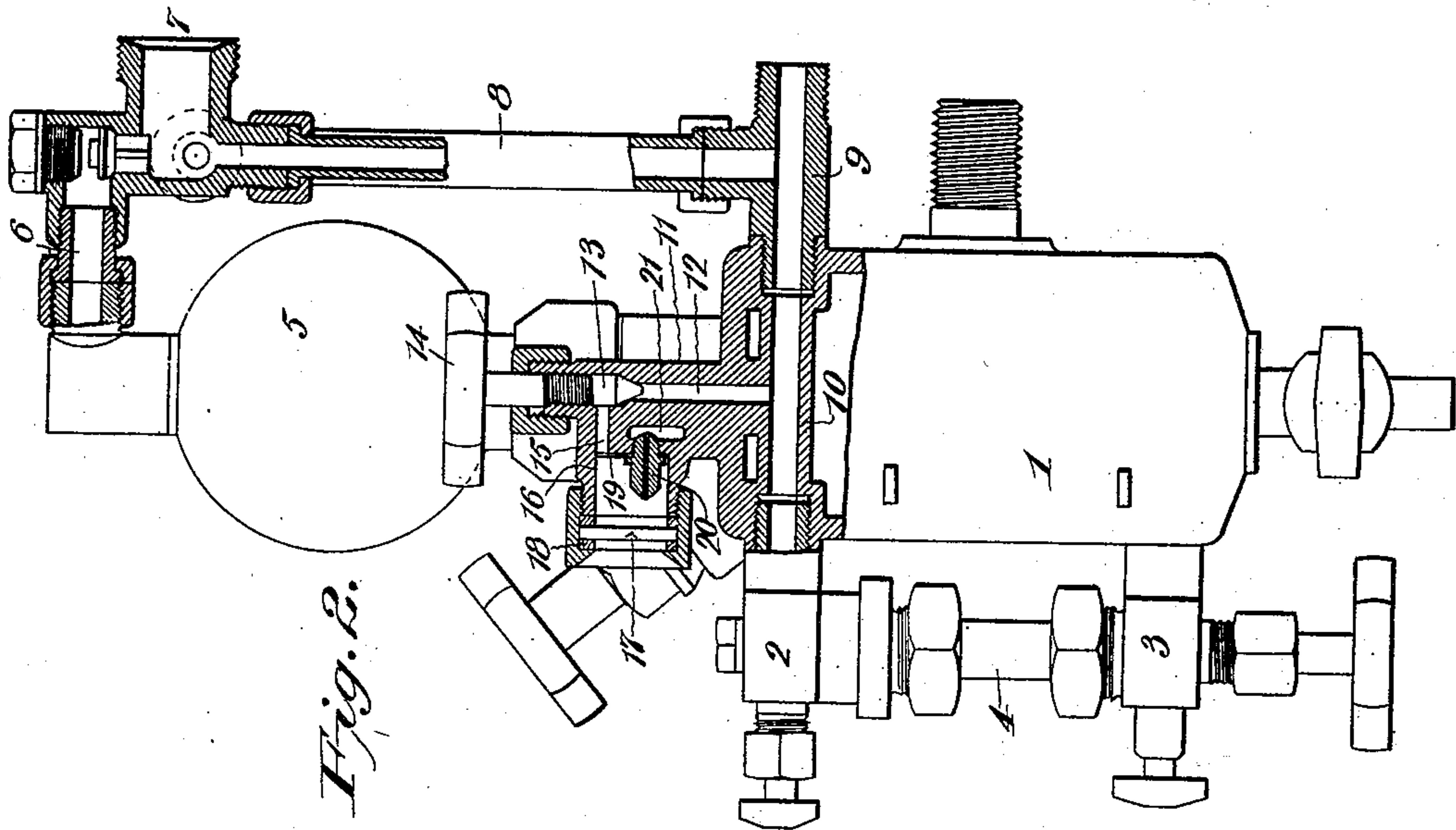


Fig. 2.

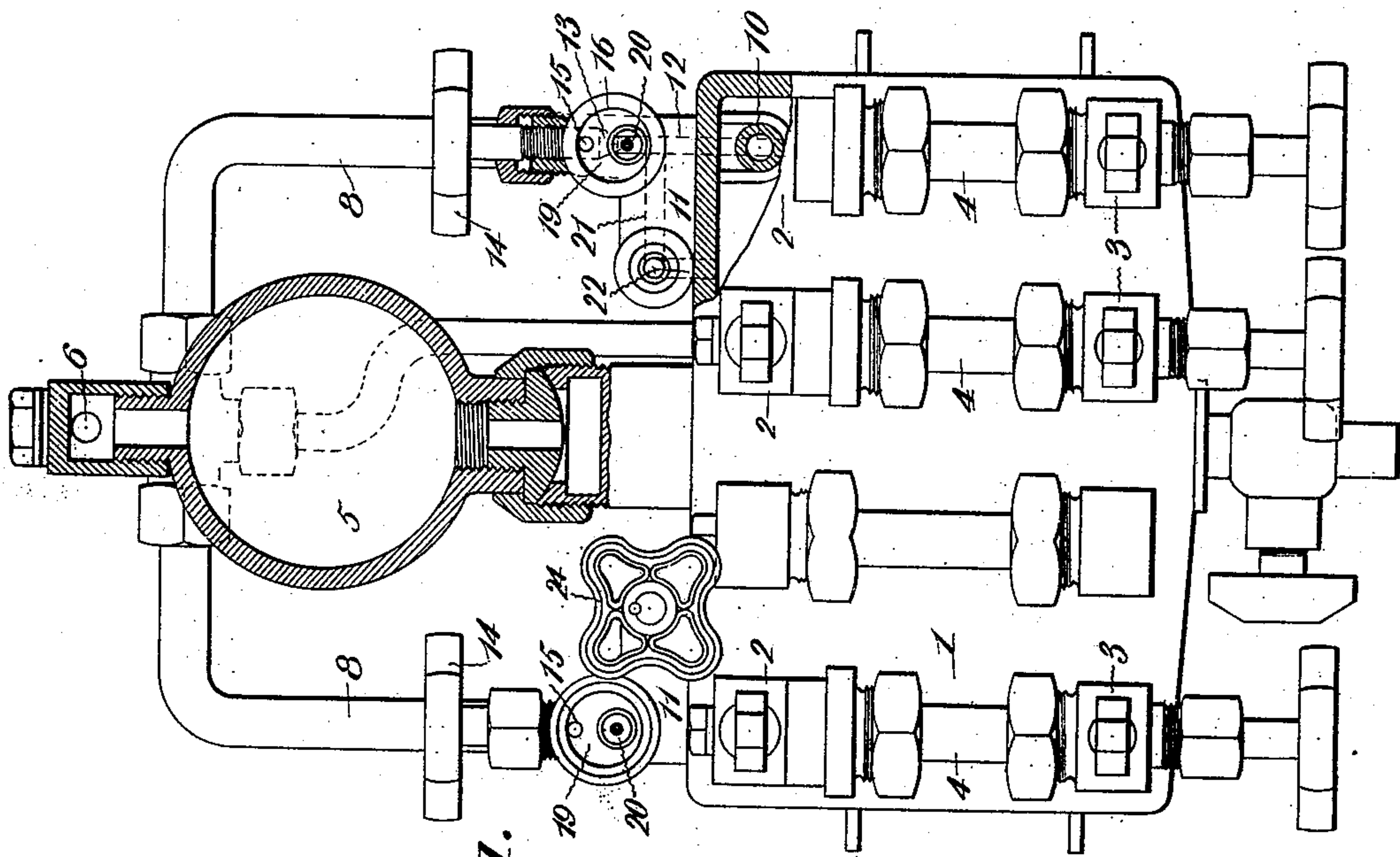


Fig. 1.

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NO-MODEL.

2 SHEETS—SHEET 2.

Fig. 4.

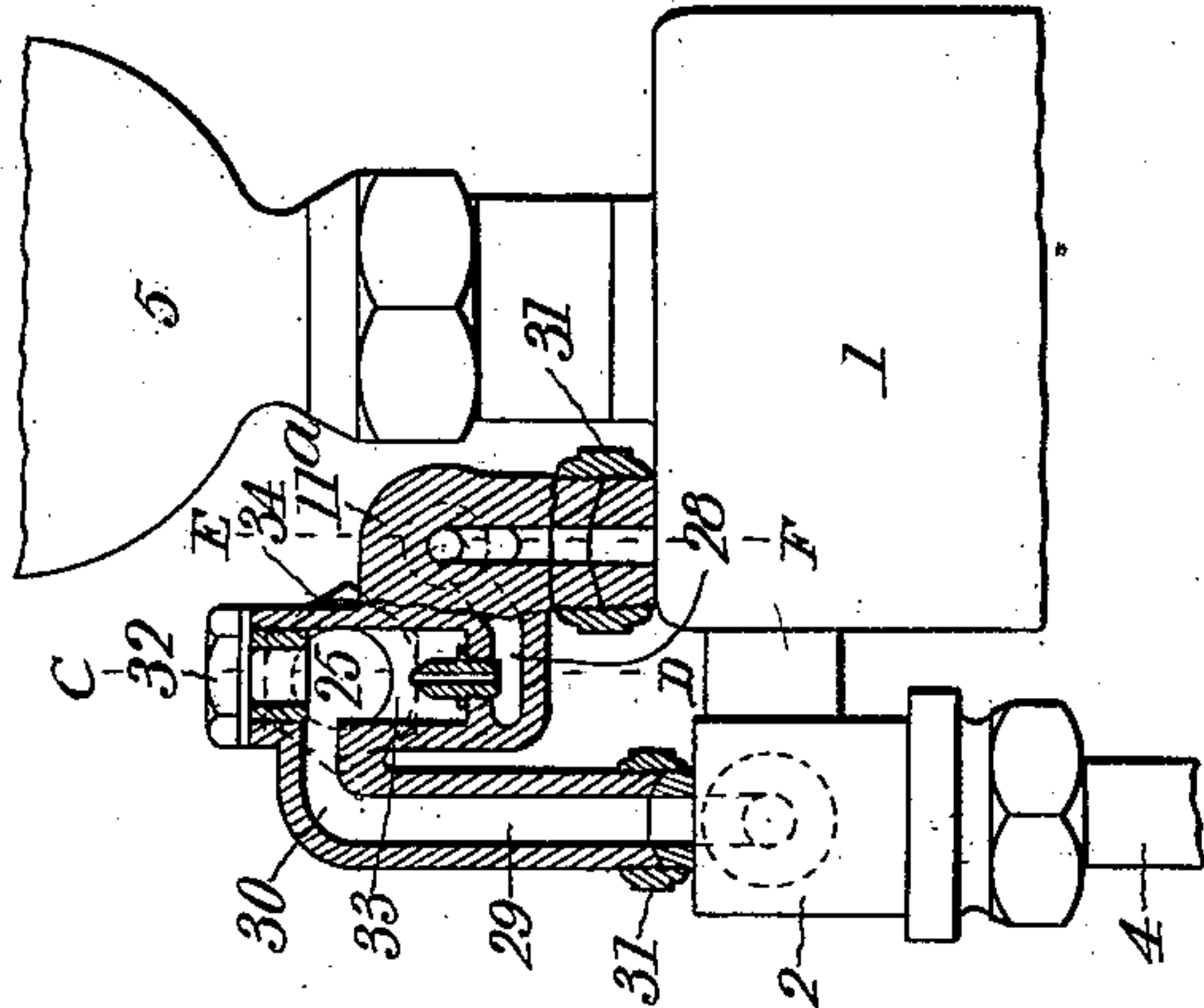


Fig. 7.

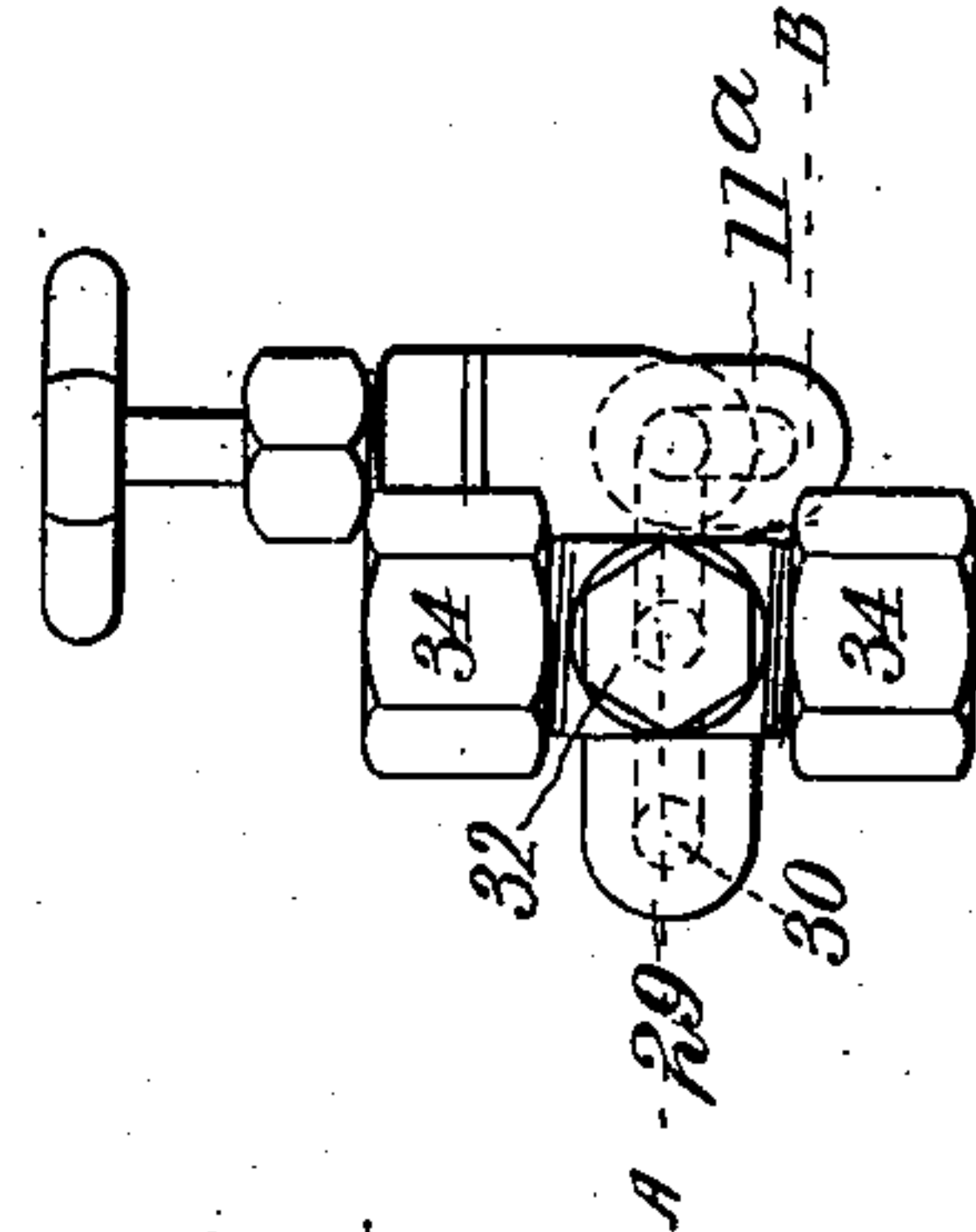


Fig. 3.

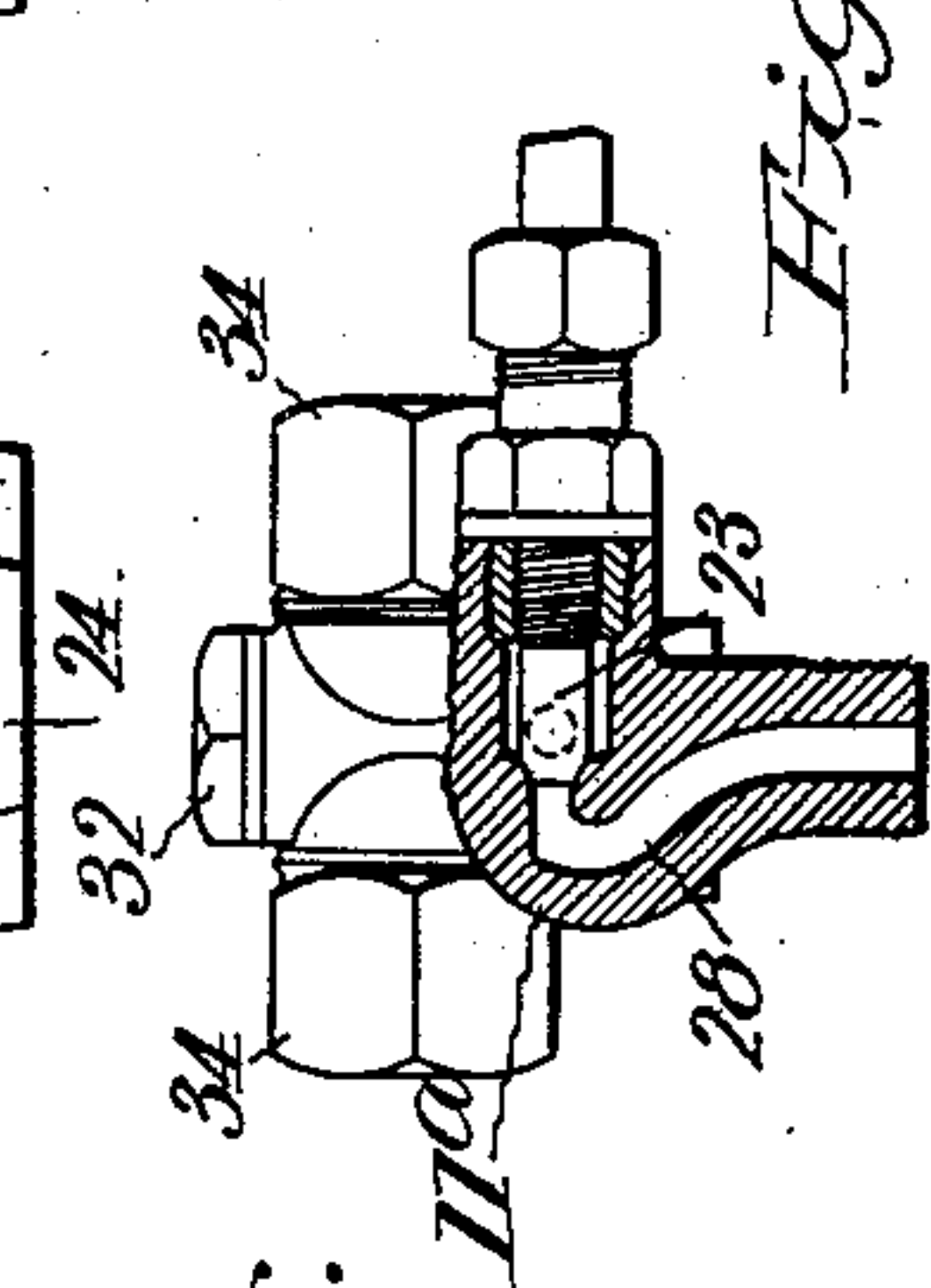
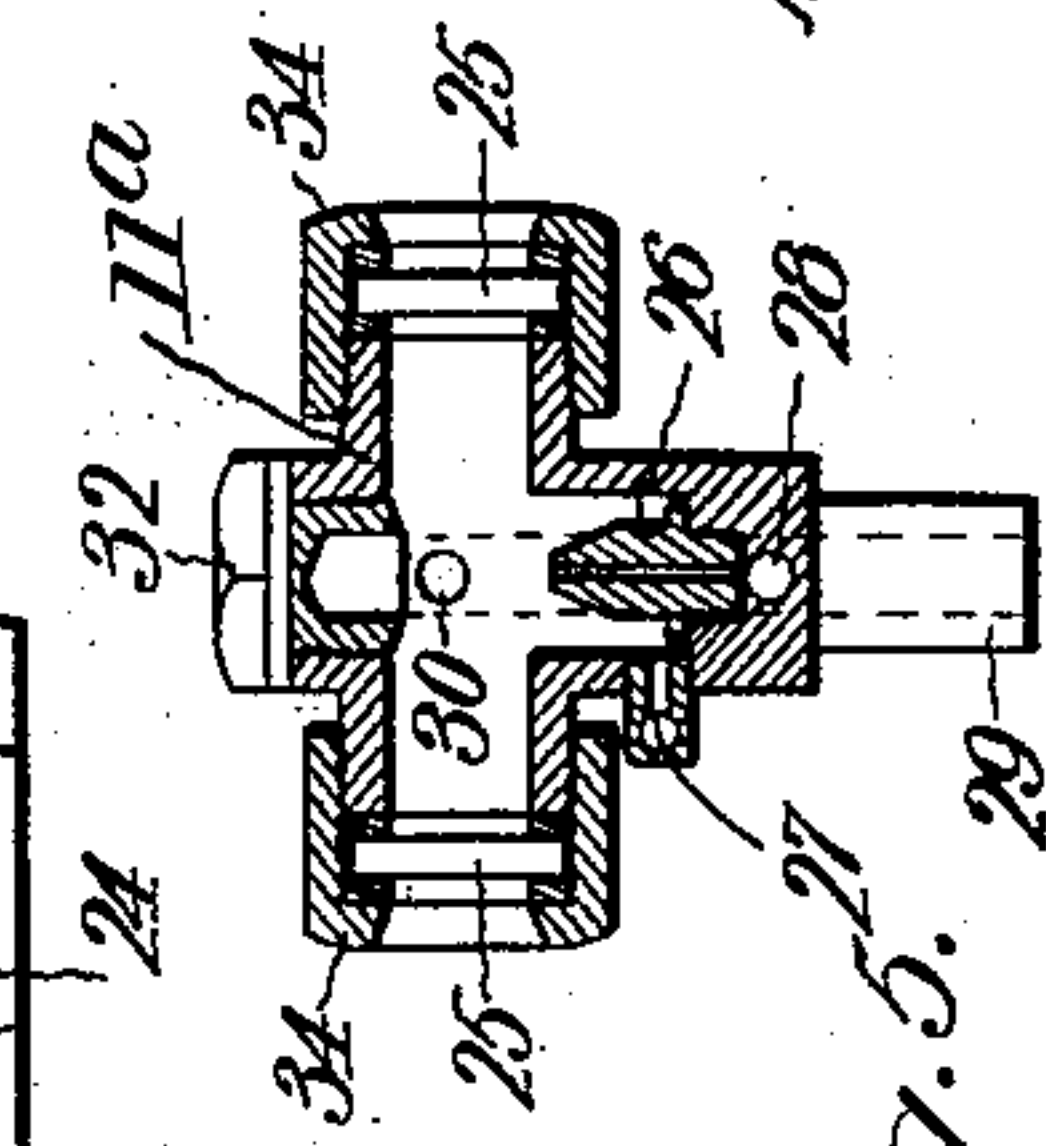
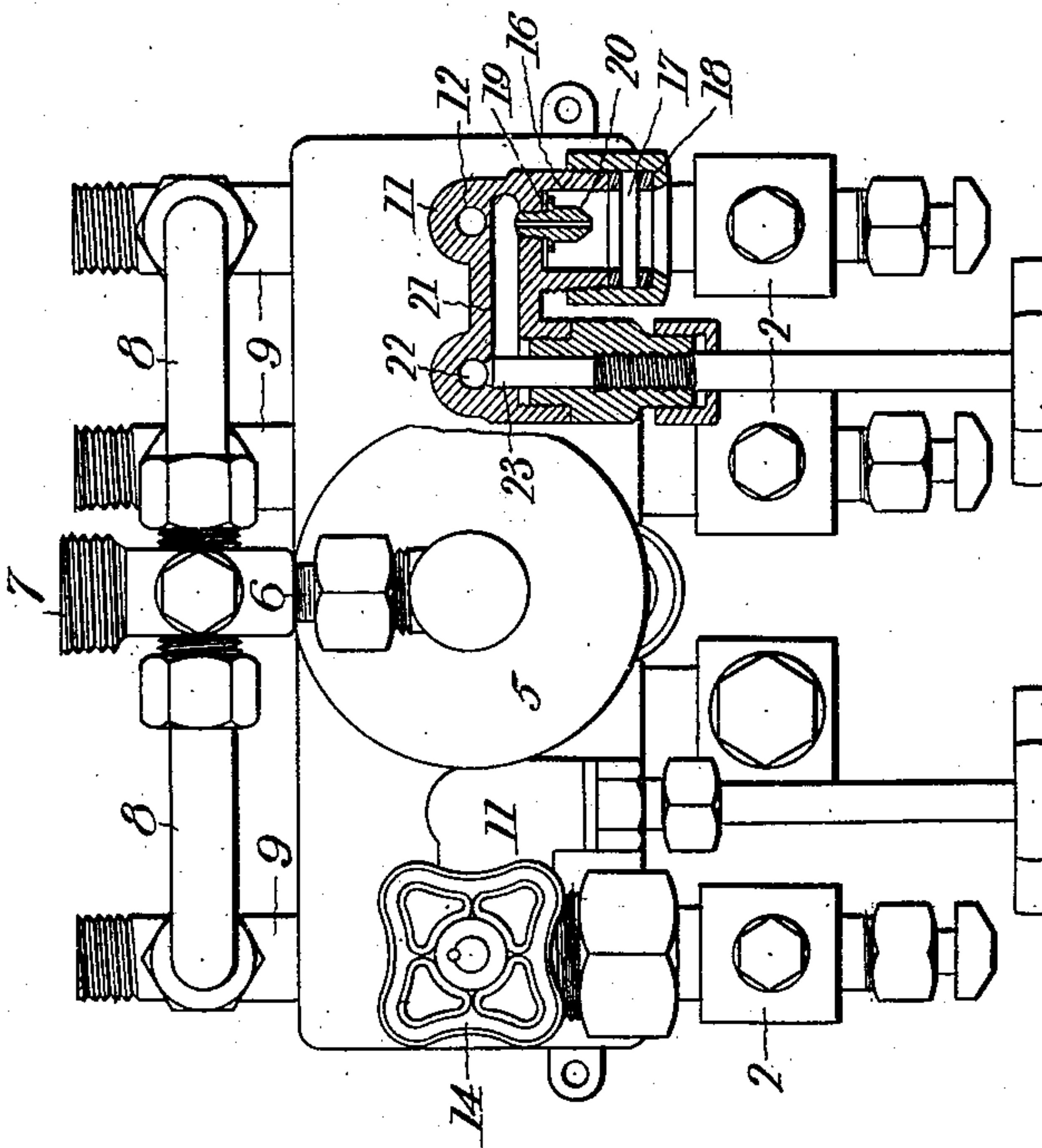


Fig. 6.

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UNITED STATES PATENT OFFICE.

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

AUXILIARY SIGHT-FEED FOR LUBRICATORS.

SPECIFICATION forming part of Letters Patent No. 755,120, dated March 22, 1904.

Application filed January 18, 1902. Serial No. 90,336. (No model.)

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 Auxiliary Sight-Feeds for Lubricators, of which the following is a full, clear, and exact description.

The object of this invention is to provide an auxiliary sight-feed to replace the old style open hand-oiler on a condensation-displacement sight-feed lubricator.

In carrying out my invention I apply to the oil-reservoir an auxiliary feeding device which is automatically supplied with oil from the said reservoir, as are the ordinary feed-tubes, and delivers its supply in sight to the distributing member, all as I will proceed now more particularly to describe and claim.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a front elevation and partial vertical section. Fig. 2 is a side elevation and partial vertical section. Fig. 3 is a top plan view and partial horizontal section. Fig. 4 is a vertical section of a modification, the plane of the section being in the irregular line A B, Fig. 7. Fig. 5 is a vertical section thereof, taken at right angles to and in the plane of line C D, Fig. 4. Fig. 6 is a vertical section through the oil-passage in the plane of line E F, Fig. 4; and Fig. 7 is a top plan view.

The preferred form of oil-reservoir 1 is rectangular in cross-section, and it is supplied with any usual or approved upper feed-arms 2 and lower feed-arms 3, with the interposed glasses 4, all arranged in line in front of the reservoir and adapted to receive oil from the reservoir. Any suitable filling device for the reservoir may be used, and in Fig. 2 the inclined handle indicates one form.

5 is the condenser, 6 the connections for admitting steam to the condenser, and 7 the steam-inlet-pipe coupling connected with any steam-chamber of the boiler and also having

branch pipes 8, leading to the auxiliary sight-feed devices of this invention. These pipes 8 are connected directly with T's 9, which in turn are connected with pipes 10, arranged transversely within the upper portion of the reservoir, so as to get the benefit of the heat therein, and these pipes 10 are connected with the auxiliary sight-feed devices now to be described. It is to be observed here that there may be any number of these auxiliary feeds, and I have shown two; but since they are alike I will describe but one, as follows:

The auxiliary sight-feed comprises a casing or casting 11, made with or applied to the reservoir and having a passage 12, communicating with the pipe 10 and controlled by a screw-valve 13, having an operating wheel or head 14, and this valve also controls the port 15 into the sight-feed chamber 16, which chamber is provided with the glass 17, secured thereto by cap 18 and the reflector 19. The oil-feed nipple 20 has a choked passage and opens into the chamber 16 and into the passage 21, which leads into oil-passage 22, which last in turn opens into the oil-reservoir and is controlled by a screw-valve 23, Fig. 3, having an operating-handle 24. (Omitted from Fig. 2 for clearness.)

The tallow-pipe (not shown) is connected to the outer end of the T 9, and hence the upper feed-arm 2, through pipe 10 and T 9, has a continuous passage to the tallow-pipe, while the pipe 8 forms a continuous passage from the boiler to the said T 9.

When it is desired to use this auxiliary sight-feed, the valve 13 is opened to allow a supply of condensed steam to enter the chamber 16 through passage 15, and when said chamber is filled the oil-valve 23 is opened, and thereby permits a supply of oil to be fed from the top of the oil-reservoir into and filling the oil-passage 21, whence it escapes through the nipple 20 and thence rises to top of water in the chamber 16 and overflows through passage 15 into passage 12 and pipe 10 and thence through the T 9 into the tallow-pipe and down

into the steam-chest of the engine the same as when it is fed through the regular feeds. By this arrangement it will be seen that there is provided a sure and effective means to feed
 5 an auxiliary supply of oil into the tallow-pipes and other sure means for determining the quantity being fed and also means for regulating the same.

Referring to the modification shown in Figs. 4, 5, 6, and 7, there is a casting 11^a, which, like the casting or casing 11, may be integral with or applied to the reservoir 1, but is here shown as a separate piece, and which constitutes the feed-chamber and may have ar-
 15 ranged centrally in it a valve like that designated 23 in Fig. 3 and similarly designated in Fig. 6. This casting has at opposite ends sight-glasses 25 and is provided with a nipple 26 in its stem and with a drainage-valve 27,
 20 leading from the chamber containing the nipple. This nipple communicates with the passage 28, which opens into the reservoir, and the casting has a bent pipe 29, which communicates with the pipe 10, Fig. 1, through the
 25 upper feed-arm, and the bend 30 of this pipe 29 is located high enough to retain the water in the sight-feed chamber, no valve corresponding to the valve 13 of the feed shown in Figs. 1, 2, and 3 being used in this case.
 30 This bend 30 is an overflow from the water-chamber in the sight-glass for noting the feed of oil. As the steam backs up into the water-chamber it condenses and forms an overflow through said bend and a water seal, preventing the oil from backing down into the
 35 water-chamber. In some instances, also, the valve 13 may be omitted from the construction shown in Figs. 1, 2, and 3. The casting 11^a is supplied with coupling-nuts 31 to secure
 40 it in place, and there is also provided a screw-cap 32 for obtaining access to the chamber 33, in which the nipple 26 is arranged. Packing-nuts 34 may be used to hold the sight-glasses 25 in place.

45 It will be observed in both forms of the auxiliary sight-feed herein illustrated that a clear through vision past the feed-tube is obtained, so that the engineer is enabled to see clearly the amount of oil being fed out. A great
 50 difficulty with prior devices of this kind is that no index or sight-glass is provided to show the quantity of oil being fed from the oil bowl or cup, and the consequence is that oftentimes the oil-bowl is emptied without the
 55 knowledge of the engineer and serious damage to the engine machinery follows.

The operation of the modification shown in Figs. 4, 5, and 6 is as follows: When the engineer finds it necessary to use the auxiliary
 60 oiler, the valve 23 is opened to admit oil from the oil-reservoir 1 into the passage 28. The chamber 33 is filled with condensed steam coming from the upper feed-arm 2. When the oil

is admitted into passage 28, it passes through the nipple 26 into chamber 33, through which
 65 it rises to the top of the water therein and overflows into passage 30, and thence through the pipe 29 into the feed-arm 2, and thence the oil is delivered into the pipe 10, Fig. 1, and through the connection 9 into the tallow-pipe there-
 70 with connected. After the oil reaches the tallow-pipe it is either forced to the steam-chest by pressure coming through pipe 8 or it gravitates to the steam-chest, and in either case the oil is delivered to the steam-chest as
 75 fast as it is fed from the oil bowl or reservoir 1.

I do not wish it understood that I confine my invention to its application to a multiple-feed lubricator, since it is applicable to a single-
 80 sight feed, and, in fact, the auxiliary feed arrangement may be used as the principal feed in case of necessity.

I have thus described several illustrations of an auxiliary sight-feed mechanism as with-
 85 in my invention and wish to be understood as perceiving that other modifications are possible within my invention.

A number of parts are shown in the drawings hereof which are not herein specifically
 90 described, and as to these it may be stated generally that they may be of any usual or approved construction, and therefore need no further description.

What I claim is—

95 1. In a lubricator, a rectangular oil-reservoir, the conduit 10 arranged within and at the top of the reservoir and exposed to the heat of its contents, and an upper feed-arm, a tallow-pipe and a boiler connection severally
 100 opening into said conduit, combined with an auxiliary sight-feed comprising a feed-chamber communicating with said conduit, a valve for controlling such communication, a separate oil-passage communicating with said feed-
 105 chamber and with the reservoir, and a valve to control the flow of oil into the said feed-chamber, substantially as described.

2. In a lubricator, the combination of an oil-reservoir, a pipe arranged in the top there-
 110 of, an upper feed-arm, and a tallow-pipe with both of which the said pipe communicates, a boiler connection with said reservoir-pipe, and an auxiliary sight-feed, having a body or casing integral with the reservoir, and com-
 115 prising a feed-chamber communicating with said reservoir-pipe and a separate oil-passage communicating with said feed-chamber and with the reservoir, and means to control the flow of oil into and out of the said feed-cham-
 120 ber, substantially as described.

3. The combination of an oil-reservoir, a pipe arranged in the top thereof, an upper
 125 feed-arm, and a tallow-pipe with both of which the said pipe communicates, a boiler connection with said reservoir-pipe, and an auxiliary

sight-feed, comprising a feed-chamber communicating with said reservoir-pipe, and a separate oil-passage communicating with said feed-chamber and with the reservoir, and
5 means to control the flow of oil into and out of the said feed-chamber, substantially as described.

In testimony whereof I have hereunto set my hand this 11th day of January, A. D. 1902.

FRANK W. EDWARDS

Witnesses:

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ELIZABETH HOMBURG.