

No. 865,101.

C. O. HEDSTROM.

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LUBRICATING MEANS FOR INTERNAL COMBUSTION ENGINES.

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Fig. 1.

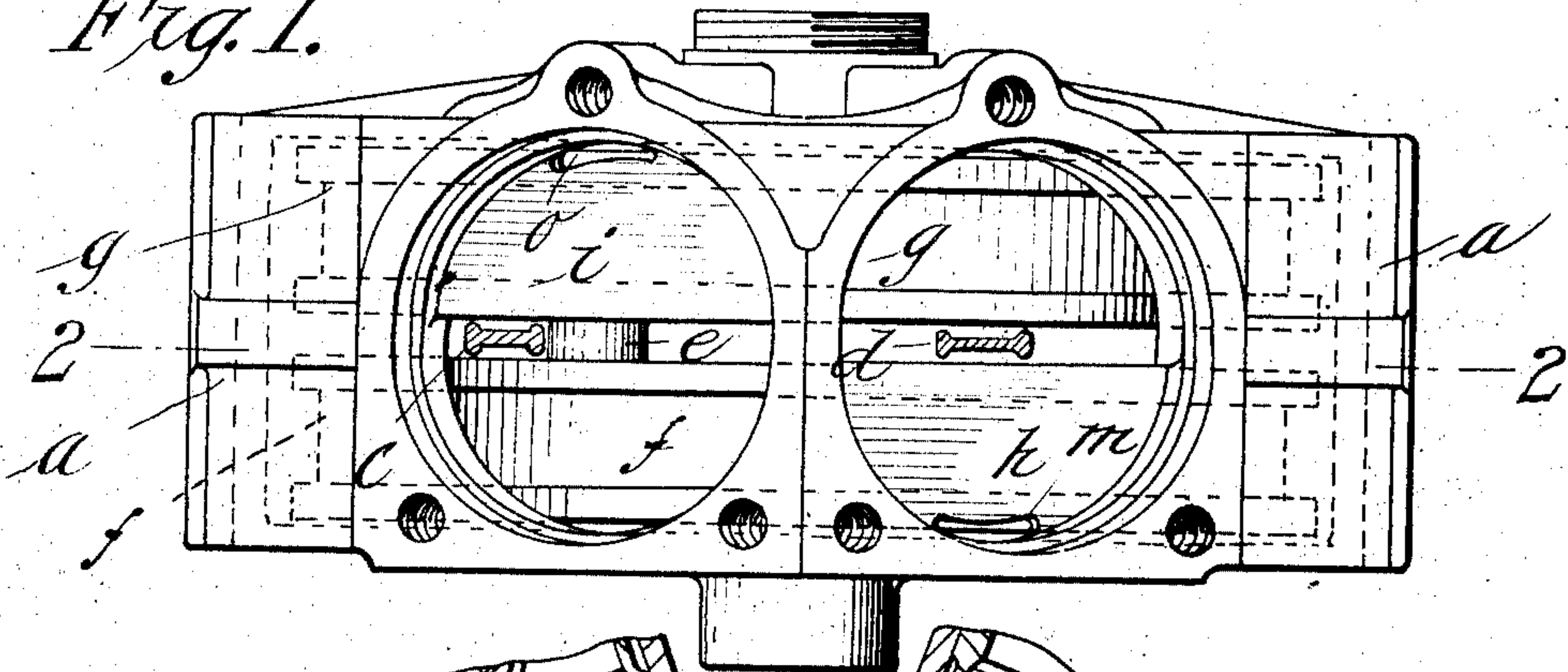
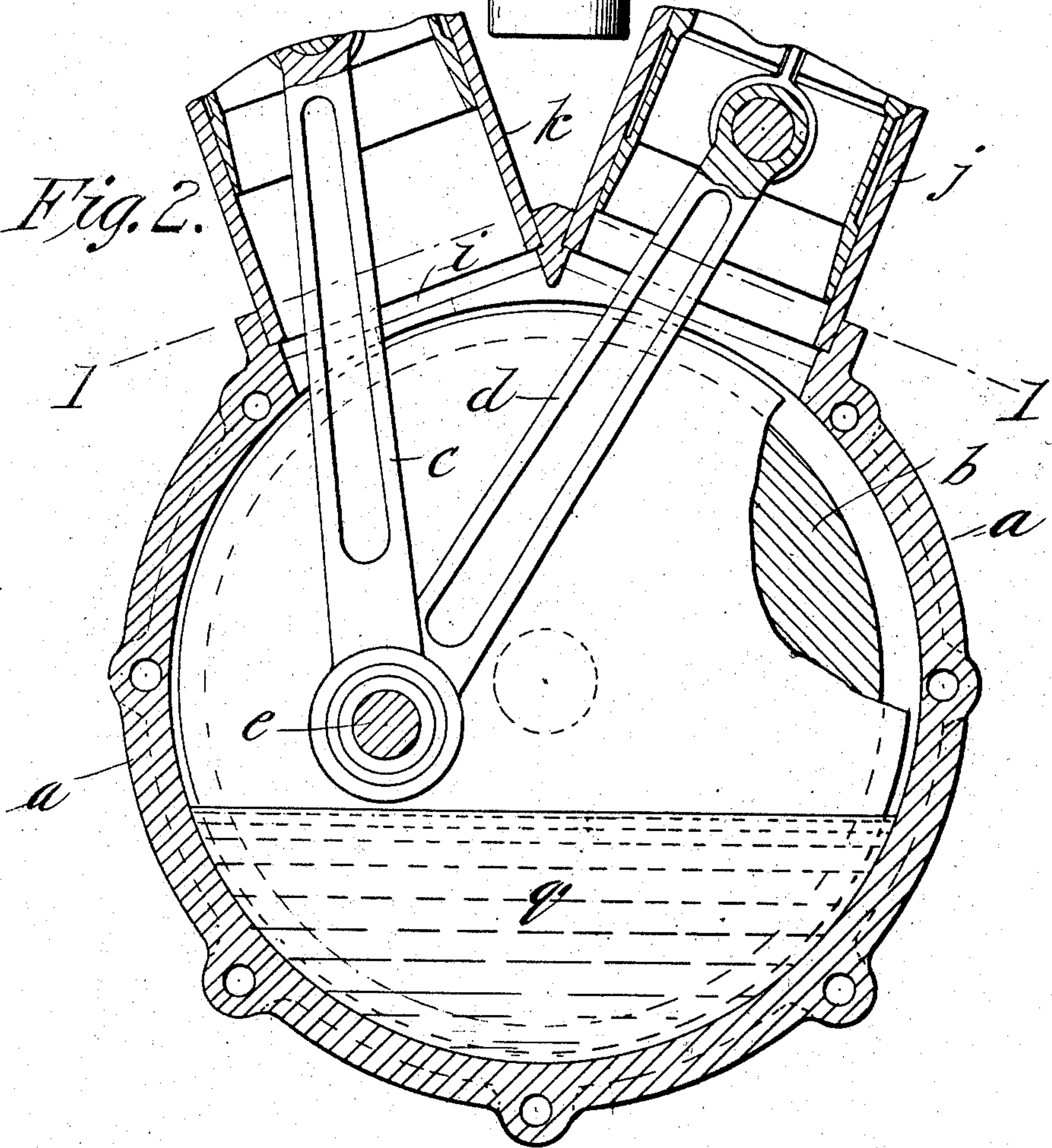


Fig. 2.



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LUBRICATING MEANS FOR INTERNAL-COMBUSTION ENGINES.

No. 865,101.

Specification of Letters Patent.

Patented Sept. 3, 1907.

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To all whom it may concern:

Be it known that I, CARL O. HEDSTROM, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Lubricating Means for Internal-Combustion Engines, of which the following is a specification.

This invention relates to improvements in crank cases for internal combustion engines and has special reference to engines of the double cylinder type, the particular object of the invention being to provide means for oiling the interior of the cylinders from the fly-wheel of the engine by the splash or centrifugal system, and at the same time to prevent the wheel from throwing the oil only into one cylinder, it being understood that the fly-wheel casing is adapted to revolve in oil in the lower part of the casing.

Broadly, the invention consists in providing webs or plates for partially closing the openings in the crank-case where the engine cylinders are attached so that the fly-wheel is prevented from throwing the oil into one cylinder only, as will be fully described in the body of the specification.

In the drawings forming part of this application,—
Figure 1 is a sectional plan view of my improvement on the line 1—1, Fig. 2, showing the plates or webs partially closing the openings in the crank-casing. Fig. 2 is a vertical sectional view on the line 2—2, of Fig. 1, showing the cylinders and casing in section; also disclosing the arrangement and location of the piston-rods, fly-wheel, and the lubricant in the casing.

Referring to the drawings in detail, *a* designates the crank-casing in which is rotatably mounted the fly-wheel *b*; *c* and *d* designate piston-rods that are connected to the common crank shaft *e*. These piston-rods, it will be noticed, are located between the two parts or sections *f* and *g* that compose the fly-wheel, as clearly shown in Fig. 1.

h and *i* designate metal webs or plates that partially close the entrance to the lower ends of the cylinders *j* and *k* and are preferably cast with the casing *a*. These webs or plates, as shown in plan view in Fig. 1, close about one-half of the area of each cylinder. The section or portion *f* of the fly-wheel, from the plan view of Fig. 1, can throw oil into the lower end of the cylinder *k*, but can not throw the oil into the lower end of the cylinder *j*, except a small quantity through the opening *m*, and the fly-wheel section *g* can throw the oil into the lower end of the cylinder *j* but can not into the lower end of the cylinder *k*, except a small quantity

through the opening *o* in the plate *i*. Each section or portion of the fly-wheel therefore oils its own cylinder, and all of the oil is not thrown into one cylinder, as would be the case if the plates *h* and *i* were omitted, which is the usual practice.

The oil that strikes the underside of the plates *h* and *i* by the respective sections of the fly-wheel drips back into the engine casing *a*, as readily understood, except the small quantity that is thrown through the openings *m* and *o*, that are diagonally located over the opposite outer edges of the fly-wheel, as shown in Fig. 1.

By reason of this construction, each cylinder will receive its share of the oil in the distribution of the same by the fly-wheel *b*, the oil being placed in the lower end of the casing *a*, as clearly designated by the letter *q*.

The plates *h* and *i*, it will be observed in Fig. 1, are formed or cast with the casing *a* in the openings where the cylinders *j* and *k* are bolted to the casing *a*.

What I claim, is:—

1. In an oiling system of the class described, in combination, a casing, a rotary member mounted therein, a plurality of cylinders secured to the casing and having pistons therein connected to the rotary member, the rotary member having two sections or portions and located under oppositely disposed plates or webs that partially close the opening to the cylinders, whereby the lubricant which is contained in the casing may be equally distributed by the centrifugal action of the rotary member to the cylinders, said plates being also provided with diagonally disposed openings over the rotary member, as described.

2. In combination with a casing, a rotary member made in two sections and located therein, a casing having openings in one side thereof and provided with the oppositely disposed plates partially closing said openings and located over opposite edges of the rotary member, cylinders secured to the casing and in the openings thereof, whereby during the movement of the rotary member the lubricant will be equally distributed to the cylinders by the centrifugal action of the rotary members, said plates being also provided with oppositely disposed openings, as described.

3. In an oiling-system of the centrifugal type, a casing for containing a lubricant in the lower portion thereof, a rotary member mounted in the casing in contact with the lubricant, the casing being provided with openings at one side thereof and having plates located in the openings and partially closing the same, said plates being located over the opposite edges of the rotary member, whereby the lubricant can be equally distributed by the opposite edges of said member through the openings in the casing, as described.

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