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Patented Dec. 2, 1902.

A. E. NORRIS.
LUBRICATOR.

(Application filed Jan. 2, 1900.)

(No Model.)

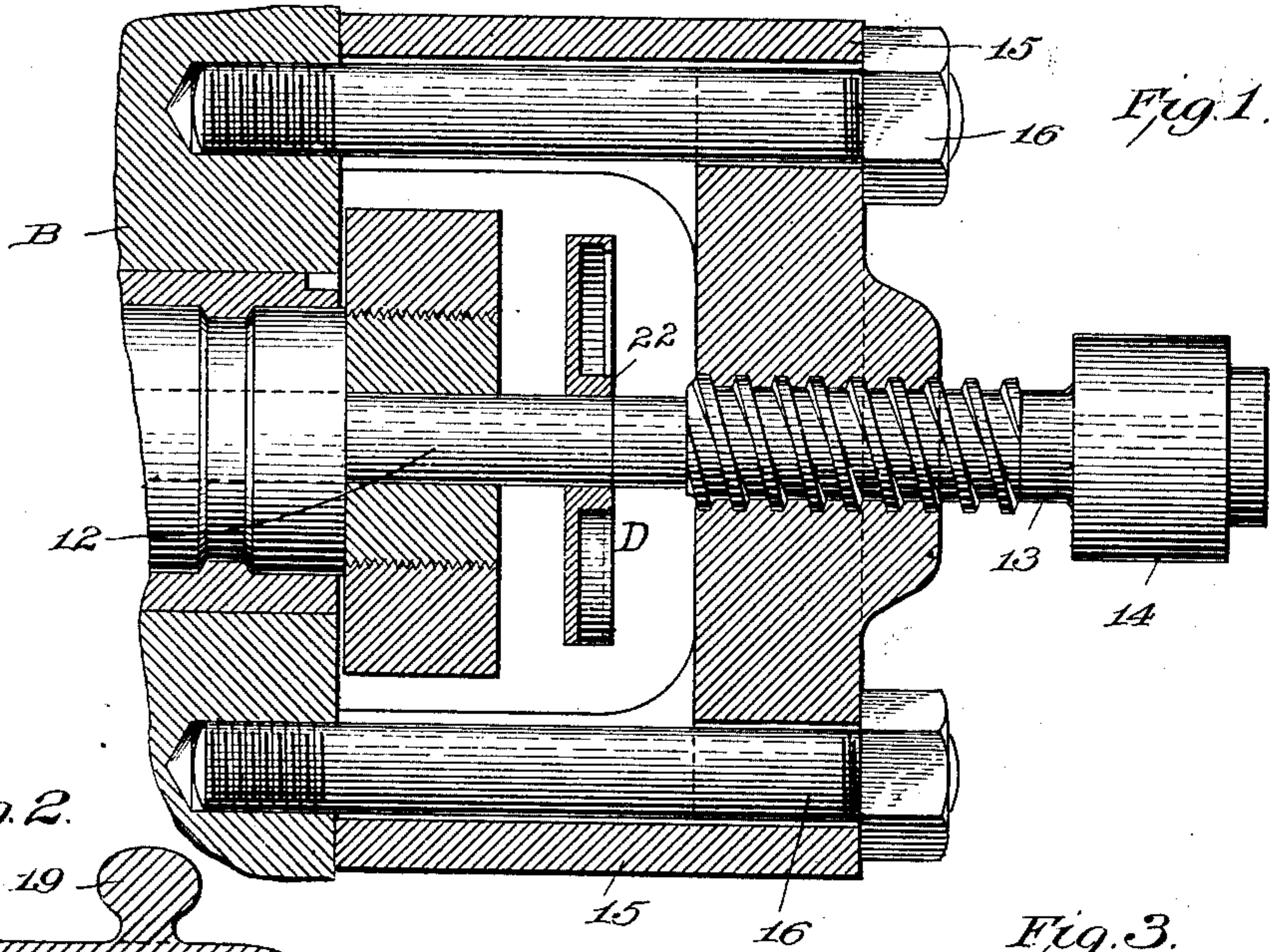


Fig. 1.

Fig. 2.

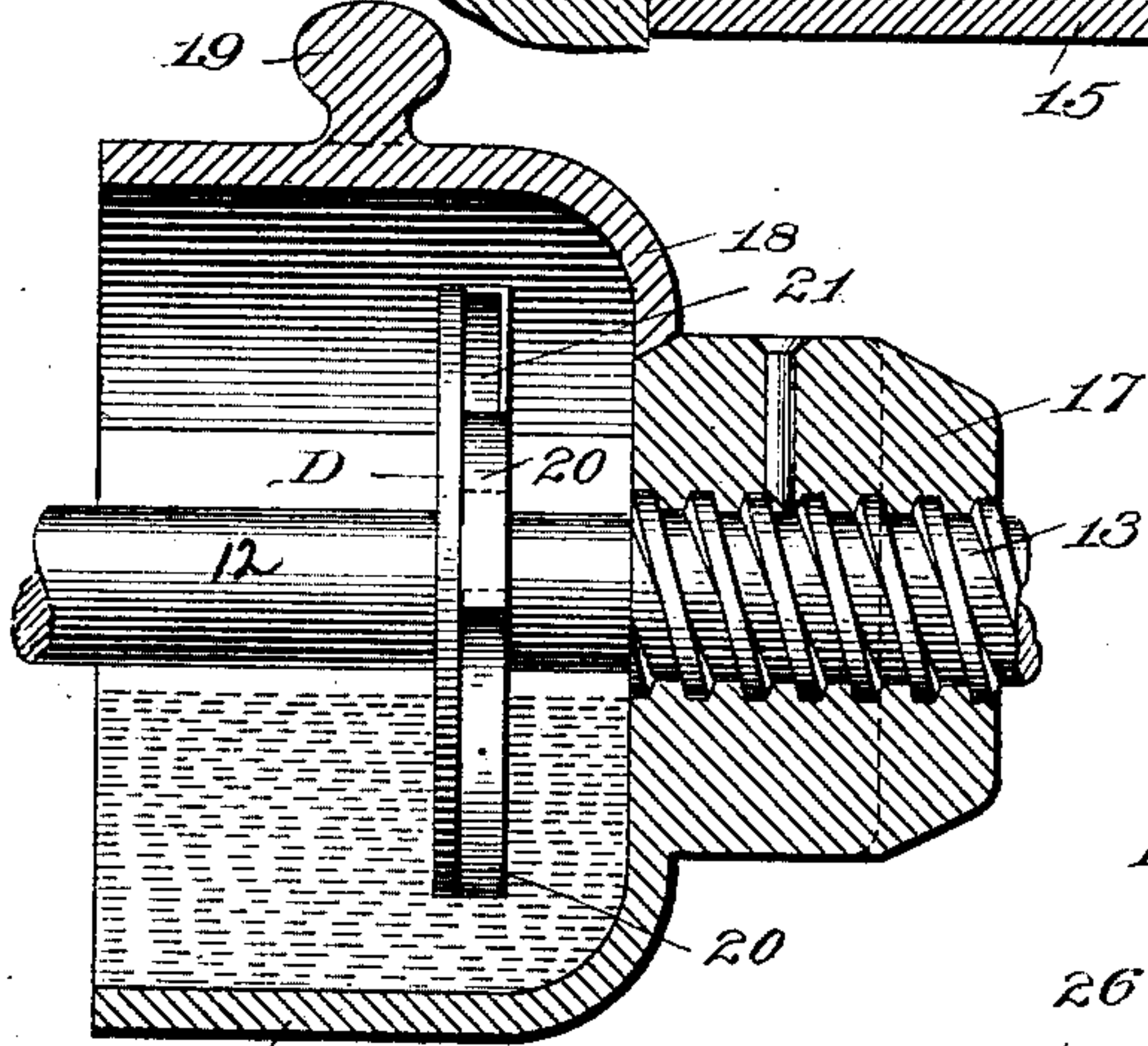


Fig. 3.

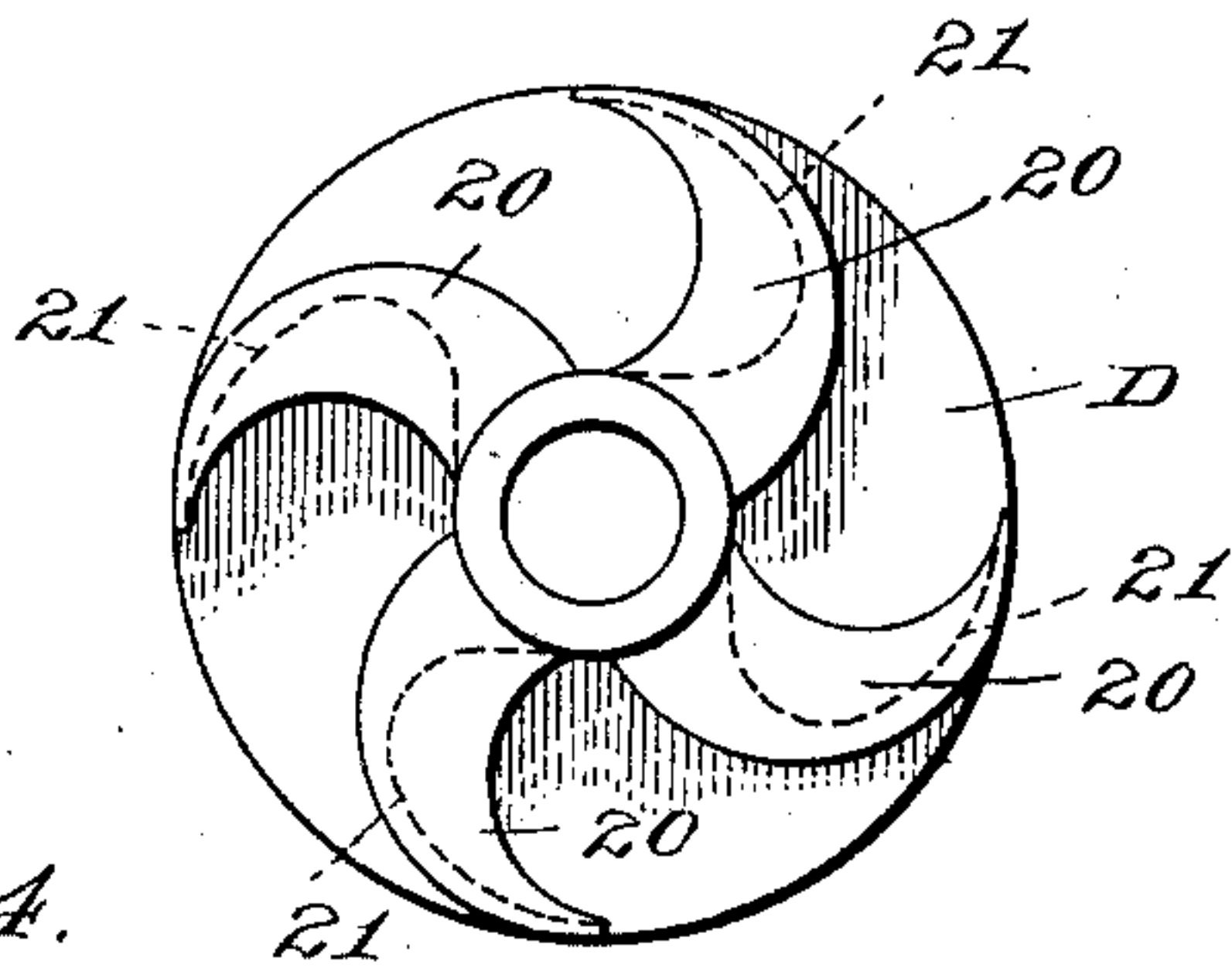
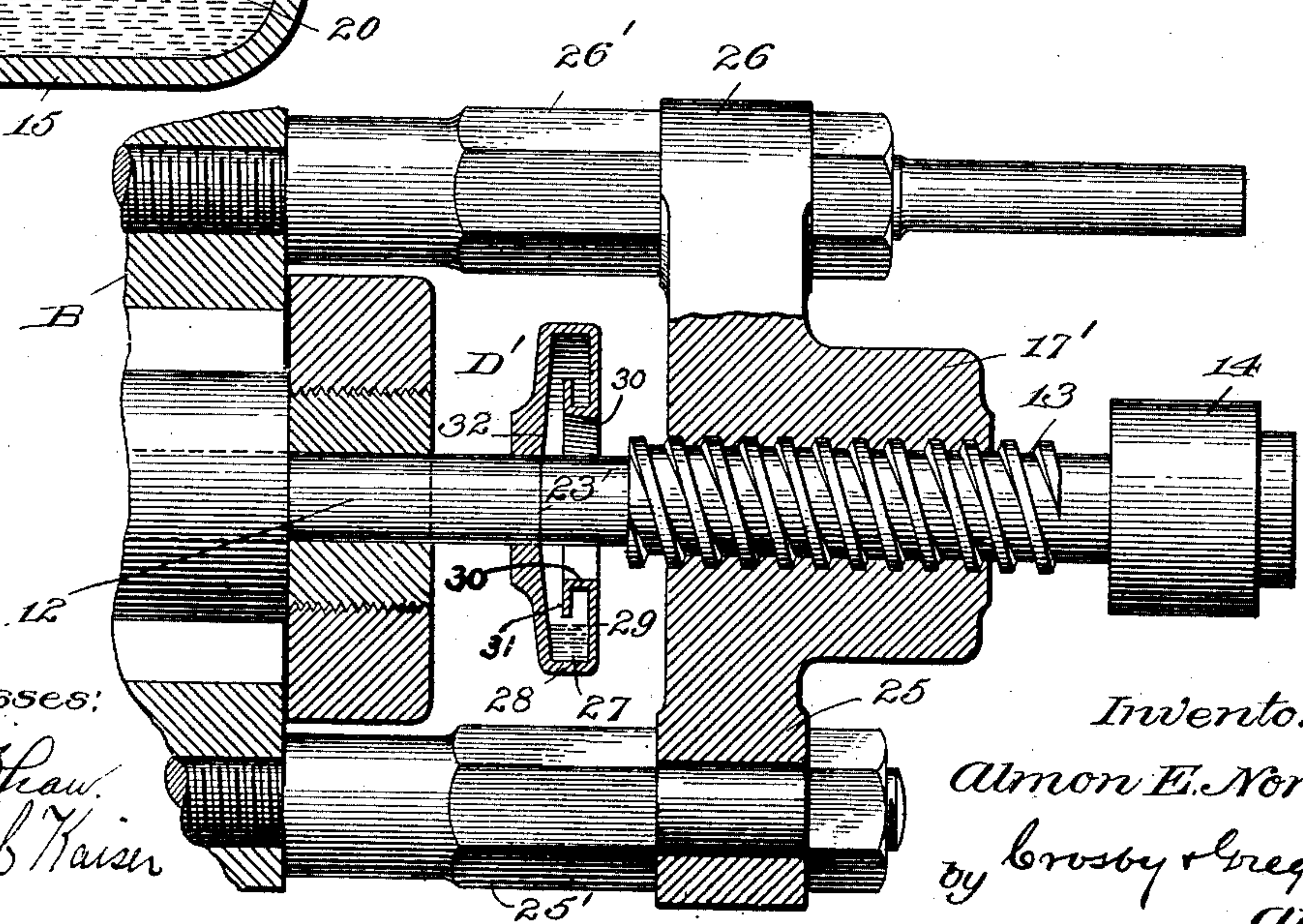


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

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LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 714,941, dated December 2, 1902.

Application filed January 2, 1900. Serial No. 17. (No model.)

To all whom it may concern:

Be it known that I, ALMON E. NORRIS, a citizen of the United States, residing at Cambridge, county of Middlesex, State of Massachusetts, have invented an Improvement in Lubricators, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

10 This invention relates to lubricators; and the object of the invention is to provide a simple and efficient appliance of this character which is adapted to supply, evenly and uniformly, a lubricant to two contiguous faces.

15 While the improved device is capable of manifold uses, it is illustrated and will hereinafter be described in combination with a hoisting apparatus, in which connection it is highly advantageous. In this employment
20 the device serves to lubricate the engaging ends of the pin that couples the friction-wheel and hoisting-drum and the screw that actuates said pin, the former when it is advanced by the screw being subjected to a rotary motion.

25 In the drawings, Figure 1 is a sectional plan view of one end of a hoisting apparatus, showing the same provided with my improved device in one embodiment thereof. Fig. 2 is a sectional side elevation of the lubricator. Fig. 30 3 is a face view of a lubricating part; and Fig. 4 is a sectional side elevation of the hoisting apparatus, showing a different form of lubricator.

35 In Fig. 1 I have shown one end of a hoisting apparatus or that part thereof which carries the means for throwing a friction-wheel fixed to a shaft into engagement with a drum loose upon said shaft, whereby the drum can be
40 coupled to the shaft and rotated therewith, and B represents a bearing, and 12 a sliding rotary pin or spindle which is operable when thrust to the left to connect the friction-wheel and drum. This sliding rotary pin 12 is supported in the usual manner and is operated
45 by the well-known screw 13, ordinarily turned by a handle clamped to the enlarged portion 14. It will be seen that the inner end of the screw 13 abuts against the outer end of the
50 pin 12, and hence there is naturally considerable friction between these parts, and my improved lubricating device is especially in-

tended to lubricate these parts. The outer face of the bearing B is flat, and it receives against it the casing 15, secured thereto by 55 screws 16, packing of suitable kind being usually interposed between these two parts to insure a snug joint, as said casing is in the nature of a chamber to receive a lubricant, as seen in Fig. 2. The casing or chamber 15 is 60 open upon its inner side, and it has upon its outer side the boss 17, interiorly threaded to form a fixed nut, which receives the threaded portion of the thrust-screw 13. The casing or chamber 15 has a removable cap or cover 65 18, having a finger-piece or knob 19, by which it may be easily removed to introduce oil into said chamber.

In connection with the chamber or casing 15, which contains the lubricant, I provide a 70 lubricating device which may be of any suitable character, but which is represented as consisting of a disk D, having a plurality of ribs, as 20, shown as formed upon a side face thereof. This disk is preferably supported for rotation, and in the present case 75 is carried by the spindle or pin 12, constituting a convenient support therefor, and the disk may be secured to its support by a driving fit. In Fig. 2 it will be seen that 80 the said disk is partially immersed in the oil. As the spindle or pin 12 rotates the disk D will of course rotate therewith and the ribs 20 will lift up the oil, said ribs being of curved form and each of them being recessed, as 85 shown at 21 by dotted lines in Fig. 3, to facilitate this operation. The support for the disk is periodically or intermittently rotated, and when it stops the oil that is upon the ribbed face of the same can flow down it and over 90 the hub 22 of said disks and between the parts 12 and 13. While the recessed ribs 20 are of such kind as to take up a comparatively large amount of oil, their use is not absolutely essential, for in some cases they might be dispensed 95 with.

In Fig. 4 I have shown a different type of lubricating device; but the bearing B, pin 12, and screw 13 are the same as shown in the other views. The screw 13 extends through 100 a fixed nut 17', provided with opposite off-sets 25 and 26, having openings to receive the holding-bolts 25' and 26', by which it can be secured to the fixed bearing B. The lubri-

cator illustrated in said Fig. 4 comprises a disk D', supported in proximity to the space where the pin 12 and screw 13 abut. This disk, however, has a peripheral chamber or channel, as 27, to contain the lubricant or oil, and it may be formed in any suitable manner. Said disk D' in the present case has near its periphery the outward flange 28, from which the inward flange 29 extends, said flange 29 being internally flanged, as at 30, and extending inward, and the flange 30 itself being inwardly flanged, as at 31, approximately midway between the flange 29 and the body of the disk. This disk D', with its oil-containing chamber, rotates, of course, with the pin 12; but it carries its supply of oil, the latter while the disk is in rotation being brought in contact with all parts of the chamber 27, so that when the motion of the disk is arrested the oil can flow down the inclined face 32 of the same and into the space 23' between the pin 12 and the screw 13.

From the above it will be seen that in each form of my invention one face of the disk is substantially in line with or in the plane of the end of the shaft and that the oil which is delivered to the engaging parts for lubricating them flows down over the said face of the disk.

The invention is not limited to the construction previously specified, for this may be considerably modified within the scope of the accompanying claims.

Having described my invention, what I claim is—

1. In a device of the class specified, a rotary shaft, a stationary part bearing against the end of said shaft, a lubricating-disk fast on the end of the shaft, and having one face substantially in the plane of the end of the shaft, and means to supply a lubricant to said face, the lubricant during the rotation of the shaft running down the face of the disk to the part to be lubricated.

2. In a device of the class specified, a horizontally-arranged rotary shaft, a fixed part bearing against the end of said shaft, a lubricating-disk fast on the shaft and having one face thereof substantially in the plane of the end of the shaft, and means to apply a lubricant to said face of the disk, the lubricant during the rotation of the shaft running over the said face of the disk toward the shaft.

3. In a device of the class specified, a rotary part, a stationary part bearing against the end of the rotary part, a lubricant-disk fast on the rotary part, said disk being constructed to deliver oil from an oil-chamber directly to the part to be lubricated.

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

ALMON E. NORRIS.

Witnesses:

HEATH SUTHERLAND,
LOUISE ROTHSTEIN.