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JOSEPH VIDINA, OF CHICAGO, ILLINOIS.

OILING DEVICE.

934,111. Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed November 27, 1908. Serial No. 464,624.

To all whom it may concern:

Be it known that I, JOSEPH VIDINA, a subject of the Emperor of Germany, and residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Oiling Devices, of which the following is a complete specification.

This invention relates to improvements in oiling devices and more particularly to an oil feeding device adapted to intermittently feed oil in regulable quantities.

Heretofore in gravity operated oil feeding devices having a plurality of feeds it has been impossible to so adjust them as to regulate the interstices between the pulsations of each feed and independently of the others, and at the same time to regulate the amount of oil delivered.

The object of this invention is to provide an oil feeding device adapted to intermittently feed the oil, and so constructed that both the quantity of oil and the frequency of the feed may be quickly and easily regulated.

It is also an object of the invention to provide an oiling device having a plurality of feeds, each of which is adapted to be adjusted independently of the others.

The invention consists of the matters hereinafter described in the specification and more fully pointed out and defined in the appended claim.

In the drawings: Figure 1 is a view partly in section and partly in side elevation of a device embodying my invention. Fig. 2 is a transverse section of the device. Fig. 3 is an enlarged, fragmentary side elevation of the adjusting mechanism for the pistons, shown in Fig. 1. Fig. 4 is a fragmentary, rear elevation of one of the feed pipes. Fig. 5 is a fragmentary, side elevation of the same with the valve in place. Fig. 6 is a vertical section of one of the feed pipe valves.

As shown in said drawings: A indicates a receptacle of any desired form and construction and adapted to contain oil, and B indicates a pump base which is adapted to be rigidly secured to the bottom of the receptacle by means of screws b or in any other preferred manner. Extending upwardly from said base are a plurality of cylinders B′, each of which is provided with an inlet port b' opening through the base into the bottom thereof. A ball valve b^2 in each cylinder controls said inlet ports and prevents the escape of the oil from said cylinders through said ports. Adjacent each cylinder is a boss B^2 having a chamber b^3 therein which opens through a passage b^4 into the bottom of the cylinder, and in each chamber is a ball valve b^5 which controls said passage b^4 and prevents back flow to the cylinders. In each of said cylinders is a piston C, each of which is provided on its outer end with a coupling head c.

Rigidly secured on oppositely disposed walls of the receptacle are the guide plates or brackets D, each of which is offset centrally from the wall to which it is attached to provide a recess between the same and the wall. The offset portion of each of said plates is slotted vertically to provide ways d, between which are slidably engaged the ends of the horizontal connecting bar E. Journaled in the walls above and slightly to one side of said bar is a shaft E′ on which are rigidly engaged eccentrics e, one adjacent each guide plate D. Carried on each eccentric is a link e', which is apertured at one end to receive the eccentric, and the other end of which extends into the recess back of the guide plate and is secured to a lug e^2 on the end of the bar E. Said connecting bar E is provided in its lower edge with a plurality of notches or seats e^3, each of which is situated above one of the pistons C. A coupling F is slidably engaged in each seat e^3 and each has hooks f on its lower end adapted to engage beneath the coupling head c of the piston. Each of said pistons is provided with an adjusting rod G which extends downwardly through the bar into the seat e^3. The lower end g of the rod is rotatively secured to the coupling F, and above the coupling is screw threaded and has threaded engagement in the bar, so that when said rod is rotated it will move up or down and carry the piston therewith.

The upper end b^6 of each cylinder is flaring or funnel shaped, so that when the piston is adjusted high enough to enable its lower end to travel in said flaring portion it will not pump until said lower end reaches the straight bore of the cylinder. Inasmuch as the travel of the connecting bar is always the same, as is likewise that of the pistons, it is obvious that if any of the pistons are adjusted so that their lower ends are retracted a distance into the flaring portion

of the cylinder during their outward movement, their effective stroke will be shortened by that distance, and consequently the amount of oil pumped will be decreased. The shaft E′ may be rotated in any desired manner, but, as shown, it is provided with a sprocket wheel E^2 which may be connected with any suitable source of power, and by regulating the speed of the shaft the frequency of the piston will be regulated.

Secured in each boss B^2 and extending upwardly therefrom is a feed pipe H which opens from the chamber b^3, and near its upper end is provided with a spout h. Beneath said spout and at an angle of about 45 degrees therefrom, the pipe is provided with an outlet aperture h' which, when the spout is closed, will permit the oil to flow back into the receptacle. Rotatively secured on the top of each feed pipe is a cap h^2, which is provided with a valve plug h^3, the upper portion of which is cylindrical and adapted to fit closely in the upper end of the pipe and close the same. The lower end h^4 of said plug is semi-cylindrical in cross section, and extends down into the pipe into position to control the outlet through the spout and through the aperture h'. A notch h^5 is provided in one side of the feed pipe at the upper end thereof and the cap h^2 is provided with a pin h^6 which projects into said notch, as shown in dotted lines in Fig. 6, and acts to limit the rotation of said cap to approximately 45 degrees, so that when at one limit of its movement the end h^4 of the valve plug will close the aperture h', and cause the oil to flow through the spout, and when at the other limit of its movement will close the spout and cause the oil to flow through the aperture h' back into the receptacle. When at any intermediate point the passage through the spout will be correspondingly opened, and the flow of oil therethrough correspondingly regulated.

Extending downwardly through the bottom of the receptacle are a plurality of delivery pipes H′, each leading to a bearing or other part to which it is desired to supply oil, and the upper end d^7 of each delivery pipe is situated beneath a spout h and is funnel shaped to receive the oil therefrom.

The operation is as follows: When the shaft E′ is rotated the eccentrics e and links e' cause the connecting bar to reciprocate vertically and thereby reciprocate the pistons. During the upward stroke of the pistons the oil is drawn into the cylinders through the inlet ports b', and during the downward stroke the oil is forced from the cylinders through the feed pipes H. If the caps h^2 are adjusted so that the spouts h are open, oil will be delivered to the pipes H′ and will flow therethrough to the bearings. If said caps, or any of them, are adjusted so that the spouts are closed the oil will flow from the apertures h' back into the receptacle. By adjusting any of said pistons so that their lower ends will leave the true portion of their cylinders during part of the stroke and enter the flaring portion b^6, not only will the amount of oil be decreased but the interval between the effective portions of the stroke be lengthened.

Obviously a device constructed in accordance with my invention is adapted to deliver oil to a plurality of bearings at different rates, and obviously also many details of form and construction may be varied without departing from the principles of my invention.

I claim as my invention:

The combination with a casing having guideways on opposite walls thereof, a bar slidably mounted in said guideways and having seats in its under side, means for reciprocating said bar in said guideways, a plurality of cylinders beneath said bar, a piston in each cylinder and each having a flanged head thereon, a coupling in each seat having hooks thereon adapted to engage beneath the flanges on said pistons, rods extending down through said bar into said seats and having threaded engagement in said bar, and journaled in said couplings, a chambered boss opening from the bottom of each cylinder, a pipe extending upwardly therefrom, a spout on said pipe, a valve controlling said spout, and pipes extending through the bottom of the casing and each having a funnel shaped upper end beneath the adjacent spout.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

JOSEPH VIDINA.

Witnesses:
ROBT. KLOTZ,
W. C. KAISER.