(No Model.)

A. E. RHOADES.

ROVING CLAMP.

No. 575,310. Patented Jan. 12, 1897.

Fig: 1.

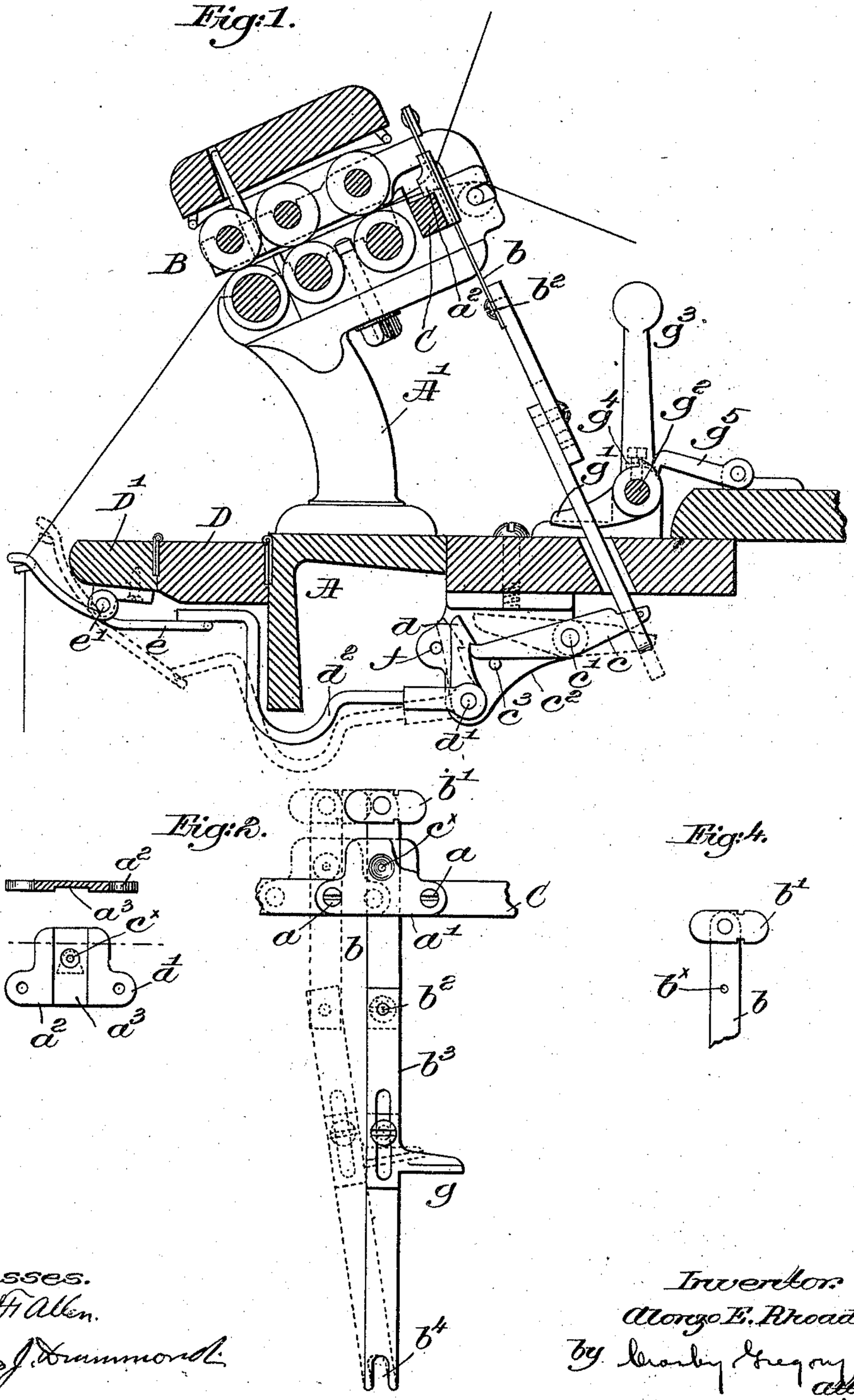

Fig: 2.

Fig: 3.

Fig: 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

ALONZO E. RHOADES, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO GEORGE DRAPER & SONS, OF SAME PLACE.

ROVING-CLAMP.

SPECIFICATION forming part of Letters Patent No. 575,310, dated January 12, 1897.

Application filed August 3, 1896. Serial No. 601,438. (No model.)

To all whom it may concern:

Be it known that I, ALONZO E. RHOADES, of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Roving-Clamps, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Prior to this invention numerous plans have been devised for clamping the roving to stop its delivery on the breaking of the thread between the front rolls and the spindle, and in all these plans the stop rod or lever has extended into the space between the front rolls and the top of the guide-wire board, where they are much in the way and interfere with the expeditious piecing up of the broken thread and with the doffing.

In this my invention I have placed the stop-lever and the main lever of the train of mechanism for actuating the clamp below the guide-wire board, thus leaving the space above said board free for the operation of piecing up and cleaning, and the guide-board is left free, so that its separate blocks may be turned back on their hinges or the entire board be swung up for doffing, &c.

Figure 1, in side elevation, shows a sufficient portion of a spinning-machine with my improvements added to enable my invention to be understood. Fig. 2 shows part of the roving-bar and the clamp detached; Figs. 3 and 4, details to be described.

The roller-beam A, its stand A′, supporting the set of drawing-rolls B, the roving-bar C, and the guide-board D, hinged in place on the beam and provided with a series of blocks D′, also hinged in place, are and may be all as usual, and in practice the roving-bar will be reciprocated by the usual devices. The roving-bar has attached to it by suitable screws a the feet a' of a trumpet-plate a^2, the said plate having at its rear side (see Fig. 3) a groove a^3, in which is free to slide a clamp b, made as a vertically-sliding bar, having at its upper end a pivoted button b', said bar having a hole $b^\times$, which, when the bar is elevated in working position (shown by full lines) stands opposite the hole $c^\times$ in the trumpet and affords ample opportunity for the free passage to the rolls of the roving or material to be spun or twisted. The bar b has loosely jointed to it at b^2 a connecting-rod b^3, slotted at its lower end, as at b^4, to embrace the inner or left-hand end of a clamp-supporting lever c, pivoted at c' on a bracket c^2, said bracket having a stud or projection c^3 to prevent the dropping of the heavier end of said lever below a certain point. The end of said lever nearest the spindles is acted upon by a hook d of a holding-lever pivoted at d' on said bracket and provided with an extended arm d^2, the latter arm being acted upon and held up to keep the said hook in engagement with said lever whenever the stop-lever e, pivoted at e' on the under side of the guide-board, and having at its outer end a guide-eye, has the unbroken thread in said eye, for at such time the stress of the said thread keeps the inner end of said stop-lever pressed up against the arm d^2.

With the parts in the full-line position, should the thread break between the rolls and the stop-lever the latter lever will immediately move into its dotted-line position, and in so doing will release the arm d^2 of the holding-lever, which lets the hook d move away from the end of the clamp-supporting lever c, the hook dropping against its back-stop f. As the lever c is released the clamp b is left free to drop, and its weight coming onto the roving at the entrance side of the trumpet causes the roving to be so held that the rolls in their rotation pull the roving apart close to the nip of the set of back-rolls.

The bar b or its jointed continuation b^3 has a foot g, which, when the said bar drops, meets the toe g' of a lifting device, a number of said toes being attached to a rock-shaft g^2, having a handle g^3, the said rock-shaft having a projection g^4, (shown by full lines,) which may be caught by a catch g^5.

When a foot g descends, it meets a toe, all of said toes being in their depressed position, as shown by full lines.

The buttons b' at the upper ends of the bars normally stand as represented in the drawings, but after a yarn breaks and the clamp descends to part the roving the attendant immediately engages by his hand the button on the clamp which has just operated and turns it one-quarter around, the end of

the button working against the upper end of the trumpet-plate a^2, thus lifting the bar of the clamp until the hole $b^\times$ therein, in which the end of the roving rests, is brought up again opposite the hole $c^\times$ in the trumpet-plate. This button thus acts to temporarily hold up the clamp until the end has been pieced in in usual manner when it will be turned back again.

It will be understood that when a roving-clamp is operated to part a roving and the frame is stopped the tension on all the yarns will be so far removed as to let all the clamps close, and before starting up again for piecing they must all be opened, and for this purpose the attendant will grasp the handle g^3, turn the rock-shaft, causing the toes g' to act on the feet g, and lift the clamps.

The joint b^2 permits the bar b to travel with the roving-bar and yet not displace its notched end b^4 from the lever c.

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

1. In a spinning-machine, a set of rolls, a roving-bar adapted to guide the roving-roll, a vertically-sliding clamp coöperating therewith and adapted to clamp the roving when in its lowest position, and a guide-board, combined with a stop-lever pivotally mounted below said guide-board, a clamp-supporting lever on one end of which the lower end of said clamp rests, and a holding-lever interposed between said stop-lever and said clamp-supporting lever and located below the guide-board, the combination being and operating substantially as described, whereby the rising of the outer end of the stop-lever when a thread breaks, permits the holding-lever to turn in a direction to release the clamp-supporting lever and let the clamp drop to part the roving, as set forth.

2. In a spinning-machine a set of rolls, a roving-bar provided with a grooved trumpet-plate, a vertically-sliding clamp guided in the grooves of said plate and provided with a hole $b^\times$ for the reception of the roving, and a guide-board, combined with a stop-lever pivotally mounted below said guide-board, and intermediate devices between said stop-lever and the lower end of the said clamp to hold the latter up when the roving is unbroken, and to let said clamp drop when the thread breaks, the dropping of the clamp elevating the outer free ends of the stop-lever, to operate substantially as described.

3. In a spinning-machine, a guide-board, a set of rolls, a roving-bar, a vertically-sliding roving-clamp having a loose joint between its ends, the lower end of said clamp being extended below the top of the guide-board, said clamp being connected to and movable with said roving-bar, and a stop-lever, combined with a hook having an extended arm and a lever adapted to be engaged by said hook, the said stop-lever and hook being located below said guide-board, to operate substantially as described.

4. In a spinning-machine, a set of rolls, a roving-rod, and a roving-clamp made as a vertically-sliding bar, provided with a foot, combined with a rock-shaft having a toe coöperating with said foot to raise the said clamp, substantially as described.

5. In a spinning-machine, a set of rolls, a roving-bar, its attached trumpet-plate, a vertically-sliding clamp carried thereby and having a thread-guide $b^\times$ and a button pivotally mounted on the upper end of said clamp to temporarily hold the same elevated, combined with a stop-lever and means intermediate said stop-lever and the lower end of said clamp to retain the clamp elevated when the thread is unbroken and to effect the lowering of the clamp when the thread breaks to clamp and part the roving, substantially as described.

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

ALONZO E. RHOADES.

Witnesses:
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