No. 631,524. Patented Aug. 22, 1899.

D. B. JENKS.

SPINNING FRAME.

(Application filed Apr. 15, 1899.)

(No Model.)

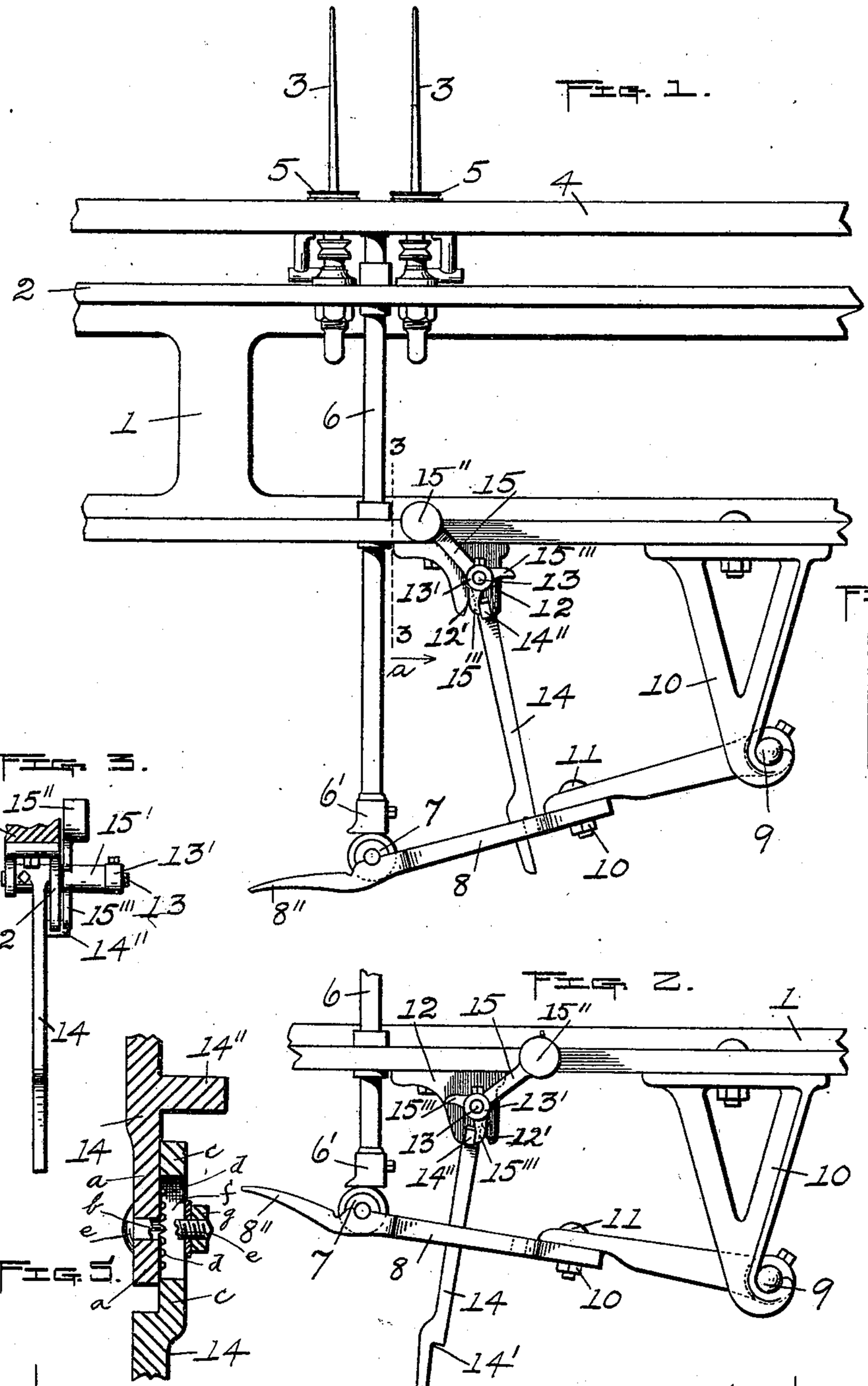

FIG. 1.

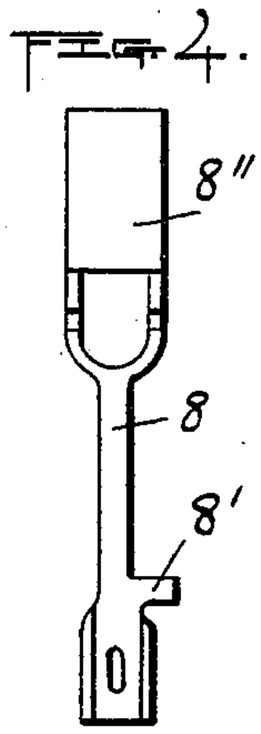

FIG. 4.

FIG. 3.

FIG. 5.

FIG. 2.

Witnesses:

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UNITED STATES PATENT OFFICE.

DANIEL B. JENKS, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR TO THE FALES & JENKS MACHINE COMPANY, OF SAME PLACE.

SPINNING-FRAME.

SPECIFICATION forming part of Letters Patent No. 631,524, dated August 22, 1899.

Application filed April 15, 1899. Serial No. 713,076. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. JENKS, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Spinning-Frames, of which the following is a specification.

My invention relates to spinning-frames, and more particularly to a supplemental attachment, which I term a "doffing-latch," to hold the ring-rail down while doffing.

Heretofore in spinning-frames it has been customary for the operator in order to hold the ring-rail down while doffing to place or wedge a piece of wood or something else between the arms on which the vertically-moving rods of the ring-rail are supported and the lower part of the frame.

The object of my invention is to provide a simple and effective device adapted to be attached to spinning-frames of ordinary construction, and which I term a "doffing-latch," to hold the ring-rail down while doffing. In connection with a weighted arm or lever the doffing-latch is automatic to engage and hold the supporting-arm of the ring-rail rod in its lowered position while the operator doffs or removes the bobbins.

My invention consists in certain novel features of construction and operation of my supplemental attachment or doffing-latch, as will be hereinafter fully described.

I have shown in the drawings only a detached portion of a spinning-frame of ordinary construction sufficient to illustrate my invention applied thereto.

Referring to the drawings, Figure 1 is a front view of a detached portion of a spinning-frame, showing my doffing-latch attachment applied thereto, the doffing-latch being shown in its operative position to hold the spinning-rail down. Fig. 2 shows the opposite position of the doffing-latch in its inoperative position. Fig. 3 is an edge view of the doffing-latch attachment, taken at a point indicated by line 3 3, Fig. 1, looking in the direction of arrow *a*, same figure. Fig. 4 is a plan view of the foot-piece engaged by the doffing-latch; and Fig. 5 is a sectional view of the upper part of the latch shown in Fig. 3, showing a modified construction to adjust the length of the latch.

In the accompanying drawings, 1 is a detached portion of the side frame of a spinning-frame.

2 is the spindle-rail upon which are secured the lower ends of the spindles 3 in the ordinary way.

4 is the ring-rail, carrying the rings 5. The ring-rail 4 is secured upon the upper end of a series of vertically-moving rods 6, only one of which is shown in the drawings.

The lower end of the rod 6 has an enlarged end or foot 6′ thereon, which rests on a roller 7, journaled in the outer free end of the arm or lever 8, fast at its other end on a shaft 9, pivotally supported in a hanger 10, secured to the frame 1. The arm or lever 8 is made in two parts, adapted to be moved in the direction of their length at their connected ends to adjust the length of the lever 8 and secured together by a bolt 11 and nut 10, extending through holes therein in the usual way. The shaft 9 has a weighted arm thereon (not shown) to balance the weight of the ring-rail 4, and said shaft has a rocking motion in the ordinary way to cause the lever 8 to be lowered and raised and through rod 6 the ring-rail 4, carrying the rings 5, to be lowered and raised as the thread is wound on the bobbins (not shown) placed on the spindles 3 in the ordinary way.

All of the above parts are of the ordinary and well-known construction and operation as used in spinning-frames.

I will now describe my supplemental attachment, which I term a "doffing-latch."

A stand or bracket 12 is secured upon the under side of the frame 1 and has thereon bearings for a short shaft 13. On the shaft 13 is fast the upper end of the latch 14. The lower end of the latch 14 is notched at 14′ to engage and extend over a lip or projection 8′ on the lever 8. Extending out from the front of the latch 14, near its upper end, is a knob or projection 14″, and the lower front portion of the bracket 12 is notched or cut out at the point 12′, where the knob 14″ extends out from the latch 14. Each side of the notch 13′ acts as a stop against which the knob 14″

strikes to limit the swinging motion of the latch 14. On the shaft 13, beyond the bracket or stand 12, is loose the hub 15′ of a weighted arm or lever 15, which is held on the shaft 13 by a collar 13′. (See Fig. 3). The arm or lever 15 is weighted at one end 15″ and has at its attached end oppositely-projecting fingers 15‴, adapted to engage the knob 14″ on the latch 14.

The operation of my supplemental attachment or doffing-latch will be readily understood by those skilled in the art.

In the ordinary operation of the spinning-frame the weighted lever 15 is moved to the right, as shown in Fig. 2, and the finger 15″ thereon, engaging with the knob 14″ on the latch 14, turns the shaft 13 and moves the latch 14 and holds it in its inoperative position, with the knob 14″ thereon bearing against one side of the recess 12′ in the bracket or stand 12, as shown in Fig. 2. Preparatory to doffing the operator moves the weighted lever 15 to the left, as shown in Fig. 1, causing the finger 15″ thereon to engage the knob 14″ on the latch 14 and turn the shaft 13 and move said latch to the right, as shown in Fig. 1, where it is ready to engage the knob 8′ when foot-piece 8″ is pressed down. Then when the ring-rail is going up the operator presses down on the free end of the arm 8 by placing his foot on foot-piece 8″ until the latch 14, moved by the weighted lever 15, will be moved to extend over and engage the knob 8′ on the arm 8, as shown in Fig. 1, and thus lock and hold down the ring-rail during the doffing operation, the spinning-frame being stopped at the same time that the latch 14 engages the knob 8′. When the doffing operation is completed, the operator first moves the weighted lever 15 to the right, as shown in Fig. 2, and then, starting the spinning-frame, presses down on the free end of the arm 8 by placing his foot on foot-piece 8″, causing the latch 14 to be disengaged from the arm 8 and swing to the left, as shown in Fig. 2. The arm 8 is then free to rise and through rod 6 raises the ring-rail 4 as the machine continues to operate until the next doffing operation, when the operation of the doffing-latch as above described is repeated.

In Fig. 5 I have shown a modified construction of the latch 14. The latch is made in two parts adjustably secured together to vary the length of the latch. Different styles of spinning-spindles vary a half inch or more in distance from the spindle-rail to the bottom of the wind, and by making the length of the latch 14 adjustable it can be made longer or shorter to lock the ring-rail at the bottom of the wind or a little higher or lower, as may be desired. In this instance one part of the latch *a*, Fig. 5, is made with a tooth or ridge *b*, and the other part *c* is made with a series of recesses or notches *d* to receive said tooth, and the two parts *a* and *c* are secured together by a bolt *e*, extending through a hole in the part *a* and a slot *f* in the part *c* and secured therein by a nut *g*, as shown. By loosening the nut *g* the part *c* may be moved up or down on the part *a* and the tooth *b* engaged with one of the notches *d* and then the two parts *a* and *c* locked together by screwing on the nut *g*.

It will be understood that the details of construction of my doffing-latch attachment may be varied, if desired, and it may be used in connection with the independent scale-beam in a spinning-frame as well as the regular scale-beam shown in the drawings.

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

1. A doffing-latch device for spinning-frames, &c., comprising a latch or lever pivotally supported at its upper end, and notched at its lower end, and a weighted arm or lever to engage the latch and move it into, or out of its operative position, substantially as shown and described.

2. A doffing-latch device for spinning-frames, &c., comprising a latch or lever made in two parts adjustably secured together, and pivotally supported at its upper end, and notched at its lower end, and a weighted arm or lever to engage the latch and move it into, or out of its operative position, substantially as shown and described.

3. In a spinning-frame, the combination with the arm or lever, supporting the vertically-moving rods of the ring-rail, of a latch or lever pivotally supported at its upper end, and adapted to be moved into engagement at its lower end with said arm or lever to hold it in its lowest position, and to be disengaged from said arm or lever, and a weighted arm or lever pivotally supported and adapted to engage and move the swinging latch, and hold it in its operative or inoperative position, substantially as shown and described.

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Witnesses:
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