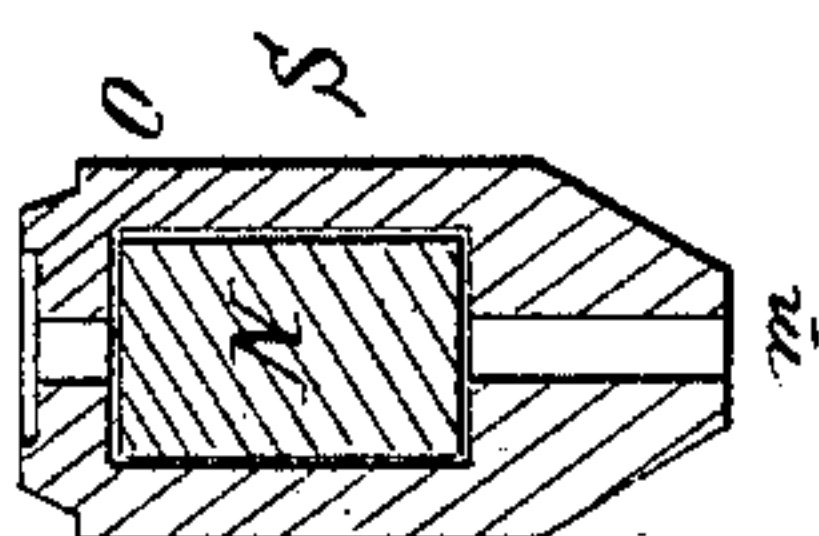


D. H. SEYMOUR & H. R. A. BOYS.
Oil Cup.

Patented Sept. 14, 1880.



C. Sedgwick,
Chas. Nida.

Fig: 4

INVENTOR:
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UNITED STATES PATENT OFFICE.

DAVID H. SEYMOUR AND HENRY R. A. BOYS, OF BARRIE, ONTARIO, CANADA;
SAID SEYMOUR ASSIGNOR TO SAID BOYS.

OIL-CUP.

SPECIFICATION forming part of Letters Patent No. 232,306, dated September 14, 1880.

Application filed July 24, 1880. (Model.)

To all whom it may concern:

Be it known that we, DAVID H. SEYMOUR and HENRY R. A. BOYS, of Barrie, Province of Ontario, Dominion of Canada, have invented
5 a new and Improved Oil-Cup, of which the following is a specification.

This invention relates to that class of devices that are designed to be applied to steam-cylinders for introducing oil or tallow into the
10 cylinder and upon the cylinder-valves.

The invention consists of an oil-cup provided with a gas-escape, a scum-breaker, and an interior gage, and an adjustable feed-pipe extension.

15 Figure 1 is a front elevation of the device, partly in section. Fig. 2 is a vertical sectional elevation of the same on line *xx*, Fig. 1. Fig. 3 is a cross-section on line *yy*, Fig. 2; and Fig. 4 is an enlarged sectional elevation of the gas-
20 escape.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the cylindrical body of the cup, provided with a vertical
25 central feed-tube, B, whose upper part is internally screw-threaded, as shown at *a*, for the reception of its upper tubular adjustable extension, B', which is provided with four equidistant lateral lugs, *b b*.

30 On that end of the tube B which projects through the bottom of the body A is screwed a valve, C, from which proceeds a connecting-tube, C', by means of which the oil-cup is connected with the steam-pipe, (not shown,) and
35 through which the oil or tallow is fed to the cylinder.

A valve or cock, D, is tapped into the body A of the cup near its bottom, for the purpose of emptying said cup of its contents whenever
40 desired.

A vertical tubular offset, E, is made within the body A of the cup, extending from top to bottom thereof, and having at its top and at its bottom the lateral orifices *cc*, that communicate with the interior or oil chamber of said
45 cup. Within this tubular offset E is placed a tubular glass gage, F, having preferably a white enameled background, that the depth of oil or tallow in it may be seen through the
50 vertical opening E' in the side of the cup.

This gage F is held in place by the screw-rings F', that severally embrace its ends, and are screwed into the ends of the offset E, and the ends of this gage-offset E are severally closed with screw-plugs G.

By thus locating the gage F within the body of the cup it is kept hot when the cup is in use, and consequently we are enabled to use said gage when feeding tallow to the cup, which is not very accurately done by means of gages
55 60 on the outside of cups, on account of the cooling of the tallow in such gages.

It is found in using some oils, especially black oils, that after being a few hours in the cup a scum forms on the surface of the oil, and
65 that small globules of condensed steam flow over this scum and down the feed pipe or tube B before they are large enough to break through said scum, and consequently the feed of oil to the cylinder stops. To obviate this a
70 band of metal, G', which we call a "scum-breaker," which may be sheet brass or tin, is placed around the top of the tube B', so as to rest on the lugs *b b* a half-inch or more below the top of the tube, while it extends about an
75 eighth of an inch above the top of the tube, leaving a space, as shown, between the said tube B' and the band G', so that the oil (represented at H) must flow into the feed-tube B' from below the band G', while by said band G',
80 or scum-breaker, the condensed steam globules are prevented from entering said tube B'; but when they are heavy enough they break through the scum and descend to their proper place at the bottom of the cup beneath the
85 supernatant oil or tallow.

This oil-cup is applied and operated after the manner of other oil-cups, in so far that when connected with a steam-pipe the steam therefrom enters, through the connecting-tube
90 C', feed-tube B, and its extension B', into the body A of the cup, where, condensing into water, (represented at H',) it raises the oil or tallow H, and causes it to flow down tubes B, and out through tube C' into the said steam-cyl-
95 der.

In oil-cups of this class it is found that the air and gases liberated from the hot water and oil in the body of the cup fill the condensing chamber or space above the top of the feed-
100

tube, which condensing-chamber is represented in this instance at K, and is enlarged or diminished by screwing the tubular feed-pipe extension B' down or up, as the case may be, and interfere by their pressure with the accurate working of the cup. Hence, in order to dispose of this air and gas, so that they shall not interfere with the operation of the cup, we have designed what we term a "gas-escape," (represented at S,) forming a chamber or receptacle, L, in the cup screw-cap M, which chamber or receptacle L communicates below with the condensing-chamber K, and above with the open air, by means of the tubular opening m, that extends vertically through the center of said cap M and screw-plug M'.

It is found that a simple aperture, however small, communicating between the condensing-chamber K and the open air, will not answer the purpose, as the oil or melted tallow will blow out through it. Hence we form this chamber L and fill it with a porous substance, N, of some kind, compressed in a metal case, O, as shown, the vertical opening in said case O being a continuation of the opening m of the cap M and screw-plug M'. This porous substance N permits the free escape of the gas and air from the condensing-chamber K, but does not permit the escape of the oil or tallow. Hemp packing, wood fiber, porous cement, and other substances will answer the purpose; but we find that charcoal or coke best serves the purpose intended.

The escape of air and gas may be regulated by screwing or unscrewing the screw-plug M' upon the gas-escape S; but in cases where very inferior and dirty oil is used, as in some establishments, this porous gas-escape will clog, and in such cases we remove the cement

and the hollow case from the gas-escape chamber, and in place of the hollow case we insert a very fine cock, by slightly opening which we occasionally allow the gas to escape, as required; but this method of getting rid of the gas is much inferior to the porous cement when the latter can be used, and we only resort to the cock when very inferior oil is used.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. An oil-cup constructed substantially as herein shown and described, containing the following elements: a porous gas-escape, a scum-breaker, an interior gage, and an adjustable feed-pipe extension, as set forth.

2. In an oil-cup, the combination, with the feed-tube B, of the tubular extension B' and scum-breaker G', substantially as and for the purpose described.

3. In an oil-cup, the combination, with the cap M, provided with tubular opening m and chamber L, of the gas-escape S, containing a porous substance, N, substantially as herein shown and described.

4. In an oil-cup, the combination, with the body A, of the feed-tube B, adjustable extension B', scum-breaker G', valve and connecting-tube C C', cock D, tubular offset E, containing gage F, perforated cap M, screw-plug M', and gas-escape S, containing a porous substance, N, substantially as herein shown and described.

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HENRY RAMMEL ALVES BOYS.

Witnesses:

W. MCKEE,
WM. B. HARVEY.