

(No Model.)

S. A. JENKS.

LOCKING BAR FOR SPINDLES ON SPINDLE RAILS.

No. 461,199.

Patented Oct. 13, 1891.

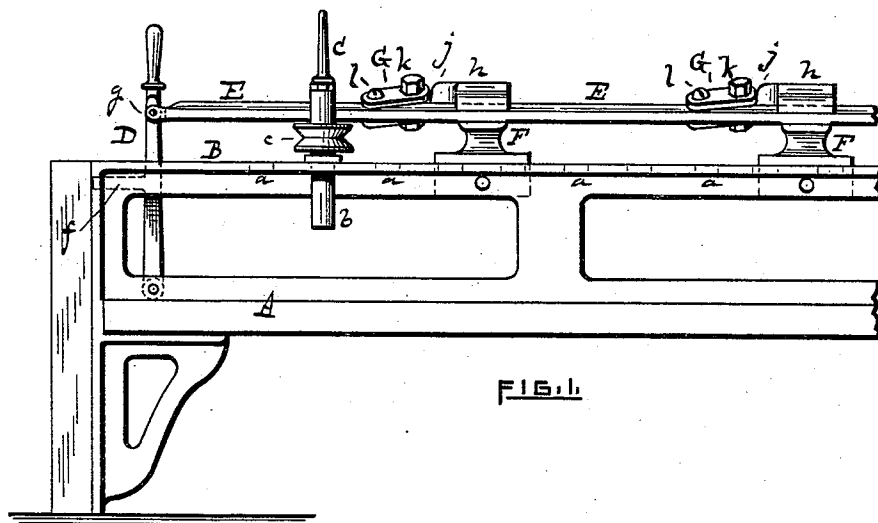


FIG. 1.

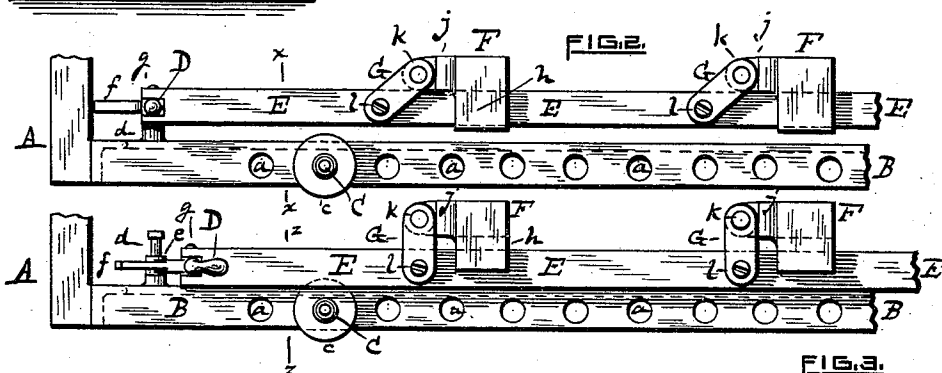


FIG. 3.

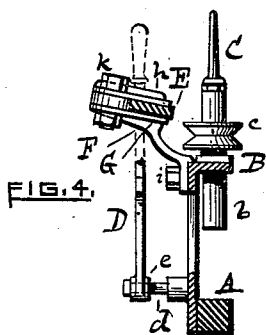


FIG. 4.

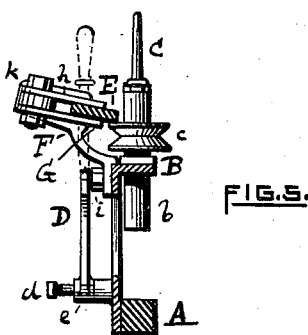


FIG. 5.

WITNESSES.

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LOCKING-BAR FOR SPINDLES ON SPINDLE-RAILS.

SPECIFICATION forming part of Letters Patent No. 461,199, dated October 13, 1891.

Application filed April 6, 1891. Serial No. 387,875. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN A. JENKS, of the town of Lincoln, in the county of Providence, in the State of Rhode Island, have invented a certain new and useful Improvement in Locking-Bars for Spindles on Spindle-Rails; and I declare the following to be a specification thereof, reference being had to the accompanying drawings.

Like letters indicate like parts.

Figure 1 is a front elevation of my invention. Fig. 2 is a top plan of the same with the locking-bar shown as withdrawn from the spindle. Fig. 3 is a top plan of my invention, showing the bar in the locking position. Fig. 4 is a view, partly in side elevation and partly in vertical section, on the line *xx* of Fig. 2. Fig. 5 is a view, partly in side elevation and partly in vertical section, on the line *zz* of Fig. 3.

My invention relates to devices to hold the spindles from vertical displacement, which are set in bolsters of the spindle-rails of spinning-machines; and it consists of a longitudinally-moving bar properly mounted, which lies in a line slightly above the upper surface of the whirls of the several spindles which are set in said position, which bar is capable of being advanced by a lever, so as to overlies the whirls, or of being withdrawn by the lever, so as to be entirely clear of the whirls, as hereinafter particularly specified.

My device is applicable to twist-ers, warp-frames, or other spinning machinery in which the spindles are mounted in bolsters in a line upon a spindle-rail. In doffing the bobbins from such spindles it is necessary that some means should be employed to prevent the rise or vertical displacement of each spindle as the bobbin is forcibly drawn from it in an upward direction. The device commonly used is a bent pin having a screw-thread by which it is secured to the spindle-rail, and whose bent upper end is turned so as to extend over the top of the spindle-whirl. There must be a separate pin of this kind for each spindle, and whenever the spindle needs lubrication each of the pins must be partially unscrewed and turned, so that the spindle may be raised or removed from its bolster, and then it must be readjusted after every oiling. As can be readily seen, this device to keep the spindles

from rising is very inconvenient whenever the spindles require to be oiled, and much labor is expended and valuable time lost in unscrewing and turning and then readjusting these pins, especially when there are one hundred or two hundred spindles on a spindle-rail, as in many twist-ers or frames which are used, each spindle having such a pin, and each pin requiring such a manipulation. It is the design of my invention to furnish an equally-efficient but more easily-operated device for this purpose.

In the drawings, A represents so much of the frame of a twisting-machine as requires illustration in connection with my invention.

B is the spindle-rail of usual construction, having the several holes *a*, into which the spindle-bolsters *b* are set. I show only one spindle C in elevation, as that sufficiently demonstrates the use of my device. The spindle C has the usual whirl *c*.

On the rear of the frame A is a stud *d*, on which is loosely mounted a lever or handle D by a collar *e*. The stud-pin *d* is longer than the width of said collar *e*, so as to admit of the sliding of the collar thereon. The handle D also has a stop *f* extending therefrom at a right angle, about midway its length, which stop, striking against the inner face of the post of the frame, as seen in Figs. 1 and 2, limits the movement of the handle D in that direction.

The locking-bar E is pivoted at *g* to the handle D, and is supported at intervals by the slotted heads *h* of the standards F, the latter being bolted at *i* to the frame in rear of the spindle-rail B. These heads, with their slots, as seen in top plan, Figs. 2 and 3, are at a right angle relatively to the locking-bar E, but as seen in side elevation, Figs. 4 and 5, are inclined slightly downward toward the rail B. At one side of each standard F is an arm *j*, to which is pivoted at *k* an oscillating arm G. The arm G is also pivoted to the locking-bar E at *l* and is slotted to receive said bar.

When the lever D is in the position shown in Figs. 1, 2, and 4, the locking-bar E is withdrawn by the oscillating arms G into the slots of the heads *h* of the standards F. The bar E then lies against the front or inner edge of the extension *j* of each standard F, and the

stop *f* is brought snugly up against the post of the frame A. It will be seen by examining Figs. 2 and 4 that the bar E is now vertically clear of the spindle-whirl, so that it does not interfere with the lifting or removal of the spindle from the bolster on the rail B. By moving the lever D to the position shown in Figs. 3 and 5 the arms G swing into lines at a right angle to the bar E, and said bar not only moves longitudinally but also outwardly toward the front, and slightly projects from the slots of the heads *h* of the standards F. The bar thus is brought over the rear edge of the whirl so that the spindle cannot now be raised or removed. This movement causes the handle D to slide by its collar *e* on the stud *d* from the position seen in Figs. 2 and 4 to that shown in Figs. 3 and 5. The downward inclination of the slot in the standard-heads also causes the bar to move downward, so as to lie close above the whirl; but not sufficiently to interfere with the free revolution of the spindle.

By this contrivance the whole series of spindles along a spindle-rail can be simultaneously locked or unlocked by a single movement of a handle at the end of the frame, to prevent or allow vertical displacement or removal, as may be desired, thus permitting the doffing of the bobbins, as usual, or facilitating the oiling of the spindles when necessary.

I claim as a novel and useful invention and desire to secure by Letters Patent—

1. In combination with the spindle-rail of a spinning-machine, standards mounted on said

machine, and a locking-bar supported and movable on said standards in a direction parallel with said rail and adapted to move longitudinally over or from the whirls of the spindles which are upon said rail, substantially as and for the purpose specified.

2. In combination with the spindle-rail of a spinning-machine, standards mounted on said machine and each having a pivoted oscillating arm, a locking-bar supported on said standards and pivoted to and movable by said oscillating arms, and a spindle having a whirl mounted on said rail, all arranged and operating substantially as and for the purpose specified.

3. The combination of the spinning-machine frame A, having the spindle-rail B, the slotted standards F, mounted on said frame and having the slotted heads *h* and extensions *j*, the handle D, the stud *d*, on which said handle is pivoted, the locking-bar E, pivoted to said handle and supported by the slotted heads of said standards, and the oscillating arms G, pivoted at one end to the standard-extension *j* and at the other end to the locking-bar E, all arranged substantially as described and co-operating to move the locking-bar E over the whirl of a spindle upon said rail or away therefrom, for the purposes set forth.

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Witnesses:

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