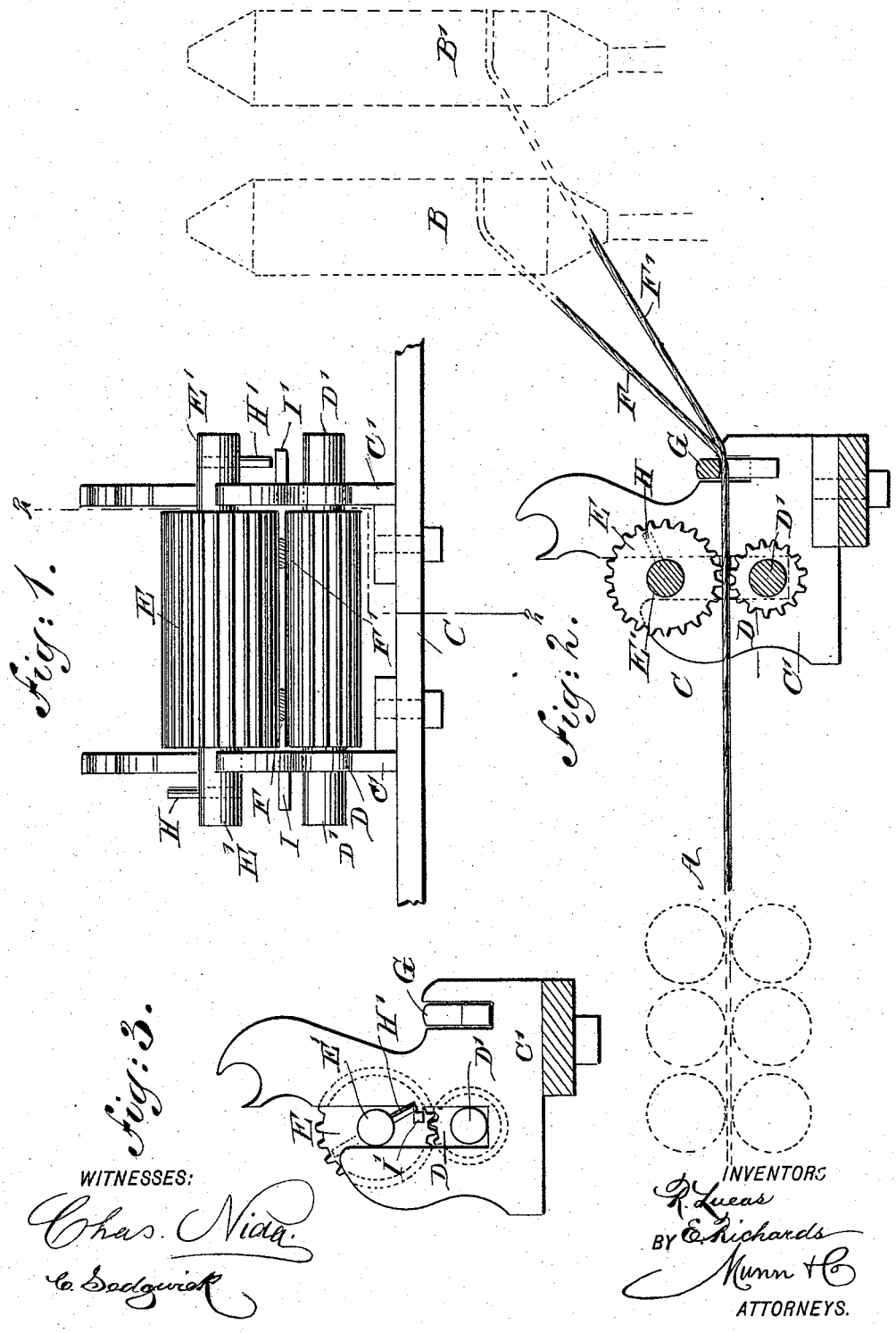
(No Model.)

E. RICHARDS & R. LUCAS.

STOP MOTION FOR DOUBLING FRAMES.

No. 522,495. Patented July 3, 1894.



UNITED STATES PATENT OFFICE.

ELIAS RICHARDS AND ROBERT LUCAS, OF NEW ORLEANS, LOUISIANA.

STOP-MOTION FOR DOUBLING-FRAMES.

SPECIFICATION forming part of Letters Patent No. 522,495, dated July 3, 1894.

Application filed November 7, 1893. Serial No. 490,231. (No model.)

To all whom it may concern:

Be it known that we, ELIAS RICHARDS and ROBERT LUCAS, both of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Stop-Motion for Doubling-Frames, of which the following is a full, clear, and exact description.

The invention relates to spinning machinery, and more particularly to frames used for doubling.

The object of the invention is to provide a new and improved stop motion, which is simple and durable in construction, very effective and automatic in operation, and arranged for preventing single strands from passing through the drawing rollers in case one of the strands breaks.

The invention consists of two rollers between which pass strands, slivers or sheets, and locking devices provided with movable and stationary or fixed portions for holding the rollers immovable, the said movable portions normally tending to lock with the said fixed portions and held in disconnected position by the strands, slivers or sheets, whereby on the breaking of one of the strands, slivers or sheets the rollers will be held immovable.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the improvement. Fig. 2 is a sectional side elevation of the same as applied; and Fig. 3 is a side elevation of the improvement.

As illustrated in Fig. 2, the stop motion is arranged between the drawing rollers A, and the bobbins B and B′, and the said stop motion is provided with a suitably constructed frame C, having slotted standards C′, in which are journaled the shafts D′ and E′ of rollers D and E, located one above the other and fluted longitudinally to form toothed or gear wheels, as will be readily understood by reference to Fig. 2. The strands F and F′, unwinding from the bobbins B and B′ respectively, pass between the rollers D and E near the sides thereof, as is plainly shown in Fig. 1, so that the two rollers are held out of peripheral contact.

The strands F and F′, are held in proper position between the rollers D and E, by the guide G, through slots in which pass the said strands, the strands after leaving the rollers passing through the drawing rolls A, as will be readily understood by reference to Fig. 2. The guide G is fitted to slide loosely in suitable guideways formed in the rear part of the standards C′ as plainly shown in Figs. 2 and 3. On the ends of the shaft E′ of the uppermost roller E, are secured the pins H, H′ extending radially and in opposite directions, the said pins passing normally, the fixed stop pins I and I′ respectively projecting from the sides of the standards C′, C′.

Now, in case one of the strands F or F′ breaks or runs thinner between the rollers D, E, then that side of the uppermost roller E, will move correspondingly downward, whereby the corresponding pin H or H′ will move in contact with the corresponding stop pin I or I′, thus forming an interlocking device and thereby preventing further rotation of the said roller, and consequent breaking of the strands between the rollers and the drawing rollers A, so that no single strand whatever, can pass between the drawing rollers.

It is understood that the drawing rollers A in pulling on the strands, cause the rollers D and E to revolve, and when the uppermost roller E moves downward as above described, its teeth engage the teeth of the other roller D so that both are locked in position and consequently a breaking of the other remaining strand will take place between the locked rollers and the drawing rollers A.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A stop motion comprising two rollers between which pass the strands or slivers, and locking devices provided with movable and stationary or fixed portions for holding the rollers immovable, the said movable portions normally tending to lock with the said fixed portions and held in a disconnected position by the strands or slivers, whereby, by the breaking of one of the strands or slivers the rollers will be held immovable, substantially as shown and described.

2. A stop motion comprising two rollers arranged one above the other and between which pass the strands or slivers, the upper roller resting by its weight on the material, a pin on the shaft of the said upper roller, and a stop pin adapted to be engaged by the roller pin whenever one of the strands breaks or decreases in thickness, substantially as shown and described.

3. A stop motion comprising two fluted rollers arranged one above the other and mounted to turn loosely, the upper roller resting by its weight on the strands passing between the rollers, pins secured on the shaft of the uppermost roller, and fixed stop pins projecting from the frame and adapted to be normally passed by the said roller pins, but engaged by the same when one of the strands breaks or decreases in thickness, substantially as shown and described.

4. A stop motion interposed between the drawing rollers and the bobbins, and comprising a frame having slotted standards, fluted rollers journaled loosely in the said slotted standards and arranged one above the other, pins held on the shaft of the uppermost roller, stop pins projecting from the standards of the said frame and normally passed by the said roller pins but engaged by the same on the breaking of one of the strands or a decrease of thickness, and a guide held loosely on the frame for guiding the strands between the rollers near the ends thereof, substantially as shown and described.

ELIAS RICHARDS.
ROBERT LUCAS.

Witnesses:
WILLIAM T. MAGINNIS,
PAUL DE VERGES.