

Sept. 28, 1965

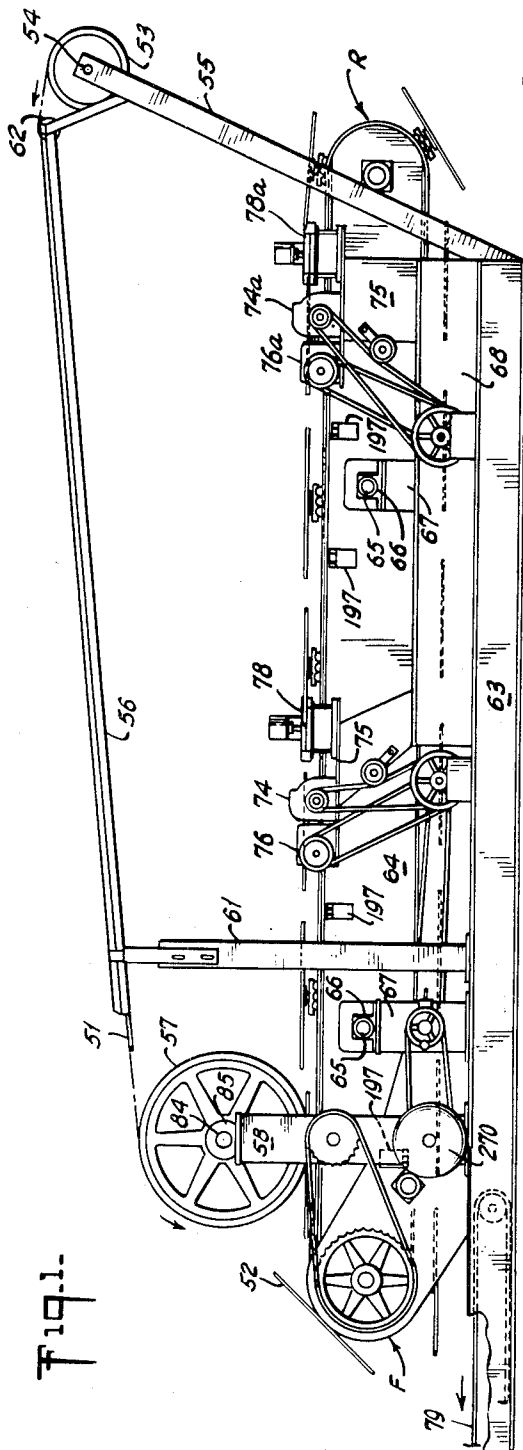
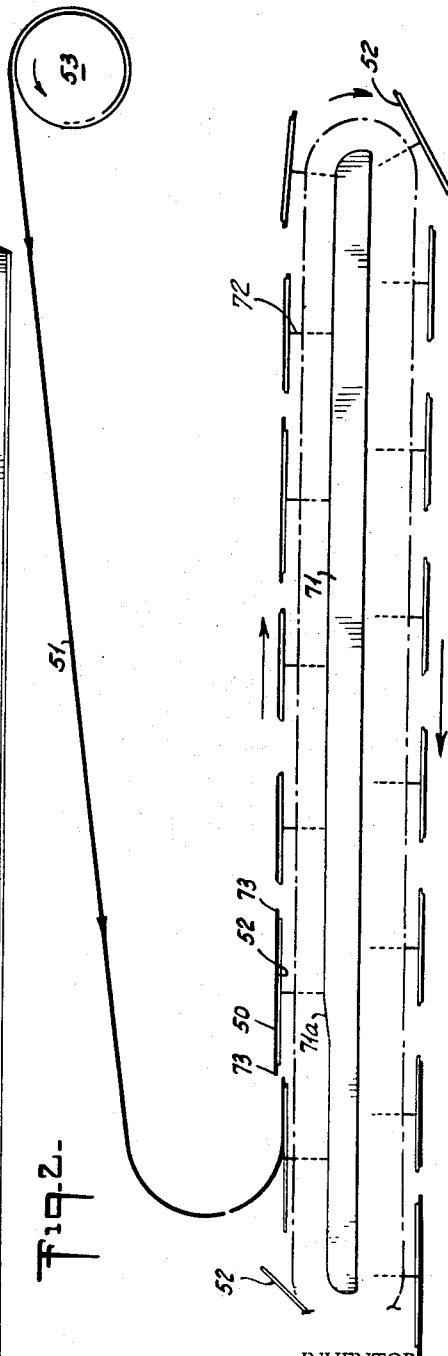
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3,208,418

SEWING MACHINE FEEDING MECHANISM

Original Filed Feb. 12, 1959

6 Sheets-Sheet 1



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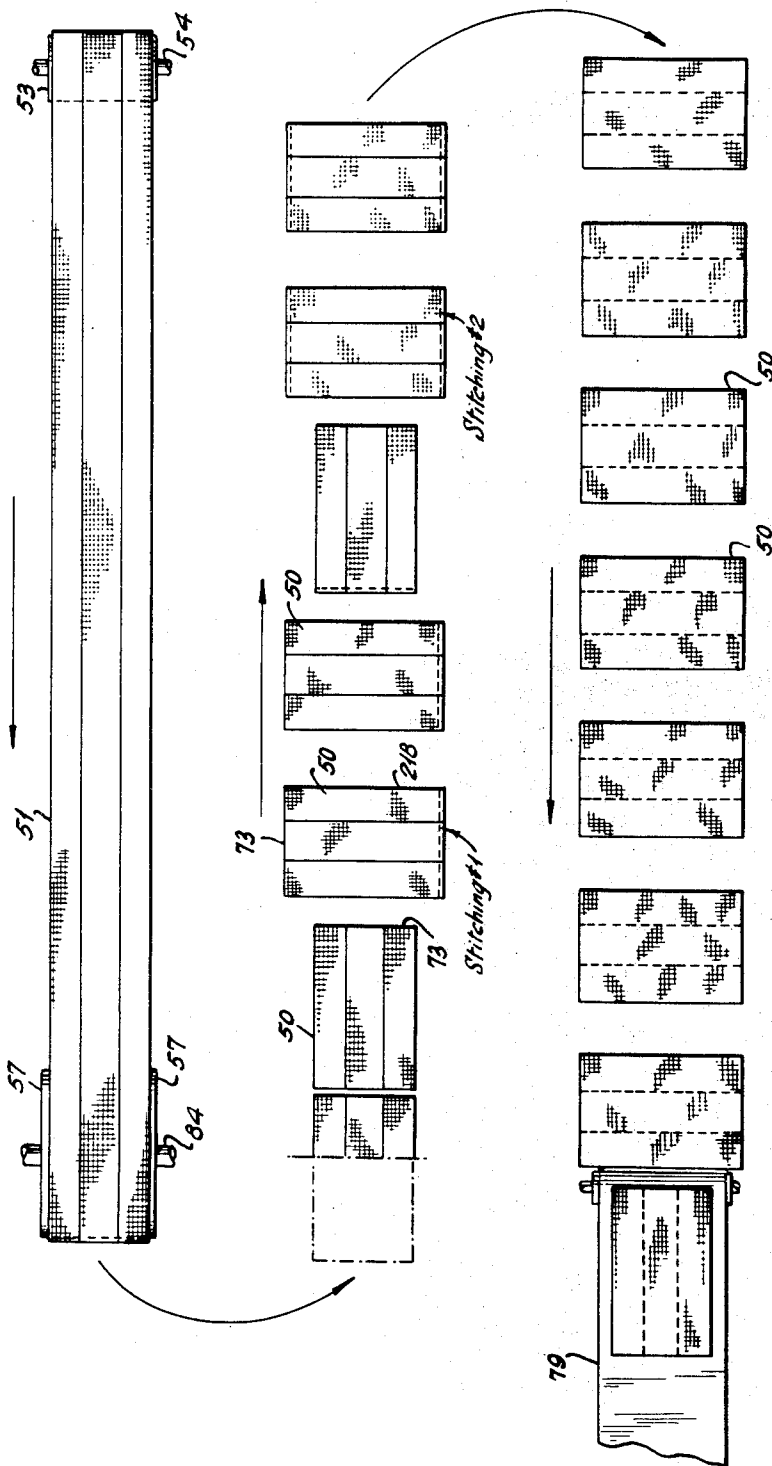
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SEWING MACHINE FEEDING MECHANISM

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Fig. 3.



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SEWING MACHINE FEEDING MECHANISM

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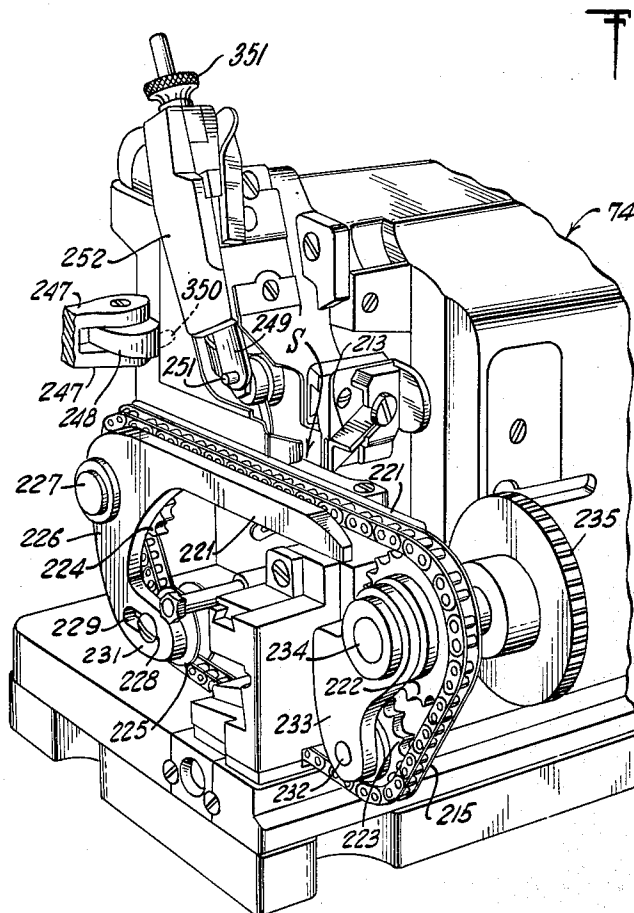
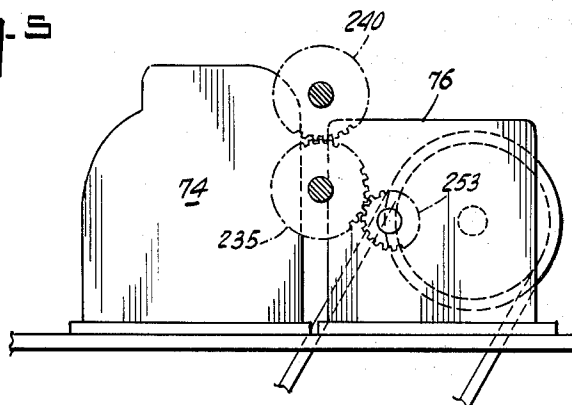


Fig. 5



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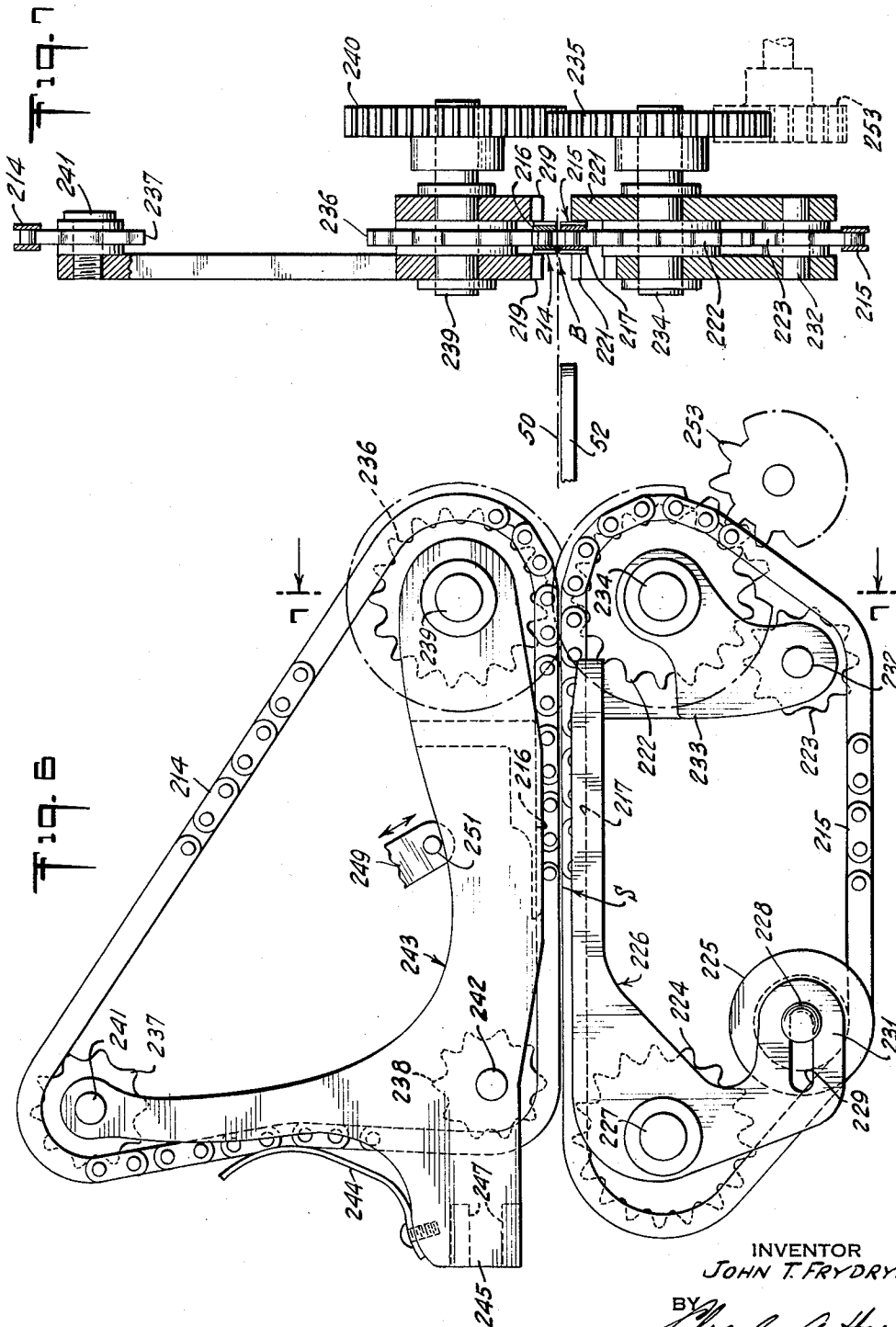
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SEWING MACHINE FEEDING MECHANISM

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6 Sheets-Sheet 4



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SEWING MACHINE FEEDING MECHANISM

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Fig. 8

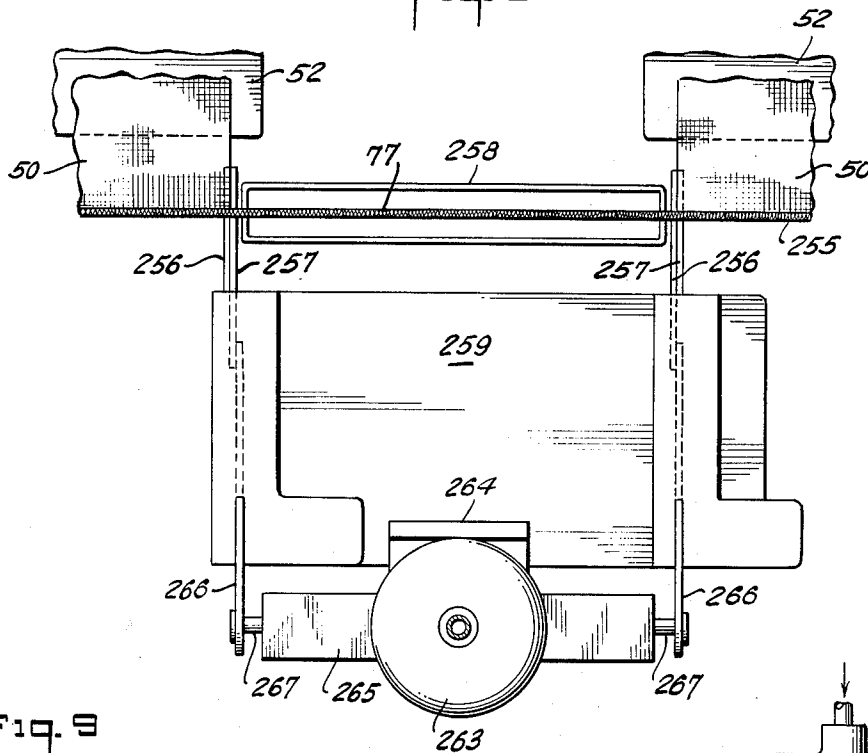


Fig. 9

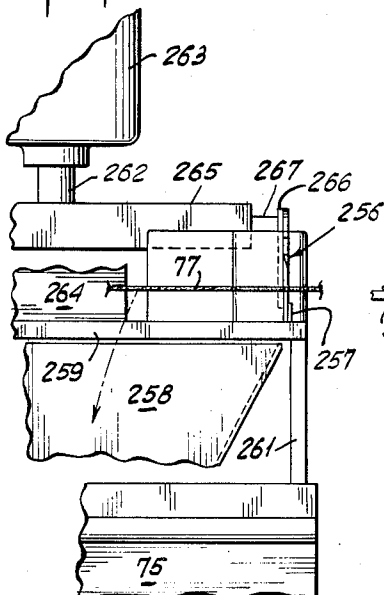
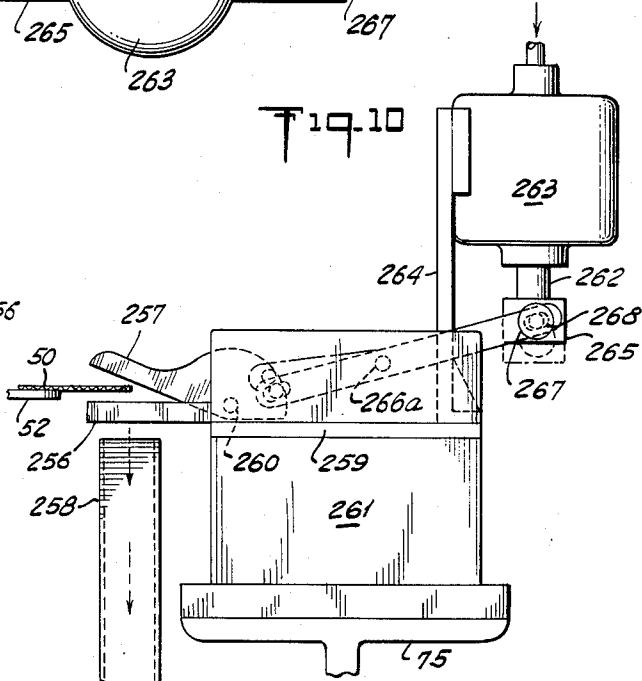


Fig. 10



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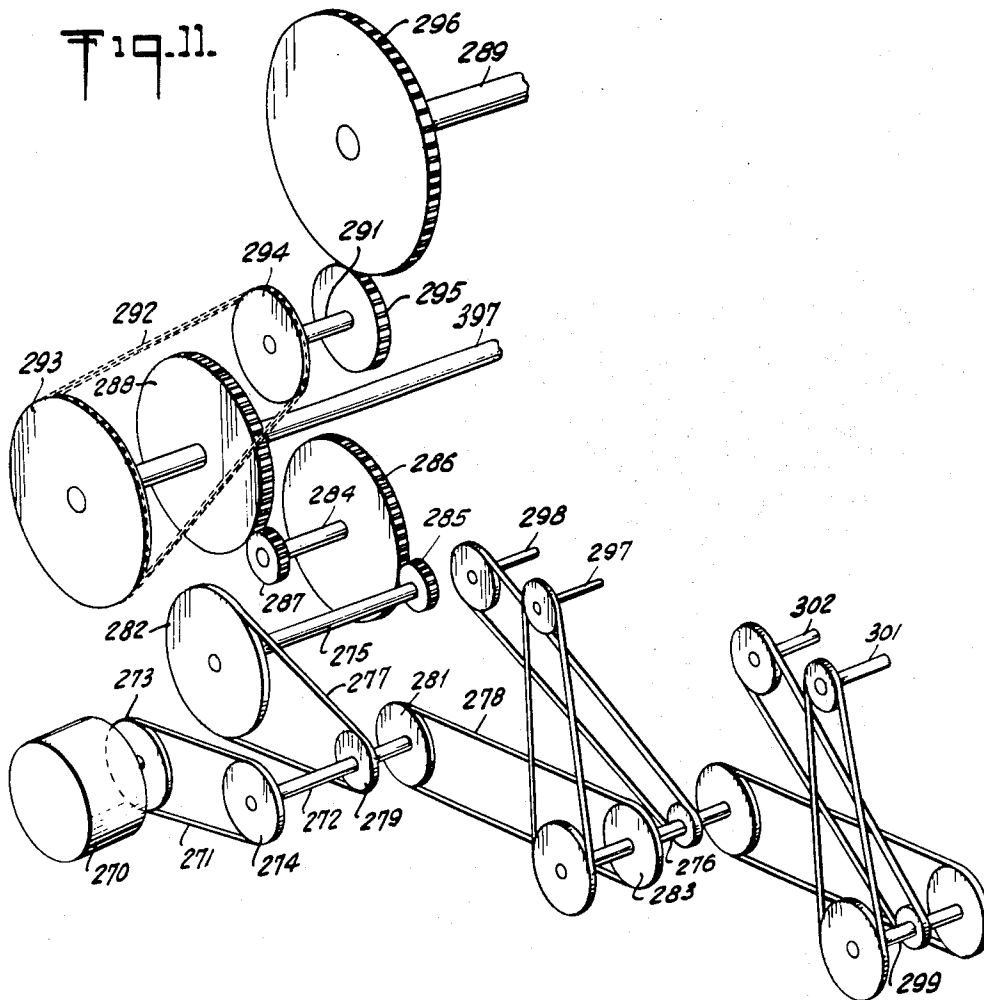
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SEWING MACHINE FEEDING MECHANISM

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6 Sheets-Sheet 6



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3,208,418

## SEWING MACHINE FEEDING MECHANISM

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Original application Feb. 12, 1959, Ser. No. 792,741, now Patent No. 3,097,733, dated July 16, 1963. Divided and this application July 16, 1962, Ser. No. 212,755  
5 Claims. (Cl. 112-212)

The present invention relates to an automatic machine for conveying a plurality of individual pieces of sheet material cut from a strip of said material and presenting them for processing, more particularly to such a machine for processing relatively limp sheet material and a method therefor.

This application is a division of applicant's copending application Serial No. 792,741, filed February 12, 1959, now Patent No. 3,097,733 and is filed pursuant to Rule 147 as a result of a requirement for restriction under Rule 142.

Heretofore, in processing relatively limp sheet material such as a layer or layers of woven diaper cloth, crib sheeting, or the like, it has been customary to cut the material in the desired length and then to trim and sew the individual length of material by hand to form the desired product.

One of the main problems in automatically processing successive sheets of relatively limp material such as diaper cloth is that the material, not only cannot be pushed, but must be held out flat to retain its proper dimensions. This particularly is true when it is desired to sew the front and rear edges of individual pieces of material successively cut from a longitudinally moving strip of material, for instance.

An additional problem in attempting to sew automatically the edges of a plurality of successively presented pieces of relatively limp material using conventional equipment is that the leading edge of each piece bends back and crumples and tends to provide an uneven stitched edge. In addition, the crumpled material tends to jam and prevent operation of the sewing machine.

It is one of the main objects of this invention to provide a novel method of automatically manufacturing products such as prefolded diapers, crib sheets, and the like, fabricated from relatively limp sheet material, wherein successive pieces of the material are cut from a continuous strip while moving the pieces and the strip continuously linearly at the same speed and in the same direction, and their cut edges are processed while continuing the aforesaid linear motion of said pieces.

Another object of the invention is to provide such a method wherein the cut edges of the pieces are successively presented to a continuously operating sewing machine for stitching while moving the pieces in the direction of the edges at a substantially constant speed, and the edges are stitched while continuing this motion without crumpling the edges of the pieces or jamming the machine.

A further object of the invention is to provide an automatic machine for practicing the foregoing methods.

Thus, another object of the invention is to provide a novel automatic machine for conveying a plurality of individual sheets of material and presenting them for processing while moving the sheets continuously in a given linear path. I have invented a machine according to this object which comprises a plurality of spaced individual work supporting units flexibly connected in tandem with one another. The units are guided for motion in a desired path and are driven at a given linear speed in this direction. The individual work supporting units are capable of independent rotatable movement without varying their linear speed, and means are provided for continuously controlling the angular position of said units with respect to the direction of their linear motion. By

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varying the angular position of the units, different portions of the individual sheets supported by each of the units may be successively presented at one side of the machine.

An important object of this invention is to provide a novel feeding mechanism for gripping the edges of a plurality of spaced pieces of work and presenting them intermittently to an automatic sewing machine for stitching their edges while moving them through the machine at a given linear speed.

Other and further objects of the invention will be apparent from the following description and claims taken together with the drawings wherein:

FIG. 1 is a partially cutaway side elevational view of a machine for manufacturing diapers according to one embodiment of the invention;

FIG. 2 is a schematic view partly in elevation showing various positions of the work supporting units of FIG. 1 and the diaper blanks passing through the machine. This figure also shows a longitudinal cam for determining the height of the blanks;

FIG. 3 is a schematic plan view of the strip of diaper material and the diaper blanks carried by the work supporting units in the various positions shown in FIG. 2;

FIG. 4 is a view in perspective of one of the sewing machines of the machine of FIG. 1 with the top half of the feeding device removed;

FIG. 5 is a schematic side view of the drive for the sewing unit of FIG. 4;

FIG. 6 is an enlarged side elevational view of the feeding device for the sewing unit of FIG. 4;

FIG. 7 is a partially broken away end view partly in section and partly in elevation taken along the line 7-7 of FIG. 6;

FIG. 8 is a schematic plan view of one of the tail cutting units of the machine of FIG. 1;

FIG. 9 is a partial side view of the tail cutting unit of FIG. 8;

FIG. 10 is an end view of the unit of FIG. 8; and

FIG. 11 is a schematic view in perspective of an electric motor and the various drive gears and shafts associated with the machine of FIG. 1.

Referring to FIGS. 1-3 of the drawings, there is shown an automatic machine for cutting and sewing the end edges of limp sheet products such as prefolded diapers and the like. The diaper blanks 50 are cut from a continuous strip 51 of diaper material moving in a given linear path at a constant speed after which they are positioned on work supporting tables 52 which support them in the flat and transport them through the various operations performed on the machine.

The strip 51 of diaper material is unwound from a supply roll 53 mounted for rotation on an axle 54 journaled in the upper ends of inclined uprights 55 extending from the base of the rear end of the machine.

The strip is drawn from the supply roll along an overhead track 56 to a cutting drum 57 mounted on vertical posts 58 adjacent the front end of the machine. The track 56 is supported by extensions 59 on the inclined uprights 55 at the rear end of the machine and by vertical uprights 61 near the cutting drum 57. A guide roller 62 is provided at the rear end of the overhead track 56 for leading the strip 51 from the supply roll 53 onto the track.

The machine is supported on a pair of spaced longitudinal floor girders 63, one of which is not shown in FIG. 1, and is built around a pair of spaced side plates 64, as shown in FIG. 1, which are mounted upon a pair of fixed supporting shafts 65 and extend the length of the machine. Each of the supporting shafts 65, in turn, is mounted in a shaft support 66 secured to the top of a vertical standard 67 which, in turn, rests upon the top of one of the longitudinal girders 63 at the front of the

machine or the beam 68 resting on the longitudinal girders at the rear of the machine. Only one of the side plates 64 is shown in FIG. 1, since the other is spaced widthwise of the machine directly behind it.

The side plates 64 act as tracks for a number of the tables 52, or work supporting units, which are spaced longitudinally and connected in tandem with one another to form a continuous "chain" of tables. The tables are adapted for continuous motion in a top pass directly under the cutting drum 57 and along the tops of the side plates 64, then around one end of the plates and into a bottom pass upside down along the bottoms of the side plates until they reach the other end of the machine and then pass up around the ends of the plates and under the cutting drum 57 to repeat the aforesaid motion. During this motion, the "chain" of tables is driven through connections to continuous drive chains 178 in a manner shown and described in detail in applicant's copending parent application Serial No. 792,741.

The strip 51 is clamped to the cutting drum 57 and pulled around the drum. During the time it moves with the drum, the strip is cut into diaper blanks 50 by cutters associated with the drum. Each of the diaper blanks 50 is positioned on one of the tables 52 just as the table passes under the drum 57. The operation of the above-referred-to cutters and the manner of positioning the diaper blanks 50 on the tables 52 are shown and described in detail in applicant's copending application Serial No. 792,741. The surface of the drum 57 and the tables 52 both move in the same direction at the same linear speed, and the transfer is accomplished without interfering with this motion. The tables supporting the blanks continue forward at the same speed under the guidance of the side plates 64 and the longitudinal cam 71 shown in FIG. 2. Each of the tables 52 is secured to a vertical shaft 72, represented by dotted lines in FIG. 2, which rests on the top of the cam 71 during the top pass of the tables over the side plates 64. The cam 71 has a rise 71a which lifts each succeeding table 52 slightly, shortly after it leaves the drum 57, as shown in FIG. 2. The raised tables then are rotated 90° while being moved forward at the same linear speed so that the cut edges 73 of the diaper blanks 50 now extend in the direction of the linear travel of the tables 52, as shown schematically in FIG. 3. As the tables 52 are turned, table clamps, not shown, are actuated to hold the blanks 50 on the tables. The operation of the tables 52 and the table clamps, as well as the construction of both, is shown and described in detail in applicant's copending parent application, Serial No. 792,741, referred to above. The tables 52 continue to move linearly in the same path at the same linear speed to present one of the edges 73 of each of the diaper blanks 50 to a sewing machine 74 mounted at one side of the machine not far from the cutting drum 57. The machine is mounted on a foundation 75 which extends upwardly from the beam 68. The sewing machine 74 is of a type which is especially adapted to sew the edges of a piece of goods and is provided with a novel feeding device for feeding the edge of the diaper into and through the machine. This device will be described more fully hereinafter. The speed of the feeding device corresponds to the linear speed of the diaper edge 73, and the sewing speed of the machine is adjusted accordingly. A speed controller 76 geared to the sewing machine 74 and connected to the same driving means as the sewing machine 74 is provided for adjusting feeding speed with respect to sewing speed. As shown in FIGS. 2 and 21, the cut edges 73 of the diaper blank 50 overlap the ends of the tables 52 to a certain extent so that the machine may stitch the edges 73 without contacting the ends of the tables. The sewing machine 74 operates continuously so that it makes a continuous stitch. When a diaper is passing through the machine 74, of course this stitch becomes a part of the diaper. However, a stitch chain or "tail" 77, not shown, is produced between adjacent diapers

passing through the machine. A tail cutting unit 78 is provided for cutting this chain or strip 77 from the diapers. The unit 78 is located just following the sewing machine 74 and operates while the diapers still are turned 90° to their linear direction of travel.

Just after passing through the tail cutting unit 78, the tables 52 again are turned 90° in the same angular direction with the result that the diapers again extend in the direction of travel, but with their ends reversed. The tables 52 then are rotated an additional 90° so as to present the opposite end edge 73 of the diapers at the same side of the machine, as shown in FIG. 3. This occurs just before the diapers 50 reach a second sewing unit. This unit is identical with that described in connection with the first sewing machine 74 and consists of a sewing machine 74a, a speed controller 76a, and a tail cutter 78a which operate as just described in connection with the sewing machine 74, the speed controller 76 and the tail cutter 78.

The tables 52 pass around the side plates 64 at the rear end R of the machine and continue their travel upside down with the diapers normal to their path until they reach a point near the front end F of the machine where the tables again are rotated 90° in the same angular direction to assume their original position. As the tables are rotated at this point, the table clamps are released and the diapers are dropped down upon a conveyor 79 which transports them away from the machine.

The tables 52 each are identical and comprise a plate of metal or a similar rigid material which is rectangular in shape. The tables pass under the drum in such a way that the length of the rectangle extends lengthwise of the direction of travel of the tables and the drum surface. The width of the diaper blanks 50 is determined by the width of the strip 51 and their length by the distance between the cuts made on the drum 57. It follows that the blanks 50 are positioned lengthwise on the tables 52 or with their lengths extending lengthwise of the tables. The diaper blanks 50 are somewhat longer than the tables so that the blanks overlap the front and rear ends of the tables by a predetermined amount. For instance, to make a diaper blank about 21 inches long going into the sewing machine 74, the drum 57 is about 63 inches in circumference at its outer surface; and the table 52 may be about 18½ inches long so as to provide an overlap of about an inch or an inch and a quarter at each end of the table. Normally, the diaper blanks 50 are slightly narrower in width than the table. For instance, the blanks may be about 14 inches wide when the tables are approximately 15 inches wide.

As the tables approach the first sewing machine, they are turned 90° as just described so as to present one of the cut edges 73 of the diaper blank 50 to the machine. As mentioned hereinbefore, the edge of the blank overlaps the end of the table by about an inch or an inch and a quarter. It is this overlapping edge of the blank 50 which is presented to the machine.

The sewing machine, itself, is a conventional overedging machine such as a Class M overedging machine manufactured by the Merrow Machine Company of Hartford, Connecticut. As shown in FIGS. 4-7, the table and presser foot and associated parts of the machine have been removed and a novel feeding mechanism has been installed on the machine.

First of all, it should be noted that the Merrow Class M machine has an integral unit which trims the edge of the blank before sewing it. A top cutter 213 of this unit is shown in FIG. 4. The actual sewing device cannot be seen well in FIG. 4 or any of the other figures. It suffices to say that the trimming and sewing occurs at about point S in the travel of the edge of the blank through the machine.

The feeding mechanism comprises a pair of opposed gripping members in the form of a pair of opposed continuous chains 214 and 215. Each of the chains 214 and

215 has a relatively smooth outer surface which presents a multiplicity of closely spaced gripping points along its length for holding the diaper blank 50. The chains 214 and 215 are mounted so that they converge and grip the leading side edge 218 of the blank 50 and the cut edge B of the blank between them ahead of the sewing area and move together with the work held firmly between them through the sewing area at the linear speed of the tables. Thus, the edge B of the blank is held flat and is prevented from crumpling as it moves into the sewing machine; and a straight stitched edge is obtained. The opposed chains with the blank between them ride between opposed tracks 216 and 217 above and below the chains, respectively, in the sewing area. The tracks 216 and 217 are located so as to support and position the opposed chains 214 and 215 one above the other with the edge B of the diaper blank between them and to maintain the opposed chains close enough together to grip the edge B of the diaper blank 50 firmly and hold it flat during the sewing operation. The tracks are spaced so as to prevent the proximate edges of the gripping chains 214 and 215 from becoming separated from one another by more than a prescribed distance. This distance is no more than that necessary to allow the chains to grip the blank between them without damaging the blank. Each of the tracks has side flanges 219 and 221, respectively, to position the chains transversely of their direction of motion and prevent the chains from slipping toward or away from the sewing machine. The side flanges 221 for the track for the bottom chain 215 are shown quite clearly in FIG. 4 wherein the top chain 214 and its associated parts have been removed for the sake of clarity.

The bottom chain 215 is supported on the bottom track 217, two front gears 222 and 223, a rear gear 224 and an adjustable tensioning roller 225, all of which are mounted in, or form part of, a bottom feeding arm 226. The rear gear 224 is mounted for rotation on a shaft 227 which extends through a rear depending portion of the bottom feeding arm 226 rearwardly of the bottom track 217. The adjustable tensioning roller 225 is mounted for rotation on a stub shaft 228 which is slidably fitted in a slot 229 in a horizontal extension 231 at the bottom of the bottom feeding arm 226. The front portion of the bottom chain 215 is supported by the front gears 222 and 223. The lowermost gear 223 of the front gears is mounted for rotation on a short shaft 232 which extends through a front depending portion 233 of the bottom feeding arm 226. The depending portion 233 also supports a drive shaft 234 for the bottom chain and the front gear 222 is keyed to the drive shaft for rotation therewith. The position of the tensioning roller 225 is adjusted along the slot 229 to assure that the bottom chain 215 is tight and in driving engagement with the front and rear gears. The drive shaft 234 is driven through a bottom main gear 235 fixed to one end of the shaft in a manner which will be described more fully hereinafter. Front and rear portions of the bottom arm 226 are secured to the base of the sewing machine in a manner not shown and the front end of the bottom track 217 rests upon a portion of the base of the sewing machine to support the arm.

The top chain 214 is supported by a front gear 236 and a pair of rear gears 237 and 238, which, in turn, are mounted for rotation on each of three stub shafts 239, 241, and 242, respectively, which extend through different parts of an L-shaped chain supporting arm 243. The gear 236 and a top main gear 240 are fixed to the shaft 239 for driving the top chain 214, as will be described hereinafter. The top rack 216 is part of the underside of the bottom leg of the L-shaped arm 243; and the gears 236, 237, and 238 are positioned on the arm at the outer end of the bottom leg above the uppermost gear 222 of the front gears which support the bottom chain 215, at the base of the L above and slightly forward of the center of the rear gear 227 supporting the bottom chain,

and at the top of the upright leg of the L, respectively. The top chain 214 is stretched around these front and rear gears and is maintained in engagement with them by a leaf spring 244 pressing against the back of the chain and secured at its base to a heel portion 245 of the L-shaped arm. The L-shaped arm 243 is pivotally mounted on a pin 246 secured through flanges 247 extending from the heel 245 of the arm. The pin 246 passes through a hole in a ledge 248 extending from the sewing machine base; and the flanges 247 fit over the ledge in such a way that the L-shaped arm and associated parts including the top chain 214 are supported by the ledge 248 and the bottom chain 215 when the top chain is in position over the bottom chain, and held in position away from the bottom chain when the L-shaped arm is swung away from the bottom chain, as shown in FIG. 4. The ledge 248, itself, is pivotally mounted in the machine housing on a short shaft 350 for movement through at least a small angle in a vertical plane parallel to the chains 214 and 215 in FIG. 4 so that the front of the arm 243 and the chain 214 can be pivoted upward slightly away from the front end of the bottom chain 215. A spring loaded foot 249 presses down lightly on the top of the arm 243 through a pin 251 extending from the foot to urge the top chain 214 down towards the bottom chain 215. The spring loading on the foot is such that variations in thickness between different portions of the diaper blanks 50 passing between the chains can cause the top chain to lift slightly to adjust to these variations while retaining its grip on the blank. The foot 249 is mounted in an adjustable spring loading unit 252 integral with the sewing machine, as shown in FIG. 4. The unit 252 may be adjusted by turning the knurled nut 351 at the top of the unit clockwise or counter clockwise depending upon whether it is desired to urge the tracks together or away from one another.

The top and bottom chains 214 and 215 are driven in the same linear direction and at the same speed by rotating their respective drive gears 236 and 222 in opposite angular directions on their drive shafts 239 and 234, respectively. This is accomplished through the top and bottom main gears 240 and 235 which are fixed to the shafts 239 and 234. The bottom main gear 235 meshes with the top main gear 240 and with a drive gear 253 which, in turn, is connected to one of the speed regulating units 76. Thus, both main gears and both chains are driven from the speed regulating unit. This means that the speed of the feeding mechanism may be regulated independently of the speed of the sewing machine without need to interfere with the operation of the machine itself.

In the embodiment shown, the sewing machines operate continuously and make a continuous stitch or chain 255, as illustrated in FIG. 8. This means that a chain of stitching or a "tail" 77 connects the diaper 50 which has just passed through the machine with the one following it. The tail cutter 78 for severing the tail 77 from the diapers and removing it from the path of the diapers is shown in FIGS. 8-10. This device comprises a pair of cutting scissors 256 spaced from one another by a distance slightly less than the distance between adjacent diapers or roughly corresponding to the length of the tail 77. Each of the scissors 256 comprises a pair of blades 257 which are mounted for opening and closing motion with respect to one another on a pin 260. The blades 257 of the scissors 256 normally are open so as to allow the diapers 50 to pass through. The scissors 256 operate to sever the tail 77 from the diapers just after the leading diaper has passed through the second scissor. This operation is automatically timed with respect to the motion of the diaper tables 52. A suction box 258 is provided below the scissors 256 to draw the severed tail into a repository, not shown. Suction may be applied to the box 258 by a suction fan or a similar

device. The scissors are mounted on a base plate 259 which, in turn, is supported on a mounting 261 resting on one of the foundation members 75. The scissors 256 are operated pneumatically through a linkage which is connected to the shaft 262 of an air cylinder 263 which is mounted on an upright 264 extending from the cutter base plate 259. The air cylinder shaft 262 is connected to a horizontal bar 265 and each end of the bar is connected to a lever arm 266 which is pivoted on the pin 266a. One end of the lever arm 266 is connected to one blade 257 of the cutter to move this blade into and out of cutting engagement with the other blade, and the other end of the lever arm is connected to a pin 267 extending from the appropriate end of the cross bar 265. Slots 268 are provided in the levers 266 where they are connected to the cross bar 265 to convert the linear movement of the air cylinder 263 to the radial movement of the levers. The air cylinder is operated by an automatic valve, not shown, of conventional type which is actuated by a conventional limit switch, also not shown, which in turn is tripped by contact with one of the extensions 196 of the carriage link 176 for the table 52 leading the cutter unit. Thus, downward movement of the shafts 262 causes the levers to pivot about the pins 266a and close the scissors and upward movement of the shafts 262 opens the scissors.

The operation of the various parts of the machine of this invention may be timed with respect to one another by various conventional devices and techniques. For instance, driving mechanisms are shown in FIG. 11 wherein all of the parts are driven from a single motor 270. The motor drives a belt 271 which, in turn, drives an intermediate shaft 272 through pulleys 273 and 274 on the motor shaft and the intermediate shaft. The intermediate shaft 272 drives a pair of secondary shafts 275 and 276 through two more belts 277 and 278 connected to the intermediate shaft 272 through pulleys 279 and 281 on the intermediate shaft and pulleys 282 and 283 on the secondary shafts 275 and 276. The secondary shaft 275 drives an idler shaft 284 which, in turn, drives the main drive shaft 397 for the two continuous carriage unit drive chains, not shown. This is accomplished through a series of meshing gears, 285 on the shaft 275, 286 and 287 on the idler shaft 284, and 288 on the drive shaft 397. Sprocket wheels, not shown, are mounted on the drive chain shaft 397 for driving the carriage drive chains. A drum drive shaft 289 is driven through another idler shaft 291 from the drive shaft 397 through a belt 292 passing around a pair of pulleys 293 and 294 mounted on the main drive shaft 397 and the idler shaft 291, respectively, and a gear 295 on the idler meshing with a gear 296 on the drum drive shaft. The secondary shaft 276 drives the first sewing machine drive shaft 297 and the first speed regulating unit drive shaft 298, as well as a tertiary shaft 299. This is accomplished through a series of pulleys and belts connecting the respective shafts. The tertiary drive shaft drives power shafts 301 and 302 for the second sewing machine and the second speed regulating unit, respectively, through a pair of belts passing over pulleys secured to the respective shafts. The size and arrangement of pulleys and gears is designed to provide the desired speed relationships between the various parts. Where regulation is desirable as for the sewing machine feeding devices, additional speed regulators are provided. Other parts of the machine which are not directly connected to the above-described driving arrangement are operated by cams or other devices which are actuated by the movement of parts driven from one of the connected mechanisms in a manner described hereinbefore.

Having now described the invention in specific detail and exemplified the manner in which it may be carried into practice, it will be readily apparent to those skilled in the art that innumerable variations, modifications, ap-

plications, and extensions of the basic principles involved may be made without departing from its spirit and scope. For instance, the sewing machines 74 and 74a may be operated intermittently instead of continuously so that they will be sewing only when a sheet is passing through a machine. It also is apparent that while the operation of the sewing machines and related devices of this invention have been illustrated with reference to the manufacture of diapers, these machines and devices are very well suited for use in the sewing of any spaced sections of limp sheet material.

The invention claimed is:

1. A feeding mechanism in a sewing machine adapted to stitch the edges of a plurality of spaced pieces of flat work material presented intermittently to said machine and moving through the machine at a given linear speed, which comprises upper and lower tracks extending through the sewing area and located one above the other in a common plane, a pair of opposed gripping members riding in and between said tracks at the linear speed of the work pieces in the sewing area, at least one of said tracks being pivotally mounted adjacent its trailing end for vertical movement of its leading end in the plane of the tracks toward and away from the other track, resilient means normally urging the leading ends of said tracks toward one other, said tracks being vertically separable from one another to accommodate the thickness of said work pieces but urged together by said resilient means and pressing the gripping members toward and into contact with one another ahead of the sewing area when no work piece is located between them, said gripping members being adapted to converge and grip the spaced work pieces between them ahead of the sewing area and then move through the sewing area in said tracks with the edge to be stitched held flat and presented for stitching during the sewing operation.

2. A feeding mechanism in a sewing machine according to claim 1, wherein the gripping members are spaced from one another vertically adjacent the trailing ends of said tracks by a distance which will accommodate the thickness of the work pieces while allowing the gripping members to continue to grip and feed the work pieces away from the sewing area.

3. A feeding mechanism in a sewing machine according to claim 1, wherein the upper track also is pivotally mounted adjacent its trailing end for horizontal movement of its leading end out of the common plane of the tracks and away from the sewing machine.

4. A feeding mechanism in a sewing machine according to claim 1 wherein each of the gripping members is in the form of a continuous chain which presents relatively closely spaced gripping points along its length on the surface of the chain facing the work so that the edge of the work is continuously held in the area in which it is gripped between the chains.

5. A feeding mechanism in a sewing machine according to claim 1, wherein the resilient means is adjustable for increasing or decreasing the force by which the gripping members are pressed together.

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