

A. S. KROTZ.
 DRIVING MECHANISM FOR LUBRICATORS.
 APPLICATION FILED OCT. 28, 1907. RENEWED FEB. 7, 1910.

969,290.

Patented Sept. 6, 1910.

Fig. 1.

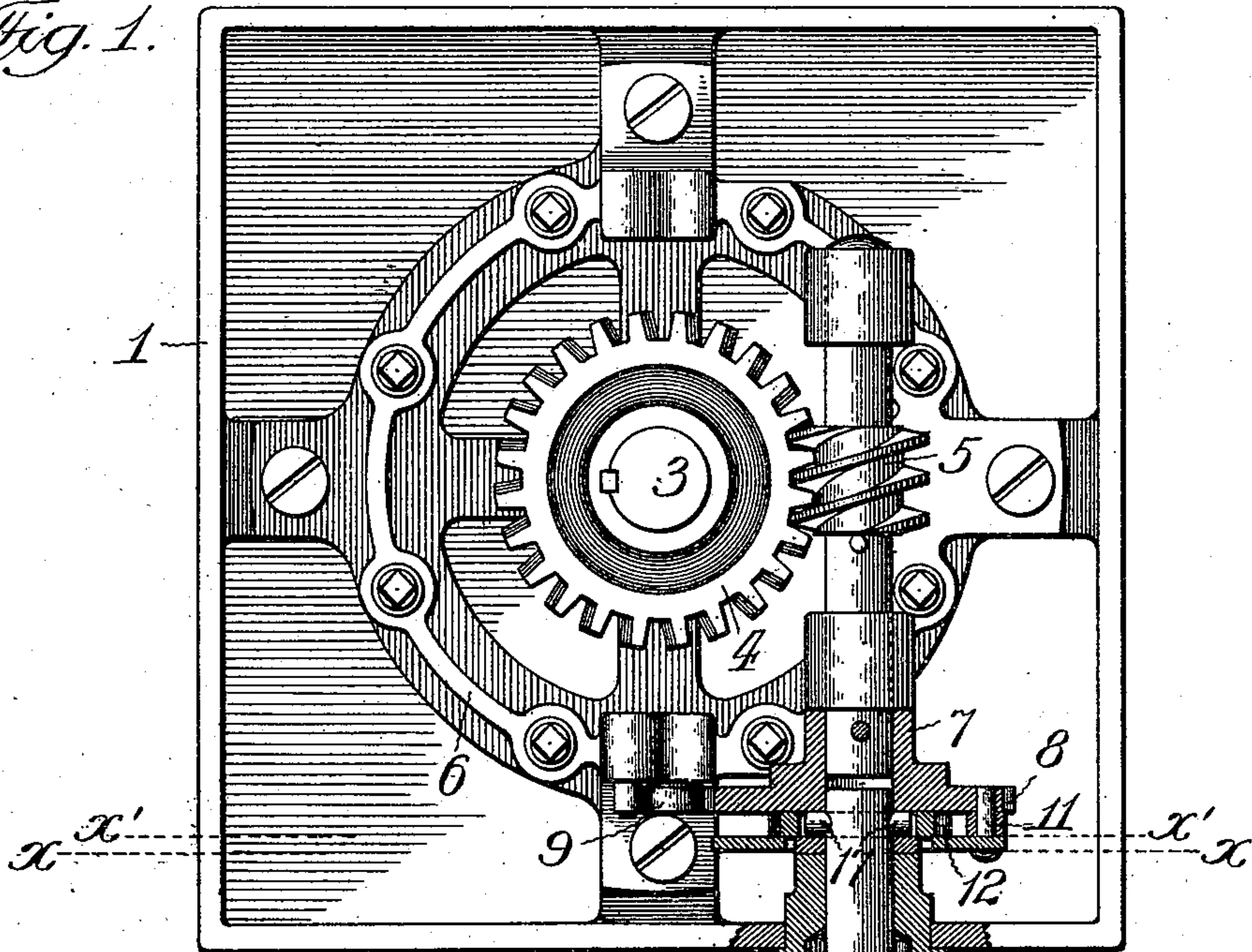


Fig. 4.

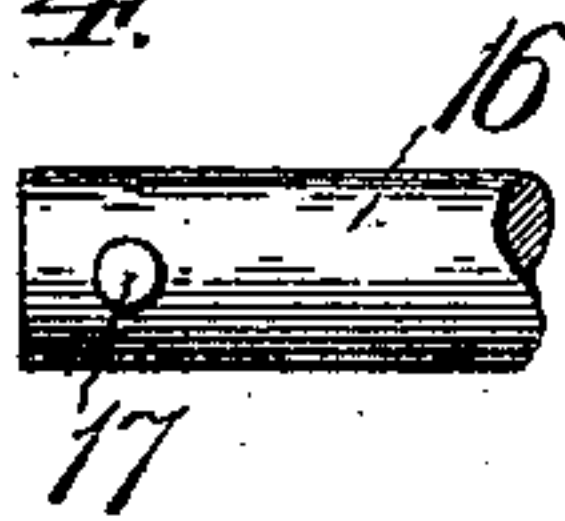


Fig. 2.

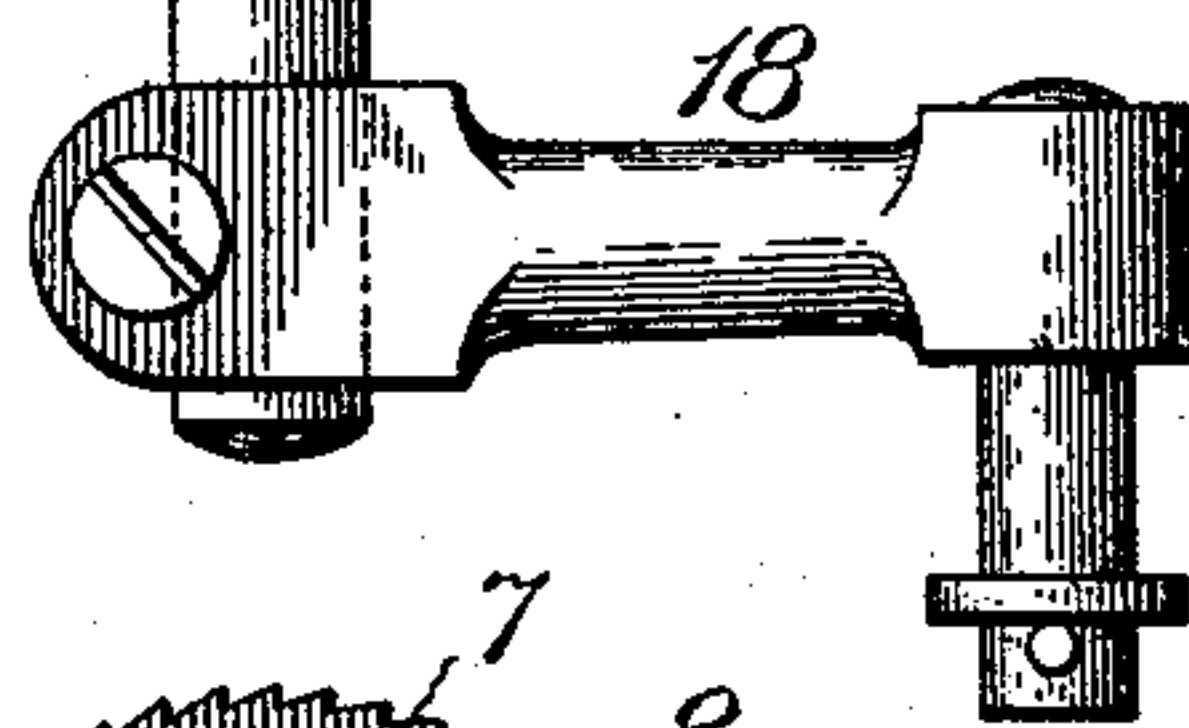
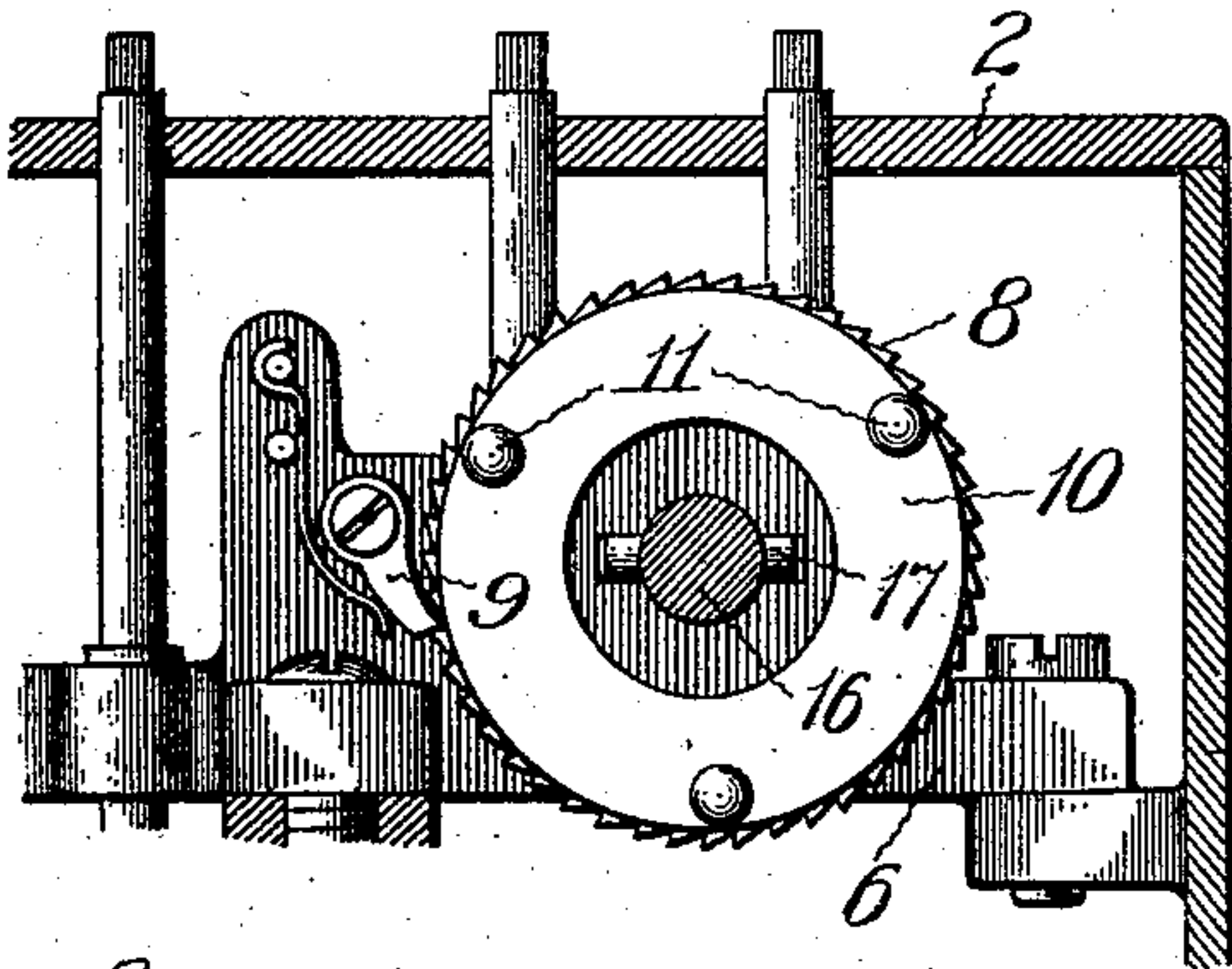


Fig. 3.

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UNITED STATES PATENT OFFICE.

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DRIVING MECHANISM FOR LUBRICATORS.

969,290.

Specification of Letters Patent.

Patented Sept. 6, 1910.

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To all whom it may concern:

Be it known that I, ALVARO S. KROTZ, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Driving Mechanism for Lubricators, of which the following is a specification.

This invention relates to the operating mechanism of power driven lubricators in which the lubricant feeding pumps are arranged in the tank which holds the supply of lubricant. And the present improvement has for its object to provide a simple and efficient structural arrangement and combination of parts whereby the pumping mechanism can be removed and replaced in the reservoir in a ready and convenient manner and without any material interference with the normal assemblage of the mechanism.

A further object of the present improvement is to provide a durable and efficient ratchet mechanism for imparting a slow and intermittent speed from a primary driving shaft to the driving shaft of the feeding pumps for the lubricant, all as will hereinafter more fully appear.

In the accompanying drawings:—Figure 1, is a plan view, with the cover removed and with parts in section, illustrating the present invention applied to a pumping apparatus of the type shown in the Hill Patent No. 812,266 of Feby. 13, 1906. Fig. 2, is a detail vertical section on line $x-x$ Fig. 1. Fig. 3, is a similar view on line $x'-x'$ Fig. 1. Fig. 4, is an elevation of the inner end of the primary driving shaft of the mechanism.

Similar numerals of reference indicate like parts in the different views.

Referring to the drawings, 1 represents the lubricant reservoir, and 2 a removable top or cover closing the open top of the same.

3 is a vertical driving shaft of a pumping mechanism, such as forms the subject matter of the Hill Patent No. 812,266 of February 13, 1906, and which pumping mechanism is arranged in the reservoir in an immersed condition in the lubricant. 4 is a worm wheel carried by said shaft and receiving motion from a horizontally arranged worm 5, the shaft of which is journaled on a stationary bracket frame 6 within the res-

ervoir, as shown. 7 is a hub secured at one end of said worm shaft, and having a circular rim portion formed with ratchet teeth 8 for engagement with a spring pawl 9, in the bracket frame 6 to prevent a retrograde movement of the said hub and worm wheel in a normal operation of the mechanism.

10, is a circular disk attached in separated relation to the rim portion of the hub 7 by attaching studs 11 to form space for the reception of the ratchet disk, now to be described.

12 is a ratchet disk arranged loosely between the hub rim and disk 10 aforesaid, and formed with ratchet teeth on its periphery for engagement with one or more spring pawls 13, carried by the studs 11. In such arrangement the action is to lock the parts together when rotating in one direction, and permit an independent movement between the parts in a rotation of the parts in a reverse direction. Said ratchet disk is formed with a non-circular central orifice for operative engagement with the similarly formed inner end of an operating shaft now to be described.

14 is a combined journal bracket and packing gland secured to the side of the reservoir in a readily detachable manner by screws 15, and adapted to receive the primary driving shaft 16 of the mechanism. Such shaft 16 is arranged in said bracket in axial alinement with the shaft of the worm 5, and at its inner end is formed non-circular, preferably by means of a transverse pin 17, adapted to have engagement in the correspondingly formed non-circular orifice of the ratchet disk 12 before referred to. At its outer end the shaft 16 carries a crank arm 18 to which vibration is imparted by a suitable connection to a power source. With the vibration of said arm, 18, and primary driving shaft, the ratchet mechanism before described is adapted to convert such vibratory movement into an intermittent rotation of the worm shaft, and of the vertical driving shaft 3 of the pumping mechanism.

With the above described construction, a loosening of the bracket 14, and a short endwise movement of the same will bring the shaft 16, out of engagement with the ratchet disk 12 and entirely clear of the part of the ratchet mechanism carried on the pump frame, so that the pumping mechanism can be readily detached and removed from the

inside of the reservoir for cleaning, repair, and the like, and with a like ready return to place when the repairs, etc., are made.

Having thus fully described my said invention what I claim as new and desire to secure by Letters Patent, is:—

1. In a driving mechanism for force feed lubricators, the combination of an open top casing, an operating shaft of a pumping mechanism arranged inside said casing, a bracket gland secured to the side of the casing, a primary operating shaft journaled in said gland in axial alinement with the aforesaid operating shaft of the pumping mechanism, and a non-circular connection between the two shafts, the bracket gland and its shaft being adapted for endwise adjustment to release the engagement with the operating shaft of the pump mechanism and permit of the same being removed through the open top of the casing, substantially as set forth.

2. In a driving mechanism for force feed lubricators, the combination of an open top casing, an operating shaft of a pumping mechanism arranged inside said casing, a hub secured to an end of said shaft and having a rim portion formed with ratchet teeth, a spring pawl engaging said teeth, a disk attached in separated relation to said hub, a ratchet disk arranged between said hub and disk, a spring pawl attached to said hub and engaging said ratchet disk, the said ratchet disk having a non-circular central orifice, a bracket gland secured to the side of the casing, a vibratory shaft journaled in said bracket gland and having an inner non-circular end formed by a cross pin and adapted to engage the correspondingly formed non-circular orifice of the ratchet disk aforesaid, substantially as set forth.

the said ratchet disk having a non-circular central orifice, a bracket gland secured to the side of the casing, a vibratory shaft journaled in said bracket gland and having an inner non-circular end to engage the non-circular orifice of the ratchet disk aforesaid, substantially as set forth.

3. In a driving mechanism for force feed lubricators, the combination of an open top casing, an operating shaft of a pumping mechanism arranged inside said casing, a hub secured to an end of said shaft and having a rim portion formed with ratchet teeth, a spring pawl engaging said teeth, a disk attached in separated relation to said hub, a ratchet disk arranged between said hub and disk, a spring pawl attached to said hub and engaging said ratchet disk, the said ratchet disk having a non-circular central orifice, a bracket gland secured to the side of the casing, a vibratory shaft journaled in said bracket gland and having an inner non-circular end formed by a cross pin and adapted to engage the correspondingly formed non-circular orifice of the ratchet disk aforesaid, substantially as set forth.

Signed at Chicago, Illinois this 17th day of October 1907.

ALVARO S. KROTZ.

Witnesses:

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OTTO R. SCHOENROCK.