

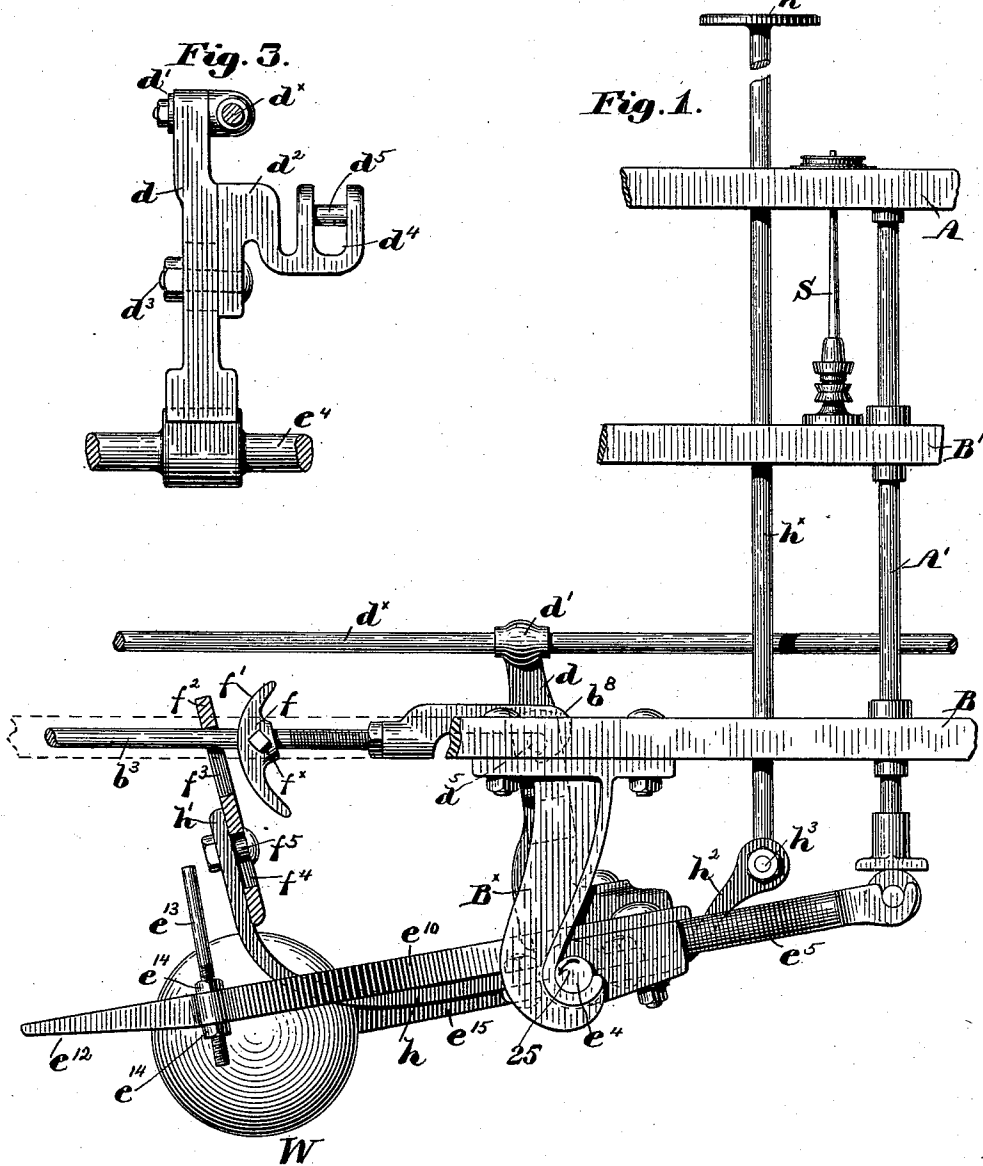
(No Model.)

2 Sheets—Sheet 1.

S. H. DUBOIS.
RING SPINNING FRAME.

No. 570,986.

Patented Nov^r 10, 1896.



Witnesses:

Walter E. Lombard.
Thomas J. Drummond;

Inventor:

Samuel H. Dubois,
by Crosby Gregory. *—Allys*

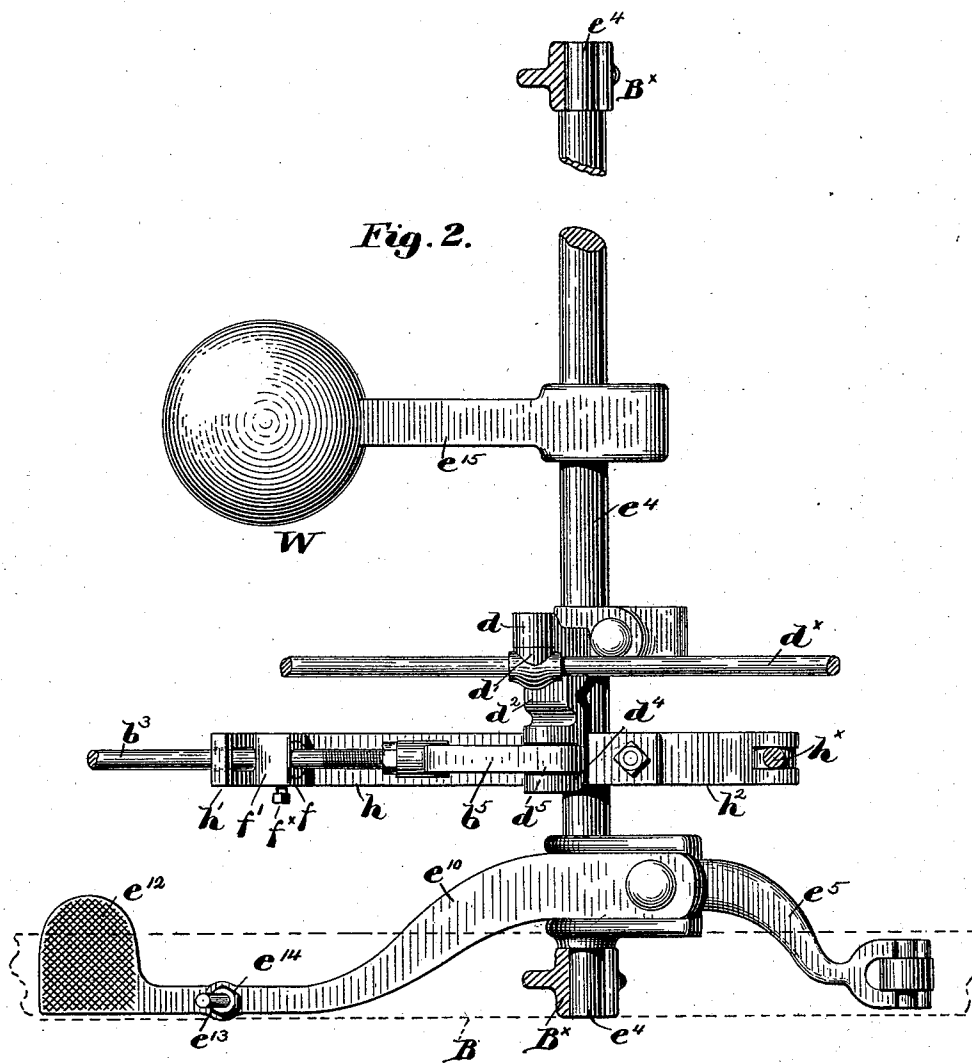
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RING SPINNING FRAME.

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Walter E. Lombard.
Thomas Drummond;

Inventor:
Samuel H. Dubois,
by *Charles Gregory,*
Attys.

UNITED STATES PATENT OFFICE.

SAMUEL H. DUBOIS, OF FALL RIVER, MASSACHUSETTS.

RING-SPINNING FRAME.

SPECIFICATION forming part of Letters Patent No. 570,986, dated November 10, 1896.

Application filed July 15, 1896. Serial No. 599,241. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. DUBOIS, of Fall River, county of Bristol, State of Massachusetts, have invented an Improvement in Ring-Spinning Frames, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to ring-spinning frames, and has for its object the production of a simple and efficient stop-motion for the traverse mechanism, whereby the ring-rail may be stopped at any desired point of the traverse.

By means of my invention the operator can stop the motion of the ring-rail, when necessary, without waiting until the traverse is completed, as is now customary, and the control over the apparatus is thus greatly enlarged and perfected.

Figure 1 is a front elevation, partly broken out and in section, of a sufficient portion of a ring-spinning frame to be understood with my invention embodied therein. Fig. 2 is a top or plan view of the parts shown in Fig. 1, the ring and spindle rails being omitted; and Fig. 3 is a detail to be referred to of a part of the controlling device.

The ring-rail A, its lifting-rods A', the guide-rails B and B' for the lifting-rods, the rail B', supporting the spindles S, the draw-bar b³ of the builder mechanism, and the adjustable hooked ear b⁸ on said draw-bar are and may be of usual or well-known construction.

The rock-shaft e⁴, mounted in depending brackets D^x on the guide-rail B, has secured thereto arms e⁵, provided with rolls to engage the ends of the lifting-rods A', substantially as in United States Patent No. 400,934, to which reference may be had.

The arm e⁵, Figs. 1 and 2, is provided with a rearward extension e¹⁰, having a foot-plate e¹², by means of which the operator can rock the shaft e⁴ when the traverse mechanism is disconnected, and a stop, shown as a threaded stud-pin e¹³, is extended through the part e¹⁰ and held in adjusted position by suitable check-nuts e¹⁴, the end of the stud engaging the rail B to limit the descent of the ring-rail when controlled manually.

A counterpoise W is secured to the rock-shaft e⁴ by an arm e¹⁵ to equalize somewhat

the weight of the ring-rail and parts carried therewith, and, as best shown in Fig. 2, I have rigidly secured to the rock-shaft between the arm e⁵ and counterpoise an upturned arm d, to the upper end of which is swiveled at d' the rod d^x, which conveys the motion of the main rock-shaft e⁴ to the other similar shafts located in other parts of the frame, as is customary.

At one side of the arm d I have shown a stand d², adjustably secured by a bolt d³, so that it may be moved toward or away from the rock-shaft, said stand being bifurcated at d⁴ to form ears which support a horizontal pin d⁵ in parallelism with the rock-shaft e⁴, to be engaged by the hook b⁸ of the draw-bar b³, as shown in Figs. 1 and 2.

The draw-bar may be actuated in any usual manner, as, for instance, by the traverse mechanism shown in the patent referred to, the traverse mechanism forming no part of my invention.

A cam-block f, having a convex surface f', is adjustably secured to the draw-bar by a suitable set-screw f^x, to be engaged and moved at times by a plate f², slotted at f³ to permit the free passage therethrough of the draw-bar, and connected by a slot-and-bolt connection f⁴ f⁵ to the upturned end h' of a lever h. This lever h is loosely mounted on the rock-shaft e⁴, to rock thereupon as a fulcrum, and it is extended at its opposite end at h², a controlling-bar h^x being pivoted thereto at h³. At its upper end, which is within easy reach of the attendant, the bar is provided with a handpiece h⁴, by means of which said bar may be conveniently depressed. If now for any reason it is desired to stop the movement of the ring-rail at any point of the traverse, without waiting until the top or bottom of the movement is reached, the operator with his foot depresses the treadle e¹⁰, thus turning the rock-shaft back a slight distance in the direction of arrow 25, Fig. 1. This movement of the rock-shaft relieves the pin d⁵ of the strain of the draw-bar hook b⁸, and the attendant with his hand at the same time depresses the controlling-rod h^x, thereby lifting the plate f² on the upturned end of lever h. As the plate is lifted it engages the cam-block f, and acting on the face thereof tends to first press the hook b⁸ to the right, Fig. 1,

to maintain it loose on the pin d^5 , and when the draw-bar b^3 is engaged by the bottom of the slot f^3 further upward movement of the plate will lift the draw-bar and hook entirely out of engagement with the pin d^3 and maintain it disconnected. The rock-shaft e^4 and parts moved therewith are thus disconnected from the traverse mechanism, and the operator can raise or lower the ring-rail A, as desired, by means of the treadle.

When it is desired to connect the traverse mechanism again, the treadle is moved to bring the pin and draw-bar hook into engagement, at such time the controlling bar h^x and lever h being in normal position. (Shown in Figs. 1 and 2.)

The cam-block f and the coöperating plate f^2 and lever h form a releasing device for the draw-bar hook, manually controlled by or through the bar h^x , and the treadle e^{10} manually controls the position of the rock-shaft e^4 and parts operatively connected therewith.

My invention is not restricted to the precise construction and arrangement herein shown, as the same may be modified in various particulars without departing from the spirit and scope of my invention.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a ring-spinning frame, the ring-rail, means, including a rocker-arm provided with a pin, to traverse said rail, and a reciprocating hooked draw-bar to normally engage the pin, combined with independent means to

move the rocker-arm, and a manually-operated device having a sliding connection with and to move said draw-bar longitudinally and laterally, to remove the hook of the said draw-bar from the pin, to thereby release the traversing means, substantially as described.

2. In a ring-spinning frame, traverse mechanism, a reciprocating hooked draw-bar detachably connected therewith, and provided with a cam-surface, means to manually move the traverse mechanism, and an independent releasing device to disconnect said draw-bar from the traverse mechanism and maintain it disconnected, said device comprising a lever the upturned end of which has a sliding connection with the draw-bar, the said end of the lever engaging the cam-surface to move the draw-bar longitudinally, substantially as described.

3. In a ring-spinning frame, traverse mechanism, a reciprocating, hooked draw-bar to actuate it, a cam-block on said bar, a lever having thereon a slotted plate, to engage said block and thereafter to disengage the hooked draw-bar from the traverse mechanism, and a manually-operated controlling-bar for said lever, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL H. DUBOIS.

Witnesses:

GEORGE E. BAINFORD,
HENRY H. EARL.