

UNITED STATES PATENT OFFICE.

WILLIAM JOHN FERGUSON, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO WILLIAM G. H. STUMP, OF SAME PLACE.

AUTOMATIC OILER.

SPECIFICATION forming part of Letters Patent No. 555,475, dated February 25, 1896.

Application filed October 28, 1895. Serial No. 587,070. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOHN FERGUSON, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Automatic Oilers, of which the following is a specification.

This invention relates to an automatic oiler of the type shown in my United States Patent No. 544,274, granted August 6, 1895.

The object of this invention is to provide an improved construction of automatic oiler for use on the movable parts of engines and machinery, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical cross-section of the oiler. Fig. 2 is a top view of the removable screw-threaded nipple. Fig. 3 is a horizontal section of the oiler. Fig. 4 is an end view of the same. Fig. 5 is a top view of the screw-cap of the interior cup. Fig. 6 is a perspective view of the removable curved guide-plate. Fig. 7 is a top view of the oil-controlling plate.

Referring to the drawings, the letter A designates a rectangular-shaped exterior case, having comparatively long top, bottom, and side walls, a a' a^2 , respectively, and narrow end walls, a^3 . The bottom of the exterior case is provided with a circular neck or boss b , having a discharge-nozzle b' , with a passage c for the discharge of oil, and a removable screw-threaded nipple C has a flanged wall C' to surround the said boss and a passage c^2 to receive the discharge-nozzle b' . The nipple also has a squared or hexagonal-shaped part C^2 , to which a wrench may be applied when it is desired to engage the nipple with a screw-threaded hole in any movable part of an engine or machine or to remove it therefrom. By providing this removable nipple advantage is obtained over an oiler in which the nipple is integral, for the reason that sometimes there is not room enough between the adjoining parts of engines or machinery to allow of revolving the whole oiler to screw the nipple in. With my construction by applying a wrench to the squared part C^2 the nipple may be screwed into the threaded hole on the movable part of the engine or machine, and then the boss b of the oiler may be set

down inside of the flanged wall C' and clamped by a set-screw C^3 .

The case A has on one long side a^2 an opening closed by a glass or mica panel d . On the inner wall of the case is a shoulder e , and the glass panel d rests thereon. The inner edge of the case outside of said shoulder has a screw-thread f , and a ring g screws thereinto and thus confines the glass panel. A suitable washer h h' is on either side of the glass or mica panel and serve to make the parts tight. By means of the glass panel the amount of oil in the chamber B of the exterior case may be ascertained, and also the action of the oil as it is thrown or sloshed from one side to the other may be seen. The top of the case has a circular opening and a flange i around it, which is screw-threaded and closed by a screw-cap j .

An interior cup, K, has at its bottom a tubular stem l , which fits in the neck b of the case, and a passage-way c' in this stem connects with the passage-way c in the neck. The stem l supports the cup K rigidly. This cup is imperforate, except the open tubular stem at the bottom. This cup may contain suitable absorbent material, such as cotton-waste or sponge.

A screw-cap K' closes the cup K and has at one side an inlet-hole q and an upward-projecting stem r in the center. At its base this stem is square and above the square part it is screw-threaded, as at r' . A plate s is on top of the cap K' , and has in the center a square hole t which fits over the square base of the stem r and is thereby prevented from turning. This plate s has four holes u' u^2 u^3 u^4 of graduated size, from u' , the smallest in size, to u^4 , the largest. This plate may be set in position on the cap, so as to have either of the said graduated holes coincident with or in register with the inlet-hole q in the cap. Thus the particular one of these four holes which happens to be in register with the inlet q will constitute the control of feed-oil and may be adjusted by changing the holes. A thumb-nut v fits on the screw-threaded part r' of the stem and confines the oil-controlling plate s to its position. A suitable washer w is or may be interposed between the top of the cap K' and the plate s . This washer

is intended to remain stationary, and has a hole which is in register with the inlet-hole q in the cap.

In the chamber B is a curved guide-plate M formed of metal bent in partly-circular form, as shown in Fig. 6. The guide is provided at the center and bottom with an opening n and each of its two ends with a flange o . The tubular stem l of the interior cup, K, passes through the opening n in the guide, and the base of the cup rests upon the guide-plate adjacent said opening. The two curved sides of the guide-plate bulge out on opposite sides of the interior cup, leaving a small open space x between for sloshing of the oil, and between said guide-plates and end walls, a^3 , are larger spaces, serving as storage-spaces for oil. The flanged ends o of the guide-plate engage with shoulders p at the base of the circular opening in the top of the exterior case, A. The guide-plate is thus held in position. The spaces x between the interior cup and curved guide-plate referred to and a narrow passage or space y at each side between the edges of the guide-plate and side walls, a^2 , afford access for circulation of oil to said cup.

From the foregoing description it will be understood that by making the exterior case, A, long and narrow in the horizontal direction with end walls, a^3 , a storage-space capable of holding a comparatively large quantity of oil is formed between each end wall of the case and each guide-plate M, while the contracted width of the case permits of the oiler being applied to movable parts of engines and machinery which have movement in narrow spaces insufficient for the passage of a circular oiler of the same oil-storage capacity.

It will be seen that in operation when the chamber B contains oil the constant movement of the entire device will cause the oil in the space x to slosh against the curved guide-plates M, and this oil will thereby be guided or conducted upward so as to lodge on the plate s , and some of this oil will pass through one of the graduated holes and the inlet-hole q into the interior cup, K, where it will be absorbed by any material the cup may contain. The oil held absorbed will then trickle or filter through the material and ooze from the passage $c'c$ to the part of machinery that is to be oiled.

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

1. An automatic oiler comprising a case which is long and narrow in the horizontal direction and provided at its bottom with a

neck or boss having a passage for discharging oil; an interior cup for absorbent material centrally disposed in said case and provided at top with an inlet and at its bottom with an outlet-passage for oil, said outlet-passage being coincident with the said passage in the neck of the case; and two curved guides each having position at an opposite side of the said interior cup and between the cup and the end walls of the case but nearer the cup than said end walls, whereby a comparatively large storage-space for oil is formed between each end wall of the case and the guide adjacent thereto, while a smaller space for the sloshing of the oil is formed between each guide and the interior cup, substantially as described.

2. In an automatic oiler, the combination of a case which is long and narrow in the horizontal direction and provided with a neck or boss having a passage for discharging oil; an interior cup centrally disposed in said case and provided at top with an inlet and at its bottom with a screw-stem fitting into said neck and having an outlet-passage for oil which is coincident with the said passage in the neck of the case; and a part circular-shaped guide-plate provided at its bottom with a center opening through which the said screw-stem of the interior cup passes and confines the plate, the two side arms of the guide-plate extending from said bottom opening upward on opposite sides of the cup, substantially as described.

3. In an automatic oiler, the combination of a case which is long and narrow in the horizontal direction and provided with a neck or boss having a passage for discharging oil; an interior cup centrally disposed in said case and provided at top with an inlet and at its bottom with a screw-stem fitting into said neck and having an outlet-passage for oil which is coincident with the said passage in the neck of the case; and a part circular-shaped guide-plate provided with a center opening through which the said screw-stem of the interior cup passes and confines the plate, the two side arms of the guide-plate extending from said bottom opening upward on opposite sides of the cup, and provided at their upper ends with flanges which engage with shoulders in the top of the exterior case, substantially as described.

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

WILLIAM JOHN FERGUSON.

Witnesses:

THOS. C. BAILEY,
CHARLES B. MANN, Jr.