

Nov. 15, 1960

E. JETTÉ

2,959,837

COMBINED KNITTING AND SEWING MACHINE

Original Filed March 3, 1958

5 Sheets-Sheet 1

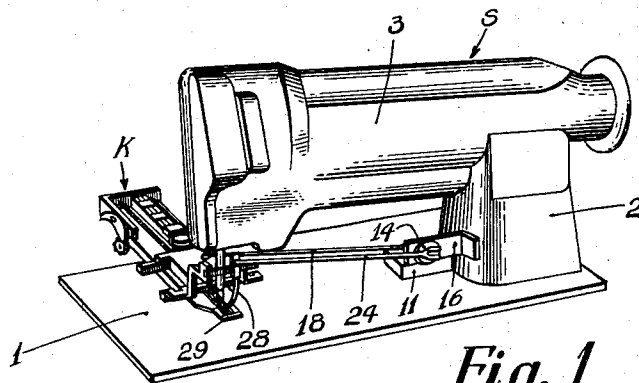


Fig. 1

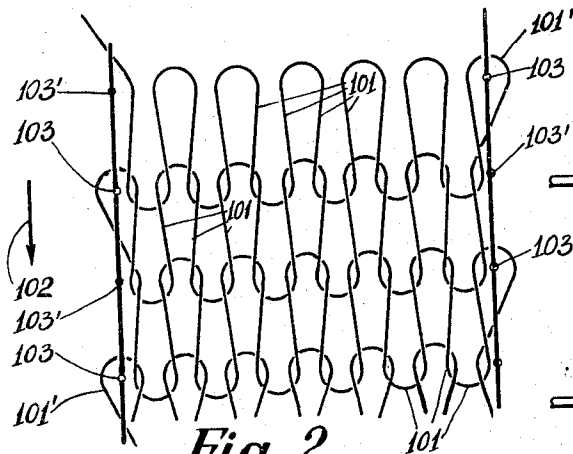


Fig. 2

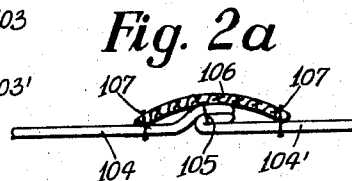


Fig. 2a

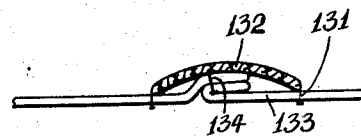


Fig. 3a

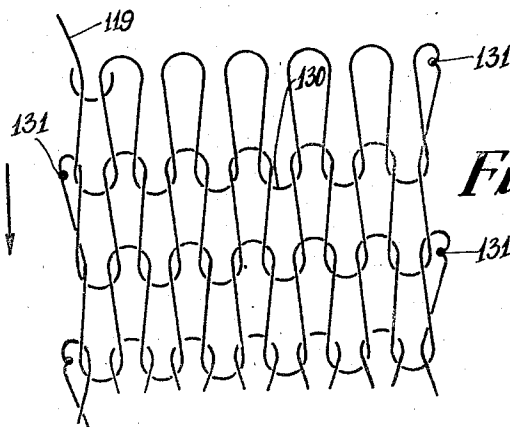


Fig. 3

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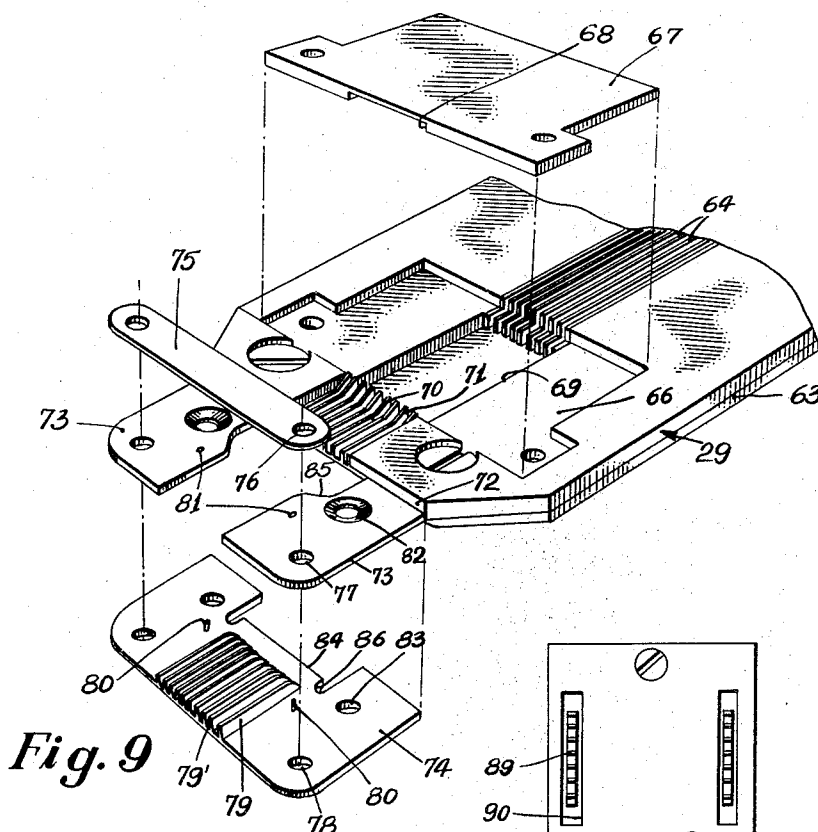


Fig. 9

Fig. 10

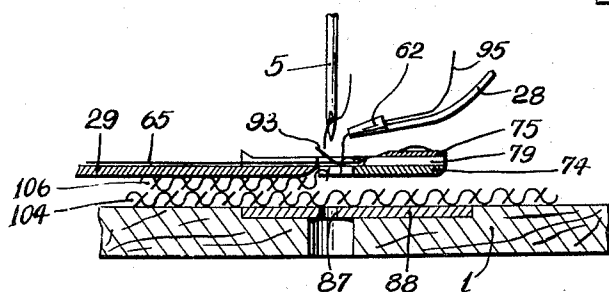


Fig. 4

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COMBINED KNITTING AND SEWING MACHINE

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5 Sheets-Sheet 3

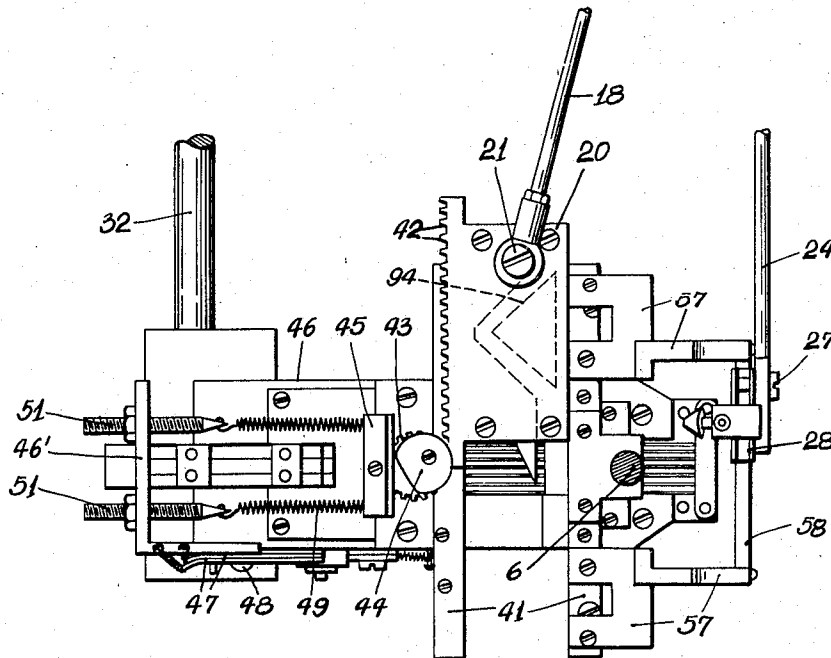


Fig. 5

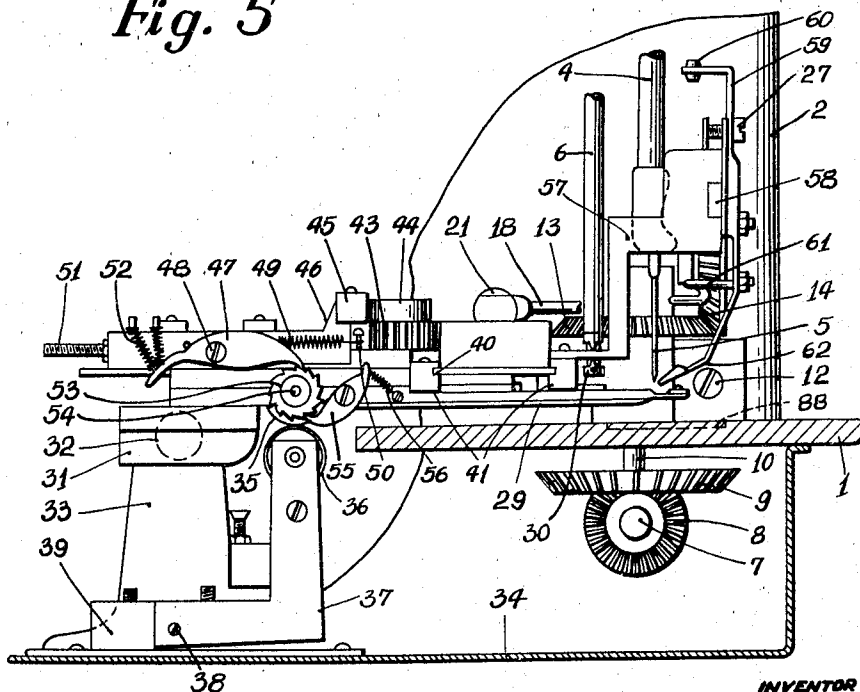


Fig. 6

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COMBINED KNITTING AND SEWING MACHINE

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5 Sheets-Sheet 4

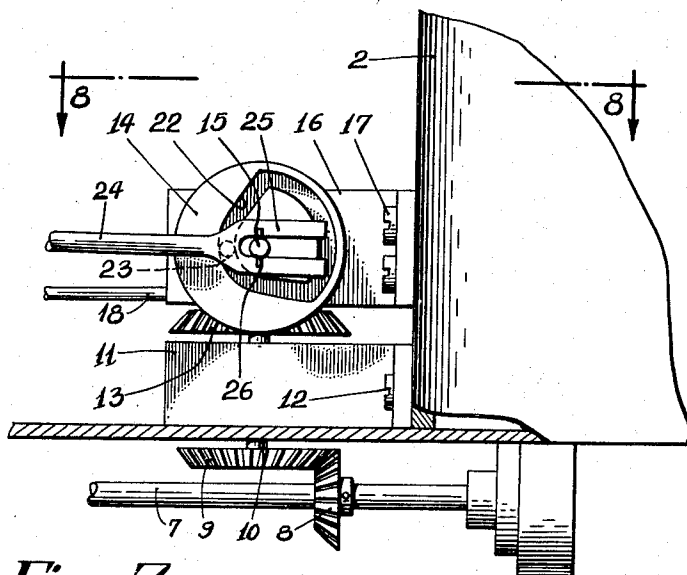


Fig. 7

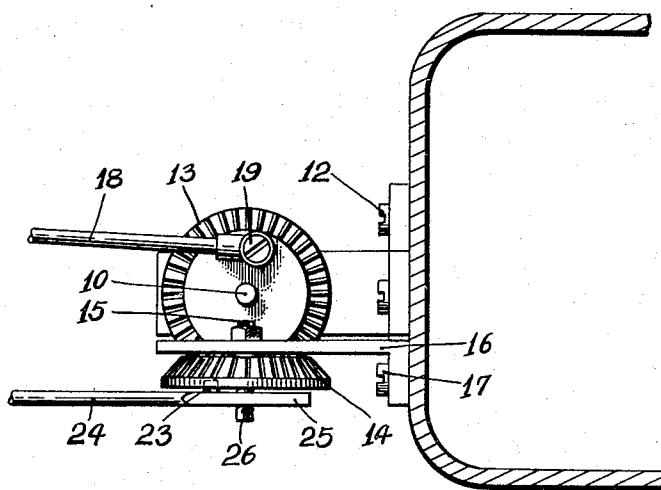


Fig. 8

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COMBINED KNITTING AND SEWING MACHINE

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5 Sheets-Sheet 5

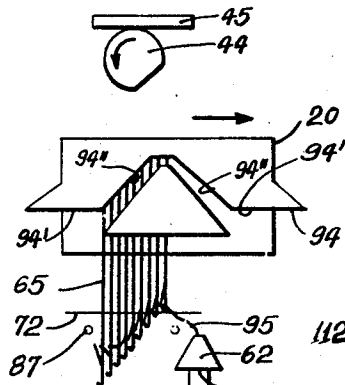


Fig. 11

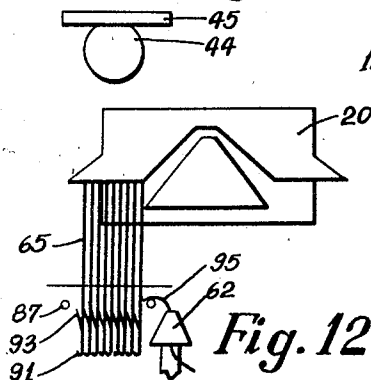


Fig. 12

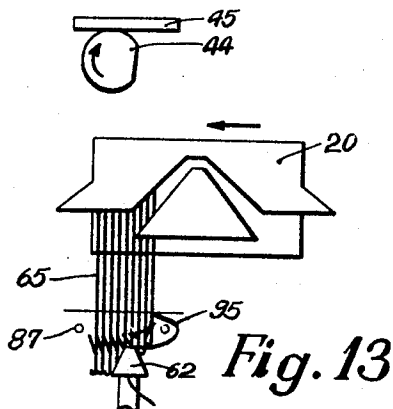


Fig. 13

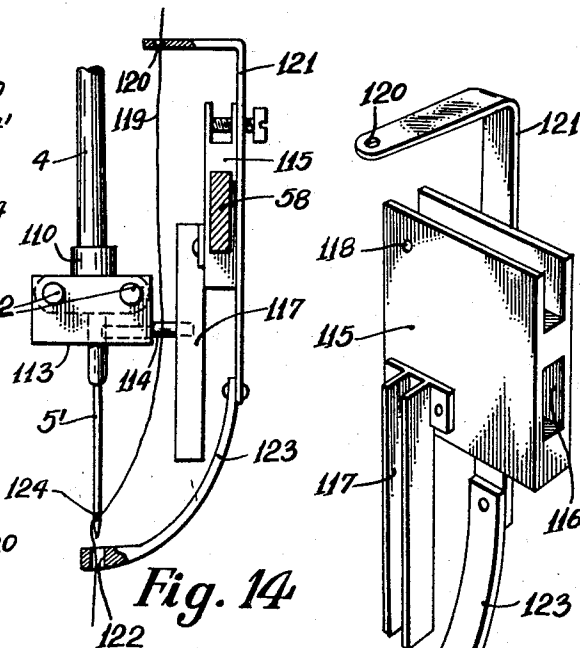


Fig. 14

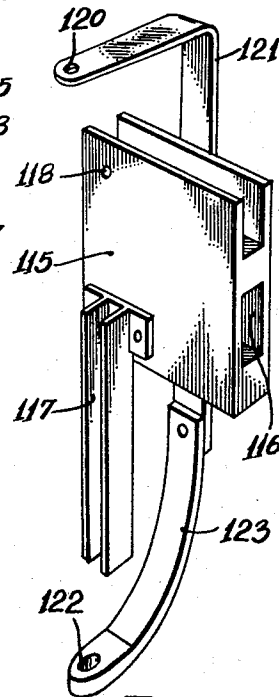


Fig. 15

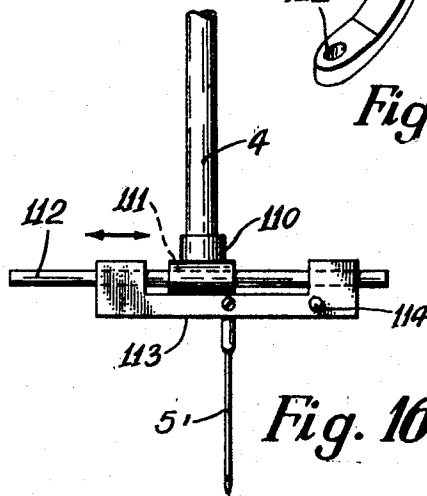


Fig. 16

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2,959,837

COMBINED KNITTING AND SEWING MACHINE

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Original application Mar. 3, 1958, Ser. No. 718,713.
Divided and this application Dec. 29, 1958, Ser. No. 783,393

3 Claims. (Cl. 28—77)

This application is a division of application Serial Number 718,713, filed on March 3, 1958.

The present invention relates to a machine which is a combination of knitting and sewing mechanisms and to a type of stitch obtained with said machine.

In the garment and similar industries, more particularly in the knitwear trade, it is frequently desired to apply ornamentations, consisting of strips of knitted fabric, on a base fabric, or to cover seams in a base fabric with strips of knitted fabric. Both types of operations are usually effected by sewing the prefabricated strips of knitted fabric onto the base fabric. However, the products obtained by these conventional methods have a poor appearance because the sewing stitches go through the knitted fabric at irregularly disposed points: for example, one sewing stitch might pass through a loop of one wale of the knitted fabric and the next sewing stitch through the yarn of a loop in another wale of the knitted fabric. Also it is impossible with the conventional method to sew the strip of knitted fabric exactly along its edges because a substantial number of sewing stitches will miss the edges of the strip altogether; thus a free marginal portion projecting outwardly from the lines of stitches is always left.

Accordingly, the general object of the present invention is the provision of a machine which is capable of applying a strip of knitted fabric onto a base fabric by sewing said strip of knitted fabric to said base fabric in such a manner that predetermined ones of the knitted loops are sewn to the base fabric irrespective of the size of said loops.

Another important object of the present invention is the provision of a machine which is capable of sewing a strip of knitted fabric to a base fabric by means of stitches exactly passing through the loops of the knitted fabric at the edges of said knitted fabric.

Yet another important object of the present invention is the provision of a machine which can attach a strip of knitted fabric to a base fabric by means of a plurality of lines of stitches extending longitudinally of said strip and transversely spaced with respect to said strip and all of said stitches passing through predetermined ones of the loops of the knitted fabric, such that all the stitches may be effected in exactly longitudinally aligned loops of the fabric and none of the stitches will extend through the yarn of said fabric so as to obtain absolutely regularly disposed lines of stitches in relation to the loops of the knitted fabric.

Another important object of the present invention is the provision of a knitting and sewing machine of the character described in which the knitting operation and the sewing operation are effected in synchronism.

Another object of the present invention is the provision of a machine of the character described in which a yarn is used for knitting and another yarn is used for sewing.

Another object of the present invention is the provision of a combined sewing and knitting machine in which the same yarn is used for sewing and knitting.

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Still another important object of the present invention is the provision of new types of stitches which are a combination of knitting sewing stitches so as to obtain a covering stitch much more effective than the current types of covering sewing stitches.

The foregoing and other important objects of the present invention will become more apparent during the following disclosure and by referring to the drawings in which:

Figure 1 is a perspective view of a combined knitting and sewing machine in accordance with the present invention;

Figure 2 is a schematic plan view of a strip of knitted fabric showing how the sewing stitches got through the end loops of the knitted fabric in accordance with the product of a first embodiment of the machine of the present invention;

Figure 2a is a cross-section of the strip of knitted fabric and of the base fabric to which the knitted fabric is attached, shown on a reduced scale and made in accordance with the manner shown in Figure 2;

Figure 3 is a schematic plan view of a strip of knitted fabric in which the yarn used for knitting is also used for sewing;

Figure 3a is a cross-section on a reduced scale of the base fabric and of the strip of knitted fabric in accordance with Figure 3, this product being the result of a modified form of the machine in accordance with the present invention;

Figure 4 is a partial longitudinal section of the knitting mechanism shown in relation with a sewing needle;

Figure 5 is a plan view of the knitting mechanism used as an attachment on a conventional sewing machine in accordance with the first embodiment of the invention;

Figure 6 is a side elevation of the mechanism of Figure 5;

Figure 7 is a side elevation of part of the sewing machine provided with the driving means for driving the knitting mechanism of Figures 5 and 6;

Figure 8 is a cross-section along line 8—8 of Figure 7;

Figure 9 is an exploded perspective view of part of the knitting mechanism;

Figure 10 is a plan view of the sewing needle plate;

Figures 11, 12 and 13 are schematic views of the knitting part of the machine shown in different phases of the knitting and sewing operations;

Figure 14 is an elevation, partly in section, of the sewing needle arrangement and yarn feeding arrangement for use in a modified embodiment of the combined sewing and knitting machine of the present invention;

Figure 15 is a perspective view of the yarn feeding device of Figure 14; and

Figure 16 is a front elevation of the sewing needle arrangement shown in Figure 14.

Referring now more particularly to the drawings in which like reference characters indicate like elements throughout, the machine, in accordance with the present invention, is illustrated in Figure 1; it comprises a conventional sewing machine generally indicated at S, which is fitted with a knitting mechanism, generally indicated by reference K; the sewing machine S comprises a table 1, a post 2 and an arm 3. The arm 3 houses the conventional mechanism for vertically reciprocating the needle bar 4, particularly shown in Figure 6, which carries a pair of laterally spaced sewing needles 5. The arm 3 also supports underneath its outer end the presser foot bar 6 of conventional construction but from which the conventional presser foot has been removed. Underneath the table 1 there is disposed a pair of conventional stitch-

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ing mechanisms (not shown) adapted to cooperate with the pair of sewing needles 5. The stitching mechanisms may be of any known type for effecting any one of the U.S. types of stitches in classes 100, 300 and 400, such as chain stitch, U.S. Type No. 101, lock stitch Type No. 301 or even double lock stitches such as U.S. Type No. 404.

The drive shaft for the stitching mechanisms is shown at 7 in Figures 6 and 7. In accordance with the present invention, a power take-off is derived from the drive shaft 7 for actuating the knitting mechanism K. Said power take-off is illustrated in Figures 7 and 8 and comprises a bevelled gear 8 fast on the driving shaft 7 and meshing with a bevelled gear 9 secured at the lower end of a vertical shaft 10 which is journaled in a box 11 secured to the post 2 above the table 1 of the sewing machine as by means of bolts 12. The upper end of the shaft 10 is provided with another bevelled gear 13 meshing with a bevelled gear 14 secured to a horizontal shaft 15 journaled in a bracket 16 also secured to the post 2 of the sewing machine by means of bolts 17. An actuating rod 18 is pivotally and eccentrically mounted on the bevelled gear 13, as shown at 19. The actuating rod 18 is connected at its other end to a knitting cam 20 of the knitting mechanism, as shown at 21 in Figure 5, and reciprocates said knitting cam 20 at a speed half the speed of the sewing movement of the sewing needles and of the stitching mechanisms underneath the table 1, due to the fact that the gear wheel 9 is twice the diameter of the gear wheel 8, as shown in Figures 6 and 7. The outer face of the bevelled gear 14 is provided with a cam channel 22 which is engaged by a stud 23 of an actuating rod 24 provided with a fork 25 slidably engaging the shaft 15 and retained on said shaft by means of a pin 26. As shown in Figure 5, the other end of the actuating rod 24 is pivotally connected by means of a bolt 27 to the yarn carrier 28 of the knitting mechanism K.

The knitting mechanism K is generally disposed above the table 1 of the sewing machine at the location of the sewing needles 5. More particularly, the main body 29 of the knitting mechanism K is laterally rigidly secured and longitudinally pivotally secured to the lower end of the presser bar 6 of the sewing machine by means of fulcrum collars 30, as shown in Figure 6. The rear end portion of the body 29 is provided with a rigidly secured block 31 to which is fastened an axle 32 which extends longitudinally of the sewing machine at the back of the table 1 and towards the post 2 of the sewing machine where it is journaled in a bearing member (not shown) supported by a post 33 disposed rearwardly of the post 2 of the sewing machine and rigidly secured to the bottom plate of the casing 34 of the sewing machine, said casing housing the stitching mechanism underneath the table 1 of the sewing machine. Thus the base fabric onto which a strip of knitted fabric is to be applied passes between the table 1 of the sewing machine and the underface of the main body 29 of the knitting mechanism K (see Fig. 4); said underface of the main body 29 is normally spaced from the table 1 and serves to maintain the material against the feeding dogs 89 of the sewing machine, due to the fact that said body 29 is pivotally mounted for movement in a vertical plane about the transverse axle 32 and that it is connected at its forward end to the presser bar 6 of the sewing machine. The base fabric, together with the knitted strip, moves rearwardly over the table 1, being pulled by a takeup roller 35. Said takeup roller 35 is opposite presser roller 36 and the base fabric and knitted strip pass over the rear edge of the table 1 then between rollers 35 and 36 and finally underneath the block 31 and axle 32 to be discharged from the machine.

The presser roller 36 is mounted at the upper end of L-shaped arms 37 which are pivotally connected at 38 to a block 39 secured to the bottom plate of the casing 34 of the sewing machine. The L-shaped arms 37 are urged upwardly by means of springs (not shown) so as

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to press the roller 36 against the take-up roller 35 at substantially the level of the table 1. The assembly of the rollers 35, 36, and arms 37 are disposed rearwardly in alignment with the sewing needles 5.

The knitting cam 20 is mounted for slidable movement transversely of the main body 29 of the knitting mechanism K. As shown in Figure 6, said knitting cam is provided with lateral ribs 40 engaging guiding grooves made in transversely extending, parallel guiding bars 41. The rear longitudinal edge of the knitting cam 20 is provided with ratchet teeth 42 in meshing engagement with a gear wheel 43 mounted for rotation about a vertical axis on the main body 29. A cam 44 is secured on top of the gear wheel 43 and rotates therewith to engage an abutment member 45 which is secured to a carriage 46 on the sides of which are mounted a pair of pawls 47 which are pivotally connected to the carriage 46 by means of a bolt 48. The carriage 46 is mounted for longitudinal reciprocating sliding movement with respect to the main body 29. Tension springs 49 are connected at 50 to a stationary part of the main body 29 and are connected at their rear end to adjusting screws 51 which are threadably mounted in a bracket 46' secured to the carriage 46. Thus the springs 49 urge the carrier 46 forwardly to abut the abutment member 45 against the cam 44. Transverse movement of the knitting cam 20 in one direction for knitting one course causes one complete rotation of the gear wheel 43 and cam 44. During this rotation the carriage 46 makes a complete backward and forward movement whereby the pawls 47, which are urged by springs 52 in engagement with the teeth of a ratchet wheel 53 secured to the shaft 54 of the take-up roller 35, cause rotation of said take-up roller 35 to thereby pull and move the fabric and knitted strip the distance of one course of knitted stitches. The shaft 54 of the take-up roller 35 and ratchet wheel 53 is horizontally journaled in a part of the main body 29 of the knitting mechanism. A pair of holding pawls 55, pivoted on the main body 29, maintain the take-up roller 35 against backward rotation. The holding pawls 55 are urged against the ratchet teeth of the ratchet wheel 53 by means of springs 56 attached to the main body 29.

Spaced brackets 57 are secured to the main body 29 at the front portion thereof and extend forwardly of the presser bar 6 of the sewing machine and on each side thereof. Said brackets 57 rigidly maintain in a horizontal position a rail 58 on which the yarn carrier 28 is slidably mounted for reciprocating movement transversely of the long axis of the main body 29. Said yarn carrier is reciprocated along the rail 58 by means of the actuating rod 24 as previously described.

The yarn carrier 28 comprises a vertically extending elongated member 59 having an eye 60 at its upper end, an open loop 61 intermediate its ends, and a yarn guiding and feeding member 62 at its lower end which extends close to the sewing needles 5 and is slightly forwardly spaced from the axes thereof, as clearly shown in Figure 6. The yarn for knitting, which is shown at 95 in Figures 11 to 13, is threaded through eye 60, loop 61 and yarn feeder 62, and is thus fed to the knitting needles which are slidably mounted in the main body 29 of the knitting mechanism as will be presently described.

As shown in Figure 9, the forward portion of the main body 29 comprises an elongated plate like member 63 provided along the central part thereof with a plurality of closely adjacent parallel grooves 64 for receiving conventional knitting needles 65, shown schematically in Figures 4 and 11. The upper face of the plate like member 63 is further provided with a shallow recess 66 adapted to receive a needle retaining cover plate 67 provided at its underface with a longitudinally extending wide groove 68 adapted to be in alignment with the assembly of grooves 64. The central part of the shallow recess 66 may be recessed, as shown at 69, to reduce the

friction caused by the knitting movement of the knitting needles 65.

The front portion of the plate like member 63 is provided with a plurality of grooves 70 which are axially aligned with the grooves 64 and which are provided with upward bevelled extensions 71 adjacent the aperture 69. The front grooves 70 open at the forward edge 72 of the plate like member 63.

Forwardly extending flanges 73 of a reduced thickness project from the front edge 72 of the plate like member 63. A thin head plate 74 is adapted to be secured underneath the flanges 73 and a strip or latch guard 75 is adapted to be secured on top of the flanges 73 by means of bolts passing through the aligned holes 76, 77 and 78 of the latch guard 75, flanges 73 and thin plate 74. The thin plate 74 is provided with a plurality of spaced parallel ribs 79 which define grooves 79' in respective axial alignment with the grooves 70 and 64 of the plate 63.

The grooves 79' defined by the ribs 79 extend between the two flanges 73 at the forward portion thereof and are located in axial alignment with the grooves 70 and 64 by means of locating pins 80 projecting from the thin plate 74 and engaging small holes 81 made in the flanges 73. The thin plate 74 is also secured underneath the flanges 73 by means of countersunk bolts passing through aligned holes 82 and 83 made in the flanges 73 and plate 74, respectively.

The plate 74 has at its rear edge a cutout portion 84 which is adapted to register with the enlarged opening 85 defined between the rear end portions of the two flanges 73. The cutout portion 84 is further provided with notches 86 through which the two sewing needles 5 of the sewing mechanism are adapted to pass. Said notches 86 are in respective alignment with the needle holes 87 of a needle plate 88, shown in Figure 10, which is secured on top of the table 1 of the sewing mechanism and flush with the upper surface thereof, as shown in dotted lines in Figure 6. Feeding dogs 89 appertaining to the sewing mechanism project through elongated slots made in the needle plate 88. The feeding dogs 89 are located laterally outwardly of the needle holes 87 and feed the base fabric for the knitting and sewing operations, said base fabric being retained down against the dogs 89 by the plate 63 which functions as the conventional presser foot of a sewing machine.

The knitting needles 65 are of conventional construction and are disposed within the aligned grooves 64, 70 and 79' with their butts (not shown) upwardly projecting from the grooves 64 and the upper face of the plate like member 63, and with their hooks 91 upwardly projecting and adapted to knit by moving between the grooves 79' and 70 across the apertures 84, 85. The hooks 91 of the knitting needles are disposed in vertical planes and their opening faces rearwardly of the knitting mechanism. In their inactive position, the hooks 91 of the knitting needles 65 extend underneath the latch guard 75 which has a knife edge, as shown in Figure 4, to positively open the pivoted latches 93 of the knitting needles.

The knitting needles 65 are longitudinally displaceable within their respective aligned grooves by means of the knitting cam 20 which is provided with a cam channel 94, as shown in Figure 5, engaged by the upwardly projecting butts of the knitting needles.

The cam channel 94 consists of two outwardly disposed lateral portions 94' extending transversely of the knitting needles, and of intermediate angularly disposed and rearwardly extending portions 94'' meeting at right angles in the middle of the cam channel. Thus one stroke of the knitting cam 20 in any one direction causes successive reciprocating movement of each knitting needle 65 for a complete knitting operation by each needle. The lateral portions 94' of the cam channel 94 positively maintain the knitting needles 65 in their foremost position with their hooks 91 underneath the latch guard 75

which in turn positively keeps the latches 93 in opened position.

The yarn feeder 62 feeds the yarn 95 over the open latches 93 of the knitting needles in inactive forward position. The needles 65 then move rearwardly in succession and their hooks 91 catch the yarn 95; then the latches 93 of the needles abut against the loops of a previously knitted course, said loops encircling the knitting needles. These loops, which abut against the front edge 72 of the plate like member 63, cause closing movement of the latches 93 and further retraction of the needles causes the passage of the yarn hooked in hooks 91 through the loops of the preceding course. In the subsequent forward movement of the knitting needles, the new loops normally open the latches and slide along the needle shanks. If, for any reason the new loops are pulled forward by the needles, they will abut against the transverse main edge of cut out portion 84 of plate 74 and will thus start to open the latches and slide over the latter. The latch guard 75 will complete the opening movement of any latch still unopened.

When one course is completed, the knitting needles are all in their foremost position, and the dogs 89 of the sewing mechanism and the take-up roller 35 of the knitting mechanism move the base fabric and the knitted fabric rearwardly the distance of a course. The succeeding course is knitted in similar manner with the yarn feeder 62 and knitting cam 20 moving in the opposite direction.

Figure 11 shows the relative position of the take-up cam 44, knitting cam 20, knitting needles 65 and yarn feeder 62 near the end of a knitting stroke. It will be noted that the take-up cam 44, which rotated about the vertical axis of the gear wheel 43, starts to allow forward movement of the abutment member 45 which, therefore, causes the take-up roller 35 to start tightening the fabric. The yarn carrier 62 is already at the end of its stroke and will remain idle until the knitting cam 20 has completed its stroke because stud 23 now engages the concentric radially inner portion of the cam groove 22 (see Figure 7). The knitting needle on the right hand side of the set of knitting needles has drawn the yarn rearwardly so that the latter extends at the back of the sewing needle hole 87 in the needle plate 88. The last knitting stitches are being made and at this moment the pair of sewing needles 5 start to descend through the needle plate 88, and further downward movement of the sewing needles 5 causes the right hand sewing needle 5 to prevent the yarn 95 from moving forwardly. The knitting cam 20 completes its stroke, as shown in Figure 12, thereby pushing all the knitting needles into their foremost position, and the sewing needles continue to descend through the needle holes 87 and the sewing operation is completed by the sewing mechanism underneath the needle plate 88 to form any type of sewing stitch.

While the sewing needles are still down, the yarn carrier 62 starts to move back in reverse direction and then the knitting cam 20 also starts its reverse stroke to withdraw the knitting needles, as shown in Figure 13. In Figure 13 the yarn feeder 62 is already well ahead in its stroke and the right hand knitting needle 65 has already hooked the yarn 95, and the sewing needles 5 are back to almost their upward limit position and are about to free the knitting yarn which, however, still surrounds the sewing thread, whereby the knitting yarn will be knit by the first knitting needle. During these movements, the takeup cam 44 rotates in the reverse direction causing rearward movement of the abutment member 45 and associated carriage 46 in preparation for the next fabric tightening operation. It will be noted that a sewing stitch is effected on the other side of the strip of knitted fabric simultaneously with the above cycle of operation; however, said last named sewing stitch does not go through the adjacent end loop of the knitted strip.

From the foregoing it will be clearly seen that the

knitted fabric is being knitted simultaneously as it is sewn to the fabric underneath.

Figure 2 illustrates the new type of stitch obtained with the machine described hereinabove. Successive courses of knitted loops 101 are added in the direction of arrow 102 and the sewing stitches 103 pass through end loops 101' at one end only of each course, while the alternate sewing stitches 103' do not go through the knitted fabric but through the base fabric only.

Figure 2a shows an application of the new type of stitch in accordance with the present invention. Figure 2a shows two pieces 104 and 104' of base fabric which are stitched together in conventional manner at 105 to form a seam which is covered by the strip of knitted fabric 106 which is stitched at 107 to the base fabric pieces 104 and 104', both the knitted strip 106 and the stitches 107 being made with the machine in accordance with the present invention and just described. Obviously, the portions of the sewing stitches underneath the base fabric 104, 104' may be any conventional type of sewing stitches desired.

Figures 14 to 16 show a modification of the machine in accordance with the present invention, and more particularly, of the arrangement of the yarn carrier and of the sewing needles whereby the same yarn is used for both the knitting and the sewing operation.

The lower end of the needle bar 4 of the sewing mechanism is provided with a support 110 rigidly secured thereto and having two horizontally disposed spaced parallel bores 111 in which are securely fitted two support rods 112 projecting laterally on each side of the support 110. A yoke 113 has bores slidably engaging the rods 112 at its two spaced legs so that the yoke 113 may slide along rods 112 transversely of the needle bar 4 as clearly shown in Figure 16. A single sewing needle 5' is removably and tightly secured to the center of the yoke 113 and projects vertically downwardly therefrom; a pin 114 is secured to the yoke 113 and projects forwardly therefrom near one end thereof.

The yarn carrier comprises a rider 115 having a bore 116 of rectangular cross-section for slidably receiving the support bar 58 of the knitting mechanism. The rider 115 is provided on the inner face thereof with a vertically disposed channel 117 for receiving the outer end of the pin 114 which is vertically slidable therein. The rider 115 is connected to the actuating rod 24 at 118 to be reciprocated thereby. The yarn 119 passes through eye 120 at the upper part of an L-shaped arm 121, through the eye at the lower end of the sewing needle 5' and finally through an eye 122 at the lower end of the lower arm 123 of the yarn carrier.

Otherwise the sewing and knitting mechanism is exactly as described in the first embodiment, except that the cam 22, shown in Figure 7, for actuating the yarn carrier is slightly modified to produce a shorter stroke of the yarn carrier such that the sewing needle 5', together with the eye 122 of the yarn carrier, will stop at the end of their horizontal stroke exactly opposite a notch 86 of the plate 74, shown in Figure 9, and opposite a needle hole 87 of the needle plate 88 long enough for the sewing needle 5' to effect its sewing movement.

A course is knitted by the knitting needles while the yarn 119 is fed to said knitting needles, said yarn being threaded through the sewing needle eye 124 and yarn carrier eye 122. At the end of the course the sewing needle 5' which is now aligned with the sewing hole 87, moves downwardly through the base fabric and through the table of the sewing mechanism to thereby make a sewing stitch in cooperation with the sewing mechanism underneath the table 1. The sewing needle 5' then moves upwardly under the action of the sewing mechanism while the yarn carrier remains stationary. When the sewing needle is again in upward position, the yarn

carrier moves horizontally together with the sewing needle to knit another course of knitted loops.

The product obtained with the second embodiment in accordance with the present invention is illustrated in Figures 3 and 3a. Figure 3 clearly shows that the yarn 119, which is used for making the knitted loops 130, is stitched down at each alternate end of the successive courses by sewing stitches 131. Figure 3a shows the knitted strip 132 stitched onto the base fabric 133 by stitches 131 at exactly the edges of the knitted strip 132. In the application illustrated in Figure 3a, the knitted strip is used to cover a seam 134 joining two pieces of the base fabric.

It will be obvious that more than two rows of sewing stitches 131 may be effected with the machine in accordance with the second embodiment of the present invention by slightly modifying its construction and the timing of the relative movements of the various movable elements. For instance, if a third line of sewing stitches is desired in the middle of the knitted strip, the machine would be provided with a third stitching mechanism underneath the table 1 and the timing would be modified to obtain the following movements: after half the knitting needles have accomplished their knitting operation in the production of one course, the knitting cam 20 will become stationary thereby stopping the knitting needles 65 and also the yarn carrier will stop and the sewing needle 5' will accomplish its reciprocating vertical movement to make a sewing stitch in cooperation with the third stitching mechanism, then the yarn carrier will resume its movement, together with the knitting cam 20, to complete the knitting of the course at the end of which a sewing stitch will be made as previously described.

In the same manner, the first embodiment of the machine in accordance with the present invention may be modified to provide for more than two end lines of sewing stitches by providing three or more sewing needles attached to the needle bar and by changing the cam system for actuating the knitting cam and the yarn carrier, by changing the ratio of the speed of operations of the knitting mechanism and of the sewing mechanism, and by providing a number of stitching mechanisms underneath table 1, equal to the number of sewing needles and aligned therewith.

Another modification of the machine in accordance with the present invention would be to provide two knitting mechanisms, one above and the other underneath the base fabric to thereby apply a knitting strip above and another knitted strip underneath the base fabric and to sew those two knitted strips by the same lines of sewing stitches.

While preferred embodiments in accordance with the present invention have been illustrated and described it is understood that various modifications may be resorted to without departing from the spirit and scope of the appended claims.

I claim:

1. A method of attaching a knitted strip to a base fabric comprising the steps of knitting the strip in successive courses and simultaneously sewing predetermined ones of the knitted loops to said base fabric.

2. A method as claimed in claim 1, wherein sewing is effected with the same yarn used for knitting.

3. A method as claimed in claim 1, wherein sewing is effected by passing a sewing thread through the outermost knitted loops of the courses of the knitted strip.

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