

HENRY O. LOTHROP.

Improvement in Spindle Step Rails of Spinning Machines.

No. 123,568.

Patented Feb. 13, 1872.

Fig. 1.

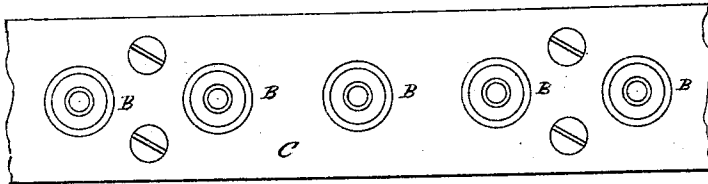


Fig. 2.

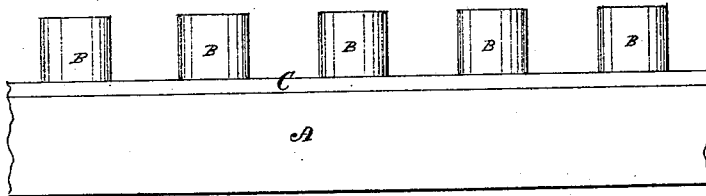
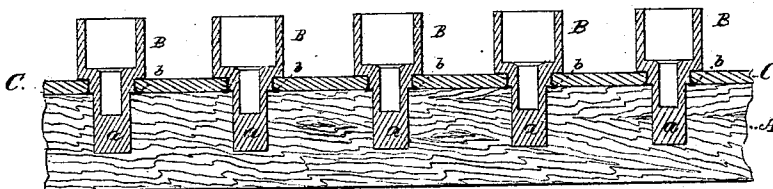


Fig. 3.



Witnesses.

Geo. Poor

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UNITED STATES PATENT OFFICE.

HENRY O. LOTHROP, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO ALBERT H. GILMAN, OF SAME PLACE.

IMPROVEMENT IN SPINDLE-STEP RAILS OF SPINNING-MACHINES.

Specification forming part of Letters Patent No. 123,568, dated February 13, 1872.

To all to whom these presents may come:

Be it known that I, HENRY O. LOTHROP, of Boston, in the county of Suffolk and State of Massachusetts, have made a new and useful invention having reference to the application of Spindle-Steps to the Spindle-Rail of a Mule-Spinning Machine; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 denotes a top view; Fig. 2, a side elevation; and Fig. 3, a vertical and longitudinal section of a series of spindle-steps, as constructed and applied to their supporting rail in my improved manner.

My invention relates to that class of steps which have their lubricating-chambers disposed above their supporting-rail. The object of my invention is to remedy a defect incident to the operation of the steps of a mule-spinning machine as ordinarily constructed and applied thereto—viz., the working loose of the steps in their supporting-rail, such arising from the wood of the rail becoming impregnated with oil from the waste or overflow thereof while the spindles are being lubricated, and their constant jar while the mule is in operation; and my invention consists in forming each of the steps on or firmly and rigidly affixing them to a metallic plate, which, in turn, is to be securely fastened to the step-supporting rail of the mule.

In the said drawing, A may be supposed to represent a spindle-step rail of an ordinary mule-spinner; B B, &c., the spindle-steps which have the form in vertical section, as shown in Fig. 3. C is a metallic plate, which is provided with a series of holes extending transversely through the same and disposed at equal distances apart, the same being to receive the shanks *a* of the said steps. Each of the said shanks is formed with an annular shoulder, *b*, the same having a length a little greater than the thickness of the said plate C; the object of such shoulder, so formed, being to enable its lower part to be upset against the lower surface of the plate C, so as to form a flange or head, and thereby firmly affix the steps to the said plate.

Another mode of carrying out my invention is to make the holes in the plate to receive the shanks of the steps tapering, and with their larger diameters at their lower extremities, and then, by means of any suitable solder, secure the steps to the plate.

Another method by which the steps may be securely affixed to the plate is by means of a screw connection—that is, by forming a male screw on the shank of the step, and a female screw in the plate—or the result may be accomplished by casting the steps in one piece with the plate C. After the steps have been secured to the plate, as above set forth, their shanks are to be inserted in sockets or holes formed in the supporting-rail A, and the said plate secured to the spindle-rail by means of screws, as seen in Fig. 1.

From the above it will be seen that by my construction and application of the steps to their supporting-rail—viz., through the medium of the plate C—such steps are firmly and rigidly supported, and when once affixed in place will always maintain their true normal position; whereas in the old method of applying the steps, each shank being simply inserted in a hole formed in the step-supporting rail, the jar incident to the machine while in operation, and the overflow of the oil used in lubricating the spindles, impregnating the wood and working into the sockets, often caused the steps to become loose so as to seriously affect the operation of the spindles.

I do not limit my invention to the precise methods stated in affixing the spindle-steps to the metallic plate, as any other may be adopted which will firmly secure them thereto.

Having described my invention, what I claim is as follows:—

The combination of the spindle-bearings or steps B B with the metallic plate C and the supporting-rail A, when the steps are applied to the said plate in manner as described, and both are arranged and applied to the supporting-rail, in manner as set forth.

HENRY O. LOTHROP.

Witnesses:

F. P. HALE,
F. C. HALE.