

H. M. Smith,

Journal Lubricator.

N^o 1552.

Patented Apr. 15, 1840.

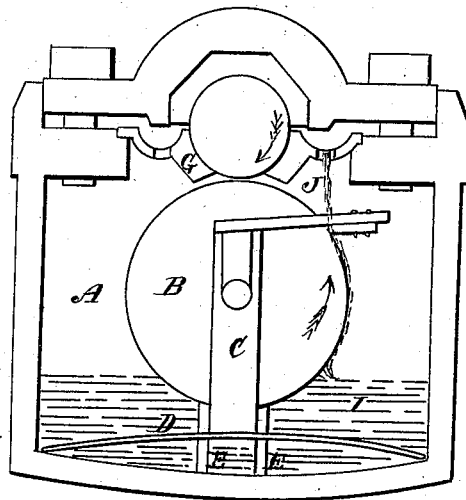


Fig. 1.

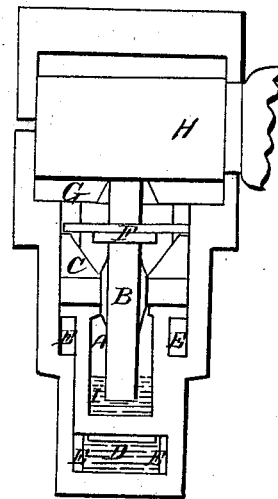
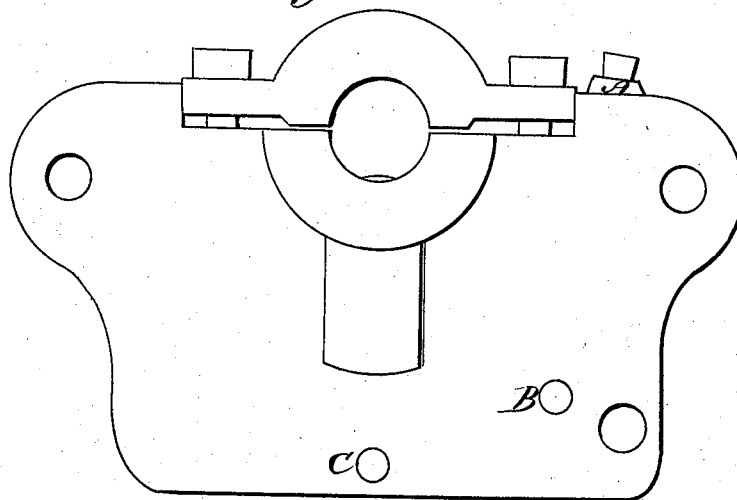


Fig. 2.

Fig. 3.



UNITED STATES PATENT OFFICE.

HIRAM M. SMITH, OF RICHMOND, VIRGINIA.

METHOD OF OILING HORIZONTAL SHAFTS AND AXLES.

Specification of Letters Patent No. 1,552, dated April 15, 1840.

To all whom it may concern:

Be it known that I, H. M. SMITH, of the city of Richmond, county of Henrico, and State of Virginia, have invented a new and
5 Improved Mode of Oiling the Journals of all Horizontal Shafts and Axles; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference
10 being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a section through the middle of the box lengthwise. Fig. 2 is a transverse section also through the middle of the box.

15 The same letters refer to the same parts in Figs. 1 and 2.

A, cistern or oil cup, it consists of a cavity cast in the under half of a box or pillow-block of sufficient depth to receive the wheel
20 B, gate C, and spring D, allowing half an inch space under the center of the spring while the ends rest on the bottom, the length and width of the oil cup to be governed by the quantity of oil it is required to hold.
25 The spring D, is a plain flat piece of spring-steel curved as shown with its ends resting on the bottom of the oil cup without other fastening, it should be of sufficient strength to support from 10 to 20 lbs. in the center. C, gate or sliding frame, it is cast of brass or other metal and slides into the oil cup between the guides E E E E and rests upon the spring D. B, oiler or feeder, it is made of cast-iron and turned perfectly round and
30 smooth and rests in the gate C, in boxes open on top as shown.

F, is a wiper to keep the oil back when the supply would be too great without it, it consists of a small wrought iron frame with
40 knobs projecting from each side between the guides E E and resting on the upper end of the gate C, the other end is faced with thick leather on the under side and rests on the wheel. The under brass G, is made in any
45 of the known forms excepting that it has flanges projecting to cover the opening into the oil cup in which gutters are provided to receive and carry the surplus oil back into the oil cup, and is a quarter of an inch
50 shorter at each end than the pillow block to allow a cast flange to project from the pillow block by the ends of the brass to pre-

vent the oil from leaking out between the brass and the iron, and has an opening in the bottom large enough to allow the wheel 55 to touch the journal without binding against the brass; when the strength of the journal will admit, it will render the operation of the box more perfect to turn a neck to the journal and have the flange from the pillow 60 block project by the brass and fit around the neck as shown at H, in Fig. 2.

I shows the depth of oil in the cup; J, surplus oil running back into the oil cup.

Fig. 3 represents the front of a box with 65 flanges to bolt it to the side of a timber, and is suitable for a threshing machine cylinder and other similar machines; A, is the orifice at which the oil is poured in; B a gage cock to show when the oil is up to the wheel; C, 70 cock to draw off the oil when it has become muddy and unfit for use.

The operation is self evident. As the journal revolves the wheel being pressed up to it by the spring will also revolve, and as 75 it wades in oil at the bottom it will always be wet with it and impart a portion of it to the journal as the wheel rolls against it; as the journal receives oil above its wants it flows over the edge of the brass into the 80 gutter and runs back into the oil cup to be used again and again until unfit for use.

I intend to apply this box to all horizontal journals or bearings, and particularly to R. R. car axles, altering the shape of the 85 box from what I have just described to suit that purpose.

What I claim as my invention and desire to secure by Letters Patent is,

1. The wheel B working in an oil cup 90 and in a sliding frame or gate acted upon by a spring which adapts it to any irregularity of height the bearing is subject to, as herein described. I disclaim it as a friction roller, as I do not intend it to support 95 the bearing but merely to act as an oiler or feeder.

2. I also claim the wiper and the gutters on each side of the bearing in combination with the wheel, as herein described.

H. M. SMITH.

Witnesses:

JABEZ PARKER,
N. W. TAFFORD.