P. SHARP.

AUTOMATIC ROVE STOP.

APPLICATION FILED JULY 10, 1909.

972,266. **Patented Oct. 11, 1910.**

2 SHEETS—SHEET 1.

Fig. 1.

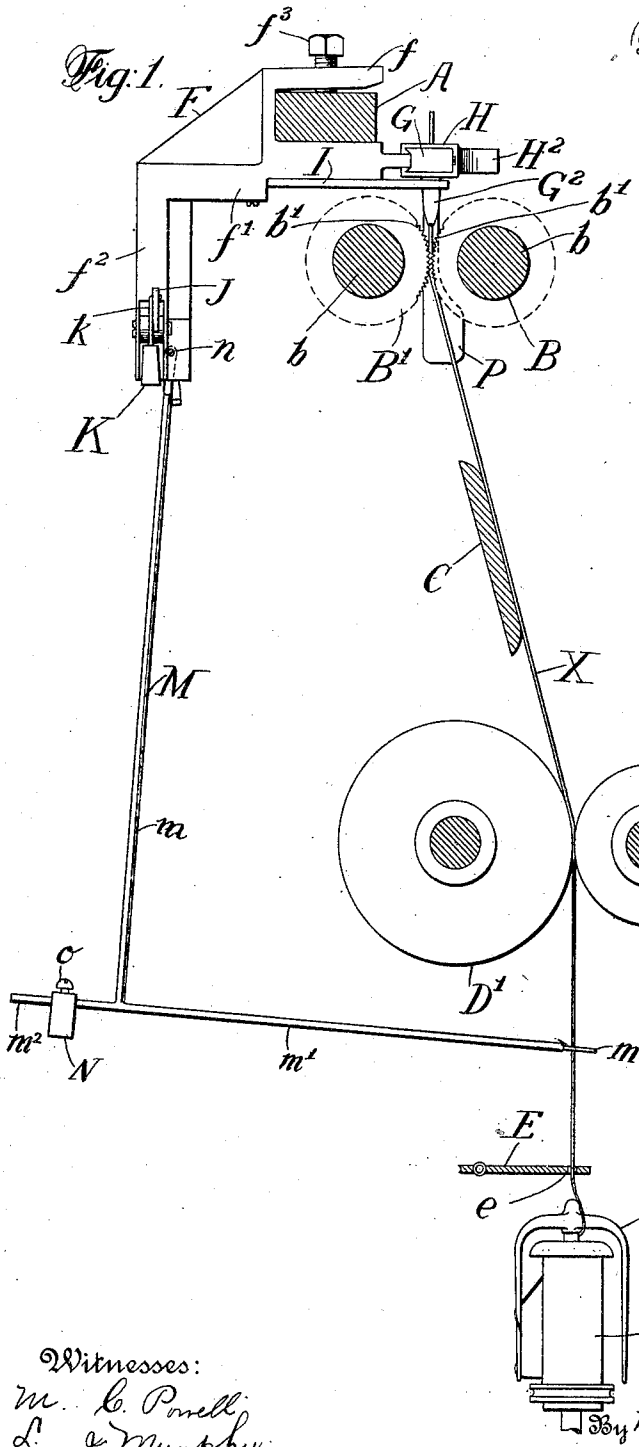
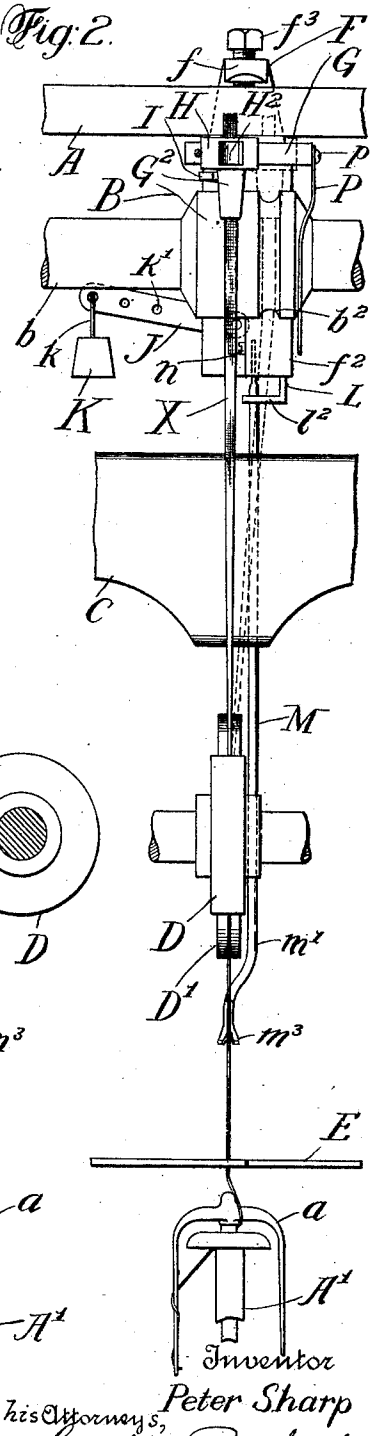


Fig. 2.



Witnesses:
M. C. Powell
L. J. Murphy

Inventor
Peter Sharp
By his Attorneys,
Griffin & Bernhard

P. SHARP.

AUTOMATIC ROVE STOP.

APPLICATION FILED JULY 10, 1909.

972,266. **Patented Oct. 11, 1910.**

2 SHEETS—SHEET 2.

Fig. 3.

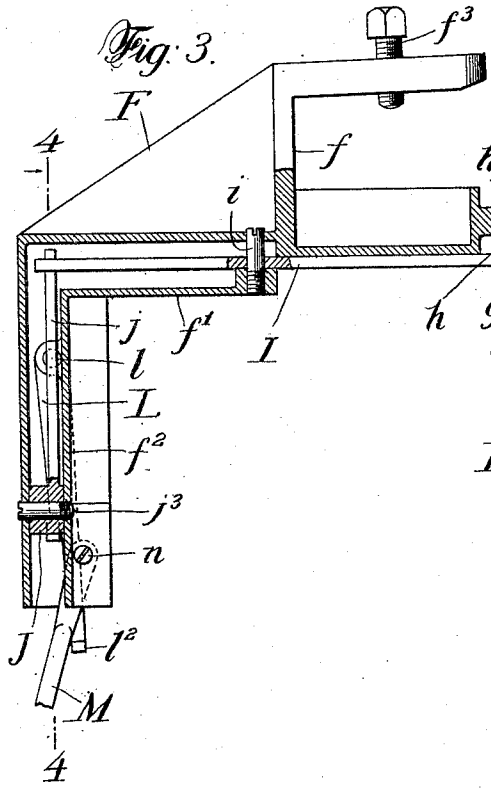


Fig. 4.

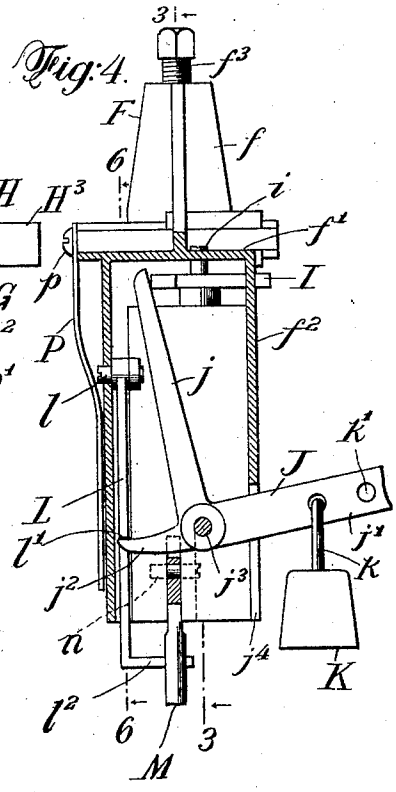


Fig. 5.

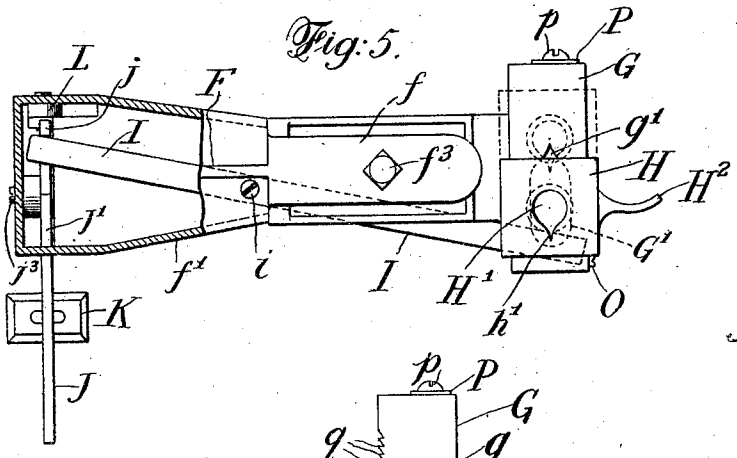


Fig. 6.

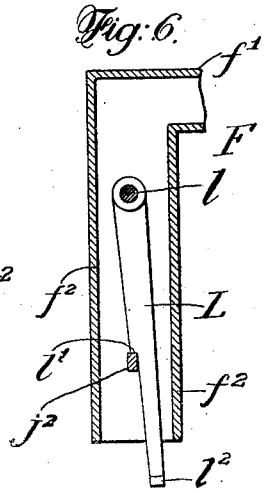
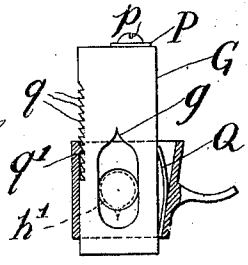


Fig. 7.



Witnesses:
W. C. Powell
L. J. Murphy

Inventor
Peter Sharp
By his Attorneys,
Griffin & Bernhard

UNITED STATES PATENT OFFICE.

PETER SHARP, OF NEW YORK, N. Y., ASSIGNOR TO AUTOMATIC ROVE STOP CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

AUTOMATIC ROVE-STOP.

972,266. Specification of Letters Patent. **Patented Oct. 11, 1910.**

Application filed July 10, 1909. Serial No. 506,930.

To all whom it may concern:

Be it known that I, PETER SHARP, a subject of the King of Great Britain, residing in the city of New York, borough of Manhattan, county and State of New York, have invented a certain new and useful Automatic Rove-Stop, of which the following is a specification.

This invention is an automatic stop for textile machinery, the same being particularly adapted for use in connection with all kinds of spinning machinery for operation on flax, jute, hemp, cotton, woolen, and other fibers, as well as upon thread machinery, twisting machines, and various other textile machines.

One serious objection incident to the use of the present kinds of textile machinery, particularly spinning machines, is that the rove not infrequently breaks between the flier and the drawing rolls. This results in the broken thread becoming seriously entangled in various parts of the mechanism, as well as with adjacent threads which are being fed continuously to the bobbins. Furthermore, the operation of piecing the broken thread requires the skill and dexterity of an expert spinner. These operations occasion the loss of considerable time, labor, and waste of the rove, and, besides, diminish the output of the machine. The method now followed for piecing a broken thread is first allowing the rove to continue feeding by the feeding rollers and drawing through the drawing rollers, thus lapping around the drawing rollers, or becoming entangled with the adjacent threads. These operations continue until the operator has an opportunity to remove the broken thread from the bobbin and to place it on the flier, or to remove the rove from the feed rollers and throw it back on the rail, which she has to replace again after getting the broken thread ready for piecing, and not only so, but by hand to feed it into the drawing rollers, in either case causing waste, time and expert dexterity to accomplish piecing. Particular difficulty in piecing threads on prior machines is due to the fact that the rove continues to be fed not only after the break at the flier but, also, during the piecing operation.

The present invention overcomes the foregoing, and other, objections inherent in the old mechanisms of the types under consideration, and said invention may be said in a general way to provide, among other things, means whereby the operation of piecing a broken thread may be expeditiously and effectively accomplished without the employment of skilled labor; means for locking the rove against movement under the action of either the feed rolls or the drawing rolls; means operated by the breakage of a thread for automatically making effective the rove-locking means; and means for shifting the rove out of the "nip" of the feed rolls substantially simultaneous with the automatic operation of locking the rove against the action of the drawing rolls.

More specifically stated, the invention of this application may be stated to embody automatic means for operating, on the breakage of a thread, the rove locking and rove shifting device or devices, whereby the rove is precluded or restrained from being drawn down by the action of the drawing rolls.

When my mechanism is employed, the feed rolls and drawing rolls cannot act on the rove, for the reason that the rove is shifted out of the nip of the feed rolls and is locked positively against the action of both the feed rolls and the drawing rolls, such shifting and locking of the rove being accomplished by automatic mechanism. Thus the operator is not required to give immediate attention to a broken thread, nor to throw it over the rail, as is customary; nor to allow it to continue feeding, drawing and lapping around the drawing rollers; but on the contrary, when a thread breaks, the rove is locked against any action of the feed and drawing rolls, thus enabling the operator to give attention to the broken threads and in the most convenient and expeditious manner. Furthermore, the operation of piecing the broken thread is a comparatively simple one because the rove does not become entangled with the machinery or with other unbroken threads, and during such piecing operation, the rove is not acted upon by either the feed or drawing rolls, until the operator has the broken thread from the bobbin ready for piecing, and by this invention is able to make feeding and drawing begin

instantaneously, and piecing then rapid and easy. Furthermore, my device embodies means for precluding the rove from "doubling," or becoming deflected too far in a sidewise direction from the feeding rollers, thus retaining the rove in position to enter the drawing rolls immediately following the piecing operation.

In the accompanying drawings I have illustrated a practical embodiment of the invention, but the construction shown therein is to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a side elevation, certain parts being shown in section, illustrating one embodiment of my automatic rove stop in conjunction with the feed rolls, the drawing rolls, the breast and thread plates, and the flier of a spindle. Fig. 2 is a front view of the parts shown in Fig. 1. Fig. 3 is an enlarged detail view of certain parts of my automatic rove stop, said figure illustrating some of the parts in elevation and other of the parts in vertical section, the plan of the section being indicated by the dotted line 3—3 of Fig. 4. Fig. 4 is a view in rear elevation of the automatic rove stop shown in Fig. 3, certain of the parts being in section and the section being taken on the line 4—4 of Fig. 3. Fig. 5 is a plan view of the rove stop shown in Figs. 3 and 4, partly in horizontal section, the rove locking member being represented in its unlocked position in order to permit the rove to pass freely therethrough. Fig. 6 is a detail vertical section on the line 6—6 of Fig. 4. Fig. 7 is a detail plan view, partly in horizontal section, illustrating another embodiment of the invention wherein the rove locking member is adapted to be retained in position by a spring and by coöperating ratchet teeth on a rove guide and said locking member.

A indicates a bar or rail of the machine frame, B, B′, the feed rolls, carried by shafts b, C the breast plate, D, D′ the drawing rolls, and E the thread plate. These parts may be of the usual construction employed in spinning machines, except that the feed rolls are modified to some extent, or they may be of any preferred construction. As is usual, thread plate, E, is positioned over the flier, a, of the spindle, A′, and it is provided with an opening, e, through which is adapted to pass the thread.

Feed rolls, B, B′, may be provided with corrugated or roughened working surfaces, b' (see Fig. 1), but said corrugated surfaces may be omitted if desired. Furthermore, one or both feed rolls is provided with an annular groove, b^2 (see Fig. 2), and when a groove is formed in each feed roll, as shown, the grooves are coincident so that they will register and form an enlarged pass in which the rove, indicated by X in Figs. 1 and 2 is adapted to lie idly when it is shifted out of the "nip" of the feed rolls, said nip being formed by the coöperating working surfaces, b', of said rolls.

Breast-plate, C, is intermediate the feed rolls and the drawing rolls, as usual, and said drawing rolls are driven at a greater peripheral speed than the peripheral speed of the feed rolls, whereby the drawing rolls are adapted to exert a drawing action on the rove.

When my automatic rove stop is to be applied to existing spinning frames, or other existing textile machinery, I provide a bracket or housing for supporting the working parts of said automatic stop. One form of the bracket or housing is shown in the drawings, the same being indicated in its entirety by the reference character, F. Said bracket or housing consists of a clamp, f, a horizontal arm, f', and a depending leg, f^2, it being preferred to cast the clamp, the arm, and the leg in one piece. Clamp, f, consists of upper and lower jaws united by a vertical member, as shown more clearly in Fig. 3. Said clamp is at one end of arm, f', and the upper jaw of the clamp is furnished with a binding screw, f^3. The clamp is adapted to embrace a part of the spinning frame, such as the bar or rail, A, and when the clamp is fitted to said bar or rail, binding screw, f^3, is tightened for the purpose of securely fastening bracket, F, to said rail, see Figs. 1 and 2. Arm, f', of the bracket is made hollow or chambered, as shown in Figs. 3 and 5, whereas the leg, f^2, is chambered, said chambered arm and leg serving to incase certain working parts of the stop mechanism for the purpose of precluding the lodgment of dust, lint, etc. on said working parts.

For the purpose of directing the rove to the pass or nip of the feed rolls, I employ a guide, G. Said guide is in the form of a flat horizontal bar substantially rectangular in cross section and provided on its inner edge with undercut grooves, g, forming a substantially dovetail guide way. The guide or bar is carried by bracket, F, and as shown, said guide or bar is integral with said bracket. The guide is in front of clamp, f, and it is provided with an opening, G′, for the passage of the rove. In addition to rove opening, G′, the slide is provided with a notch, g', which communicates with said opening, G′, said opening and the notch producing, in effect, a slot which extends lengthwise of the slide, said slot being tapered toward one end and terminating in a contracted throat, see Fig. 5.

An important element of my invention is a rove locking and shifting member, the same being embodied preferably in the form of a slide, H. Said slide is fitted to the guide or bar, G, for movement lengthwise

thereof. As shown, the slide is a boxing composed of top, bottom and one side, the ends and one side of the boxing being open. At the open side of the boxing are lips, h, adapted to enter the undercut grooves, g, for the purpose of connecting the box-like slide to the rove guide, said grooves, g, and flanges, h, forming a dovetail guide for the slide. In its top and bottom the box-like slide is provided with openings, H′, each opening being in communication with a notch, h', said opening, H′, and notch, h', producing a slot which tapers toward one end and terminates in a contracted throat. The box-like slide is fitted on the guide or rail, G, so that the openings, H′, of the slide will register with the opening, G′, of the guide or rail, whereby the rove is permitted to pass freely through the slide and the rail when the openings are in register. It is preferred to reverse the position of the openings in the slide with respect to the opening in the rail so that the throat, h', of the openings in the slide will extend in an opposite direction to the throat, g', of the slot or opening in the guide. When the slide is moved in one direction, and to the opposite limit of its movement from that shown in Fig. 5, the throat, h', of the opening in the slide will so coöperate with the throat, g', of the opening in the guide or rail that the rove will be wedged and gripped in the tapering throats, h', g', whereby the rove will be securely locked against endwise movement under the action of the feed rolls and the drawing rolls.

The rove locking slide is provided with a guide member which depends from said slide and is adapted to fit quite close to the nip of the feed rolls. Said member is shown in Fig. 3 as a hollow or tubular nipple, G^2, the same being in line with the openings, H′, of the slide. The tubular nipple is integral with the slide, although it may be attached thereto, and said nipple extends downwardly from the slide for a suitable distance, the lower extremity of said hollow nipple working in the space between the coöperating faces, b', of feed rolls, B, B′, see Fig. 1. The rove is adapted to pass through the slide, guide, G, and tubular depending nipple, G^2, and when said slide is moved in one direction by the automatic devices hereinafter described, nipple, G^2, is adapted to so operate on the rove as to move it out of the nip of the feed rolls and into the groove or grooves, b^2, of said feed rolls.

An essentially novel feature of my invention consists of means operated by the breakage of a thread for moving the slide to a position for locking the rove and for shifting said rove out of the nip of the feed rolls. Various devices for accomplishing this result may be employed, but in the drawings I have illustrated a simple and efficient operating means for imparting movement automatically to the slide in one direction.

I designates a lever disposed in a horizontal position on the bracket, F, said lever being fulcrumed at a point intermediate its ends by a stud or pin, i. One arm of the lever works freely in the chamber of arm, f', forming a part of the bracket, whereas the other arm of the lever extends outside of chambered arm, f', forwardly thereof, so that an end portion of lever, I, will lie alongside of tubular nipple, G^2, whereby the lever is brought into coöperative relation to a part of rove locking slide, H, for the purpose of imparting movement to said slide in a direction which will bring its throat, h', into coöperative relation to throat, g', of the opening in guide, G. The arm of lever, I, which works within chambered bracket arm, f', is engaged normally by an upstanding arm, j, of trigger, J. Said trigger is in the form of a bell crank lever, and it consists of arms, j, j', and a horn or hook, j^2. The trigger is supported in bracket, F, by a pivot stud or pin, j^3, and the upstanding arm, j, of said trigger is positioned within the chambered depending leg, f^2, of the bracket. The upstanding trigger arm, j, engages with the inner end of operating lever, I, see Fig. 4, whereas the arm, j', of said trigger passes through a slot, j^4, in bracket leg, f^2. The trigger arm, j', is associated with a tension device, the same being shown as a drop weight, K, having a clevis or hook, k, adapted to enter in one of a series of openings, k', which are provided in the trigger arm, j'. It will be seen that weight, K, acts on the trigger to pull the arm, j', downwardly and the arm, j, to the right in Fig. 4, and thus the lever, I, is adapted to be operated by the weighted trigger for moving the slide, H, to its locking position.

Movement of trigger, J, is normally restrained by the action of a latch, L, shown more clearly in Figs. 4 and 5. This latch is positioned in the chambered bracket leg, f^2, so as to be in coöperative relation to the trigger, J, and to a thread engaging arm or pendulum, M. Latch, L, occupies a substantially vertical position in chambered leg, f^2, and it is pivoted to the bracket by a pin, l. At a point intermediate its ends said latch is formed with a shoulder, l', and at its lower end the latch is provided with a toe piece, l^2. The lower part of the latch extends below the bracket, as in Figs. 2, 3 and 4, and the toe, l^2, is in the path of thread engaging arm, M. The horn or hook, j^2, of weighted trigger, J, extends into the path of latch, L, and said horn or hook is adapted for engagement with the shoulder, l', of said latch, whereby the latch is adapted to lock trigger, J, in the operative position shown in Fig. 4, and thus retain the parts in a position for the weighted trigger to op-

erate the lever, I, and slide, H, when the arm, M, is in its thrown-back position by engagement with the thread.

Thread engaging arm, M, consists of members, m, m', and a shank, m^2. The member, m', of said thread engaging arm is provided at its forward end with means for engagement with a thread, such as a fork, m^3. The upright member, m, of the thread engaging arm is inserted into the lower part of chambered bracket leg, f^2, and said upper part of the arm is pivoted to the bracket by a pin, n. The stem, m^2, of the thread engaging arm is equipped with a weight, N, adapted to be clamped on said stem by a binding screw, o. In its operative position the thread engaging arm is held in a repressed position by the frictional engagement of its fork, m^3, with the thread, so that the upright member, m, of said arm will occupy an inclined position. When the thread breaks the arm, M, moves in a forward direction with a pendulum-like motion, and thus forward movement is imparted to the arm by gravity and by the action of the weight, N. Said weight is adapted to be adjusted on the stem, m^2, for the purpose of regulating the pressure or tension exerted by the arm against the thread, but it is important that very light pressure be exerted on the thread, while at the same time sufficient pressure should be exerted to insure prompt movement of the thread engaging arm in a forward direction when the thread breaks. Pivoted thread engaging arm, M, has a pendulum-like motion and in piecing a thread the operator is able to shove said arm back easily and quickly. Should it be desired to retain the arm in its repressed or backward position, I may provide suitable means for this purpose.

Rove locking slide, H, is moved automatically in one direction by the trigger, J, when it is released from the latch, L, by the forward motion of arm, M, but the devices are reset to their working positions by hand. For this purpose slide, H, is provided with a forwardly extending finger piece, H^2, against which the operator exerts pressure, and the forward or resetting movement of the slide is limited or arrested by a stop, O, the same being in the form of a screw or pin attached to rove guide, G, and positioned in the path of said slide, H, see Fig. 5. When the rove is shifted back into the feed rolls, the rove has a tendency to move sidewise, or to "double", as it is termed. To preclude this sidewise movement of the rove I employ a stop finger, P. Said finger is fastened to an end portion of the rove guide, G, by a screw, p, and at a point intermediate its ends the stop finger is reduced in width, as shown in Fig. 3, said reduced portion of the stop finger extending between the shafts, b, of feed rolls, B, B'. The stop finger is adjacent to the grooves, b^2, of the feed rolls, and it depends below said feed rolls, as shown in Figs. 1 and 2, so as to lie in the path of the rove and preclude lateral displacement of that part of the rove which passes below the feed rolls.

The operation may be described as follows: When the parts are adjusted for the rove to pass through the machine, bracket, F, is clamped securely to rail or bar, A, and the working parts, except the rove guide and the slide, are at the rear of the feed rolls, the pendulum arm, M, depending from the bracket so as to lie in rear of the drawing rolls, while its forked member, m', extends forwardly and below said drawing rolls so as to engage the thread at a point between thread plate, E, and drawing rolls, D, D'. The rove passes through openings, H', in locking slide, H, and opening, G', in rove guide, G, said openings, H', of the slide being in register with opening, G', of the guide. The rove passes through the hollow guide member, G^2, of the slide, between the working faces, b', of feed rolls, over the breast plate, between the drawing rolls, through the opening, e, of thread plate, E, and thence to flier, a, of the spindle. The fork, m^3, of thread arm, M, engages with the thread, and such engagement of the arm with the thread retains said arm in its backward position so that the arm will not exert pressure against the toe, l^2, of latch, L. When the thread breaks, arm, M, swings in a forward direction, and this acts on the toe of latch, L, thus pressing said latch in a forward direction, and withdrawing its shoulder, l', from engagement with the horn, j^2, of the trigger. The trigger being released from the latch, weight, K, turns trigger on its pivot, j^3, and arm, j, of the trigger acts on lever, I, to turn it on the fulcrum, i, whereby said lever, I, acts on the member, G^2, of the slide, so as to force said slide lengthwise of guide, G. This movement of the slide brings its throat, h', into register with the throat, g', of the guide, and the rove is carried by the slide into the contracted parts or throats, h', g', whereby the rove is wedged into said tapering throats of the guide and the slide respectively, and at the same time, the rove is shifted by the depending nipple or member, G^2, out of the nip of the feed rolls and into the groove or grooves, b^2, of said feed rolls. The broken rove is thus locked in the rove guide and the slide, and shifted into the grooves of the feed rolls, so that the rove cannot be fed by rolls, B, B', nor can it be drawn in a downward direction by rolls, D, D'. The operator is not required to give immediate attention to the work of piecing the broken thread for the reason that no injurious results will follow the

breakage of the thread, such as are ordinarily experienced in the common form of spinning machine; that is to say, the broken untwisted thread will not become entangled with the existing machinery, nor with adjacent unbroken threads, nor will it lap around the drawing rolls, for the reason that the rove has been moved out of the nip of the feed rolls, and the operations of feeding and drawing the rove will be stopped. At a convenient time the operator pieces the broken thread in the usual way, and then proceeds to adjust slide, H, and swinging arm, M. The slide is moved back to its former position by exerting pressure against the finger piece, H^2, and the return of the slide to normal position operates lever, I, and said lever in turn moves trigger, J, back to position. By pressing arm, M, backwardly latch, L, is released from the pressure of said arm, M, and it swings to a position where the horn, j^2, of the trigger will again engage with shoulder, l', of the latch, whereby the parts are restored to a condition for operation on the next breakage of the thread. It will be understood that the arm, M, may be shoved backwardly by the operator without disturbing the engagement of latch, L, with trigger, J, and the fork, m^3, of said arm may be again engaged with the pieced thread so that the parts will be in position for automatic operation when said thread breaks. During the operation of piecing the thread, or of replacing the thread or rove in the drawing rolls, stop finger, P, acts to preclude the lateral movement or doubling of the rove, and when the slide is returned to its working position, the rove is released and moved from the grooves, b^2, into the nip of the feed rolls, whereupon the operations of feeding and drawing the rove are resumed by restoring the parts to their normal positions after piecing the broken thread.

From the foregoing description taken in connection with the drawings it will be noted that the rove locking slide is moved from its normal position to a position for locking the rove upon the breakage of a thread, said slide being retained in said locking position by weighted trigger, J, acting through the lever, I. While this construction is very simple and efficient, for the reason that springs are wholly dispensed with, it may become expedient to provide means for positively locking the slide in its locked position. In Fig. 7 of the drawings I have illustrated one embodiment of means for retaining the slide in said locked position. The construction shown in said Fig. 7 embodies a series of ratchet teeth, q, on an edge portion of rove guide or rail, G. The box-like slide is provided with a lip, q', adapted for engagement with any one of the teeth, q. Said slide is somewhat wider than the guide or rail, G, and within the slide is a spring, Q, one end of the spring being adapted for frictional engagement with the edge of guide or rail, G, opposite to the edge having teeth, q. The ratchet teeth are inclined so as to permit free movement of the slide in the direction in which it is impelled by the action of the weighted trigger, but the slide cannot move in the other direction because its lip, q', engages with one of the ratchet teeth, q. When the operator desires to restore the slide to its non-locking position, it is necessary to press the slide sidewise against the tension of spring, Q, and sufficiently to release the lip, q', from the ratchet tooth, q, and while this pressure is applied to hold the parts in the described position, the operator can shove the slide back to its non-locking position.

An advantage secured by my new construction consists in incasing some of the working parts within the supporting bracket. This bracket serves the purpose of readily attaching the stop mechanism to existing spinning machinery, and affords means for housing the working parts against the lodgment of lint, dust and other refuse, so that the parts cannot become clogged and their operation interfered with by the accumulation of undesirable matter.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent is:

1. In a rove stop, means for feeding a rove, means for drawing said rove, mechanism operable to move the rove out of said rove feed mechanism and, also, to grip the rove and preclude the drawing mechanism from acting thereon, and means operated upon the breakage of a thread for automatically actuating said mechanism which moves and grips the rove.

2. In a rove stop, rove-feeding mechanism, rove drawing mechanism, a rove locking and shifting member operable to move the rove out of said feeding mechanism and to grip the rove against movement to preclude the drawing mechanism from acting thereon, and automatic means operated by the breakage of a thread for imparting movement to said rove locking and shifting member.

3. In a rove stop, mechanism for feeding a rove, a member operating to lock a rove against the feeding action of said mechanism and, also, to shift the rove out of coöperative relation to said feeding mechanism, and means operated by a breakage of the thread for automatically moving said member.

4. In a rove stop, feed rolls, drawing rolls, a rove locking and shifting member adapted to grip a rove against the action of the drawing rolls and to remove the rove from the feed rolls, and means operated upon the breakage of a thread for operating the rove locking and shifting member.

5. In a rove stop, feed rolls, drawing rolls, a member operating to grip a rove and preclude the drawing rolls from acting thereon, a rove guide carried by said member and extending into proximity to the feed rolls, and thread engaging means acting on the member to retain it free from gripping engagement with the rove, thereby permitting the rove to run freely through said rove guide, said thread-engaging means being operated when a thread breaks to move the member into gripping engagement with the rove and permit the rove guide to shift the rove out of the feed rolls.

6. In a rove stop, feed rolls, drawing rolls, a member having an opening for the passage of a rove freely therethrough, a slide movable relative to said member and adapted to coöperate therewith in gripping a rove to preclude the drawing rolls from acting thereon, said slide being provided with means for moving the rove out of, and into the nip of, said feed rolls, and thread engaging means for controlling the movement of said slide.

7. In a rove stop, a guide having a rove opening and a notch in communication with said opening, and a rove locking member provided with a rove opening and with a notch in communication therewith, said rove opening and the notch of the rove locking member being adapted to coöperate with the opening and notch of the guide for wedging and locking a rove in a fixed position.

8. In a rove stop, a guide rail having ratchet teeth, and a locking member having means for locking engagement with said teeth.

9. In a rove stop, a guide rail having ratchet teeth, a rove locking member having means for locking engagement with said teeth, and a spring adapted to retain said member in locked engagement with the rail.

10. In a rove stop, mechanism for feeding a rove, mechanism for drawing a rove, coöperating rove guiding and locking members, one of which is movable relative to the other, means for retaining one of said members in such relation to the other member that a rove is free to travel past said members, a tubular part carried by the movable member and positioned for operation adjacent to the rove feeding means whereby said tubular part is adapted to move the rove sidewise relative to said rove feeding means, and means actuated upon the breaking of a thread for shifting the movable part and the tubular part automatically into positions whereby the rove is moved out of the field of action of the rove feeding means and is gripped and locked to preclude the rove drawing means from acting thereon.

11. In a rove stop, mechanism for feeding a rove, coöperating rove engaging members, one of which is movable relative to the other, means on said movable member whereby the rove is adapted to be moved sidewise relative to the rove feeding means, a pivoted thread arm, and means operated by said thread arm upon the breakage of a thread for moving the rove relative to the rove feeding means and for gripping the rove to preclude further feed movement thereof.

12. In a rove stop, mechanism for feeding a rove, a slide provided with means for shifting a rove sidewise relative to the rove feeding means, means coöperating with the slide for gripping a rove when said slide is moved into one position, means for retaining the slide in another position to permit the rove to pass freely, and means operated upon the breakage of a thread to release the slide from said retaining means, whereby the rove is moved sidewise and locked.

13. In a rove stop, rove feeding means, a rove locking member, retaining means cooperating with said rove locking member for holding the same in a position for the rove to pass freely relative thereto, a thread engaging member, means actuated by said thread engaging member upon the breaking of a thread for moving the rove locking member into a position for gripping and locking a rove, and additional means operable upon the breaking of a thread for precluding the rove feeding means from acting to continue the operation of feeding the rove.

14. In a rove stop, coöperating rove locking members operable to positively grip a rove and thereby preclude feeding and drawing thereof, a thread engaging arm, an actuating member coöperating with one of the rove locking members, and means intermediate the thread engaging arm and the actuating members for controlling the latter and operating the rove locking members upon the breakage of a thread.

15. In a rove stop, a bracket or housing provided with a rove guide, a locking member coöperating with said guide, a rove shifting member depending from, and movable with, said locking member, a pendulum-arm adapted for engagement with a thread, and connections intermediate the pendulum-arm and said locking member for operating the locking member and the rove shifting member upon the breakage of a thread.

16. In a rove stop, a bracket or housing, a rove guide, a locking member coöperating with said guide, a rove shifting member movable with said locking member, a thread engaging arm having a pendulum motion, and connections intermediate said arm and the locking member, said connections being substantially incased by said bracket or housing, said locking member and the rove shifting member being operated by the movement of the thread engaging arm upon the breaking of a thread.

17. In a rove stop, a rove-guide, a locking

member coöperating therewith, a lever for operating the locking member, a trigger engaging said lever, a latch for the trigger, and a thread engaging arm for releasing the latch.

18. In a rove stop, a rove-guide, a locking member coöperating therewith, a lever for operating the locking member, a trigger normally under tension and coöperating with said lever, a thread engaging arm, and a latch intermediate said arm and the trigger for restraining the latter against action until said arm is operated by the breakage of a thread.

19. In a rove stop, a bracket, a rove-guide supported thereby, a locking member cooperating with said rove guide, a lever supported on the bracket and coöperating with the locking member, a trigger pivoted to the bracket and engaging said lever, a thread engaging arm, and a latch coöperating with the trigger and said arm, said trigger and the latch being substantially incased by the bracket.

20. In a rove stop, a bracket, a rove-guide supported thereby, a locking member cooperating with said rove guide, a lever supported on the bracket and coöperating with the locking member, a weighted trigger pivoted to the bracket and coöperating with said lever, a pivoted latch, and a thread engaging arm for releasing the latch from the trigger, whereby the latter operates to shift the locking member into locking relation to the rove guide.

21. In an automatic rove stop, a rove-guide, a locking slide coöperating member, a weighted member for imparting movement to said locking slide, a latch for restraining said weighted member from acting on said locking slide, and means operated by breakage of a thread for releasing said latch.

22. In a rove stop, a rove-guide, a rove locking member coöperating therewith, and means adjacent to said locking member for precluding movement or "doubling" of the rove during the operation of piecing a broken thread.

23. In a rove stop, feed rolls, a rove-guide, a locking member coöperating with said guide, a stop member supported by the rove-guide and positioned adjacent to said rolls and the locking member for precluding displacement of the rove during the operation of piecing a thread.

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

PETER SHARP.

Witnesses:
H. I. BERNHARD,
JAS. H. GRIFFIN.