No. 740,992. PATENTED OCT. 6, 1903.

B. POULSON.

AUTOMATIC OILER.

APPLICATION FILED JUNE 13, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

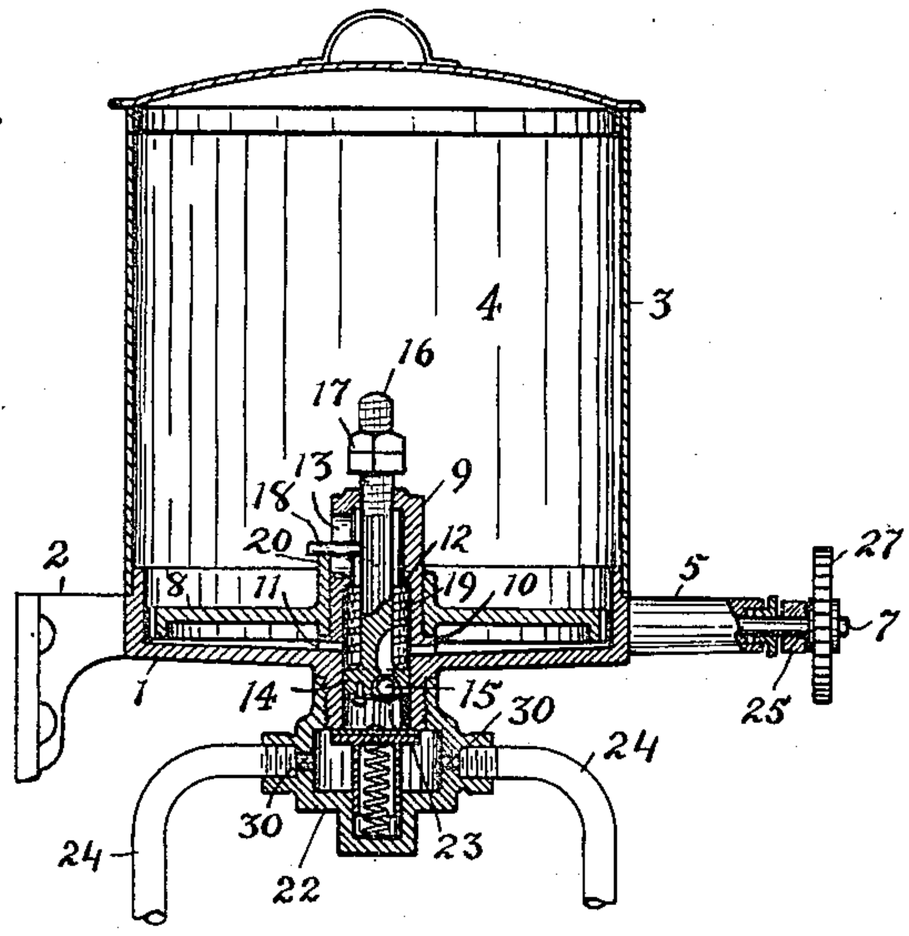
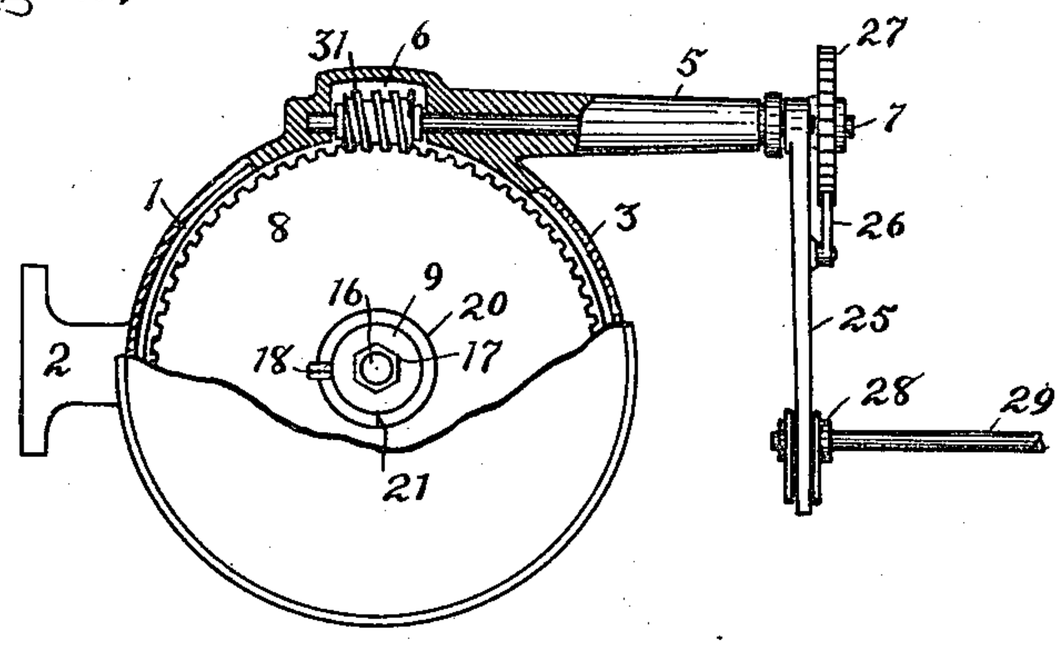


Fig. 2.



WITNESSES:
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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

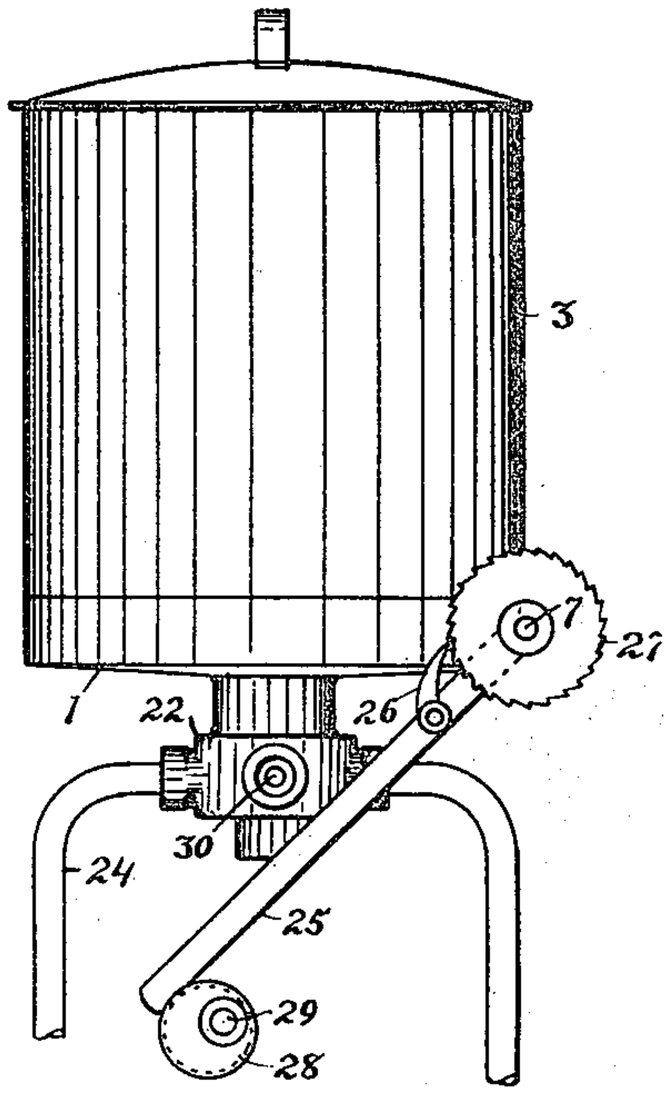
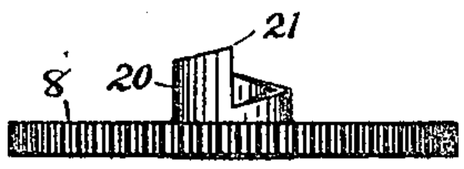


Fig. 4.



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No. 740,992. Patented October 6, 1903.

UNITED STATES PATENT OFFICE.

BRITTON POULSON, OF FORT WAYNE, INDIANA.

AUTOMATIC OILER.

SPECIFICATION forming part of Letters Patent No. 740,992, dated October 6, 1903.

Application filed June 13, 1903. Serial No. 161,265. (No model.)

To all whom it may concern:

Be it known that I, BRITTON POULSON, a citizen of the United States, residing at Fort Wayne, in the county of Allen, State of Indiana, have invented certain new and useful Improvements in Automatic Oilers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in automatic oilers; and the object thereof is to afford automatic means to periodically feed predetermined quantities of lubricating-oil to the bearings of machines.

I accomplish my object by the construction illustrated in the accompanying drawings, in which—

Figure 1 is an elevation in central section, showing the interior of the invention. Fig. 2 is a plan of the device, partly in cross-section. Fig. 3 is an elevation in a plane at right angles to that of Fig. 1, and Fig. 4 is a side elevation of the worm-wheel and cam.

Similar numerals of reference indicate corresponding parts throughout the several views.

1 is the base-casting, and 2 is a bracket extending from said casting to support same. 3 is a cylindrical shell mounted upon said casting, and together said shell and casting form a reservoir 4. At the side of the casting 1 is an arm 5, having a cavity 6, which opens through the side of said casting into said reservoir. A revoluble shaft 7 is mounted in said arm and extends through said cavity. A worm 31 is fixed upon said shaft within said cavity. The said worm extends into said reservoir and engages with and drives a worm-wheel 8, arranged in said reservoir. The casting 1 has a central vertical post 9, which extends upward and depends from said casting. The said post is hollow and has an external annular shoulder 10 at a point above said casting and inlet-ports 11 leading from said reservoir into said post. An internal annular shoulder 12 is made in said post at a point above the former shoulder, and a vertical slot 13 extends through one side of the post at a point above said shoulder 12. A plunger 14 is arranged in said post and has a valve 15, affording downward passage through said plunger. The shank 16 of said plunger extends upward through the top of said post. Set-nuts 17 are arranged upon said shank at a point above said post to limit the downward movement thereof, and a pin 18 is fixed in said shank and extends through the said slot 13 to prevent said plunger from turning and by which said plunger is actuated, as hereinafter described. A spring 19 is interposed between said plunger and said internal shoulder 12 to drive said plunger downward. The worm-wheel 8 ranges horizontally and is mounted to rotate upon said post and has an upwardly-extending annular cam 20, which presents an upper spirally-ascending face. The said cam engages said pin 18 and is adapted to drive it upward when said worm-wheel is rotated and to release said pin, and thereby allow said pin to descend, when the uppermost part 21 of said cam passes from beneath said pin. Therefore the plunger is adapted to be reciprocated vertically within said post as the worm-wheel 8 is driven. The depending end of the post 9 is screw-threaded and has mounted thereon a case 22, and in said case is arranged a spring-supported valve 23, which affords downward passage from said post when said plunger is driven downward. One or more open pipes 24 lead from said case and are adapted for the passage of oil from said case. The said pipes lead to points beneath said case where supply of oil is desired.

Any suitable means may be employed to drive the shaft 7. I have shown in the drawings a lever 25, arranged to swing loosely upon the shaft 7, and a ratchet 26 in connection with said lever to drive a ratchet-wheel 27, which is fixed upon said shaft 7. 28 is an eccentric fixed upon a revolving shaft 29, and said lever rests upon the face of said eccentric and is moved thereby.

In the operation of my invention the reservoir is filled with oil, and as the worm-wheel 8 is rotated by its driving mechanism the plunger is raised, because of its connection with the cam 20, and the contained oil is thereby drawn through the ports 11 and valve

15 into the lower part of the post. When the uppermost point of the cam 20 passes from under the pin 18 the spring 19 drives the plunger downward, which forces the oil contained beneath said plunger past the valve 23 into the case 22 and into the pipes 24. The operation is repeated as the worm-wheel is rotated. The quantity of oil discharged with each downward action of the plunger may be regulated by adjusting the set-nuts 17 upon the shank 16, and the quantity of oil distributed from the case 22 through the respective pipes 24 may be relatively varied by making the openings 30, leading from the case into said pipes, of different sizes or by using pipes of various diameters.

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

In an automatic oiler, a reservoir; a hollow vertical post therein; a plunger in said post, the shank of said plunger extending through the top of said post; set-nuts upon the shank of said plunger to limit the downward movement thereof; a valve in said plunger affording downward passage for oil; ports leading from said reservoir into said post above said plunger; a valve at the lower end of said post affording downward passage for oil therefrom; a spring within said post, and engaging said plunger to drive it downward; and means to actuate said plunger.

In testimony whereof I affix my signature in presence of two witnesses.

BRITTON POULSON.

Witnesses:
W. G. BURNS,
WILMER LEONARD.