

A. S. HOPKINS.
Spindle-Steps.

No. 156,667.

Patented Nov. 10, 1874.

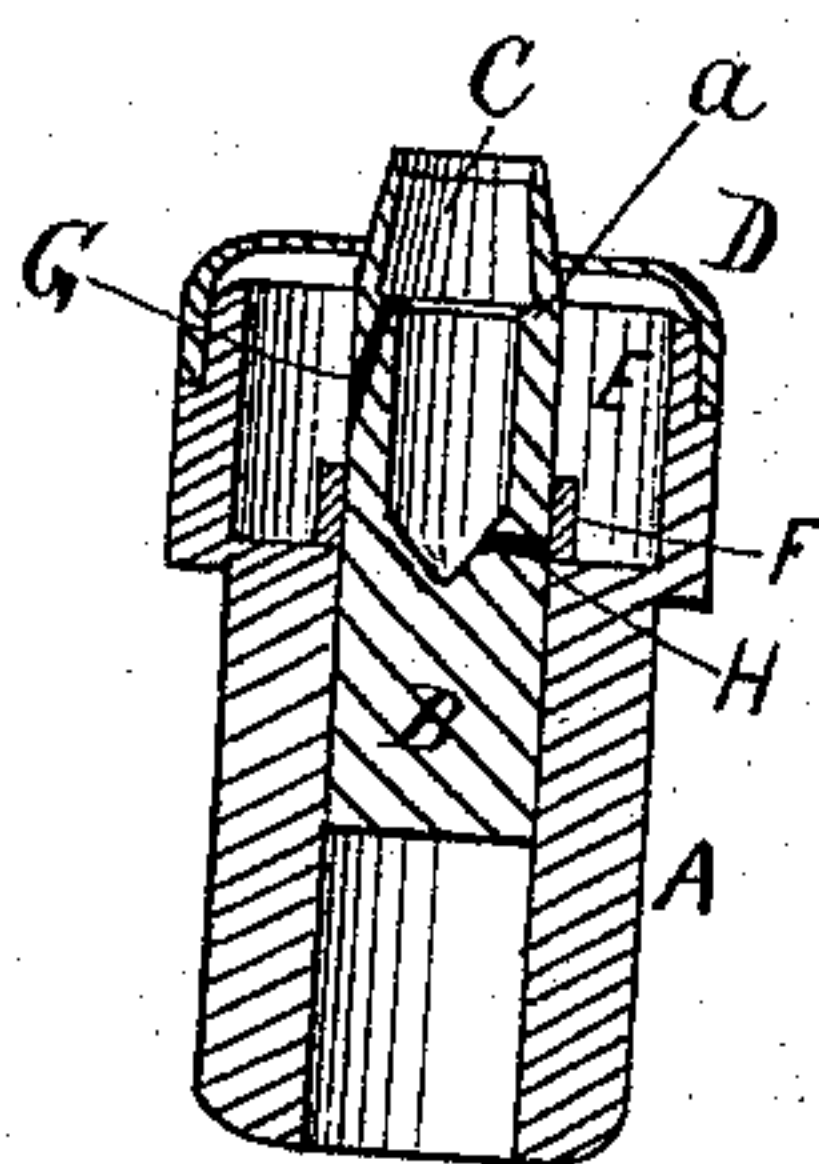


FIG. 1

Witnesses:

Helen E. Metcalf,
F. F. Burlock

Inventor:

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UNITED STATES PATENT OFFICE.

ADDISON S. HOPKINS, OF PASCOAG, RHODE ISLAND.

IMPROVEMENT IN SPINDLE-STEPS.

Specification forming part of Letters Patent No. **156,667**, dated November 10, 1874; application filed August 12, 1874.

To all whom it may concern:

Be it known that I, ADDISON S. HOPKINS, of Pascoag, in the county of Providence, State of Rhode Island, have invented a certain new and useful Improvement in Spindle-Steps, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a vertical longitudinal section, showing my improvement.

My invention relates to means for lubricating the spindle; and consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a greater saving of oil is effected and better results produced than with the steps in ordinary use.

In the drawing, A is the body of the step; B, the bushing or socket-piece; C, the socket; D, the cover or cap, and E the oil-cup. Leading from the cup there is an oil hole or aperture, H, through which the lubricating fluid passes to the spindle below its beveled end, or immediately at the point of support. Near its upper end the socket C is enlarged to form the auxiliary cup *a*, the object of which is to catch the surplus oil carried up by the spindle, and prevent it from being thrown from

the socket by centrifugal force, the oil so caught being returned to the cup E through the conduit G. Within the cup E, encircling the socket-piece B, and covering the mouth of the aperture H, there is a loosely-fitting thin metallic ring, F, (which acts on the principle of capillary attraction,) to hold back or prevent the too rapid flow of oil to the spindle, in a manner which will be readily apparent to all conversant with such matters. The ring also prevents the passage of dirt and the sediment of the oil through the aperture.

I have found that when the aperture H is located above the bevel on the lower end of the spindle the oil is liable to be thrown upward without coming into contact with the point of support or principal bearing-surface, and I therefore arrange it as shown.

As I have made the ring F, oil-cup E, and aperture H the subject of an application for other Letters Patent, I do not herein claim the same broadly; but

What I do claim is—

In a spindle-step, the cap E and thin metallic ring F, arranged over the opening H, in combination with the supplemental cup C and opening G, to feed back the oil to the main cup, all constructed and arranged as set forth.

ADDISON S. HOPKINS.

Witnesses:

C. A. SHAW,
H. E. METCALF.