AUTOMATIC HEMMING MACHINE

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ABSTRACT

A plurality of features expedites the operation of a sewing machine or the like provided with hemming means whereby introduction of flexible workpieces, peripheral margin guidance, terminal stitch severing, and unloading of successive tubular flexible workpieces such as undershirts, is accomplished in semi-automatic manner with minimal operator attention. Pneumatic and electrical controls may enable one operator simultaneously to attend more than one machine and produce uniform, good quality hemming.

13 Claims, 8 Drawing Figures
AUTOMATIC HEMMING MACHINE

BACKGROUND OF THE INVENTION

This invention relates to hemming, especially the hemming of tubular knit goods, for instance as with shirt bottoms.

The usual current practice in shirt bottom hemming is for a sewing machine operator manually to introduce a shirt bottom margin to the stitching instrumentalities and a hemmer arranged just ahead of, i.e., upstream from them. Then, as the usual feed mechanism advances the work progressively, the operator continuously urges its margin into the hemmer and endeavors to avoid having the body of each shirt become twisted and “drag” or otherwise interfere with producing a uniform hem. As the tubular body has its bottom margin nearly completely hemmed, the operator feeling and watching for the starting point of the hemming as it returns to the needle path, the machine is caused to cease operation, and cutting mechanism is actuated to sever the chain stitch whereby the garment is freed for removal from the machine. Thickness, stretchiness, maneuverability and feel of the tubular goods to be marginally processed, whether for undershirts or other apparel, differ considerably and consequent inaccurate guidance produces workpieces which are not infrequently irregular and unsuitable.

In addition to hemming techniques as disclosed in U.S. application Ser. No. 167,690 filed July 30, 1971, now U.S. Pat. No. 3,736,892 issued in the name of Richard W. Gray, numerous other automatic mechanisms have been devised for progressively folding over the margins of workpieces and securing them as by a seam parallel to a peripheral edge. U.S. Pat. No. 3,080,836 issued Mar. 12, 1963, in the names of J. E. Clemens et al, for instance, discloses edge curvature controlled means for guiding a workpiece to stitching instrumentalities. A hemming machine employing a belt conveyor and air stream uncurling means is disclosed in U.S. Pat. No. 3,192,885, “Fabric Edge Finishing Machines” are also disclosed, for example, in U.S. Pat. No. 3,752,097 issued Aug. 14, 1973 in the names of George A. Fuller et al. A disclosure more particularly adapted to hem the margin of tubular goods is found in U.S. Pat. No. 3,736,895 issued June 5, 1973 wherein an axially shiftable work support is employed and a seam detector means is arranged to detect the beginning of the stitched edge of an article to discontinue guidance of the work edge. A further disclosure respecting material doubling means and edge displacement is found in U.S. Pat. No. 3,013,513.

SUMMARY OF THE INVENTION

In view of the foregoing, it is an object of this invention to provide an improved, relatively simple machine for peripheral hemming, which machine shall have features and novel arrangements of parts facilitating introduction and control of the tubular workpiece and its removal, as well as automatic guidance of the work margin as it is being formed to be secured.

A further and more specific object of the invention is to provide a machine for hemming the bottoms of tubular knit shirts, the machine to include, in addition to margin securing means, an automatic mechanism for margin guidance, and cooperative work supporting means adapted to avoid interference from the body of the shirt and/or undue tensioning or stretching of its margin during hemming.

To the foregoing and other ends there is provided, for use with a sewing machine having stitch forming means, a hem former, and work feeding mechanism, a rotary drum-like work support for axially receiving and slidably supporting a workpiece to be peripherally hemmed, the axis of the work support extending generally normal to the line of feed of the feeding mechanism and offset therefrom, and a work engaging guide means responsive to the position of that portion of the peripheral work edge as sensed immediately upstream from the former for axially urging the work edge in either axial direction on the support to cause the hem to be progressively sewn parallel to the mentioned line of feed. Preferably, and as herein shown, the work engaging means may be in the form of a reversely rotatable, servo-motor driven rotor having yieldingly deflectable vanes arranged to act tangentially on that portion of the work passing over the work support.

A further feature resides in the provision, in automatic guidance mechanism, of an apron or auxiliary work support having an arcuate end portion partly over-lying an external surface of the rotary work support upstream from its axis and mounting at least a portion of the automatic controls including work edge and finished hem sensors. The auxiliary work support extends partly within an end of the tubular work and nearer to the peripheral edge to be hemmed than the drum. This auxiliary support, together with cooperating air flow directing means, insures that the peripheral work edge to be hemmed will progressively assume correct alignment with the hemmers and that the tubular shirt body does not get entangled, frictionally hung up, or twisted upon itself. Preferably, the air flow directing means includes at least one automatically shiftable nozzle for directing air inwardly, i.e., toward the work edge, over a surface of the normally stationary work support thereby stabilizing the work margin with respect to unfinished and finished hem sensors mounted on the support.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other features of the invention, together with other various novel details and combinations of parts, will now be more particularly described in connection with an illustrative embodiment and with reference to the accompanying drawings thereof, in which:

FIG. 1 is a perspective view of a knit shirt bottom hemming machine at that stage when it has completed a cycle of operations except for chain stitch cut off;

FIG. 2 is another perspective of portions of the machine shown in FIG. 1 and showing certain operating controls as well as a next work piece being loaded;

FIG. 3 is a plan view of portions of the work guidance, hemming, and kick-out mechanism shown in FIGS. 1 & 2;

FIG. 4 is a plane view of mechanism shown in FIG. 3 but at a subsequent stage;

FIG. 5 is a view similar to FIGS. 3 & 4 with the parts at a still later stage in a cycle of operations;

FIG. 6 is an enlarged perspective view of hemming mechanism in relation to a needle, edge gage, and trimmer of the sewing machine;

FIG. 7 is a view in side elevation of actuating means for the hemming mechanism, and
FIG. 8 is a timing chart for a typical cycle wherein the largest circles indicate automatic starting points for the different functions indicated, the intermediate sized circles designate reset, and the smallest circles show the point at which a signal is given for reset.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring first to FIGS. 1 & 2, the illustrative machine comprises a sewing machine 10, for instance a conventional chain stitch over-feeding machine, secured on a table 12, having stitch-forming instrumentalities (FIGS. 3 - 5) including a needle 14, presser foot 16, and conventional feed dog (not shown) the sewing area being substantially even with the upper table surface.

Since knitted materials and the like often used in tubular work pieces W, such as undershirts (FIGS. 1, 2, 4, & 5), are generally relatively soft and stretchy, and the bulk and weight of the garment itself can interfere with its handling and guidance and hence with automatically producing uniform hemming, work guidance and control mechanism facilitating operation of the machine 10 is provided as will next be described.

Extending forwardly at a locality upstream from the machine 10 is a drum-like, rotary feeder and work support 20. This feed drum 20 is stationary at the start of a cycle of operations as shown in FIG. 8, but is rotated counterclockwise at its own, substantially constant linear feed speed about a fixed turning axis normal to the direction of hemming for the major portion of a work cycle. The drum is offset from the line of stitching and accordingly supported by a coaxial drive shaft 22 near the rear end of which is coupled to a motor (not shown). Preferably a front end 24 of the drum 20 is generally rounded, and its cylindric surface, which is approximately tangential to the plane of the upper table surface, is smooth to frictionally engage and urge the body of the work toward the sewing instrumentalities.

A small pad of friction material 26, for instance of rubber or rough surfaced adhesive tape, desirably is secured to the end 24 to assist the pendant portions of the work in partly turning about itself and remaining substantially untwisted as hemming progressively proceeds along a margin. The speed of the drum 20 is selected to avoid any appreciable drag on the linear feeding of the work by the machine 10 and is not so fast that drum friction tends to buckle or unduly crowd the margin of the work W to be hemmed.

In preparing to hem the tubular shirt bottom an upper portion of the margin of the work piece W is seized and preliminarily formed as shown in FIG. 2 and then presented forwardly, with the drum 20 received within the work piece body. An edge gauge 28 (FIG. 3) is disposed to be engaged by a raw work edge and the underlying folded edge of the margin as it is thereafter progressively to be fed to the stitching instrumentalities through cooperative inner and outer hem formers 30, 32 (FIGS. 1, 2, 4 -6), respectively, hereinafter to be further described. For insuring that the margin is uniformly hemmed and automatically remains aligned with the gauge 28 by the guidance mechanism to be explained, the operator with his right-hand initially presents the right-hand portion of the shirt bottom margin over a fixed auxiliary work support or apron 34 (FIGS. 1 - 3). This apron has an arcuate front end portion partly overlapping the external surface of the drum 20 on its upstream side, and extends rearwardly nearer to the peripheral work edge to be hemmed than does the drum 20. Additionally, the apron 34 supports control mechanism for purposes next to be explained.

Loading of the right-hand portion of the work piece into the machine covers a sensor 36 (FIG. 2, 8) responsive to a light beam from a suitable source 38 bracketed to the machine frame. Interruption of this beam shuts off air jet flow from a pair of nozzles 40, 42, and turns on air flow from a side blower 44, which is simultaneously signaled via a piston-cylinder 46 (FIG. 2) and interconnected linkage 48, to pivot into operating position closer to the apron 34 whereby the unfinished work margin can be maintained by the guidance means to be described in blocking position over the sensor 36. The nozzle 40 is formed as a slit in the apron 34, and the nozzle 42 is carried by the side blower 44. Interruption of the beam to the sensor 36 also signals for emission of a margin uncurling air jet 66 (FIG. 1) and operation of a side air jet 49 (FIGS. 2, 8) urging the work margin inward.

Having activated the sensor 36 by the leading right-hand work edge, the operator's left hand presenting the prefolded margin triggers a limit switch 50 (FIG. 1) as the prefolded margin is placed beneath the presser foot 16. As a consequence the guidance mechanism referred to and a plurality of other elements are nearly simultaneously activated, as indicated in FIG. 8. Thus, the sewing machine 10 is started after the outer hemmer 32 is caused to descend and retract from its inoperative position by a pressurized piston-cylinder 52 (FIG. 7). For this purpose the latter has its piston rod 54 pivotally connected to a thickened rearward end portion 58 of the outer hemmer 32. Parallel roller pins 60, 62 journaling in the portion 58 are slidable in a pair of angular cam slots 62, 62 respectively formed in parallel stationary plates 64, 64 secured to the machine frame. It will be understood that the piston-cylinder 52 retracts the outer hemmer 32 and moves it downwardly to draw the manually performed margin over the pivotal inner hemmer 30, i.e., from the upper dash line position in FIG. 7 to the lower full line position and then to the lower dash line position. Incidental to this uncurling nozzle 66 (FIGS. 1 & 6) emits an air jet to ensure that any tendency of the unseized portion of the margin to roll upon itself is overcome and thereby readily received between the hemmers 30, 32. Referring to FIG. 8, it will be noted that in addition to the switch 50, energizing the starting of the sewing machine 10 and actuating the outer hemmer 32, the presser foot 16 is lowered, the feed drum 20 is rotated, a delay timer No. 1 is actuated for a reason later stated, and a servo-motor 68 (FIGS. 2 & 8) of the aforementioned guidance mechanism is both lowered into operating position and energized for rotary drive of its output shaft 70 in either of two opposite directions.

The motor 68 and its shaft 70 are coupled through an angular drive gear box 72 (FIG. 2) to a stub shaft 74, one end of which carries a rubber-vened work guidance rotor 76. For moving the servo-motor 68 and the rotor 76 between upper inoperative positions and lower operative positions shown in full lines in FIG. 1, a collar portion 78 of the motor frame is secured to a crank arm 80 journaling in trunnion bearings 82, 82 (FIG. 2) and a rearward end of the arm 80 is connected by another crank 84 to a piston-cylinder device (not herein
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It will be understood from the foregoing that as soon as the manual loading of the work piece W has automatically started the hemming of the work is released by the operator. The inner edge of the hemmed work then angularly extends rearwardly substantially along the dot-dash line 86 shown in FIG. 3 from the right-hand end of the edge gauge 28. An unfinished edge portion of the work accordingly hangs over the apron 34, and when in a proper neutral or null position requiring no work guidance influence on the part of the rotor 76, will approximately cover one-half of a sensor 88 (FIG. 2) mounted in the apron and responsive to light from a source 90 to insure a continued line of straight stitching parallel to the finished shirt bottom hem, the sensor 88 detects deviation of the raw work edge from the proper null position and at once appropriately signals the motor to cause the rotor 76 correctly to turn clockwise or counter-clockwise thus yieldingly urging the trailing portions of the work by frictional engagement of the flexible rotor vane segments therewith, either axially forward or rearward on the rotary drum 20. Vanes of the rotor are inclined, in their respective operating positions, at a uniform angle to an axial generating element of the cylindrical surface of the drum feeder 20.

The delay timer No. 1 referred to functions to activate a sensor 92, mounted on the apron 34, at a predetermined time, say two seconds later. The sensor 92 is arranged to be responsive to light from a source 94, but is momentarily inoperative when the work W is resting on a stop 82 as there remains an unfinished peripheral portion of the margin to be hemmed. When the finished, i.e., initially hemmed locality of the margin is ascending the apron 34 to pass toward the hemmers and stitching instrumentalities, the sensor 92 becomes uncovered by the work and exposed to light from the source 94 thereupon causing the right-hand side blower 44 to shut off and be retracted to its out-of-the-way position by the piston-cylinder 46. As shown in FIG. 8, the sensor 92 also deactivates the sensor 88, and activates a finished work edge sensor 96 (FIG. 2) mounted on the apron 34 and responsive to the light source 90. Deactivation of the sensor 88 enables the servomotor 68 and its rotor 76 to exert guidance to the workpiece whereby control of the position of the edge of the hem is shifted to the hem edge control sensor 96.

Means is provided whereby, when the finished hem margin is approaching the outer hemmer 32 as shown in FIG. 4, the hemming can be neatly terminated after a suitably short overlapping of operations beyond the 360 degrees of feeding the tubular shirt bottom, and the work W automatically ejected and released. To ends as next described a so-called trigger 100 (FIGS. 3 – 8) has a front hem detector portion, and has a rear portion 102 which serves as a shield or trigger for a sensor 104 (FIGS. 3 – 7). Referring particularly to FIGS. 4 & 6, the trigger 100 is pivotally secured on a vertical pivot bolt 106 threadedly extending through the edge gauge 28, through the inner hemmer 30, an "L" shaped guide 108 and the outer hemmer 32. A "U" shaped leaf spring 110 (FIG. 4) is secured to the machine frame to yieldingly urge the portion 102 counterclockwise into a position for shielding the sensor 104 from a light source 112 (FIGS. 1, 2). The arrangement is such that when the finished hem approaches along its path parallel to the edge gauge 28, it displaces the detector portion of the trigger clockwise as shown in FIG. 4 sufficiently to uncover the sensor 104 thereby actuating a piston-cylinder 114 (FIGS. 6 & 7), its piston rod 116 and interconnecting link 118 for pivoting the inner hemmer 30 clockwise to an out-of-the-way position shown in FIG. 5.

Uncovering the sensor 104 also effects other functions as noted in FIG. 8 and now to be mentioned. A signal is sent to the valve controlling the piston-cylinder 52 whereby it is pressurized and thus the outer hemmer 32 is raised to reopened or inoperative position. A timer No. 2 (not shown except in FIG. 8) is activated for approximately one-half second to allow stitching to overlap the initial portion of the hem by about one inch. Then, when the timer No. 2 runs out, an L-shaped sew-off pusher 120 (FIGS. 1 & 5) is urged forwardly to push the hem from beneath the presser foot 16 by means of a piston rod 122 of a pressurized cylinder 124 and allowing a short length of free chain stitching CS (FIG. 1) to be formed. A strong jet of air is then emitted automatically from a nozzle 126 (FIGS. 1–3) to blow the hemmed shirt from the drum 20 and the apron 34, as a consequence of an electrical signal releasing compressed air. Also a timer No. 3 (FIG. 8 only) is activated for automatically controlling the length of this chain stitching CS allowed. Preferably, only a short "chain-off" is permitted. When the timer No. 3 runs out, the following automatically occur: the sewing machine 10 stops; the feed drum 20 ceases rotation; the presser foot 16 is lifted; and a thread cutter 130 (FIGS. 1 & 3) is actuated. The latter is herein desirably shown as a tubular member 132 secured to the machine frame and having a V-slot shearing edge 134 in its front side wall arranged to receive the "chain-off" as it is tautly suspended from the machine by the completed, ejected shirt W. Within the member 132 an axially reciprocable cutter 136 (FIG. 1) has a sharp arcuate edge 138 cooperative with the edge 134 for severing the chain-off CS when a piston rod 140 carrying the cutter 136 is urged to the right by pressure fluid acting against resistance of a return spring 142. This spring is retained between a piston 144 secured on the rod and a fixed stop 146 in the member 132. Severance of the thread releases the work W from the machine and completes the cycle by resetting the various elements as indicated in FIG. 8. A next workpiece is then loaded for repetition of the following cycle.

Briefly to review the operating cycle of the machine and with particular reference to FIG. 8, a portion of an upper shirt bottom margin manually refolded upon itself (as shown in FIG. 2) is presented between the outer and inner hemmers 32, 30 and over the drum 20 and the apron 34 which are received within the tubular shirt body. It will be understood that when an operator has presented one shirt as described to initiate operation of a first machine according to this invention, he can at once reload an adjacent similar machine and thereafter continue with such alternate operations. The left hand edge portion is placed in contact with the edge gauge 28 and the right hand portion is brought into blocking relation with the sensor 36 thus turning on the side jet 44 and the uncurling jet 66. In doing so, the limit switch 50 (FIG. 1) is actuated by means of its operating arm and the work release to the next started machine 10 wherein the hemmers 30, 32 have closed for automatically completing the remainder of the peripheral hem-
Actuation of the switch 50 also caused lowering of the presser foot 16, drive of the drum 20, shifting of the motor 68 and the rotor 76 into operative guidance position, and operation of the timer No. 1 to delay activation of the sensor 92. It will be understood that in the course of hemming, an edge trimming knife 148 (FIG. 6) reciprocates in conventional manner against a shear block to provide an even margin on the raw upper edge of the work W. As the work is drawn progressively, by a well-known feed dog mechanism, (not shown) operating in a plate 150 (FIGS. 4 - 6), through the closed hem formers 30, 32, parallel with the edge gauge 28, and toward the stitching means, the sensor 88 detects directional deviation of the work edge from parallelism and, by operating of the vanes of the guide rotor 76, frictionally exerts a corrective force which is generally normal to the direction of feed on the workpiece portions passing between the rotor and the feeding drum 20. The latter rotates to impositively feed the shirt body in a continuous manner while the friction material 26 is aiding its portion remote from the margin being hemmed to revolve and remain substantially untwisted thereby avoiding interference with the sensitive guidance.

When the hemmed margin is passing upwardly on the apron 34, the now activated sensor 92 becomes uncovered by the workpiece and responds to the light from the source 94. Since the sensor 88 is not now necessary, it is deactivated and the finished edge sensor 96 is energized. The latter then causes the servo-motor 68 and its guide rotor 76 at once to rotate in a direction to bring the completed marginal edge under the guidance control of the sensor 96, and in alignment with the edge gauge 28.

As has been observed, the finished hem upon proceeding leftward as shown in FIG. 4 will engage the trigger 100 to unshield the sensor 104 and thus effect a control signal to shift the piston-cylinder 114 (FIGS. 6 & 7) and thereby raise the outer hemmer 32 to inoperative position. Also as a consequence of unshielding the sensor 104 the inner hemmer 30 is caused to be moved out-of-the-way of the finished hem as shown in FIG. 5. When the activated timer No. 2 runs out, the side blower 44 is automatically shut off and swung to its inoperative position, the hemming has overlapped on the margin usually about an inch, and the sew-off pusher 120 is actuated automatically together with the ejection nozzle 124 to free the work W from the machine. Also, the running out of the timer No. 2 shuts off and lifts the servo-motor 68. When the timer No. 3 runs out, the sewing machine 10 and the drum 20 cease operation, the presser foot 16 is lifted to allow the work to hang momentarily by its "chain-off" CS extending into the slot adjacent to the edge 134. Severance of this chain stitch then occurs to release the finished workpiece.

It will be appreciated from the foregoing that the invention provides a reliable hemming machine having a nearly wholly automatic operating cycle. When the operator has loaded one machine, he may devote his attention to leading a similar second machine while the first is completing its hemming cycle.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. A machine for hemming tubular flexible workpieces, such as knit shirts and the like, comprising the combination with a sewing machine having stitch forming means, at least one hemmer, and mechanism for linearly feeding the margin of the work through the hemmer to the stitch forming means, of a work guidance mechanism comprising a rotary drum-like feeder for axially receiving and radially supporting each workpiece to be peripherally hemmed, the axis of the feeder extending substantially normal to the line of feed of said feeding mechanism and offset therefrom, and a work engageable guide cooperative with the feeder and responsive to the position of that portion of the peripheral work edge sensed upstream from the hemmer for urging the work on the drum-like feeder in either axial direction to maintain the hemming substantially parallel to said line of feed.

2. A machine as in claim 1 wherein the work engageable guide is a servo-motor driven rotor operative tangentially of the drum-like feeder.

3. A machine as in claim 2 wherein the rotor is provided with yieldingly deflectable arms arranged to fractionally act on successive workpiece portions passing over the feeder and inclined, in their respective operating positions, substantially at a uniform angle to an axial generating element of the drum-like surface of the feeder.

4. A machine as in claim 1 wherein an outer end of the feeder is rounded and generally smooth except for a roughened portion adapted to untwist a depending portion of the workpiece during hemming.

5. A machine as in claim 1 wherein the work guidance mechanism includes an edge gauge disposed in the locality of the hemmer and parallel to said line of feed, an apron disposed normal to said line of feed on the upstream side of said drum-like feeder, a first control means mounted on the apron in non-alignment with the edge gauge for sensing deviation of the position of the unhemmed work edge as it passes over the apron, to approach the edge gauge, and a second control means mounted on the apron in substantial alignment with the edge gauge and responsive to the hemmed work margin for aligning the latter with the gauge.

6. In combination with an overridging machine having stitch forming means, a pair of cooperative inner and outer margin forming hammers, an edge gauge, and mechanism for feeding a margin of a tubular workpiece along the gauge edge and through the hammers to said stitch forming means, an automatic work guidance mechanism comprising a rotary work feeder for fractionally engaging the inside of the workpiece to urge its margin in the general direction of the feeding, a reversely rotatable guide externally engageable with successive portions of the workpiece on the work feeder, and servo control mechanism responsive to the position of the work margin upstream from the rotary work feeder for governing the velocity of said rotatable guide.

7. A machine as in claim 6 wherein an apron for mounting work edge sensors of said control mechanism extends generally normal to the gauge edge on an upstream side of the rotary work feeder, a servo motor operatively connected to said rotatable guide is responsive to the unhemmed edge position detected by one of said sensors, and another sensor downstream of the work feeder and responsive to the hemmed edge position of the workpiece being hemmed is operatively connected to said hammers to clear them from the path of
said hemmed edge and signal for disengagement of the rotatable guide from the workpiece.

8. A machine as in claim 6 wherein a movably mounted trigger is biased toward an operating position from which it's deflectable by the finished hem of the workpiece, a sensor is responsive to such deflection of the trigger, and mechanism responsive to the sensor and operatively connected to the inner and outer hammers, respectively, for clearing them from the path of the finished hem.

9. A machine as in claim 8 additionally comprising a movable sew-off pusher arranged to act on the hemmed margin of the workpiece, a pneumatic workpiece ejector directed to the workpiece portion over said rotary work feeder, and a timer responsive to operation of the finished hem trigger for actuating said pusher and said ejector.

10. A machine as in claim 9 further comprising a chain-off severance means, and a second timer responsive to operation of the afore-mentioned timer is adapted to terminate operation of the sewing machine after the hemming has predeterminedly overlapped and then to actuate said severance means.

11. In combination with an overeding machine having stitch forming means, inner and outer hammers movable into and out of cooperative relation, an edge gage, and feed mechanism for feeding the peripheral margin of a tubular work piece to be hemmed in a path extending along the gage, through the hammers, and through the operating locality of the stitch forming means, an automatic work guidance mechanism comprising a drum-like rotary work feeder having an axis generally normal to said path and adapted loosely to receive and support the workpiece, and a movable member frictionally engageable with portions of the workpiece to urge it axially of the work feeder during hemming, means responsive during a cycle of hemming operation first to the unfinished marginal edge of the workpiece and then to the finished edge of the workpiece for controlling said automatic guidance mechanism, means for moving the hammers into and out of cooperative relation, means for ejecting the workpiece from the machine, means for terminating operation of the stitch forming means to provide chain-off, means for severing the chain-off, and control mechanism including a trigger responsive to the finished edge for automatically and sequentially actuating said means for moving the hammers out of cooperative relation, said means for ejecting the workpiece from the machine, said means for terminating operation of the stitch forming means to provide chain-off after the hemming has overlapped, and then said means for severing the chain-off to release the finished workpiece.

12. A machine for hemming tubular flexible workpieces, such as knit shirts and the like, comprising the combination with a sewing machine having stitch forming means, at least one hammer, and mechanism for linearly feeding the margin of the work through the hammer to the stitch forming means, of an automatic work guidance mechanism, said guidance mechanism comprising a rotary drum-like feeder for supporting each work piece to be hemmed peripherally, a work engageable guide movable to urge the work on said feeder toward and from the line of feed of said feeding mechanism, sensing means responsive to deviation in the position of successive portions of the peripheral work edge upstream of the hammer with respect to said line of feed, and a servo motor responsive to the sensing means and operatively connected to the guide for controlling the rate and direction of movement of said guide to maintain the hemming substantially parallel to said line of feed.

13. In combination with an overeding machine having stitch forming means, a pair of cooperative inner and outer margin forming hammers, an edge gauge, and mechanism for feeding a margin of a tubular workpiece along the gauge edge and through the hammers to said stitch forming means, an automatic work guidance means for correcting deviation of the feeding of the workpiece margin, said guidance means comprising a rotary work feeder engaging a portion of the inside of the workpiece to urge its margin in the general direction of the feeding, a reversely rotatable guide engageable with successive external portions of the workpiece on the feeder for modifying feed direction, sensing means responsive to deviation in the position of successive portions of the peripheral work edge upstream of the hammers on either side of a null point, and a servo motor responsive to the sensing means and connected to the guide for rotating it with a velocity for correcting said deviation.