(No Model.)

E. H. RYON.

ROVING STOP MOTION.

No. 589,033. Patented Aug. 31, 1897.

Fig. 1.

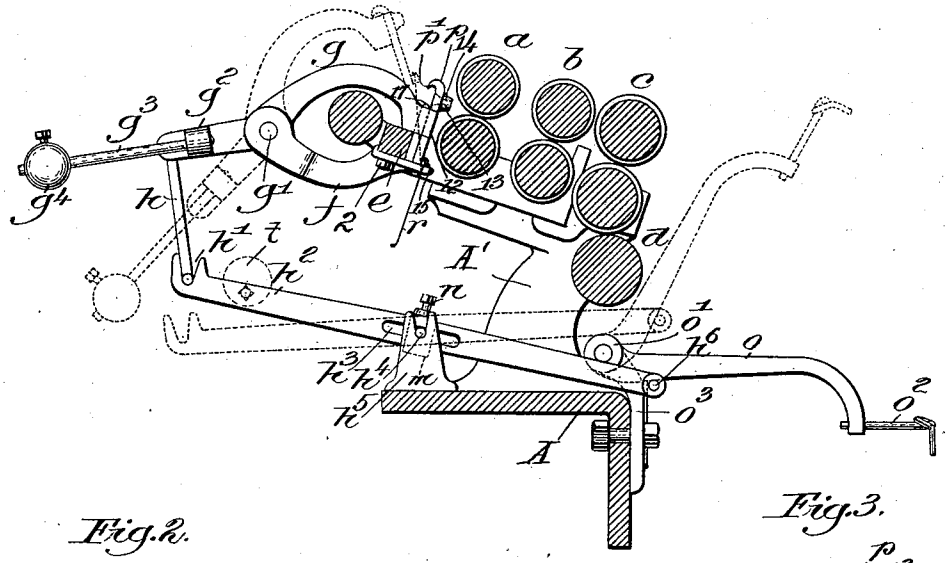


Fig. 2.

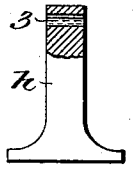


Fig. 3.

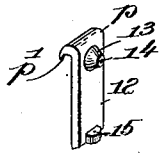


Fig. 4.

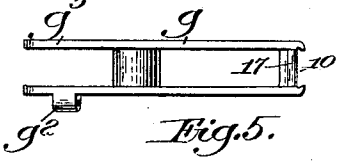


Fig. 2a.

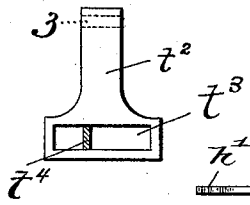


Fig. 5.

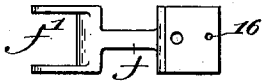
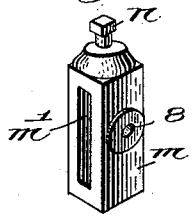


Fig. 6.



Fig. 7.



Witnesses
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UNITED STATES PATENT OFFICE.

EPPA H. RYON, OF WALTHAM, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO ALFRED M. GOODALE, OF SAME PLACE.

ROVING STOP-MOTION.

SPECIFICATION forming part of Letters Patent No. 589,033, dated August 31, 1897.

Application filed December 11, 1896. Serial No. 615,332. (No model.)

To all whom it may concern:

Be it known that I, EPPA H. RYON, of Waltham, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Roving Stop-Motions, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object the production of a novel mechanism by which to stop a spinning-machine on the parting of the partially-twisted roving or thread between the front roll and the spindle.

The particular features in which my invention consists will be hereinafter pointed out in the claims at the end of this specification.

Figure 1, in section, shows a set of top rolls with my improved roving stop-motion added, the dotted lines showing the stop-motion devices as having operated to part the roving. Fig. 2 shows the connecting-leg detached. Fig. 2^a shows a modified form of leg and part of an intermediate lever in it. Fig. 3 shows a roving-guide detached. Fig. 4 shows the roving-guide carrier detached. Fig. 5 shows one of the brackets for supporting one of the roving-guide carriers, it being in practice attached to the usual reciprocating bar. Fig. 6 is a top or plan view of the intermediate lever, and Fig. 7 shows the fulcrum-block for the said intermediate lever.

In the drawings, A represents part of a bar at one side of a spinning-machine, A' a stand supported thereby and having suitable bearings for the top rolls *a b c* and clearer-roll *d*, and *e* represents part of a reciprocating roving-bar.

The parts so far described are and may be all of any usual construction commonly found in spinning-machines.

To the roving-bar, supported and reciprocated in any usual manner, I attach by screws, as at 2, any suitable number of brackets *f*, said brackets being bifurcated at one end, as at *f'*, to receive between its ends the roving-guide carrier *g*, they being pivotally connected by a suitable pin *g'*. One end of this carrier has a lug g^2, which receives one end of a rod g^3, on which may be adjustably mounted a ball or weight g^4.

The carrier *g* is shown as made as a double bar, and between its open forked end (see the left of Fig. 4) I place the upper end of a leg *h*, (see Fig. 2,) having a hole 3, which receives a pin by which to pivotally connect the leg to the carrier. The broad foot at the lower end of the leg *h* enters and rides in a slot *h'* of an intermediate lever h^2 (shown as slotted at its central part, as at h^3, Fig. 1) to embrace a pin or fulcrum h^4, supported in a stand h^5. The said pin h^4 has applied to it a block *m*, having a slot *m'*, in which is placed the lever h^2, the pin h^4 entering the slot h^3 of the lever and passing out through the holes of the block and entering the notch of the stand. The block *m* has a set-screw *n*, which may be turned in to act against the portion of the lever above its slot to thus hold the lever firmly in adjusted position as to its length. The opposite or right-hand end of the lever h^2 has a suitable pin or projection h^6, which passes under the thread-guide lever *o*, pivoted at *o'* on a stand o^3, said lever having at its outer end a thread-guide o^2 of usual construction.

The roving-guide carrier is provided at its right-hand end (see Figs. 1 and 4) with a guide-groove 10, in which is fitted to slide the shank 12 of the roving-guide *p*, it having at its front side a projection 13, provided with a hole 14 for the passage of the roving on its way to the rolls, the opposite side of the guide having a hook *p'*.

The lower end of the guide *p* has a lug 15, provided with a hole which receives one end of a stop *r*, shown as a rod or wire extended through a hole 16 in the bracket *f*, the lower end of the stop having a projection to contact with the bracket *f* when the carrier *g* is lifted.

In practice the roving coming between the rolls *a b c* is passed over the bridge 17 of the carrier *g*, through the hole 14 of the roving-guide, and thence between the rolls and down through the guide o^2 to the traveler on the usual ring and thence to the spindle. In this condition, spinning going on regularly, the lever *o* will be held down by the pressure on the thread-guide of the roving therein being twisted to make thread, and said lever *o*, acting on pin h^6, keeps the rear end of lever h^2

pressed up against the leg h and holds the carrier g in its full-line position, leaving the roving free to be drawn through the hole 13 of the guide p. Now should the roving being spun into thread break between the rolls and the guide-eye, the lever o, no longer held down, will rise and leave the pin or projection h^6, letting the weight g^4 on the carrier turn the lever h^2, and at the same time the right-hand end of the carrier will rise, sliding on the guide p, which will remain stationary, provided the said guide is fitted loosely in the mouth at the end of said carrier, and after the guide-carrier has ridden so far that the bridge 17 of the carrier comes in contact with the roving under the hook p of the guide the roving is slightly clamped, and as the carrier further rises it takes with it the guide until the lower end of the stop-rod r meets the bracket f, when the roving becomes firmly clamped and is then parted between the projection 13 of the guide and the rolls a, and the end of the roving is left hanging down from the said projection. When the roving is to be mended in the usual manner, the lever o will be again turned down in its full-line position, the carrier g^2 will be thereby put into its full-line position, and in coming into said position the free end of the roving hanging from the projection 13 and dropping on the under roll a will be taken through between the rolls and into the eye of the lever o, and so on. As the roving-bar slides back and forth the foot of the leg h slides back and forth in the notch of the lever h^2. The leverage of the lever h^2 may be changed by adjusting said lever in the block m. The roving having been clamped, as described, and parted, the clamp continues to act and holds the roving with its free end dangling from the hole 14 in the projection 13, while the carrier g is lowered into its normal working position, the descent of the carrier causing the dangling end of the roving to be deposited onto the under roll a and be caught and fed into the space between said rolls, and at about this time the lower end of the guide p on the descent of the carrier is arrested and the roving is unclamped.

Holding the broken roving clamped back of its free end and with its free end held up above the rolls to be deposited thereon by the descent of the carrier into its normal position is an important feature of this invention.

If desired, the weight g^4 may be omitted from the arm g^3 and a weight t, as shown by dotted lines, Fig. 1, be added to the lever h^2, and so, also, if desired, the leg h may be modified and in its place be used a leg t^2, (see Fig. 2^a,) having in it a horizontal slot t^3, into which enters one end of a lever t^1, equivalent to the lever h^2, the said lever being straight at its end where it enters said slot t^3.

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

1. In a roving stop-motion, the roving-bar, an attached bracket provided with a roving-guide carrier, a roving-guide, and means to move said carrier and cause it on the breaking of the roving being spun, to clasp the roving between itself and said roving-guide to break the same between the roving-guide and the rolls, substantially as described.

2. A roving-guide, its attached stop-rod, and a guide for said stop-rod, combined with a roving-guide carrier made as a lever, the movement of said lever in one direction causing the roving-guide to be moved with it until the stop-rod of the roving-guide is arrested, the further movement of the said carrier after arresting the movement of the roving-guide parting and holding the roving ready to be again delivered to the rolls, substantially as described.

3. The roving-guide carrier made as a lever provided with a guideway, a roving-guide in said guideway and provided with a stop to control its upward movement with relation to said carrier, a leg connected with said carrier, and a lever provided with a thread-guide, combined with an intermediate lever, to operate, substantially as described.

4. The roving-guide carrier made as a lever provided with a guideway, a roving-guide in said guideway provided with a stop to control its upward movement with said carrier, a leg connected with said carrier, and a lever provided with a thread-guide, combined with an intermediate lever, and means to support it in an adjustable manner on its fulcrum, substantially as described.

5. The combination with a set of rolls, a carrier, and means to move it vertically, of a sliding roving-guide mounted in ways in said carrier and adapted in the upper position of the carrier to clamp and brace the roving, leaving a long dangling end, and to unclamp said roving as the carrier comes into lowest operative position, the descent of the carrier pulling the dangling end of the roving between the rolls, substantially as described.

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

EPPA H. RYON.

Witnesses:
GEO. W. GREGORY,
EMMA J. BENNETT.