Sept. 28, 1965 H. ZOLLINGER 3,208,480

MECHANISM ARRANGED ON AN AUTOMATIC LOOM FOR STRIPPING AND HOLDING THE BUNCH OF A WEFT-BOBBIN TO BE INSERTED INTO THE SHUTTLE

Filed Nov. 27, 1963 3 Sheets-Sheet 1

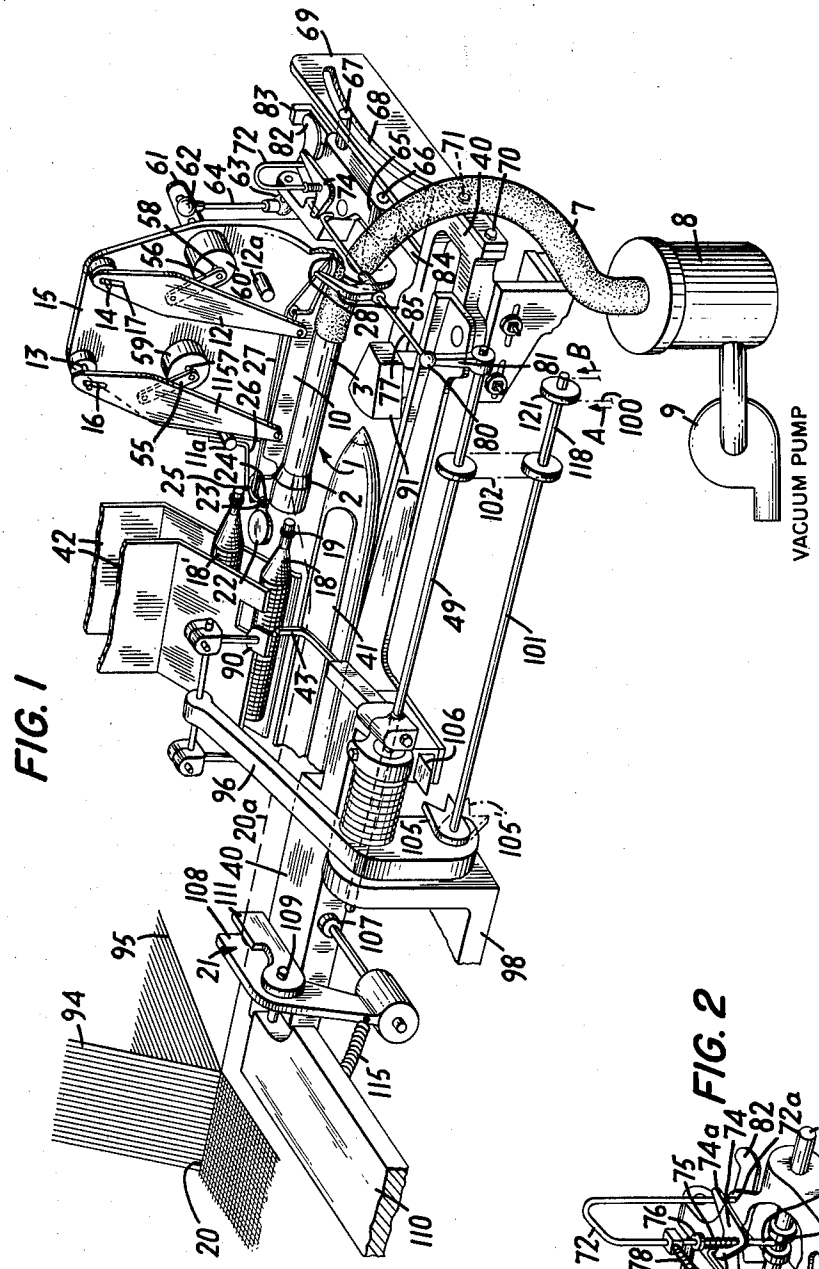

FIG. 1

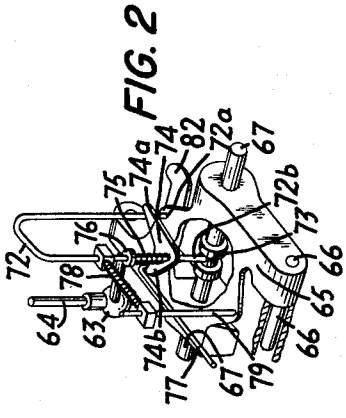

FIG. 2

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FIG. 3

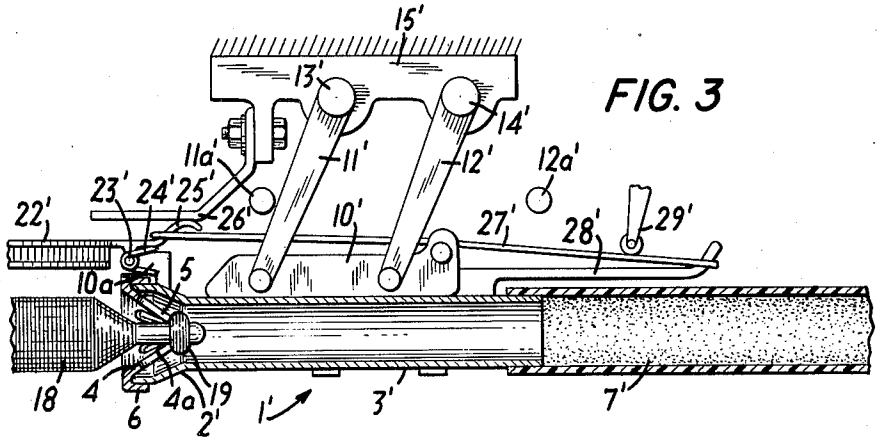


FIG. 3a

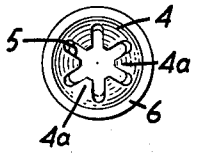
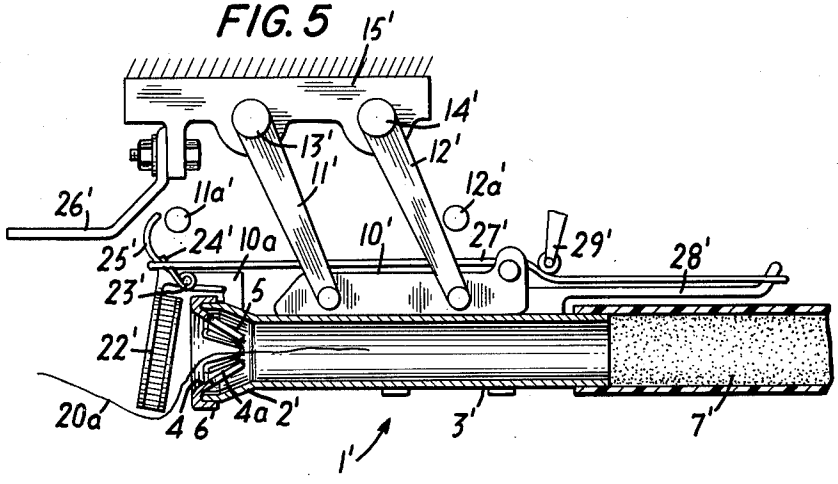


FIG. 4

FIG. 5



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MECHANISM ARRANGED ON AN AUTOMATIC LOOM FOR STRIPPING AND HOLDING THE BUNCH OF A WEFT-BOBBIN TO BE INSERTED INTO THE SHUTTLE

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FIG. 6

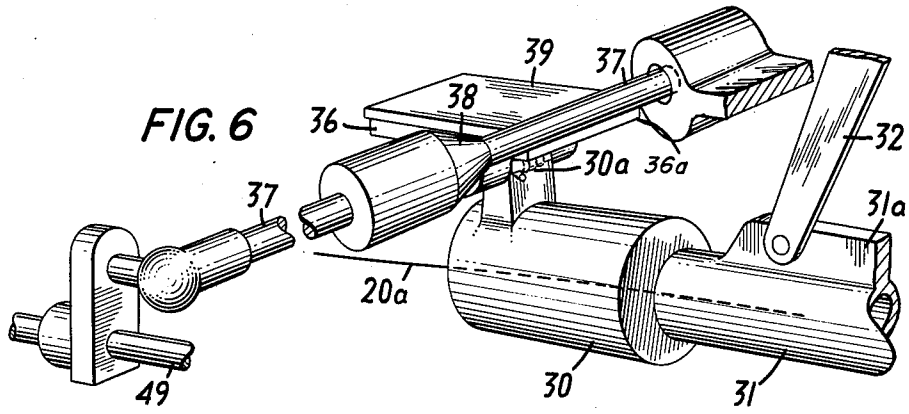


FIG. 7

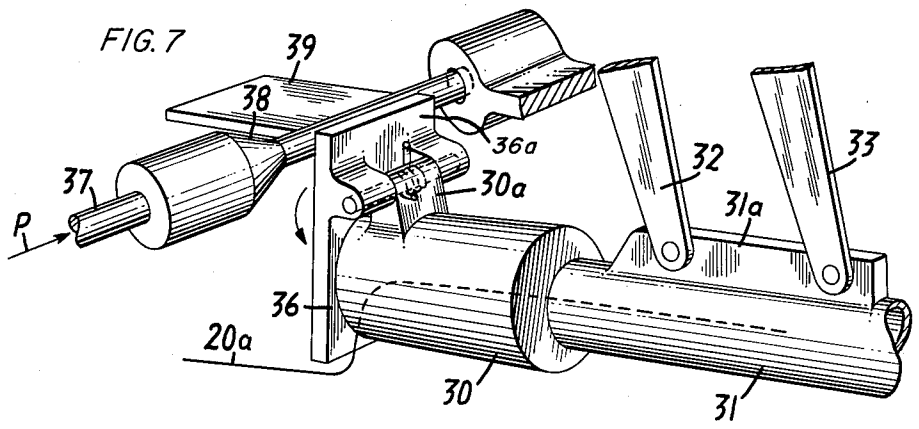
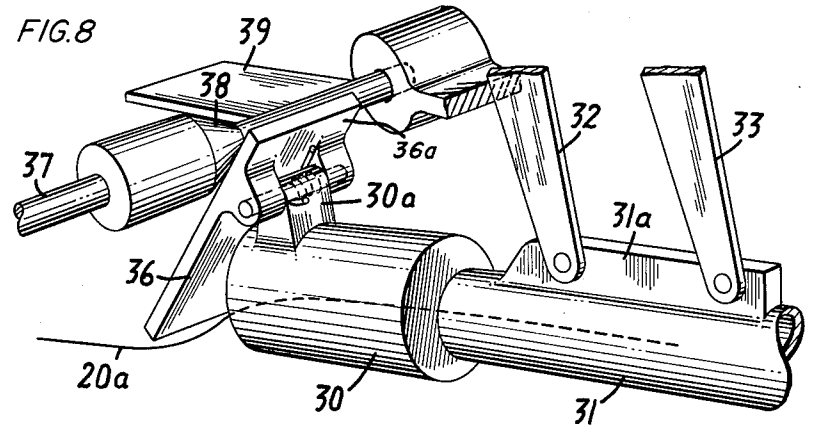


FIG. 8



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3,208,480

MECHANISM ARRANGED ON AN AUTOMATIC LOOM FOR STRIPPING AND HOLDING THE BUNCH OF A WEFT-BOBBIN TO BE INSERTED INTO THE SHUTTLE

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Filed Nov. 27, 1963, Ser. No. 326,441
6 Claims. (Cl. 139—257)

This is a continuation-in-part of my application Ser. No. 28,350 filed May 11, 1960, now abandoned.

This invention relates generally to automatic looms and more particularly to a mechanism arranged on an automatic loom for stripping and holding the outer thread end or tip bunch of a weft-bobbin about to the transferred to a shuttle.

It is known to strip the tip bunch of filling packages or bobbins with purely mechanical means just prior to a bobbin-change and to hold it during the bobbin-change. But this purely mechanical operation involves drawbacks, more particularly the tip bunch or end of the weft is held unyieldingly, which may result in breaking the weft and there is a risk of soiling the stripper mechanism which may give rise to service troubles.

It has already been proposed to pneumatically strip and hold the outer thread end or tip bunch on the bobbin to be inserted into the shuttle. The tip bunch is released from the wound yarn on the filling package by means of an air current and it is held pneumatically and hence yielding during the bobbin-change or transfer. A disadvantage of pneumatic systems is that the action of the air current is often not sufficient to release the tip bunch from the wound yarn, especially in the case of a rough, hairy surface, or in the case of bobbins in which the tip bunch or yarn end is firmly pressed into the wound yarn or is intentionally secured to preclude an undesired release.

A principal object of the present invention is to insure in a reliable manner that the yarn tip bunch which is subjected to a certain tension at bobbin-change and at first beat-up, is positively stripped and held.

In contradistinction to the prior art, in the present invention the yarn is not stripped pneumatically, but by braking it mechanically during a period of time in which the first weft yarn from the new bobbin is laid down. A braking device is provided which acts upon the yarn between the bobbin tip and the stripper. Other means are provided in order to arbitrarily nullify the braking action at least partially. The stripping device has a mouthpiece which serves as a part of a braking device on the one hand, a second braking part on the other hand preferably comprises a flap hinged at the mouthpiece opening. The flap is controlled so that the yarn can be released or held between the two braking parts. A vacuum arrangement maintains a suction at the mouthpiece of the stripping device.

Other features of the invention will appear from the claims, the description and the accompanying drawing wherein there are shown, by way of example, various forms of embodiment of the object of the invention.

In the drawing:

FIG. 1 is a perspective view diagrammatically illustrating the portion of an automatic loom provided with a device according to the invention for stripping and holding or braking the outer thread end or tip bunch of a bobbin to be transferred into a shuttle;

FIG. 2 is a fragmentary perspective view on an enlarged scale of a portion of the device according to FIG. 1;

FIG. 3 is a side view of another stripper and braking device and is illustrative of an example of an embodiment of the invention when stripping off the tip bunch and with the brake open;

FIG. 3*a* is an end elevation view of a stripper in FIG. 3;

FIG. 4 is a fragmentary side view of a device according to FIG. 3 and illustrates the braking device according to FIG. 3, with the brake closed;

FIG. 5 is a fragmentary side view of the braking device according to FIG. 3, with the brake somewhat open;

FIG. 6 is a fragmentary perspective view diagrammatically illustrating another example of an embodiment of a braking device illustrated with the brake open;

FIG. 7 is a fragmentary perspective view of the device according to FIG. 6 with the brake closed; and

FIG. 8 is a fragmentary perspective view of the device according to FIG. 6 illustrated with the brake slightly open.

Referring to the drawing and more particularly to FIGS. 1–5, a stripper and suction device **1** according to the invention and for use on an automatic loom includes a sleeve-shaped mouthpiece **2** which is detachably connected to a tube **3**, for example by a bayonet joint, or consists of a one-piece unit with the carrier **3**. Within the mouthpiece **2** is mounted a stripper element **4** (see FIG. 3*a*) comprising a series of pliable tongues **4***a* which are inclined to the longitudinal axis of the device at about an angle of substantially thirty (30°) degrees. The tongues are formed in a hollow frustum-shaped configuration and are separated from each other by spaces **5** extending from the taper end of the hollow frustum configuration inwardly. The outer end of the hollow frustum has a cylindrical extension **6** which embraces a free end of the tubular carrier **3**. The stripper element **4** is detachably fixed on the tube **3**, for example by screws or may be internally threaded for screwing on to complementary threads. The hollow frustum and accordingly the tongues **4***a* may be made of any suitable material, for example polyethylene has been found suitable. Other abrasion-proof flexible synthetic materials may be used, for example leather, rubber, and spring-steel, etc.

The end of the tubular carrier **3** has connected thereto a flexible tubing **7** in communication with a thread or yarn container **8** connected to a vacuum pump **9** (FIG. 1) for applying a vacuum thereto.

The tube **3** is carried on a carrier piece **10** supported by two pivoted control arms **11** and **12**, shown diagrammatically in FIG. 1. The arms **11**, **12** are pivotally or rockably guided on axles or pins **13**, **14** which are mounted on a plate **15** attached to the loom, not shown. The rocking of the arms **11**, **12**—which is explained later in detail—causes a forward and backward movement of the entire stripper device **1**. The arms are provided with oblong guide apertures **16**, **17** guiding the movement of the arms on pins **13**, **14**. An axial forward and backward movement is imparted to the device **1** upon rocking of the arms **11**, **12**. The axial movement or travel of the stripper device in either direction is limited by stops **11***a*, **12***a*. The device is advanced forwardly to strip a bobbin **18** which is in readiness to be transferred to a shuttle **41** by a hammer **90** of the bobbin-changer at the next bobbin-change. The bobbin **18** carries on its tip a tip bunch **19** which is intended to be removed by the stripper device **1**, to be released and to be drawn into the suction device **7** and container **8** after the end yarn **20***a* has been cut off the weft **20** by a cutting mechanism **21** as later described.

The stripper device **1** has attached to it a mechanical braking device according to the invention. The edge of the opening of the ring **6** (FIG. 3) at the mouthpiece **2** forms one braking part. A second braking part consists of a flap **22**, which is pivoted on an axle **23** on the mouth-

piece 2 and controls opening the device 1 so stripper element 4 (FIG. 3*a*) can strip the tip bunch or hold the thread 20*a* passing through the two braking parts. The pivot 23 has supported thereon a spring 24 which tends to close the flap 22. The flap has attached to it a lever arm 25 which cooperates with a control member in the form of a rod 26 rigidly mounted on plate 15. In the forward position of the device 1, shown in FIG. 1, the flap 22 is held open by the rod 26 depressing the lever arm 25. In the rearward or retracted position of the device 1 the rod 26 releases the lever arm 25 so that the flap 22 closes the mouthpiece opening under control of spring 24.

The flap 22 is further engaged by a draw member comprising a cord 27 attached at its other end to a carrier 28 which—as indicated in FIG. 1—may form part of the carrier piece 10. When the flap is closed, the cord 27 is tensioned.

A second embodiment of the stripper device of the invention is shown in FIGS. 3–5 inclusive. The stripper device 1′ comprises a tube 3′ connected to a flexible hose 7′ and provided with a sleeve-shaped mouthpiece 2′ provided with a stripper element 4 of the type heretofore described with respect to the embodiment illustrated in FIG. 1. The stripper device is carried on a carrier 10′ supported on rockable arms 11′, 12′ pivotally supported at 13′, 14′ respectively on a stationary plate 15′. The arms 11′, 12′ are rocked to-and-fro, by means not shown, for moving the device 1′ longitudinally between a forward position illustrated in FIG. 3 and limited by a stop 11*a*′ and a backward or rearward position illustrated in FIG. 5 and limited by a stop 12*a*′.

The device 1′ is provided with a flap 22′ pivoted on a pivot 23′ and provided with an actuating arm 25′ depressed by an operating rod 26′ secured to the stationary plate 15′ when the device 1′ is in its forward position thereby opening the flap 22′ and releasing the flap so that it can be automatically closed by a spring 24′ and brake the yarn between itself and the ring 6 of the stripper element 4. The flap 22′ is actuatable by a cord 27′ connected to the actuating arm 25′ and an extension 28′ on the carrier 10′. The cord is engaged by a depresser element 29′ for actuating the flap 22′ to an open position or releasing it for closing by the spring 24′.

The action of the embodiments described are as follows:

Upon initiation of the bobbin-change, the stripper device 1 or 1′ as the case may be, is moved into its forward position shown in FIGS. 1 and 3, in which the lever arm 25 or 25′ of the flap 22 or 22′ is depressed by the operating rod 26 or 26′ thus opening the flap. The tip bunch 19 will be engaged by the tongues 4 of the stripper element 4. In the rearward movement of the stripper devices the tip bunch 19 is stripped off the bobbin 18 and loosens into the end thread 21*a* which will be drawn into the suction hose 7 or 7′. At the same time the lever arm 25 or 25′ moves clear of the rod 26 or 26′ and the flap closes the ring opening, thereby clamping the yarn 21*a*. The yarn is clamped as shown in FIG. 4 by the flap at least as long as the first weft of the bobbin 18 is beaten up, it being understood that a bobbin-change takes place by which the bobbin 18 is transferred to a shuttle as later described. The element 85 and 29′ bears down on its respective cords 27 or 27′ so as to open the flap 22 or 22′ through the respective lever arm so that the yarn 20*a* when cut by the device 21, can be drawn off. The mechanism, by means of the braking flap, permits, completely or partially, throttling of the required air current due to the vacuum applied.

The braking device according to either of the example embodiments described is particularly important in the case of thick yarns. In the case of thick yarns, the yarn forming the tip bunch is generally shorter so that, without a brake, the yarn can no longer be held by the suction device. Experiments have shown that in the case of coarse yarns, the tip bunch is about 80–100 cm. long. With this length of yarn, without a mechanical brake, the yarn cannot be reliably held. The braking elements, therefore, find an important application in conjunction with filling packages of coarse yarn.

Another embodiment of the invention is shown in FIGS. 6–8. A feature of this third embodiment is that the cords 27 and 27′ of the devices according to FIG. 1–5 are replaced by other operating means.

In this embodiment a stripper device is disclosed as comprising a mouthpiece 30 having a stripper element, not shown, internally thereof as heretofore described. The mouthpiece is connected to a tube 31 to which a vacuum suction is applied as heretofore described. The tube 31 is provided with a longitudinally extending projection 31*a* to which are pivotally connected a pair of rockable arms 32, 33 for moving the tube 31 longitudinally backwards and forwards for stripping a filling package of its tip bunch as heretofore described.

A flap 36 which controls opening of the mouthpiece 30 of the stripper device is hinged to a lug 30*a* of the mouthpiece 30 and is controlled by a rod 37 and a cone 38 in cooperation with the axial movement of the stripper. The rod 37 is axially movable with the cone 38 and is connected through a universal joint 37*a* to a shaft 49. The rod 37 has seated thereon a sheet-metal stop 39 serving as a horizontal limiting stop for the flap 36 in its open position. A spring, not shown, is mounted on the pivot of the flap 36 which tends to swing the flap down into its closed position. In the retracted position of the stripper, FIG. 7, the flap 36 is closed and the last yarn end 21*a* is clamped or held between the flap and the front wall of the mouthpiece. As the stripper device advances forwardly, toward the left, a lever arm 36*a* of the flap 36 strikes against the rod 37 so that the flap is swung and raised about its pivot abutting thereby from below on the guide plate or stop 39 of rod 37 and holding the mouthpiece open, FIG. 6, until the stripper device is retracted by the rockable arms 32, 33.

Rotation of the shaft 49 in the proper direction causes the rod 37 to be displaced from the position according to FIG. 7 and in the direction of the arrow P whereby the cone 38 abuts, FIG. 8, on the lever arm 36*a* of flap 36, raising the flap somewhat so that braking of the yarn 21*a* will cease and the scissors 21 cut the yarn 20*a* so that it can be drawn into the container 8 by the suction due to a vacuum being applied to the tube 31 in the manner heretofore described.

The element on which the cone 38 is formed may be eccentrically arranged on the rod 37 and the rod rotatably supported so that, upon angular displacement of the rod 37, the extent of the partial opening of the flap 36 by the cone 38 may be easily adjusted.

All three embodiments of the invention described differ from known yarn brakes in the following points:

A mechanical yarn brake is disclosed according to the invention, in which, in the interval from the bobbin-change to the first pick of the weft the yarn is braked or held so that the stresses on the yarn occurring in this interval cannot withdraw the yarn from the suction device or tubing. The mechanical yarn brake is directly attached to the stripper device and thus participates in its travel longitudinally, consequently, the action of the mechanical brake can be effected earlier than in the case of stationary brakes which can only be acted upon when the stripper device has completed its travel. That is to say, when the stripper device has returned to its initial backward position. In known devices there is a danger that the stripper, while stripping the tip bunch, looses the tip bunch during its backward travel. This is avoided by the thread or yarn brake according to the invention because it is capable of mechanically holding the yarn immediately after stripping while the stripper is still moving backwardly. This is not possible with the mechanisms proposed heretofore. Thus the danger of withdrawing the bunch from the suction tube is eliminated.

The actuation of the lever arms rotatably transporting

the stripper and pivotally secured thereon, the functions of the bobbin-change and cutting of the weft yarn and the structure of the related mechanisms and their action will be explained hereinafter with reference to the embodiment of the invention in FIG. 1.

In accordance with FIG. 1 a lay **40** of an automatic loom to which the invention is applied is approximately in its forward dead center position and a shuttle **41** is boxed in position for an automatic bobbin-change. The spare fresh bobbins **18**, **18'** are disposed in a battery feed channel **42** of the loom in which they descend by gravity. The lowermost bobbin **18** is in readiness for a bobbin-change and is transferred into the shuttle **41** by means of a transferor later described and is secured from falling prematurely by a stop **43**. FIG. 1 illustrates the position of the parts at the moment immediately prior to the bobbin **18** being transferred into the shuttle **41**. Just prior to a bobbin transfer the stripper device is moved forwardly so that the stripper element **4** engages the tip bunch **19** in the manner illustrated in FIG. 3.

The rockable arms **11**, **12** for transporting the stripper device **1** are pivotably mounted on two links **55**, **56** which are firmly connected to two respective axles **57**, **58** that are rotatable in bearings **59**, **60** mounted on the stationary plate **15**. Only the lever **12** is driven, whereas the lever **11** serves as a parallel-guiding link for the stripper device **1**. The shaft **58** has fixed to its rear end a lever **61** which is connected with a bent lever **65** through two universal joints **62**, **63** and a connecting rod **64**. The lever **65** is rockable about a pivot shaft **65** supported on the plate **15**. A pin **67** is axially displaceable in the lever **65** and is capable of engaging an arcuate guide-cam **68** in a plate **69** fixed to the lay **40** by screws **70**, **71**.

A fork **72** is pivotally supported on a portion, FIG. 2, of lever **65** with one of its ends **72***a*, while its other end **72***b* engages an annular cam groove **73** in the pin **67**. The arm **72***b* of the fork **72** has a two-armed lever **74** rockably secured thereon. A spring **75** which on the one hand is connected to the lever **74** and on the other hand engages a collar **76** on the fork arm **72***b*, tends to urge the lever **74** with its arm **74***a* towards the arm **72***a* of the fork **72**. The end of the other arm **74***b* of lever **74** is engaged by a connecting rod **77**, the engaging end of which is shown in broken lines in FIG. **1**. The rod **77** can cause the fork **72** to pivot counterclockwise about its arm **72***a*. The lever arm **74***a* abuts on arm **72***a* of the fork **72**, and when the rod **77** is drawn longitudinally rearwardly, the fork leg **72***b* and hence—through the annular cam groove **73**—the pin **67** will be pushed axially outwardly to the right and moved axially into engagement with the guide-cam **68** in the plate **69**.

A compression spring **78** ensures that the pin **67** is either displaced wholly to the right or wholly to the left and cannot dwell in an intermediate position. The coiled compression spring **78**, FIG. 2, has one end connected to the arm **72***b* of the fork **72** and the other end to a bolt **79** firmly fixed in the lever **65**. The compression spring **78** bearing on the fork arm **72***b* tends to push the pin **67** either wholly into the lever **65** or outwardly therefrom.

A universal joint **80** and a lever **81** connect the connecting rod **77** with the shaft **49**. Consequently, incidental to counterclockwise rotation of the shaft **49** under control of a chain drive **100**, later described, driving in the direction of the arrow B the pin **67** is moved axially into engagement with the guide-cam **68** in the plate **69** via connecting rod **77**, the lever **74** and the fork **72**.

The fork arm **72***a* has mounted on it a cam **82** adjusted to cooperate with an end offset portion **83** of a rod **84** which is fixed to the lay **40**. As the lay **40** reaches its foremost position, the offset portion **83** of the rod **84** bears against the cam **82** and causes the pin **67** through fork **72** to retract and move out of engagement with the guide-cam **68** in the plate **69**. Retraction of the pin is effected when the fork **72** pivots clockwise about its arm **72***a*, retracting with its arm **72***b*, through the groove **73**.

The action of the mechanism described is as follows:

When a bobbin-change has to take place the bobbin transfer is initiated in exactly the same way as has hitherto been the case with automatic looms. The need for replenishment of an exhausted bobbin in the shuttle is sensed in a known manner by sensor means when the shuttle is on the left-hand side of the loom. The sensor means is not shown. It is, for instance, capable of closing an electrical circuit, not shown, rendering effective motive means, for example an electric motor. It is, of course, understood that the actual bobbin change or transfer takes place when the shuttle **41** is on the right-hand side in the boxed end position illustrated in FIG. 1.

When the need for a bobbin change is indicated the shaft **49** is rotated in a counter-clockwise direction as later explained.

The connecting rod **77** is moved from the position (shown in broken lines in FIG. 1) on lever arm **74***b* (FIG. 2) into the position in which the end of the rod is indicated in solid lines. This movement of the rod **77** causes the lever **74** to rock counterclockwise while the lever arm **74***a* abuts on fork arm **72***a*. The fork **72** pivots about its arm **72***a* causing, with its end **72***b*, axial displacement of the pin **67** to the right, FIG. 2, into engagement with the guide-cam **68**. The movement of the lay **40** having the plate **69** with guide-cam **68** fixed thereto, the pin **67** and hence the lever **65** will be raised at first. The lever **65** pivots about the pivot **66**, the rod **64** being raised and the shaft **58** caused to rotate counterclockwise by lever **61**. The arms **11** and **12** articulated to the stripping device **1** are pivoted clockwise about their axles **13**, **14** on plate **15** through lever **56** thereby causing the stripping device **1** with the mouthpiece **2** to move towards the bobbin **18** and the stripper element **4** (FIGS. 3–5) to sweep over the tip bunch **19** of the bobbin.

As soon as the pin **67** is again lowered by the guide-cam **68**, there follows a counter-control of the members, **65**, **64**, **61**, **58**, **56** and therewith of the arms **11**, **12** so that the stripping device will be carried back, FIG. 4, from the forward position according to FIG. 3, removing the tip bunch **19** from the bobbin **18**. Because of the backward movement of the stripper, the flap **22**, **22'** FIGS. 1–5, leaves the range of action of the control member **26** so that it closes the mouthpiece opening while clamping the yarn **20***a*, as illustrated in FIG. 4.

The transfer of fresh filling packages to the shuttle **41** is accomplished by a transferor after the filling package **18** to be transferred had had its tip bunch stripped therefrom as above described. The transferor comprises a hammer **90** that effects the transfer of a full weft bobbin to replace an exhausted bobbin in the shuttle **41**. The hammer **90** is attached to a lever arm **96** which is rotatable on shaft **49**. When the shaft **49** is rotatively driven in a counterclockwise direction as mentioned above, it is driven from a chain drive **100**, fragmentarily shown in FIG. 1 which will rotate a shaft **101** fixed to the lever arm **96**. A pawl **105** is fixed on the shaft **101** and is normally disposed in the position **105'** illustrated in broken lines in FIG. 1. When driving the chain drive **102** in the direction of the arrow B the pawl is rotated into the upper operative position **105** illustrated in solid lines in FIG. 1. In this upper position the pawl **105** is in readiness for receiving a wedge element **106** mounted to travel with the movement of the lay **40**. The wedge **106** is positioned to strike the center of the pawl **105** thereby rotating the arm **96** around the axis **49** and displacing the hammer operating arm **96** downwards, causing the hammer **90** to transfer the lowest full weft bobbin **18** into the shuttle. Coupled with the hammer are scissors (not shown). With the above described rotation of shaft **49** in a counterclockwise direction the scissors have been moved into an operating position to cut the yarn of the (empty) discharged bobbin. With the operation of the hammer **90** there is a simultaneous cutting operation of the scissors,

so that the weft yarn just laid down by the discharged bobbin is cut.

When the lay **40** approaches its foremost position, that is about the same time when the wedge **106** strikes the pawl **105**, the rod **84**, which is fixed to the lay, will operate, with its offset portion **83**, the cam **82**. This causes the pin **67** to be withdrawn from the engagement with guide cam **63** in the plate **69** in the manner already described above.

When the lay **40** again starts to move in a backward direction, the rod **49** will also start to rotate in the clockwise direction to return to its starting position. This means that rod **77** will allow the lever **74** to return under the action of the spring **75**. The rod **101** will also be rotated in a clockwise direction to bring the pawl fixed to its rest position **105'**, where it will not be engaged by wedge **106** attached to the lay. The replenished shuttle is thrown in a known manner by pick **91** through the loom shed illustrated diagrammatically in FIG. 1 as being formed by an upper shed **94** and a lower shed **95** so that the yarn in the shuttle becomes the weft **20** after beating-up. After the shuttle has again reached its rest position on the left-hand side of the loom, with the rotation in a clockwise direction of shaft **49**, already mentioned, the rod **77** is moved to the right. This causes the projection **85** to move with it, so that upon retraction of the stripping device **1** to the right hand side, the chain **27** is engaged by the projection **85** thereby partially opening the flap to permit the yarn in the device to be drawn by vacuum into the container **8** when cut by the cutting or severing mechanism.

Thus after the shuttle completes its flight after a bobbin change and the first beat-up takes place, the free yarn end portion **20***a* from the full bobbin is in the position illustrated in FIG. 1. The temple scissors, represented by parts **107**, **108**, **109**, **111** and **115**, will upon each movement of the lay **40** to its forward position, be actuated by the rod **107** constantly bearing on the lay **40** and connected to a movable blade **108**, the blade **108** is pivoted on a pivot **109** on a support **110** which is fixed on the loom.

Thus, the blade **108** jointly with the rod **107** is actuated against the action of the spring **115** to a closed position or severing position for severing the yarn **20***a* in cooperation with a stationary blade **111**. The spring **115** bears on the support **110** and urges the blade **108** to a raised position in which the severing mechanism **21** is open and ineffective. After the yarn **20***a* has been cut during one of the cutting operations succeeding the laying down of the first weft yarn by the full bobbin, it will be sucked through the slightly opened mouthpiece **2** or **2'** and the tube **7** into the container **8**.

While the preferred embodiments of the invention have been shown and described, it will be understood that many modifications and changes can be made within the true spirit and scope of the invention.

What I claim and desire to secure by Letters Patent is:

1. On an automatic loom having a shuttle, a lay cyclically operable between a rearward position and a forward position, means for holding full weft bobbins for transfer into said shuttle, said bobbins each having a tip bunch, a mechanical stripper device having a tubular mouthpiece defining an opening and including a pneumatic yarn-holding device for stripping the tip bunch from and holding the outer yarn of a full weft bobbin to be transferred into said shuttle, a mechanical yarn brake for braking and releasing the yarn between the bobbin tip of said full bobbin and said stripper device, said yarn brake comprising, an annular stripper element mounted in said tubular mouthpiece for mechanically stripping said tip bunch of said bobbins and extending radially and axially of said mouthpiece opening defining a radially extending surface around the periphery of said tubular mouthpiece opening, a flap pivotally mounted to pivot into engagement with and disengagement from said radially extending annular surface to close and open said tubular mouthpiece opening, control means for pivoting said flap for clamping and releasing said yarn between said bobbin tip and said stripper device and extending through said opening between said annular surface and said flap, means driven from said lay for selectively reciprocably driving said stripper device including said yarn-holding device for causing said device to move in a direction for said stripper element to engage said tip bunch and to move in an opposite direction for stripping said tip bunch from a respective bobbin, said control means comprising means to pivot said flap for opening said opening and to close it during movement in said opposite direction.

2. On an automatic loom having a shuttle and means for holding full weft bobbins, each having a weft yarn tip bunch thereon, a mechanical stripping device having a mouthpiece comprising an annular surface defining an opening and including a pneumatic yarn holding device positionable in a position for stripping said tip bunch and subsequently holding said stripped yarn of a full weft bobbin to be transferred into said shuttle, a mechanical yarn brake for braking and releasing said stripped yarn, said yarn brake comprising said mouthpiece and a flap pivotally mounted to pivot into engagement with and disengagement from said mouthpiece annular surface to close and open said mouthpiece opening, control means for pivoting said flap and thereby clamping said stripped yarn at least during the first pick of said full weft bobbin and releasing said stripped yarn extending through said opening between said annular surface and said flap, pivoting means effective to partly displace said flap from said mouthpiece annular surface after the first beat-up of the weft yarn from each weft bobbin transferred to a shuttle, said pivoting means comprising a draw member connected to said flap and means effective in a rest position to engage said draw member to keep said flap partly disengaged from said annular surface.

3. On an automatic loom having a shuttle, a lay, a mechanical stripper device having a tubular mouthpiece defining an opening and including a pneumatic yarn-holding device for stripping a tip bunch from and holding the outer yarn of a full weft bobbin to be transferred into said shuttle, a mechanical yarn brake for braking and releasing the yarn between the bobbin tip of said bobbin and said stripper device, said yarn brake comprising an annular member mounted in said tubular mouthpiece and extending radially and axially of said mouthpiece opening to form a radially extending surface around the periphery of said tubular mouthpiece opening, a flap having a projection and pivotally mounted by said projection to pivot into engagement with and disengagement from said radially extending surface of said annular member to close and open said tubular mouthpiece opening, a spring biasing said flap into engagement with said surface, control means for pivoting said flap and thereby respectively clamping and releasing a thread extending through said opening between said annular member and said flap and said control means comprising a member fixed to said stripper device on said flap to control the pivoting of said biased flap in response to reciprocable movement of said stripper device.

4. On an automatic loom having a shuttle, a lay, a mechanical stripper device having a tubular mouthpiece defining an opening and including a pneumatic thread-holding device for stripping a tip bunch from and holding the outer thread of a full weft bobbin to be transferred into said shuttle, a mechanical thread brake for braking and releasing the thread between the bobbin tip of said bobbin and said stripper device, said thread brake comprising an annular member mounted in said tubular mouthpiece and extending radially and axially of said

mouthpiece opening to form a radially extending surface around the periphery of said tubular mouthpiece opening, a flap having a projection and pivotally mounted by said projection to pivot into engagement with and disengagement from said radially extending surface of said annular member to close and open said tubular mouthpiece opening, control means for pivoting said flap and thereby respectively clamping and releasing a thread extending through said opening between said annular member and said flap, said control means comprising a flexible draw-member connected at one end to the flap, and the other end being attached to the stripper device, and means comprising a lever mounted to bear on said draw-member to form a bight therein and pivot said flap in a direction for releasing the yarn of said full bobbin after the beat-up of the first weft yarn inserted by said full bobbin.

5. On an automatic loom having a shuttle, a lay, a mechanical stripper device having a tubular mouthpiece defining an opening and including a pneumatic thread-holding device for stripping the tip bunch from and holding the outer thread of a full weft bobbin to be transferred into said shuttle, a mechanical thread brake for braking and releasing the thread between the bobbin tip of said bobbin and said stripper device, said thread brake comprising an annular member mounted in said tubular mouthpiece and extending radially and axially of said mouthpiece opening to form a radially extending surface around the periphery of said tubular mouthpiece opening, a flap having a projection and pivotally mounted by said projection to pivot into engagement with and disengagement from said radially extending surfaces of said annular member to close and open said tubular mouthpiece opening, a spring biasing said flap into engagement with said surface, control means for pivoting said flap and thereby respectively clamping and releasing a thread extending through said opening between said annular member and said flap, means for selectively drawing said stripper device to a forward position for engaging the tip bunch of a full weft bobbin prior to transfer thereof to said shuttle and for returning said stripper device in an opposite direction to a rest position, and said control means comprising a lever-arm of said flap, a member having a control surface stationary with respect to the travel of said stripper device and disposed to impinge on said projection of said flap to pivot it in a direction opposite to the direction said spring biases said flap, and said surface being disposed transversely of the path of travel of said stripper device to thereby pivot said flap.

6. On an automatic loom having a shuttle and means for holding full weft bobbins, each having a weft yarn tip bunch thereon, a reciprocably movable mechanical stripping device having a mouthpiece comprising an annular surface defining an opening and including a pneumatic yarn holding device positionable in a position for stripping said tip bunch and subsequently holding said stripped yarn of a full weft bobbin to be transferred into said shuttle, a mechanical yarn brake for braking and releasing said stripped yarn, said yarn brake comprising said mouthpiece and a flap pivotally mounted on said mouthpiece and adapted to pivot into engagement with and disengagement from said mouthpiece annular surface to close and open said mouthpiece opening, control means for pivoting said flap in response to the reciprocable travel of said stripping device to an open position when advanced toward said position for stripping said tip bunch and allowing said flap to close during return movement of said mouthpiece away from said position, thereby clamping said stripped yarn at least during the first pick of said full weft bobbin and releasing said stripped yarn extending through said opening between said annular surface and said flap, and means for reciprocating said stripping device to said position and away therefrom.

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