May 4, 1926. 1,583,099

G. T. RAYFIELD

OIL DISTRIBUTOR

Filed July 23, 1923 2 Sheets-Sheet 1

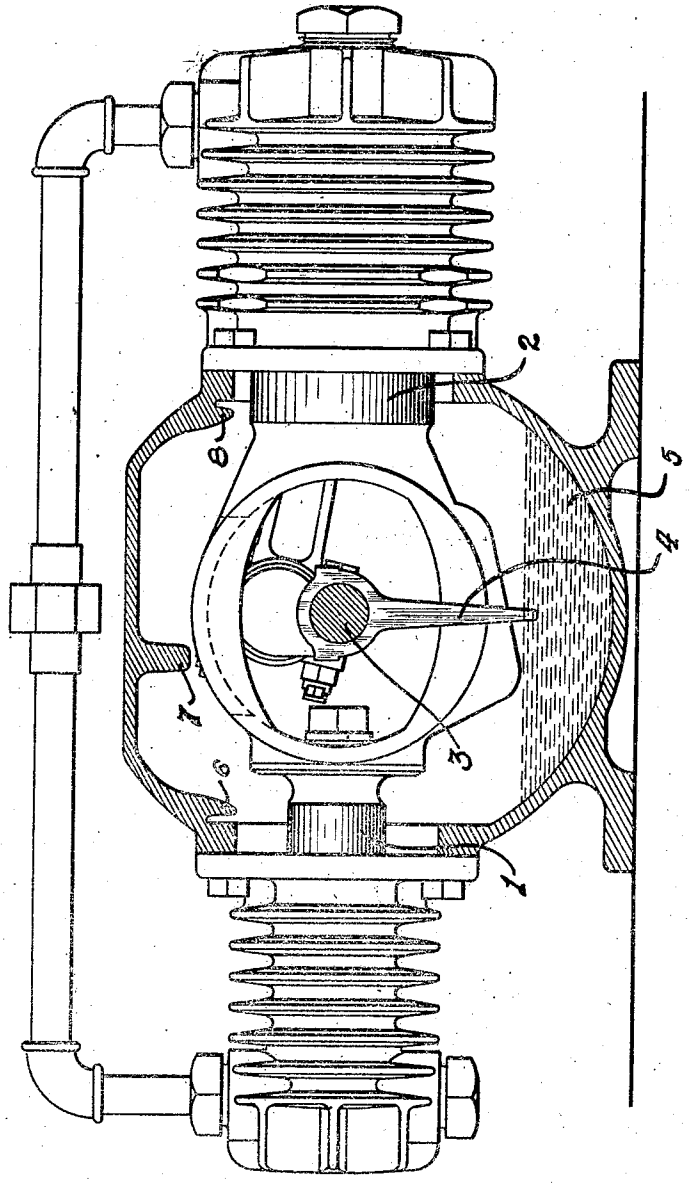


Fig. 1

Witnesses
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Filed July 23, 1923 2 Sheets-Sheet 2

FIG 2

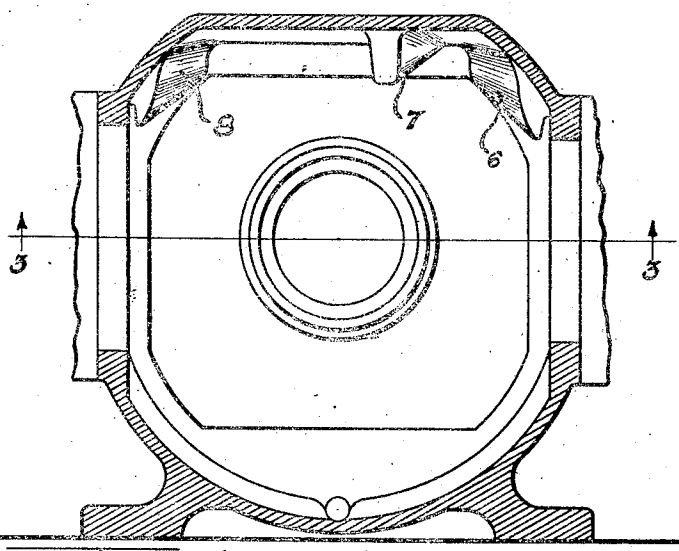


FIG 3

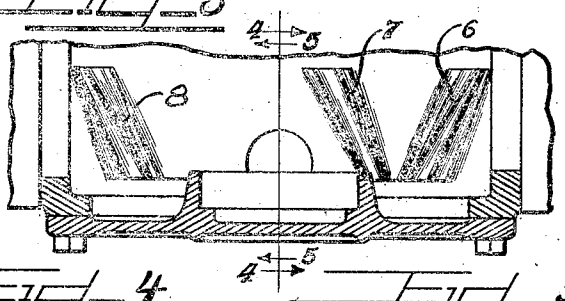


FIG 4

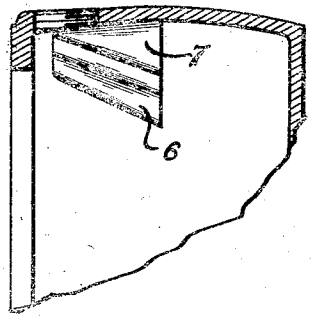
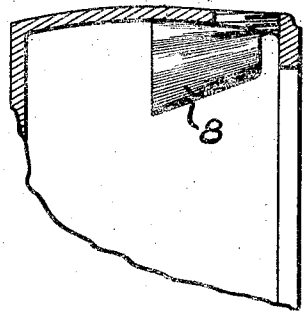


FIG 5



Witnesses

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Patented May 4, 1926. 1,583,099

UNITED STATES PATENT OFFICE.

GEORGE T. RAYFIELD, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHAMPION PNEUMATIC MACHINERY COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

OIL DISTRIBUTOR.

Application filed July 23, 1923. Serial No. 653,155.

To all whom it may concern:

Be it known that I, GEORGE T. RAYFIELD, a citizen of the United States, and a resident of Chicago, of the county of Cook and State of Illinois, have invented certain new and useful Improvements in an Oil Distributor; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to a splash lubricator for properly lubricating parts of a machine.

It is an object of this invention to provide in connection with the splashing mechanism, proper receiving and drip surfaces which guide the lubricant to the desired points and feed it in proper proportions or amounts to the parts to be lubricated.

It is a further object of this invention to proportion and construct the drip surfaces so that only the proper amount of lubricant will be supplied to the working parts.

With these and other objects in view which will become more apparent in the following description and disclosures this invention comprises the novel mechanisms and combinations hereinafter described and more particularly pointed out and defined in the appended claim.

In the accompanying drawings which illustrate a preferred embodiment of this invention and in which similar reference numerals refer to similar features in the different views—

Fig. 1 is an elevational view of a compressor partly in section showing the application of this invention.

Fig. 2 is a fragmentary sectional view showing the drip surfaces upon the upper interior wall of the compressor and is a rear view with respect to Fig. 1.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary sectional view upon the line 4—4 looking in the direction of the arrows pointing to the right.

Fig. 5 is a sectional view upon the line 5—5 coincident with the line 4—4 but looking in the direction of the arrows pointing to the left.

As shown in the drawings:

In referring now to the drawing it will be observed that my invention has been illustrated in connection with an air compressor having a pair of alined cylinders in which the pistons 1 and 2 are adapted to reciprocate. These pistons are connected for conjoint reciprocation to a crank or the like on shaft 3 which is journaled in the walls of the casing. The connection of the pistons to the shaft 3 comprises well known means and does not constitute a part of this invention.

The invention concerns itself with means for properly oiling and lubricating the pistons and shaft 3, and to this end, a splasher 4 is secured adjacent one end of the shaft 3 for rotation therewith for splashing the oil in the oil chamber 5 upwardly against the drip surfaces 6, 7 and 8, the drip surfaces 6 and 8 lubricating the pistons and the drip surface 7 lubricating the connection of the pistons with shaft 3.

The drip surfaces 6, 7 and 8 extend from the plane of rotation of the splasher 4 inwardly over the pistons 1 and 2 and their connections with the shaft 3. These drip surfaces are best shown in Figs. 2, 3, 4 and 5; they are formed upon humps or projections integral with the casting. With respect to the plan of rotation of the splasher 4, these projections slope inwardly and downwardly so that the oil or lubricant will creep or flow inwardly over said surfaces and drop from the edges thereof upon the parts to be lubricated. The lower margins of the projections 6 and 8 are rounded and comparatively narrow and converge inwardly, as shown in Figs. 2 and 3 for this purpose, and they have a greater slope than the projections 7 which has a broader lower margin. On account of these structural features, the lubricating capacity of the surfaces 6 and 8 are less than that of the surface 7, more lubricant being required for the bearings than for the pistons.

With reference to Fig. 1, the splasher 4 is designed to rotate in a clockwise direction, and during its rapid rate of rotation it will splash the lubricating oil which is generally used against the higher portions of the drip surfaces, as is obvious. The oil will then creep inwardly and downwardly over the projections and drop from the rear portions of the margins thereof over the parts to be lubricated. The slope

and dripping margins of these projections are designed so that they will feed the proper amounts of usual lubricating oil. It is, however, apparent that the viscosity of the oil determines the necessary structure of the dripping surfaces for a desired feed and no definite rule can be laid down. The particular structural design of the dripping surfaces must be empirically determined on account of the different viscosity of lubricating oils in connection with the feeding capacity of the splasher. This invention is designed to broadly teach how different parts may be properly lubricated by the splash system and how the amount of lubrication may be controlled.

However, by varying the size of the oil feeding ribs, the oil supplied to various points may be varied for a given viscosity.

I am aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

In a splash lubricating system for a compressor having a casing provided with a central lubricant chamber and opposed pistons, a rotary splasher supported in said chamber, an inwardly and downwardly sloping projection on said casing adjacent each piston and an intermediate inwardly and downwardly sloping projection on said casing for the purpose set forth.

In testimony whereof I have hereunto subscribed my name.

GEORGE T. RAYFIELD.