

No. 885,399.

PATENTED APR. 21, 1908.

A. SZÁNTÓ.
LUBRICATING APPARATUS.
APPLICATION FILED MAR. 17, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

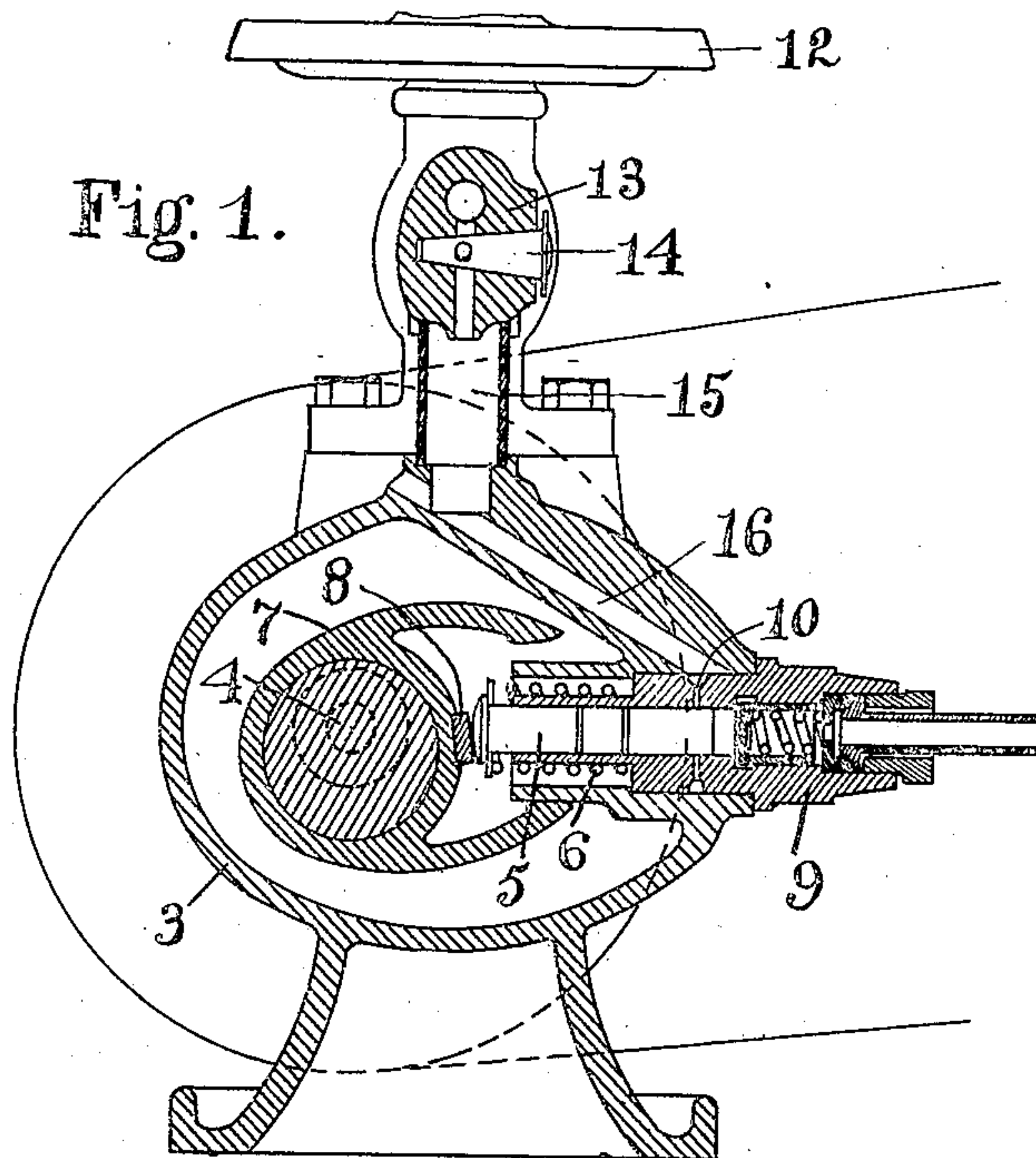
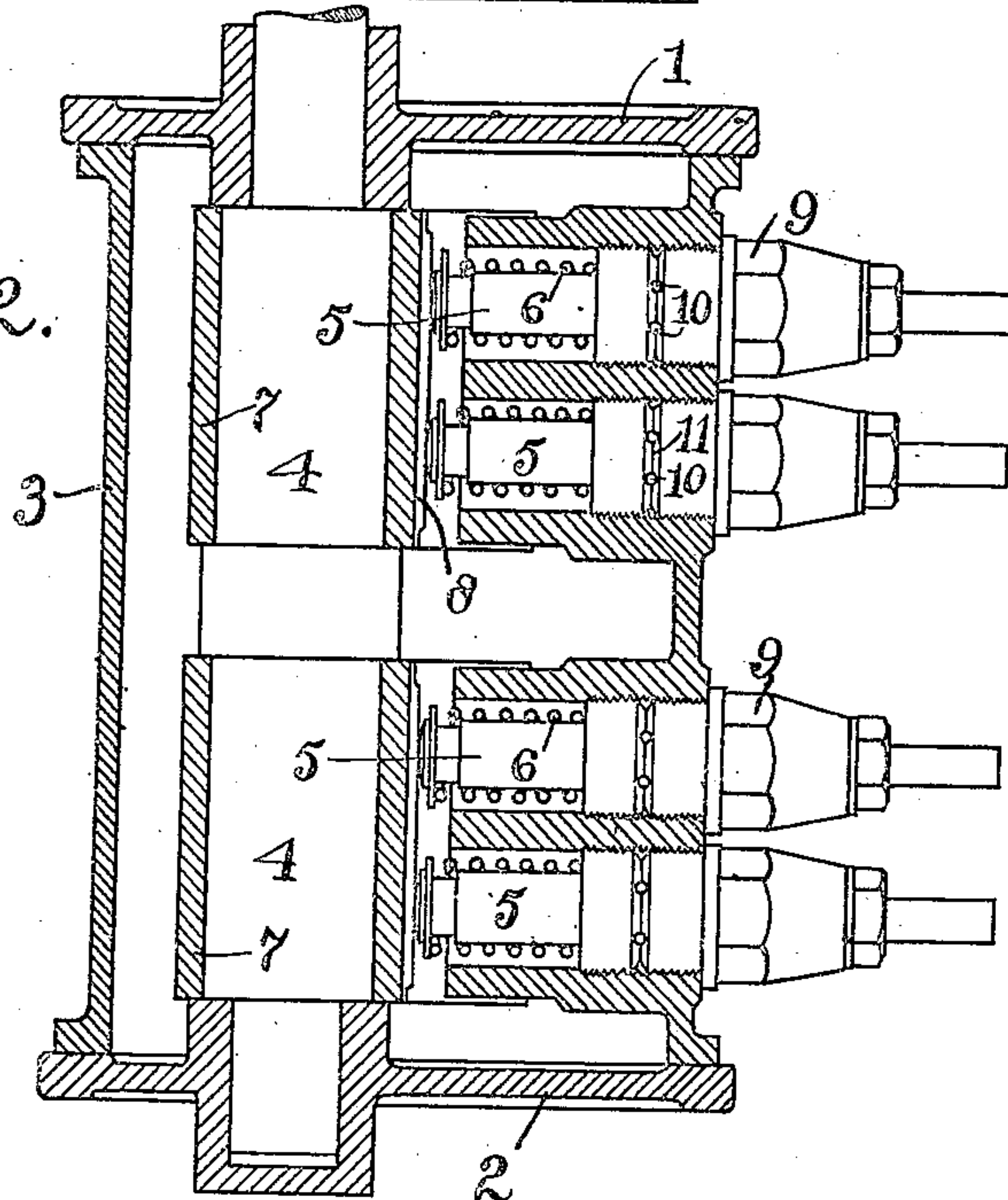


Fig. 2.



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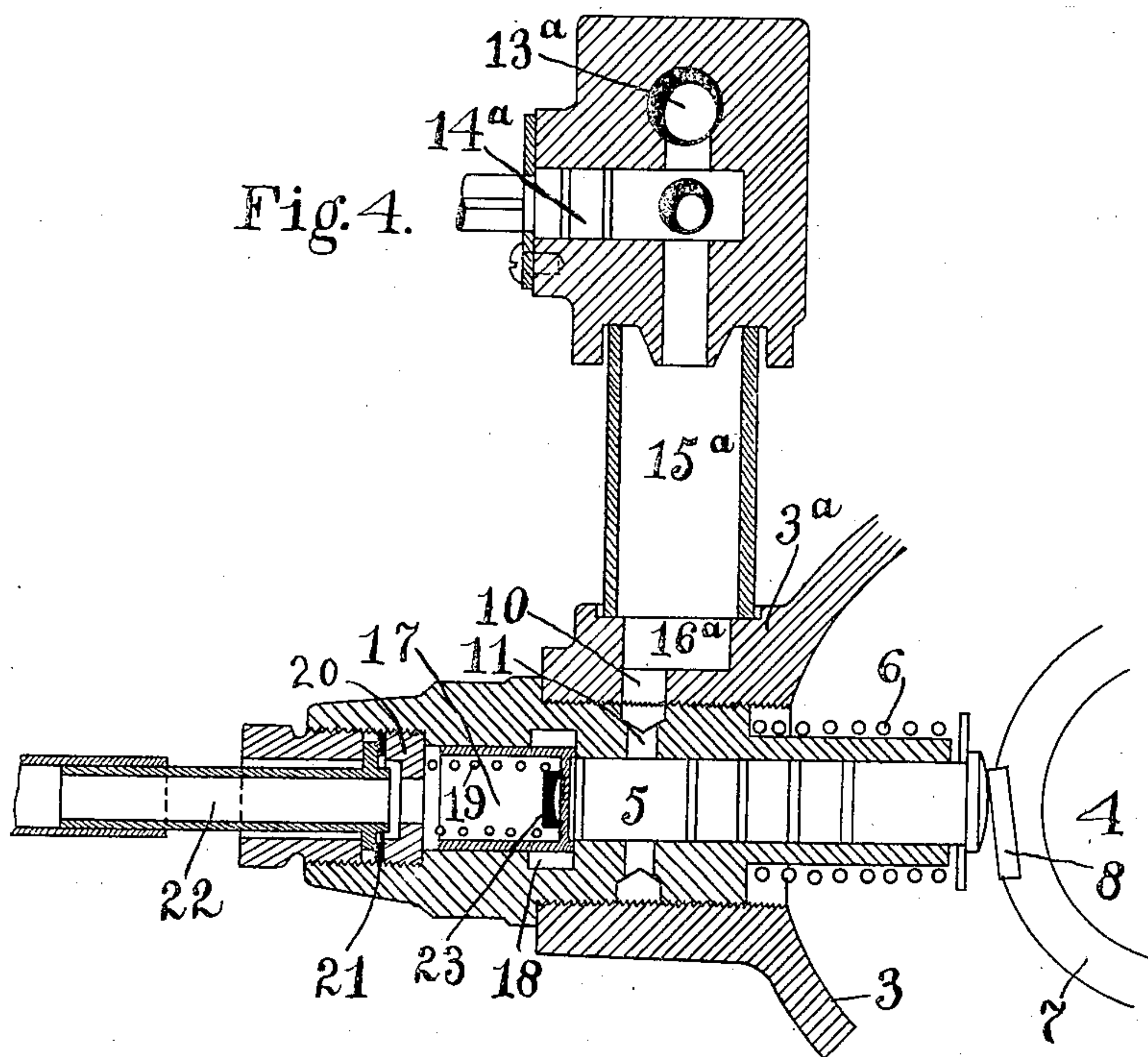
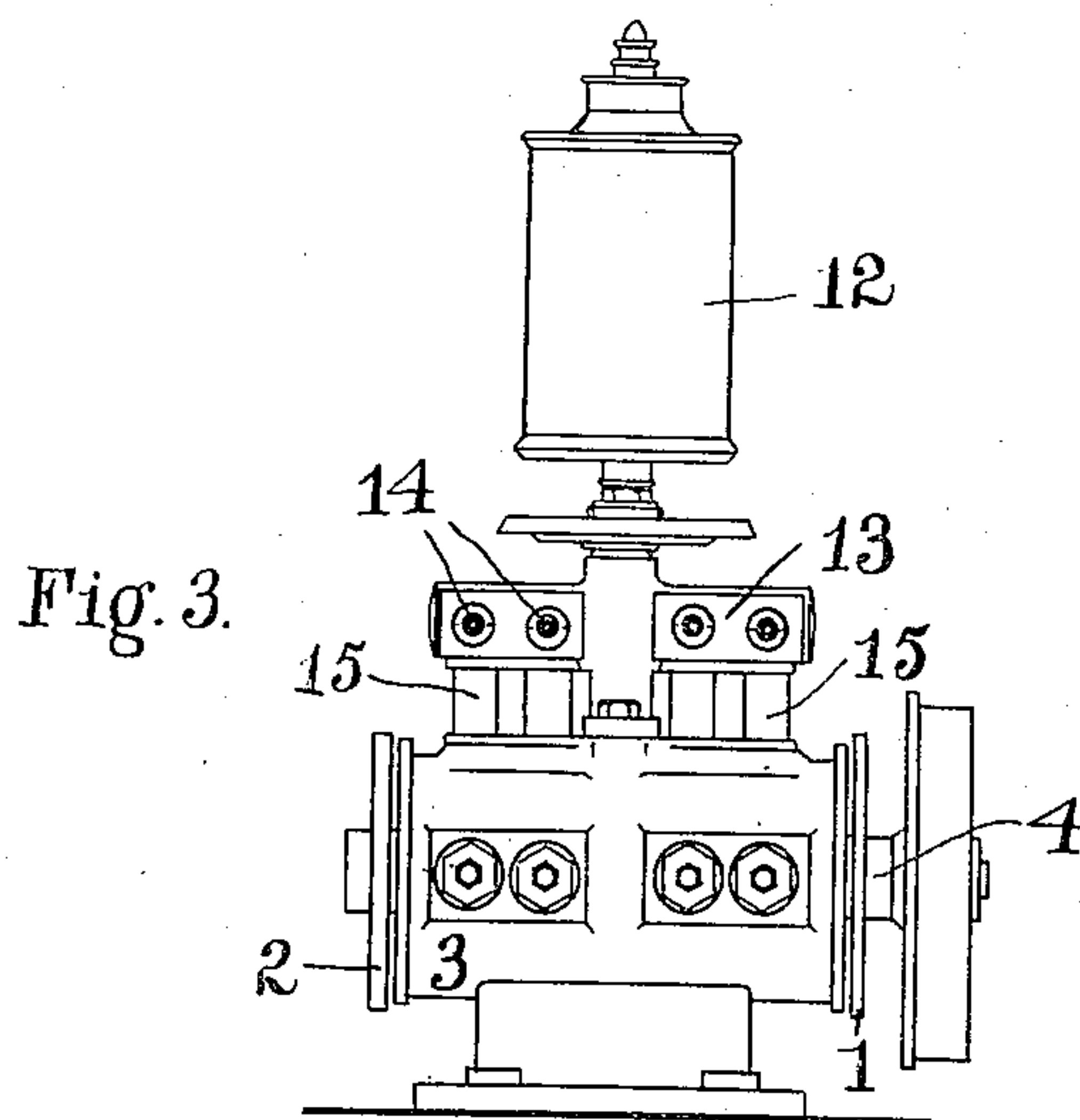
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ALBERT SZANTO, OF PARIS, FRANCE.

LUBRICATING APPARATUS.

No. 885,398.

Specification of Letters Patent.

Patented April 21, 1908.

Application filed March 17, 1906. Serial No. 306,643.

To all whom it may concern:

Be it known that I, ALBERT SZÁNTÓ, mechanical engineer, a citizen of France, residing at Paris, 31 Avenue Trudaine, France, have invented new and useful Improvements in Lubricating Apparatus, of which the following is a specification.

This invention relates to a lubricator adapted to supply a number of lubricated places through an equal number of lubricator pumps.

The pistons of all the lubricator pumps fed by separate conduits that can be closed individually are driven by one single eccentric, through the medium of a ring located on the eccentric, which ring does not rotate with said eccentric, but describes only an oscillatory motion. The pistons are placed directly against this ring so that the piston pressure is uniformly transmitted through the ring upon the eccentric. At the point of contact between ring and pump piston an exchangeable bar is arranged so that the wear and tear is reduced to a minimum.

This construction permits the individual pumps to become independent of each other during their operation and as there is wanting any connection by means of rods, levers or the like between the driving element and the pump piston, it is possible to form each single pump so that it constitutes one whole by itself, which whole can be easily inserted in the apparatus and can as easily be removed therefrom, after the feed conduit belonging to the individual pump is closed.

In the drawing which illustrates a form of execution of this invention: Figure 1 shows a vertical section with partial side view Fig. 2 shows a horizontal section with partial top view. Fig. 3 is a front view on a smaller scale. Fig. 4 shows a single pump in section on a larger scale and of a slightly different form.

In the case 3 (Figs. 1 and 2) closed by the covers 1 and 2, runs shaft 4 which may be driven in any preferred manner, and which moves with its eccentric the pump pistons 5. The latter are pressed by their springs 6 against the eccentric which has a ring or strap 7 provided with arms (Fig. 1) in order to prevent any turning movement of the ring. At the contact point of the pump pistons with the ring, a steel bar 8 is exchangeably provided on the latter in order to ren-

der harmless any wear and tear that may occur in this place.

Each pump piston 5 moves in a tube like pump body 9 which receives all the component parts belonging to the individual pump. The pump piston opens in its backward position the suction holes 11 which run from the cut-in collecting groove 10 into the interior of the pump cylinder. The oil flows from the oil vessel 12 through the distributing element 13 with its regulating cocks 14, further through the sight glasses 15 and the pump conduits 16 toward the individual pump pistons. The pump piston presses the oil into the channel 18 (Fig. 4) by displacing the body of the return valve 17 contrary to the pressure of spring 19 provided in this valve body. The oil flows from channel 18 into valve body 17 through slits 23 from where it is conducted to the pressure conduit. The spring 19 of the return valve presses against the perforated disk 20 which serves, at the same time, as base for the lead ring 21 effecting a tight and secure closure of the connecting socket 22.

In Fig. 4 instead of forming the inlet passages 16 in the casing which surrounds the eccentrics as in Fig. 1, said inlet is formed in a projection 3^a of the said casing, as shown at 16^a in Fig. 4. The sight glass 15^a leads directly to this inlet and is supported by the projection 3^a and is connected as before to the distributing element 13^a with its regulating cock 14^a. Aside from this however the construction shown in Fig. 4 is the same as shown in the other figures.

All parts of the individual pumps, that is, piston, piston spring, valve with spring and connecting socket, are thus carried by the tube-like pump body 9, or held together by the latter. This pump body is screwed into the casing of the lubricator and can therefore be exchanged without difficulty. When a cock 14 is closed, the single lubricator pump belonging thereto can be easily removed without the necessity of stopping the remaining pumps.

The present lubricator permits further the oil admission to the individual lubricator pumps to be regulated so that different quantities of oil may be fed to the individual lubricated places, according to requirements. By means of the eccentric ring the pressure that is exerted by the piston is uniformly

transmitted to the eccentric so that the wear and tear to which the single parts are subjected is very slight, even at high speed.

Having described my said invention what I claim is:—

1. In a lubricator, a pump cylinder, a plunger projecting with its free end beyond the end of the cylinder, a driving shaft located in front of said end, an eccentric upon the shaft, a strap around the eccentric in contact with the end of the plunger, and means for preventing the strap from turning while the eccentric rotates, substantially as described.

2. In a lubricator, a plurality of pump cylinders, a plunger located in each cylinder and having its end projecting beyond the end of the cylinder, a driving shaft located in line with said plungers, an eccentric upon the shaft and in line with said plungers, a strap encircling the eccentric and bearing against the plunger, and means for preventing the turning of the strap during the rotation of the eccentric, substantially as described.

3. In a lubricator, a plurality of pump cylinders, plungers therein projecting beyond the ends of the cylinders, a driving shaft located in front of the plunger ends, an eccentric upon said shaft common to all of said plungers, a strap around the eccentric, a bar carried by the strap in contact with all said plungers, means for preventing the strap from turning during the rotation of the eccentric, said cylinders having separate feed channels, having a common source of supply and means for controlling the flow of oil through each of said channels, substantially as described.

4. In a lubricator, a casing, a shaft therein, a pump removably held in said casing at right angles to the shaft, means whereby the pump is operated from the shaft, there being a feed channel in the casing leading to the pump, and means for closing said channel prior to the removal of the pump, substantially as described.

5. In a lubricator, a casing, a shaft extending through the same, a pump removably seated in the casing at right angles to the shaft, means interposed between the pump and shaft for operating the pump, a delivery valve located in rear of the pump plunger, said pump cylinder having an inlet aperture in front of said valve and an outlet channel in rear of the valve, said latter chan-

nel extending in a direction of the longitudinal axis of the cylinder, a feed channel connected with said inlet aperture and means for closing said feed channel prior to the removal of the cylinder, substantially as described.

6. In a lubricator, the combination with a casing, of a shaft extending through the latter, pumps inserted laterally into said casing at right angles to said shaft, and means to operate the pumps from the shaft, plungers provided in said pumps, a delivery valve situated in rear of each plunger inlet, the pump cylinder having apertures communicating with said valve and having an outlet channel provided in rear of the valve, and extending in the longitudinal axis of the cylinder, and said casing having separate feed channels, and means for closing each of said feed channels separately, there being means whereby each pump may be removed from the casing independent of the working of the others substantially as and for the purpose as described.

7. In a lubricator, the combination with a plurality of pump cylinders for the lubricant, of a plunger in each cylinder and projecting with its free end beyond the respective end of the cylinder, a driving shaft located in front of said plunger ends, an eccentric provided upon said shaft also in front of the said plunger ends and common to all of them, a strap around said eccentric, a bar attached to said strap and in contact with all said plungers, means for preventing said strap from turning while the said eccentric rotates, a delivery valve situated in rear of each plunger, said cylinders having inlet apertures communicating with said valve, and outlet channels in rear of the valve, and extending in the longitudinal axis of the cylinder and separate feed channels provided for the pumps, and means for closing each of said feed channels separately so as to allow of the removal of each pump without interfering with the operation of the other ones, substantially as and for the purpose as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT SZANTÓ.

Witnesses:

HANSON C. COXE,
JOHN BAKER.