W. S. LUSCOMB.

BOLSTERS AND STEPS FOR SPINNING-MACHINES.

No. 186,486. Patented Jan. 23, 1877.

Fig. 1.

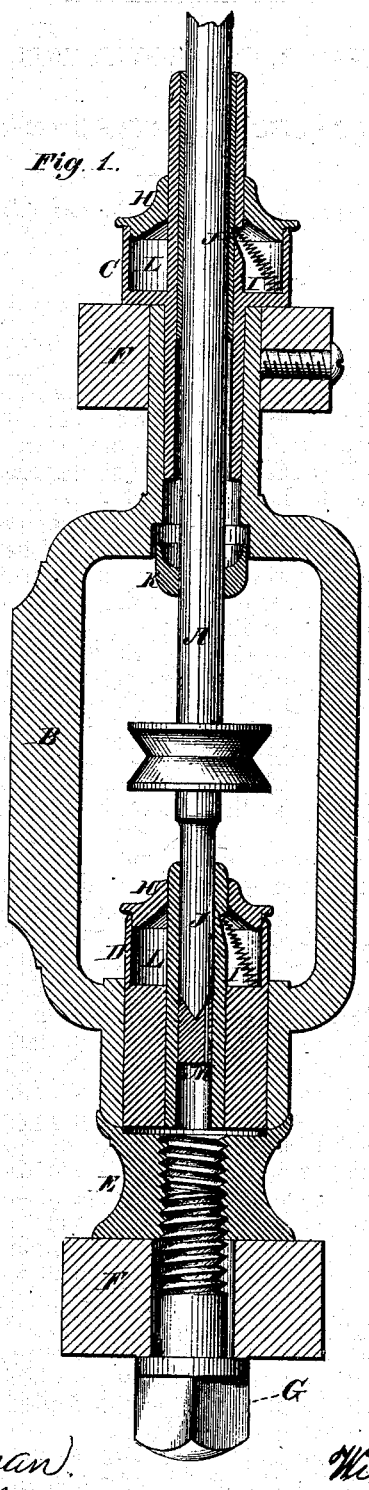


Fig. 2.

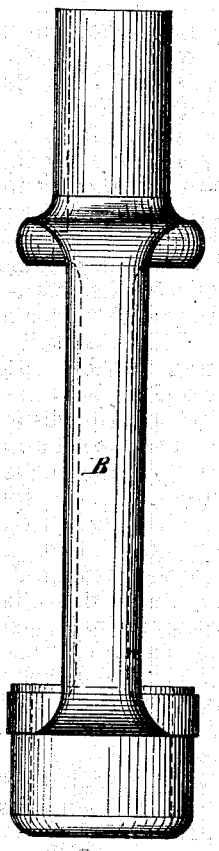


Fig. 3.

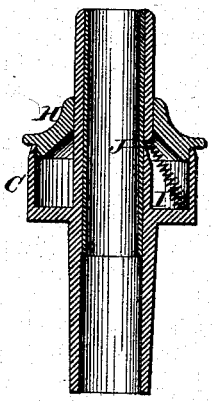
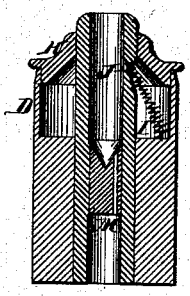


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM S. LUSCOMB, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN BOLSTERS AND STEPS FOR SPINNING-MACHINES.

Specification forming part of Letters Patent No. **186,486**, dated January 23, 1877; application filed May 11, 1876.

To all whom it may concern:

Be it known that I, WILLIAM S. LUSCOMB, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Bolster and Steps of Spinning-Machines, which improvement is hereinafter set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to obtain a spindle which will not be affected by the settling of buildings or floors, but which will retain its original position as first set in motion ready for operation, unaffected by any causes which would change the level or plane of the floor on which the machinery is placed. This object is attained by means of a receiver connected with the spindle, as will hereinafter be described. Another object is a better mode of oiling the spindle than at present has been attained.

Figure 1 is a vertical section of the spindle with the several improvements connected therewith.

A represents the live spindle; B, the receiver; C, the spindle-bolster; D, the spindle-step. E is the step or support to the receiver B, hereinafter called the "receiver-step." F F are the rails. G is the screw for securing the receiver-support E to the lower rail F. H H are the caps to the oil-receptacles L L. The oil-receptacles are the spindle-bolsters C and spindle-step D, cupped out for that purpose. I I are oil-conductors used in spindle-bolster C and spindle-step D, which hold the oil. These oil-conductors may be made of metal, or of any material which, by vibration, will cause the oil to flow along the surface of the material from the source or fountain of supply. J J are holes or openings through the spindle-bolster C and spindle-step D, next to the spindle A, through which openings the points of oil-conductors I I penetrate just far enough to come in slight contact with spindle A, so that when the spindle is in motion, the oil-conductors I I will vibrate by the touch, and by this vibration the oil in the oil-receptacles flows slowly up along these oil-conductors I I toward their points of contact with the spindle, thereby constantly feeding it with the oil. I have chosen to make these oil-conductors in spiral form, the main body of which remains in the oil in the oil-receptacles.

I do not limit my invention to that form, neither to any metallic substance which I have preferred to use in this form.

I am aware that spindles are oiled by the use of absorbents, and make no claim to any such process. By my invention the oil is not absorbed or pressed out, but, on the contrary, the method devised feeds the spindle by the transmission of the oil over the exteral surface of the material used for such transmission. I claim for this mode of oiling a utility and superiority over existing methods, because it avoids the collection of dust, particles of matter, and incrusting of the absorbents which result after a time from the use of absorbents, and which necessarily, unless frequently replaced, are communicated to the spindle, to its injury. By this vibration, caused by the contact of the projecting points of these oil-conductors I I through the openings J J, these openings are kept clear from the collection of foreign materials, as they are to be made small enough and only large enough for the free vibration of these projecting points when in contact with the spindle in operation, and for the oil so flowing along the surface of these conductors to get to these points.

K is the collar to keep the spindle from rising at doffing. M, in Figs. 1 and 4, is to represent an open passage through the lower extremity of the spindle-step D, beginning at one side of the center of the step. Through this open passage the refuse oil upon the spindle can pass off, instead of collecting around and about the step of the spindle.

Fig. 2 is a front elevation of receiver B. Fig. 3 is the spindle-bolster C. Fig. 4 is the spindle-step D.

The lower extremity of spindle-bolster C, through which the spindle A passes, is tapered, so as to fit so closely into the upper extremity of receiver B as to be held firmly by the latter. The upper extremity of receiver B is adjusted in its shape to hold securely the tapered spindle-bolster C. The lower extremity is so formed at its upper part as to receive and hold firmly in its place interior to it the spindle-step D, as shown in the drawing. The lower part or base of the lower extremity of

receiver B may be a ball-joint, or of any other shape or form which will enable it to adjust itself to any irregularities of the rail F from any cause when the receiver rests upon the step or support E. This receiver step or support E is connected with the screw G, which secures it to the lower rail F, and is so adapted at its point of contact with the lower extremity of receiver B as to enable the receiver to move in or upon the support E, so that any strain or irregularity will be felt by and affect the adjustable receiver B, and not the spindle A. I have made the part of the receiver B where it comes in contact with the receiver-step E rounding; but it may be made in any other shape which will readily adjust it to the position of the receiver-step.

What I claim, and desire to secure by Letters Patent, is—

1. The spindle A, in combination with the spindle-bolster C, the receiver B, the spindle-step D, the receiver step or support E, and the rails F F, substantially as described.

2. The receiver B, in combination with receiver-step E and rails F F, substantially as described.

3. In combination with a rotating spindle and a bolster or step, provided with an oil-receptacle and an interior sleeve having a perforation, as described, a flexible oil-conductor extending from within the oil-receptacle through the perforation to and bearing against the spindle, whereby, when the latter is in motion, the said conductor will be caused to vibrate, and thus feed oil to the spindle-bearings, as set forth.

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Witnesses:

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