W. P. HOPKINS.

Step for Spindles.

No. 86,399. Patented Feb. 2, 1869.

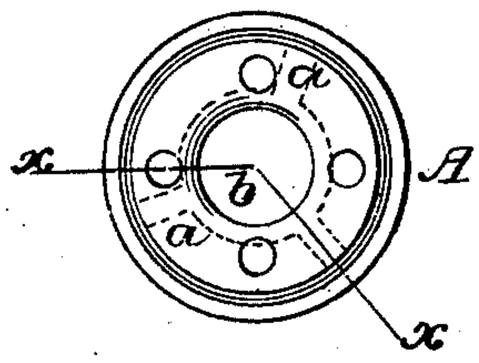
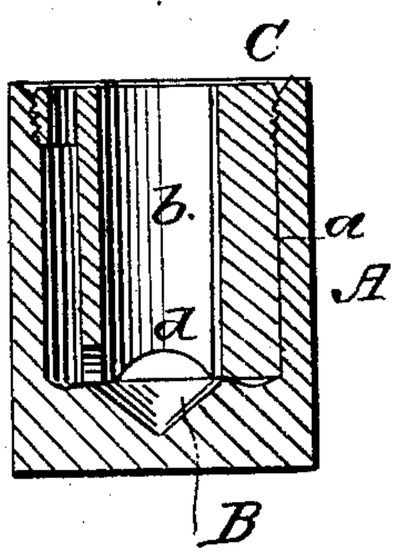


Fig. 2



WITNESSES

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WILLIAM P. HOPKINS, OF LAWRENCE, MASSACHUSETTS.

Letters Patent No. 86,399, *dated February* 2, 1869.

IMPROVEMENT IN STEPS FOR SPINDLES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM P. HOPKINS, of Lawrence, in the county of Essex, and State of Massachusetts, have invented a new and useful Improvement in Steps for Spindles; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to improvements in steps for spindles, whereby it is designed to provide a more reliable and improved means of lubricating the spindles.

In the accompanying drawings—

Figure 1 represents a top view of my improved step, and

Figure 2 represents a sectional elevation of the same, taken on the line *x x* of fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the exterior portion of the step, consisting of a cup, of metallic or other substance, having a socket, B, in the centre of the bottom, and internal screw-threads at the top, for screwing in the bushing C, which I propose to make of smaller diameter below the screwed portion than the interior of the cup, for the purpose of forming an oil-reservoir, and, in some cases, I propose to provide ribs *a*, as represented in both the figures, on the exterior of the bushing below the said screwed portion, for the better maintenance of the same in the central position and against the lateral action of the spindle, the lower end of which passes through the central bore *b* of the said bushing.

d represents passages formed in the lower end of the bushing, between the oil-reservoir and the space for the spindle, to admit the oil to it; and the bottom of the oil-reservoir is made concave, or is lower than the top of the wall forming the socket B, for the purpose of receiving the dirt or other foul matter that will be thrown off from the spindle and its seat by the centrifugal action of the same, from which it may, from time to time, be swabbed out, the bush being unscrewed and raised out of the cup.

The bush is provided with holes in the top, for the purpose of pouring in the oil, and for the application of a wrench for screwing it; also for a vent for the reservoir.

In some cases, the ribs on the exterior of the bushing may be dispensed with, if preferred, as in cases where there is but little lateral pressure on the spindle. The bush being arranged for the spindle to pass through it, admits it to be raised up for swabbing, without disturbing the spindle.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

The combination, with the cup A, of the bushing C, either provided with the ribs *a*, or not, and screwed therein, and both otherwise constructed and arranged as and for the purpose specified.

WM. P. HOPKINS.

Witnesses:

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