May 21, 1968 P. FRETTOLOSO 3,384,040

ATTACHMENT FOR BELT LOOP MACHINE

Filed May 19, 1965 4 Sheets-Sheet 1

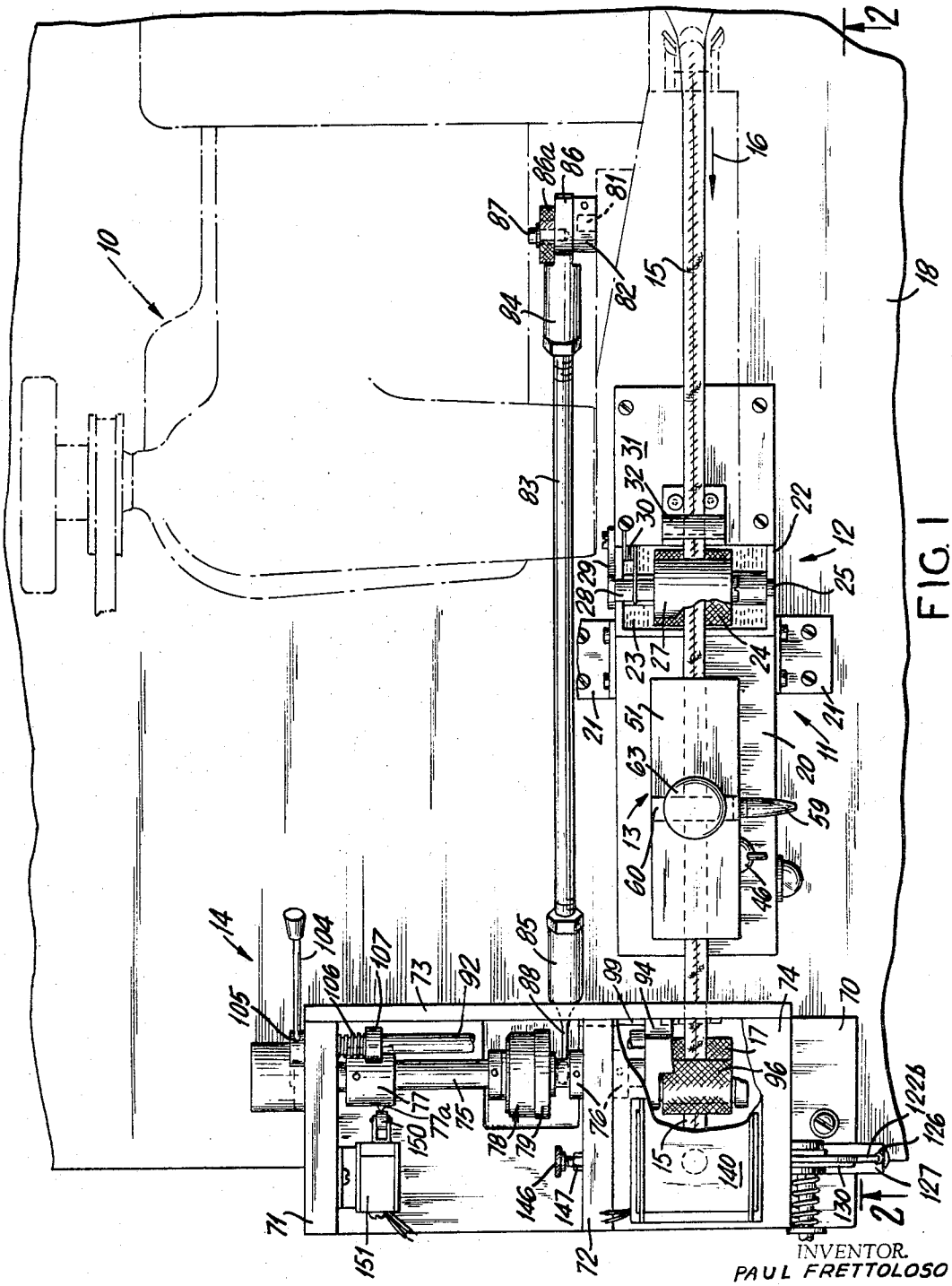


FIG. 1

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Filed May 19, 1965 4 Sheets-Sheet 2

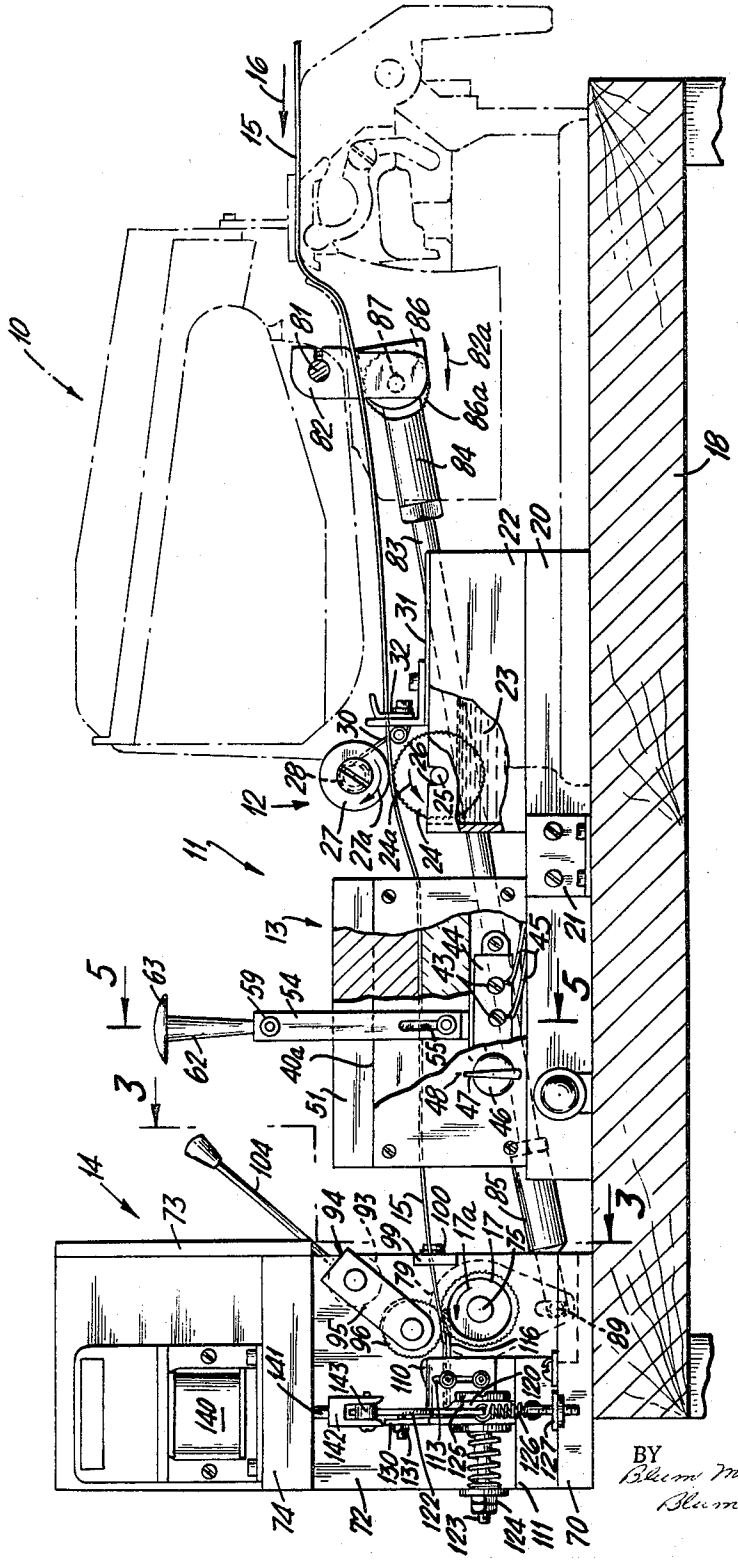


FIG. 2

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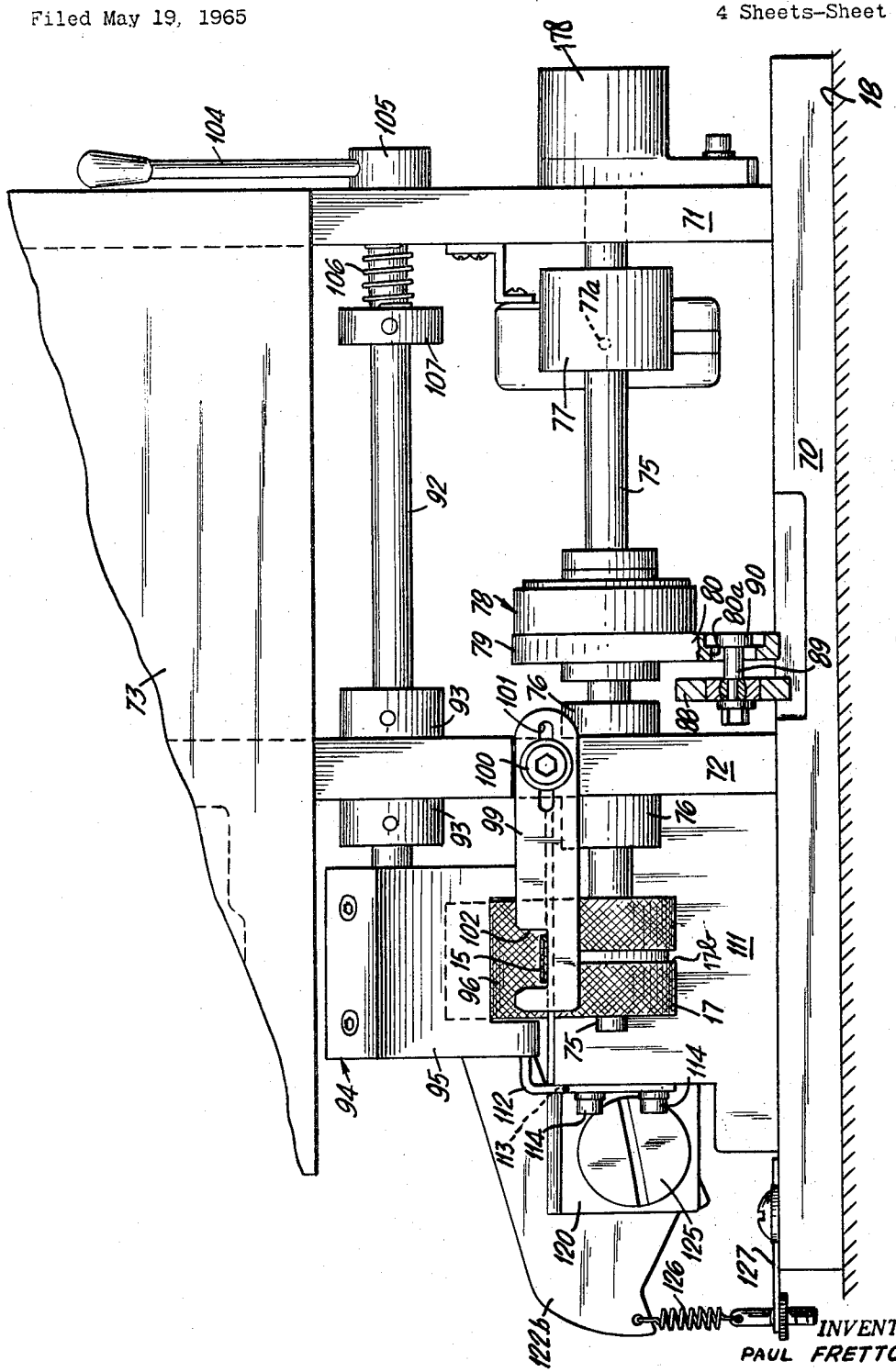


FIG. 3

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Filed May 19, 1965 4 Sheets-Sheet 4

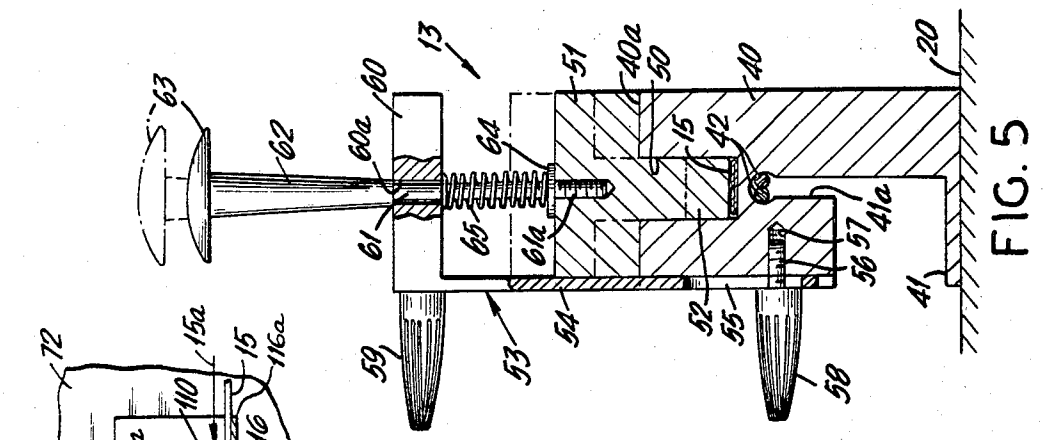


FIG. 5

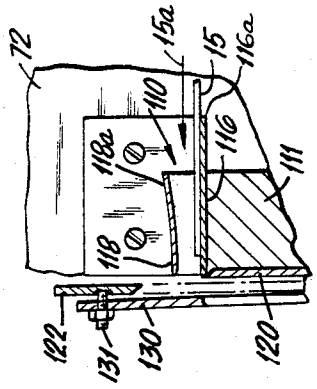


FIG. 6

FIG. 4

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United States Patent Office 3,384,040 Patented May 21, 1968

3,384,040

ATTACHMENT FOR BELT LOOP MACHINE

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Filed May 19, 1965, Ser. No. 457,105
9 Claims. (Cl. 112—2)

ABSTRACT OF THE DISCLOSURE

An attachment for sewing machines which make belt loops, such as blind stitch sewing machines. The attachment is to be mounted on a sewing machine which has a means including a laterally extending rocker shaft and the like for intermittently feeding a longitudinally folded and stitched narrow band web of fabric and the like intermittently rearwardly in response to rocking of this rocker shaft. The attachment includes, behind the sewing machine, a moistener, a dry ironer behind the moistener, and a draw means behind the dry ironer. The attachment receives the web in position for the web to be longitudinally movable and to be operably coupled to the moistener to be moistened thereby and operably coupled to the ironer to be ironed thereby, with the web then further extending through the draw means which draws the web rearwardly. A means synchronizes the operation of the draw means and the rocker shaft for actuating the draw means to draw the web rearwardly in synchronization with feeding of the web by the sewing machine, and a knife blade means is situated behind the draw means and includes blades which are mounted so as to be normally spaced from each other for receiving between themselves the web, while the blades of the knife blade means are movable one toward the other in a transverse plane for severing the web. A means is coupled to the draw means for actuating the knife blade means once per selected number of draw movements of the web.

This invention relates to improvements in attachments for machines for making belt loops, such as blind stitch sewing machines. In particular, the invention relates to an improved attachment system for automatically ironing and then cutting to length a belt loop web after it has been stitched by the sewing machine.

In the making of belt loops, it is common to utilize a blind stitch sewing machine and to feed a web of material longitudinally from front to rear under the needle of such machine. As the material is thus fed, normally by a feed dog or the like on the sewing machine, it is automatically folded by any suitable folder attachment, and the overlapped side edge portions of the material are then blind stitched by the machine. The web of material which has been thus blind stitched must then be ironed and cut into the individual belt loop lengths.

The usual ironing attachment in use today is a steam iron attachment. However, this has proved relatively unsatisfactory since the steam has affected the operation of the sewing machine and has required frequent oiling of the parts, and also has caused deterioration of the parts. While cutting attachments have been known, these have commonly been relatively complicated in mechanical construction, and have often been subject to jamming by the material being fed and cut.

An important object of this invention is to provide a complete ironing and cutting attachment which is integrated in performance with the operation of the blind stitch sewing machine, which irons without the use of steam, which is readily adaptable to ironing webs of different thicknesses and which provides a simplified cutting operation with a minimum of parts and with improved

means to prevent jamming of the material in the cutting portion of the attachment.

Another important object of the invention is to provide an improved ironing attachment for machines of this type which eliminates the use of steam.

Another important object of this invention is to provide an improved cutting attachment for this type of machine which is simple in operation and construction and which minimizes the risk of jamming of the material in the cutting attachment.

In accordance with a preferred embodiment of the invention, the attachment includes an ironing station located longitudinally behind the blind stitch sewing machine in the path of travel of the belt loop material as it is fed from front to rear by the feed dog of the blind stitch sewing machine. A further cutting and draw station is located rearwardly of the ironing station and also in line with the longitudinal path of travel of the belt loop web through the sewing machine. The cutting station is provided with draw means which acts upon the web to draw it intermittently rearwardly in synchronization with the movement of the material through the sewing machine by means of the sewing machine feed dog. In the ironing station, there is provided a base heat conducting block having a flat upper surface and a through longitudinal channel extending to such upper surface, or width to accommodate the web slidably upon the bottom of the channel, and of depth substantially in excess of web thickness. An upper block overlies the entire upper surface of the base block and has a longitudinal depending rib which extends conformingly and movably into the channel to bear against the top of the web. The upper block is urged downwardly by means of springs so as to clamp the web slidably frictionally between the rib and the bottom of the channel. Any suitable means is provided to heat the base block. Just before the web enters the ironer, it passes over a water transfer roller partly immersed in water in a trough so that the web is moistened. thereby preventing the fabric from being scorched or acquiring a "shine." The upper block is mounted in such a way that it can be manually raised to permit manipulation of the material in the channel of the lower block, and it is also possible to adjust the spring tension depending upon the thickness and characteristics of the web which is being ironed.

Also in accordance with the preferred embodiment of the invention, the draw means at the cutting station comprises a draw roller and an idler roller with the web received frictionally between the two rollers. The draw roller is driven in synchronization with the feed dogs of the sewing machine. A longitudinally extending open-ended throat tube is located behind the two rollers and receives the web. This throat has a horizontal bore and a rearwardly and downwardly inclined roof, the idler roller being slightly behind the draw roller so as to feed the web downwardly against the throat floor.

The cutter also includes a pair of laterally extending, transversely relatively movable, normally spaced cutting blades behind the throat and receiving the web therebetween. A control cam is coupled to the draw roller; and means, including such control cam, are synchronized with the draw roller movement and operative once per revolution thereof so as to actuate the blades during an actual draw movement of the draw roller so as to move the blades relatively to each other to sever the web and then to move the blades relatively to each other to return them to their normal positions. As a result, when the draw roller completes the particular movement during which the cutting action takes place, the cam moves past the point at which it actuates the cutting means. Although the web continues to be moved rearwardly while the blades are closed, the throat is of length and height so

as to accommodate arching movement of the web against the throat roof, thereby to create slack in the web. Once the blades move back to their normal positions, the resilience of the relatively stiff folded over and stitched belt loop material causes it to move rearwardly and return from its arched position to its normal position flat against the floor of the throat.

The above cutter arrangement is highly advantageous since it permits the use of relatively standard operative clutch components and since it permits the control of blade movement to be by a simple solenoid, the circuit of which is closed by a microswitch actuated by the aforesaid cam. Accordingly, there are a minimum of parts and a minimum of electric circuitry, while the device has positive means to prevent jamming of the material.

Other objects and advantages of the invention will become apparent from the following description in conjunction with the annexed drawing, in which a preferred embodiment of the invention is disclosed.

In the drawing,

FIG. 1 is a top plan view of the attachment shown in position relative to a conventional blind stitch sewing machine, the sewing machine being shown in phantom;

FIG. 2 is a vertical, longitudinal section on line 2—2 of FIG. 1;

FIG. 3 is a transverse section on line 3—3 of FIG. 2;

FIG. 4 is an end elevation of the left end of the attachment, as taken in FIG. 1, this being referred to as the rear end of the attachment, and particularly shows the cutting station;

FIG. 5 is a fragmentary transverse vertical section on line 5—5 of FIG. 2, showing a detail of the ironer; and

FIG. 6 is a fragmentary vertical section showing a detail of the throat in relatiton to the cutting blades of the cutting attachment.

The drawing is generally to the scale of a working embodiment of the invention, and reference is made to the drawing to complete the disclosure herein.

Upon reference to the drawing in detail, it will be noted that it shows the attachment applied to a conventional blind stitch sewing machine **10**, this machine not being described in detail. The attachment includes an ironing station **11** comprising a moistener **12** just behind a blind stitch machine **10** and an ironer **13** behind the moistener **12**. The attachment further comprises a cutting and draw station **14** located behind the ironer **13**. The web **15** is drawn through a folder (not shown) in the rearward longitudinal direction of arrow **16**, by means of the feed dogs of the blind stitch sewing machine **10**, and is stitched by the machine. The web **15** is drawn rearwardly of the machine by means of draw roller **17** located at the station **14**, the web **15** being drawn successively through the longitudinally aligned moistener **12**, ironer **13**, and cutting station **14** by means of the draw roller **17**, the action of which is synchronized with the action of the feed means in the blind stitch sewing machine **10**. All of the aforesaid components are mounted upon any suitable table **18**. This makes it possible to design the moistener **12**, ironer **13** and cutting station **14**, respectively, as distinct subassemblies.

The ironing station

The ironing station **11** includes a longitudinally elongated base block **20** which is secured to table **18** by means of brackets **21**. The moistener **12**, as shown in FIGS. 1 and 2, may have any suitable construction, the construction shown in the drawing accordingly, being illustrative only. At the front, trough **22** is mounted upon the upper face of block **20** and contains water **23**. This trough **22** has an open top and near its rear it supports a knurled water transfer or moistening roller **24** by means of a laterally extending roller shaft **25** journalled in notches **26** formed in the sidewalls of trough **22** and extending to the top thereof. The level of the water is such that the lower portion of roller **24** is in the water. A further roller **27** is turnably mounted above roller **24** by means of a further lateral shaft **28** which is journalled in any suitable bracket arm **29** pivotally attached to the side of trough **22**. Shaft **28** is biased downwardly by means of tension spring **30**, one end of which is fixed to plate **31** which overlies the top of the trough forwardly of the rollers and the other end of which bears against the top of shaft **28**. Web **15** is drawn through any suitable guide bracket **32** mounted upon plate **31** forwardly of the two rollers, and is from there drawn frictionally between the two rollers. Since the web **15** is drawn rearwardly by means at station **14**, the two rollers **24** and **27** simply turn as idler rollers in the respective directions of arrow **24***a* and **27***a*. As a result, liquid from trough **22** is transferred to the lower surface of web **15**.

Ironer **13**, best shown in FIGS. 1, 2 and 5, includes a lower or base conducting block **40** which is mounted upon base **20**. This block **40** is generally rectangular but has a cutout **41** in one side, near the bottom thereof, for reception of electrical elements. Specifically, this cutout **41** has an upper central extension **41***a* in which heating wires **42** are located. These heating wires **42** are connected to terminals **43** on a block **44** within the recess, from which further wires **45** are led to any suitable source of electric power (not shown). For convenience, certain of the electrical details shown in FIG. 2 are omitted in FIG. 5, and in general, a number of the conventional electrical details are omitted. It will be apparent that any suitable adjustable thermostat (not shown) may be located in the recess **41** and connected in operative electric circuit (not shown) with the electric wires **42** and the source of power, the thermostat having an external control knob **46** which may be turned to locate its pointer **47** against any desired marking of the scale **48**. Put in other terms, the base unit **40** is heated by any suitable electric means, and its temperature may be adjusted by means of knob **46** in conventional manner.

The block **40** has a full length through longitudinal channel **50** extending downwardly from its upper surface **40***a*, the depth of such channel **50** being preferably far greater than the thickness of the web **15**. The width of channel **50** is sufficient to accommodate the desired width of web **15**. It will be apparent that a web of less width than that shown may also be ironed successfully. The ironer further includes an upper block **51** preferably of the same length as block **40** and having a depending longitudinally extending rib **52** which is preferably coextensive in length with and extends conformingly and movably into channel **50**. In other words, the rib **52** is preferably of about the same width as channel **50**, although the height of rib **52** may be slightly less than the height of channel **50**.

In order to control the tension with which rib **52** is urged into channel **50**, bracket **53** of inverted L-shape is provided. This bracket **53** has a vertical arm **54** located slidably against one side of block **40** and of block **51** (the sides of blocks **40** and **51** being preferably respectively coplanar). Near its bottom, arm **54** has a vertically elongated slot **55**. A screw shank **56** extends through slot **55** and is threaded into a corresponding laterally extending lateral bore **57** in block **40**, the shank **56** being provided with an enlarged head **58**. A corresponding laterally extending head **59** is secured to the upper end of arm **54** of the relatively heavy bracket **53**. Bracket **53** also comprises a horizontal arm **60** which connects with the upper end of arm **54** and opposes the upper face of block **51**. It will be apparent that by loosening the screw shank **56**, the vertical position of arm **60** may be adjusted and arm **60** may be secured in such adjusted position by then tightening the screw **56** with its head **58** bearing against arm **54**.

Rod **61** extends vertically through a through bore **60***a* in arm **60**, the lower end portion **61***a* of rod **61** being screw-threaded and being threaded into a corresponding vertical bore in the top of block **51**. Rod **61** is provided

with an enlarged upstanding handle **62** with an enlarged upper head **63**, the handle **62** providing at its lower end a shoulder which bears against the upper face of arm **60**. A washer **64** is placed around rod **61** against the upper face of block **51**, and a coil compression spring **65** extends around rod **61** and between washer **64** and the lower face of arm **60**. The spring **65** exerts a downward tension upon block **51** which is adjustable by varying the position of arm **60**, and the result is to clamp the web frictionally slidably between the lower face of rib **52** and the bottom of channel **50**. However, since rod **61** is slidable within the through vertical bore **60***a* of arm **60**, it is possible to raise block **51**, by means of handle head **63**, to the broken line position of FIG. 5, so as to space the rib **52** away from the bottom of channel **50**. This permits initial threading of the web **15** into and through the channel **50**.

The blocks **40** and **51** are preferably made of any suitable heat retaining metal, such as commonly used in ironers, so that the moistened web is ironed flat between the parallel and planar lower rib surface and bottom channel surface.

The cutting station

This is shown in FIGS. 1–4 and 6. The cutting station **14** includes a frame having a horizontal base **70** supported upon the rear of table **18**, a side vertical and longitudinal wall **71** fixed to base **70** at the right of the attachment, as viewed from front to rear, a further vertical and longitudinal wall **72** fixed to the top of base **70** to the right of the path of travel of web **15**, as viewed from front to rear, a front vertical and lateral frame wall **73** fixed to the front edges of walls **71** and **72** and also extending across and above the path of travel of web **15**, and a platform **74** fixed to frame pieces **72** and **73** and overlying the path of travel of web **15**. Of course, any suitable frame arrangement may be utilized.

Adjacent the front of cutting station **14**, horizontal and lateral shaft **75** is journalled in the frame pieces **71** and **72**, somewhat above base **70**; and collars **76** are mounted upon shaft **75** on either side of frame member **72**. Knurled draw roller **17** is mounted upon shaft **75** in line with the path of travel of web **15** through the ironer. Control roller **77** carrying cam **77***a* is mounted upon shaft **75** adjacent standard **71**. Shaft **75** is driven by any suitable one-way clutch mechanism **78** mounted upon said shaft **75**, the driving member of clutch mechanism **78** being a collar **79**. This collar **79** has a depending extension **80** which is coupled to the feed mechanism of the blind stitch sewing machine **10**, in a manner to be described in detail presently. The element **80** is reciprocated longitudinally. In the forward stroke of element **80**, the clutch mechanism **78** is engaged and roller **17** is moved in the direction of arrow **17***a*, or in other words, in such direction as to draw the web **15** rearwardly over the upper portion of roller **17**. In the rearward stroke of element **80**, the one-way clutch **78** is disengaged. The one-way clutch mechanism **78** may be any conventional mechanism, and accordingly is not shown in detail. For example, the clutch may be an overrunning clutch such as shown in Catalogue 105 B, published October 1961, of Formsprag Company, Warren, Mich. A further one-way clutch **178** on shaft **75** also conventional and not shown in detail, is active to prevent shaft **75** from turning so as to turn roller **17** in the reverse of its feeding directions while clutch **78** is disengaged.

The element **80** is coupled to the rocking shaft **81** of the blind stitch sewing machine **10**, which is part of the intermittent feed mechanism including the usual feed dogs which carries the web **15** rearwardly in the direction of arrow **16**. This mechanism is conventional, and accordingly, is not described in detail. In any event, the rocking shaft **81** is extended outwardly of the machine and an arm **82** is fixed by any suitable means to shaft **81** and extends generally downwardly therefrom. A longitudinally, downwardly rearwardly extending shaft **83** is attached at its front and rear ends to respective turnbuckles **84** and **85**. The front of turnbuckle **84** carries a vertically extending plate portion **86** which is secured by lateral pivot **87** to knurled disk **86***a*. Screw **87**, which is offset from the center of disk **86***a*, secures disk **86***a* to arm **82**. Therefore, disk **86***a* may be adjusted about the axis of screw **87** thereby to regulate the length of stroke of shaft **83** corresponding to rocking of shaft **81**. The rear turnbuckle **85** carries a rear extension plate **88** which also extends vertically, and said plate **88** carries a lateral shaft **89** which extends through a slot **80***a* in element **80**, such shaft **89** having an enlarged head **90** to retain it in place. In any event, further detail is believed unnecessary since it is obvious that the connection between the shaft **75** of roller **17** and the rocking shaft **81** of the sewing machine **10** is such that reciprocating rocking movement of the element **82** carried by shaft **81** in the direction of arrow **82***a* produces, through the medium of the overrunning clutch mechanism **78**, corresponding movement of draw roller **17**, in the direction of arrow **17***a*, so as to advance the web material **15** rearwardly through the ironing station **11** and through the cutting station **14**.

In order to mount the necessary idler roller in the cutting mechanism, shaft **92** is journalled in uprights **71** and **72** above shaft **75** and carries collars **93** on either side of upright **72**. Above roller **17**, shaft **92** carries a yoke **94** having parallel downwardly rearwardly extending arms **95**, between which idler roller **96** is journalled. The web **15** is drawn frictionally between the narrow peripheral surfaces of the rollers **17** and **96**. Preferably, the line connecting the axis of the two rollers **17** and **96** is inclined slightly upwardly rearwardly from the axis of roller **17** or in other words, the roller **96** engages the roller **17** slightly behind the vertical line through the axis of roller **17** (FIG. 1). In this way, the rollers urge the web slightly downwardly rearwardly, this being aided by the vertical location of the front guide member **99** of the cutter mechanism, this guide member **99** being slightly above the level at which the web **15** engages the rollers **17** and **96**. The guide bar **99** extends generally horizontally and is adjustably secured at one end, by means of screw **100** extended through elongated slot **101** in bar **99**, to the front of standard **72**. At its free end, bar **99** has a notch **102** extending downwardly from its upper edge and the web **15** extends slidably between the sides of notch **102** and over the bottom surface thereof.

Outwardly of standard **71**, handle **104** transverse to shaft **92** is fixed thereto by means of collar **105**. A compression spring **106** extends around shaft **92** and between standard **71** and collar **107** fixed to shaft **92** inwardly of standard **71**. It will be apparent that by proper manipulation of handle **104**, the idler roller **96** may be raised to permit threading of web **15** between the rollers **96** and **17**.

What is referred to in the claims as an open-ended, longitudinally extending throat tube **110** is positioned to receive web **15** behind rollers **17** and **96**. To support this member a further frame piece **111** is fixed to base **70** and extends upwardly therefrom behind rollers **17** and **96**. An L-shaped bracket **112** has a vertical arm with an elongated slot **113** through which securing screws **114** extend, these screws **114** also extending in the usual way into the side of frame member **111**, so as to permit vertical adjustability of throat **110**. The throat **110**, as best shown somewhat diagrammatically in FIG. 6, includes a horizontal floor element **116** which extends rearwardly of the throat element proper as shown in both FIGS. 6 and 2, and which receives the web **15**, in the direction of arrow **15***a*, as closely as possible after it passes between rollers **17** and **96**. Indeed, floor element **116** has a forwardly extending tongue **116***a* which extends over roller **17** within peripheral groove **17***b* thereof and conforming in shape thereto so as to make certain that web **15** does not jam between the throat and roller **17**. The throat **110** also includes side walls and a roof

118, the front portion 118*a* of which is forwardly upwardly inclined.

The web 15 is cut immediately after it leaves the rear end of throat 110, by suitable arrangement of knives, this mechanism being best shown in FIGS. 2 and 4.

The knife mechanism includes a fixed laterally and vertically extending blade 120 fixed to the frame by means of bolts 121. When the web 15 leaves the throat, it rides over the upper sharpened edge of blade 120. The movable blade 122 has a downwardly offset portion 122*a* which is secured to fixed blade 120 by means of longitudinally extending pivot screw 123 having a nut 124 secured thereto and a head 125. The blade 122 is biased to the open position shown in full lines in FIG. 4 by means of a spring 126 connected between lateral wing 122*b* of blade 122 and bracket 127 fixed to frame base 70.

Tension of the blade 122 against the fixed blade 120 is controlled by means of a further plate 130 mounted upon the same pivot 123. Near the free end of blade 122, a screw 131 is screwed through a threaded opening of plate 130 and against blade 122, with the turned position of this control screw adjusting the tension of blade 122 against blade 120 (see FIG. 4).

The actual movement of the moveable knife blade 122 is controlled by vertically extending solenoid 140 which is mounted upon frame piece 74. This solenoid 140 has a bottom vertically extending plunger 141 which extends slidably through an opening in frame piece 74. The lower end of plunger 141 is connected to a yoke 142, with a longitudinally extending roller 143 being turnably connected between the vertical lateral arms of said yoke 142 as shown in FIG. 2. This roller 143 bears against the upper surface of knife 122 adjacent its free end. It will be apparent that when the solenoid is energized and the plunger 141 lowered, the knife 122 is moved downwardly, so that its lower cutting edge crosses the upper cutting edge of fixed knife 120, thereby cutting the web 15 between the knife cutting edges. Upon de-energization of the solenoid and return of its plunger to raised position, the spring 126 automatically returns knife 122 to its full line position of FIG. 4. If the cutters jam and spring 126 does not return knife 22 to its full line position, the solenoid cannot operate. FIG. 4 also shows the broken line lowered position of the knife blade 122. In addition, FIG. 4 shows a further control screw 145 threaded through a lateral threaded opening in the vertical upright 72 and adjusted, by means of head 146 and control nut 147, so as to engage frictionally against the upper portion of the free end of the movable knife blade 122 when it is in its lower or broken line cutting position shown in FIG. 4. Thus, the screw 145 pervents any wobbling of the end of the movable knife blade when it is cutting the fabric.

Summary of operation

The operation of the various parts has been discussed above, and at this point it is accordingly only necessary briefly to summarize the overall operation of the machine. At the start of operations, a length of webbing is run through the sewing machine and folded and stitched in the usual manner, the web being threaded through the ironing and cutting stations by raising the movable ironing shoe and the idler roller of the cutting station respectively. By closing any appropriate switch in the solenoid circuit, the timed operations can then be begun.

As the web is drawn backwardly by the draw means of the knife station, in conjunction with the feed dogs of the sewing machine, the fabric is moistened and then ironed. Furthermore, once per revolution of the control cam at the cutting station, corresponding to a selected length of web, the control cam strikes the microswitch element 150, thereby closing a microswitch 151 in the electric circuit of the solenoid. As a result, the movable knife blade is moved in its cutting action and severs the web 15 between the blades. The timing is such that the cutting action takes place during a rearward movement of the web 15 corresponding to the linkage between the cutting station draw means and the control shaft of the sewing machine. As a result, for an instant while the cutting blade is in its lowermost position, the web 15 travels against the blade, thereby causing the web to be arched within the throat 110, against roof 118. Upon the return of the movable blade to its normal raised position, the springiness of the web material within the throat causes it to return to normal condition flat against the floor of the throat, with resulting slight rearward movement of the free rear edge portion of the web. As soon as the next feed stroke of the machine control shaft begins, a new cycle of formation of a cut length of web is resumed.

While a preferred embodiment of the invention has been disclosed, and various possible changes, omissions and additions have been indicated in the invention, it will be apparent that various other changes, omissions and additions may be made in the invention without departing from the scope and spirit thereof.

What is claimed is:

1. Attachment for a sewing machine having means including a laterally extending rocker shaft and the like for intermittently feeding a longitudinally folded and stitched narrow band web of fabric and the like intermittently rearwardly in response to rocking of said shaft; said attachment comprising: a moistener behind said sewing machine, dry ironing means behind said moistener, and draw means behind said dry ironing means, said attachment receiving said web in position for said web to be longitudinally movable and to be operably coupled to said moistener for moistening thereby and operably coupled to said ironing means to be ironed thereby and further to extend through said draw means, said draw means drawing said web rearwardly, means synchronizing said draw means and said rocker shaft for actuating said draw means to draw said web rearwardly in synchronization with the feeding of said web by said sewing machine, knife blade means behind said draw means including blades which are mounted to be normally spaced to receive said web therebetween and to be moved one toward the other in a transverse plane and thereby to sever said web, and means coupled to said draw means for actuating said knife blade means once per selected number of draw movements of said web.

2. Attachment for a sewing machine having means including a laterally extending rocker shaft and the like for intermittently feeding longitudinally rearwardly a folded and stitched narrow band web of fabric and the like; said attachment automatically ironing and severing segments of selected length of said web in synchronization with the feeding of said web by said sewing machine, said attachment comprising successive stations respectively receiving said web from said sewing machine and moistening mean, dry ironing means, drawing means and cutting means respectively situated successively at said stations for successively moistening, dry ironing, drawing, and cutting said web, means synchronizing said drawing means and said rocker shaft for actuating said drawing means for drawing said web rearwardly in synchronization with the feeding of said web by said sewing machine, and means synchronizing said drawing means and said cutting means for operating in response to and during draw movement of said web for actuating said cutting means once per selected number of draw movements of said web.

3. Attachment for a sewing machine having means including a laterally extending rocker shaft and the like for intermittently feeding longitudinally rearwardly a folded and stitched narrow band web of fabric and the like; said attachment automatically ironing and severing segments of selected length of said web in synchronization with the feeding of said web by said sewing machine, said attachment comprising successive means respectively receiving said web from said sewing machine for respectively

moistening, dry ironing, drawing and cutting said web, means synchronizing said draw means and said rocker shaft so that said draw means draws said web rearwardly in synchronization with the feeding of said web by said sewing machine, and means coupling said draw means and said cutting means to actuate said cutting means once per selected number of draw movements of said web.

4. Attachment for a sewing machine having mean including a laterally extending rocker shaft and the like for intermittently feeding longitudinally rearwardly a folded and stitched narrow band web of fabric and the like in response to rocking of said shaft; said attachment comprising: an ironer behind said sewing machine comprising a moistener, heat transfer block means having a through longitudinal channel behind said moistener and adapted to receive said web frictionally slidably therethrough, said moistener positioned thereby to moisten said web before it enters said channel, and means heating said block means, said block means having means exerting flattening tension on the faces of said web so as to iron the web by said tension and said heat; and drawing and cutting means behind said ironer comprising a throat having a longilongtudinal through opening, draw means behind said throat adapted to receive said web with said web extending slidably through said throat, means synchronizing said draw means and said rocker shaft so that said draw means draws said web rearwardly in synchronization with the feeding of said web by said sewing machine, knife blade means behind said throat which are mounted to be normally spaced and adapted to receive said web therebetween and to be moved towards each other in a transverse plane and thereby to sever said web and to block movement of the end of the web, and means coupled to said draw means and operative to actuate said knife blade means once per selected number of draw movements of said web and during the course of such draw movement, said throat shaped to accommodate arching of said web during the remainder of such draw movement while the end of the web is blocked from movement by the blades.

5. Ironer for a narrow-band web of fabric and the like being drawn longitudinally, comprising a lower base heat-conducting block having a flat upper surface and a through longitudinal channel extending to said upper surface, said channel of width to accommodate said web slidably upon the bottom of said channel and of depth substantially in excess of the web thickness, an upper block overlying the entire upper surface of said base block and having a longitudinal depending rib extending conformingly and movably into said channel for bearing aginst the top of the web when in said channel upon the bottom thereof, a bracket having a vertical arm and a horizontal arm, means vertically sidably securing said vertical arm to a side of said lower block with said horizontal arm opposing and spaced from the upper surface of said upper block and with said vertical arm secured to said lower block in selected relative position so as to determine and select the spacing between said horizontal arm and said upper block, spring means between said horizontal arm and said upper block and urging said upper block downwardly, and handle means connected to said upper block and extending through said horizontal arm and accessible above said horizontal arm and adapted to be raised so as to elevate said rib in said channel to permit threading of said web through said channel.

6. Apparatus for drawing and cutting a narrow-band web of fabric and the like comprising a draw roller and an idler roller having lateral axes and adapted to receive said web frictionally therebetween, means intermittently turning said draw roller so as to draw said web longitudinally rearwardly, a longitudinally extending open-ended throat tube behind said rollers and receiving said web, said throat having a horizontal floor and a rearwardly downwardly inclined roof, said roller slightly behind said draw roller so as to feed said web downwardly against said throat floor, a pair of laterally extending cutting blades movable one relative to the other and situated behind said throat for receiving said web, means including a control cam synchronized with the draw roller movement and operative once per rotation thereof to actuate said blades during a draw movement of said draw roller to move said blades one relative to the other to sever said web, said throat having a length and height to accommodate arching movement of the web against said throat roof while said web is moved against the blades.

7. Attachment for a sewing machine having means including a laterally extending rocker shaft and the like for intermittently feeding longitudinally rearwardly a folded and stitched narrow-band web of fabric and the like in response to rocking of said shaft, said attachment comprising drawing and cutting means comprising a throat having a longitudinal through opening, draw means situated forwardly of said throat for feeding a web with said web extending slidably through said throat, means synchronizing said draw means and said rocker shaft for actuating said draw means draw said web rearwardly in synchronization with the feeding of said web by said sewing machine, knife blade means behind said throat and including blades which are mounted to be normally spaced from each other in a rest position of said knife blade means for receiving said web therebetween and for moving one toward the other in a transverse plane for severing said web and for blocking movement of the end of the web, and means coupled to said draw means and for actuating said knife blade means once per selected number of draw movements of said web and during the course of said draw movement, said throat being shaped to accommodate arching of said web during the remainder of such draw movement while the end of the web is blocked from movement by the blades.

8. Attachment for a sewing machine having means including a laterally extending rocker shaft and the like for intermittently feeding longitudinally rearwardly a folded and stitched narrow-band web of fabric and the like in response to rocking of said shaft; said attachment comprising draw means for receiving and drawing said web, means synchronizing said draw means and said rocker shaft for actuating said draw means to draw said web rearwardly in synchronization with the feeding of said web by said sewing machine, knife blade means behind said draw means including blades which are mounted to be normally spaced in a rest position of said knife blade means for receiving said web between said blades in said rest position of said knife blade means and for moving one toward the other in a transverse plane for severing said web, and means coupled to said draw means for actuating said knife blade means once per selected number of draw movements of said web.

9. Attachment for a sewing machine having means including a laterally extending rocker shaft and the like for intermittently feeding longitudinally rearwardly a folded and stitched narrow-band web of fabric and the like in response to rocking of said shaft, said attachment comprising a draw roller and an idler roller having lateral axes for receiving said web frictionally therebetween, means synchronizing said draw roller and said rocker shaft for actuating said draw roller to draw said web rearwardly in synchronization with the feeding of said web by said sewing machine, a longitudinally extending open-ended throat tube behind said rollers for receiving said web, said throat having a horizontal floor and a rearwardly downwardly inclined roof, said idler roller being situated slightly behind said draw roller for feeding said web downwardly against said throat floor, cutting means including a pair of laterally extending, relatively movable, normally spaced cutting blades behind said throat for receiving said web therebetween for cutting said web and blocking said web from rearward movement from said throat, a control cam coupled to said draw roller to turn in unison therewith, and means actuated by said control cam once per revolu-

tion thereof and coupled to said blades for actuating said blades during a draw movement of said draw roller, said throat having a length and height to accommodate arching movement of the web against said throat roof while said web is moved against the blades.

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