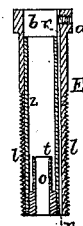
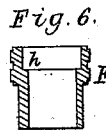


**Patented Aug. 26, 1879.**



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MECHANISMS FOR SUPPORTING, ADJUSTING, AND LUBRICATING THE SPINDLES OF RING-SPINNING FRAMES.

Specification forming part of Letters Patent No. **218,843**, dated August 26, 1879; application filed May 17, 1879.

*To all whom it may concern:*

Be it known that I, JOSEPH W. WATTLES, of Canton, of the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Mechanism for Supporting, Adjusting, and Lubricating the Spindles of Ring-Spinning Frames; and do hereby declare the same to be described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, and Fig. 2 a vertical section, of a spinning-frame ring and its spindle in part having my invention applied to it. Fig. 3 is a top view, and Fig. 4 a vertical central section, of the eccentrically-bored spindle-supporter. Fig. 5 is a top view, and Fig. 6 a vertical central section, of the eccentrically-bored receiver of the spindle-supporter.

My invention consists, first, in the combination of an eccentrically-bored spindle-supporter and its eccentrically-bored receiver and their flanges, arranged as set forth, with a clamping-nut or oil-reservoir screwed on the shank of the supporter, so as, with the said flanges, to confine, in manner as represented, both supporter and receiver in place within the sustaining-rail; second, in an eccentrically-bored spindle-supporter flanged at and chambered in its upper part, essentially as represented, and provided with a stud or screw extending through the flange into the chamber, in combination with the spindle having a flange fixed upon it to enter the chamber and to be held therein by the said screw; third, in the combination of the eccentrically-bored spindle-supporter flanged and chambered at top, and provided with a stud or screw, as described, with the eccentrically-bored receiver chambered at top to receive and encompass the flange of the said supporter and hold its screw in place, as hereinafter explained; fourth, in the combination of the spindle chambered and having a capillary packing or wick arranged within it, as described, with the spindle-supporter and a separate wick extending through and down from the step of the said supporter; fifth, in the combination of the spindle-supporter having a chamber and an oil-return passage and step, as described, with

a bushing arranged within the supporter, and with respect to the step and the said oil-return passage, as represented; sixth, in the combination of the spindle-supporter having the chamber, bushing, oil-return groove or passage, and a wick, arranged as set forth, with the spindle chambered and provided with a capillary stuffing and an educt to the chamber, as shown.

In the drawings, A denotes a spinning-ring, and B its supporting-rail. C is the spindle, and D the spindle-rail.

The spindle extends into the bore of the spindle-supporter E, such bore being eccentric with respect to the outer cylindrical surface of the said supporter.

The supporter has a cylindrical head or flange, *a*, at its upper end, within which is a cylindrical chamber, *b*, which is concentric with the bore of the bolster, and is to receive a flange, *c*, projecting from and extending around the spindle a short distance below its whirl *e*.

A screw, *f*, screws radially into the flange *a* and extends over the flange *c*, and with such flange serves to keep the spindle from being pulled out of the supporter when a bobbin may be in the act of being removed from the spindle. The head of the screw is flush, or about so, with the circumference of the flange *a*.

Furthermore, the spindle-supporter extends through the bore of a tubular receiver, F, such receiver being provided with a milled head or flange, *g*, within which is a cylindrical chamber, *h*, to receive and encompass the cylindrical flange of the spindle-supporter in order to prevent the screw in such flange from working out of place.

The chamber *h* is concentric with the bore of the receiver, which is eccentric to the outer cylindrical surface of the receiver.

The receiver F is inserted in a cylindrical hole or socket, *i*, in the spindle-rail, there being between the head of the receiver and the top of the rail an annulus, *k*, of leather or other suitable yielding material.

The diameter of the socket corresponds to that of the shank or body of the receiver, which, in Fig. 2, is shown as entirely within the said socket.

Upon its lower part the spindle-supporter is provided with a male screw, *l*, that screws into a nut, *m*, which, in this instance, constitutes the neck of an oil-reservoir, *G*, in and around whose top is a trough or groove, *m'*, having an induct or opening, *n*, leading from it into the oil-holding space of the reservoir. By means of such trough and hole oil may be supplied to the reservoir, the trough serving to intercept any oil that may flow down the outer surface of the nut or neck.

At the foot of the spindle-supporter is a tubular step, *o*, which projects up into the spindle, and is provided with a wick, *p*, that extends from the top to the bottom and out of the step and into the oil-reservoir or to its bottom.

The spindle-supporter is shown as not only provided with a tubular bushing, *z*, inserted within it to receive the spindle, but as having a return oil-passage, *r*, leading from the chamber in the upper part of the supporter down and opening into the reservoir. Furthermore, the spindle within the supporter has a chamber, *s*, made up within it to receive the part *t* of the step and an oil-elevator, which, in this case, is a packing or wick *u*, to raise oil from the wick *p*.

One or more holes, *v*, lead from the upper part of the capillary packing-chamber out through the spindle.

Between the spindle-rail and neck of the oil-reservoir is a leather or yielding annulus, *w*, which encompasses the spindle-supporter.

From the above it will be seen that the nut or reservoir-neck on being screwed upon the supporter serves, with the heads of the supporter and receiver, to confine the supporter and receiver in place within the rail.

By revolving the supporter and the receiver, or either, as occasion may require, the spindle may be adjusted into concentricity with the ring.

In an application for a patent filed in the Patent Office by me on February 10, 1879, and since allowed, I have shown and described a spindle chambered and provided in its chamber with a capillary stuffing, and arranged within an eccentrically-bored bolster, and resting (at its foot) on a step or flat surface sustained by an eccentrically-bored carrier. In this case the spindle was not only revoluble on the step, but capable of moving laterally thereon.

In the mechanism hereinbefore described

the spindle can have no movement independently of the step, except in being revoluble thereon, the step being directly combined with or fixed to the revoluble bolster, and provided with a wick separate from that in the spindle, and extending therefrom through the step and down into the oil-reservoir.

What I claim as my invention is as follows:

1. The combination of the eccentrically-bored spindle-supporter and its eccentrically-bored receiver and their flanges, arranged as set forth, with a clamping-nut or oil-reservoir screwed on the shank of the supporter, so as, with the said flanges, to confine, in manner as represented, both supporter and receiver in place within the sustaining-rail.

2. The eccentrically-bored spindle-supporter headed or flanged at and chambered in its upper part, essentially as represented, and provided with a stud or screw extending through the flange or head into the chamber, in combination with the spindle having a flange to enter the chamber and to be held therein by the screw.

3. The combination of the eccentrically-bored spindle-supporter flanged and chambered at top, and provided with a stud or screw, as described, with the eccentrically-bored receiver chambered at top to receive and encompass the flange of the said supporter and hold its screw in place, as set forth.

4. The combination of the spindle chambered and having a capillary packing or wick arranged within it, as described, with the spindle-supporter and a separate wick extending through and down from the step of the said supporter.

5. The combination of the spindle-supporter having a chamber and an oil-return passage and step, as described, with a bushing arranged within the supporter, and with respect to the step and the said oil-return passage, as represented.

6. The combination of the spindle-supporter having the chamber, bushing, oil-return groove or passage, and a wick, arranged as set forth, with the spindle chambered and provided with a capillary stuffing and an educt to the chamber, all being substantially as shown and described.

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Witnesses:

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