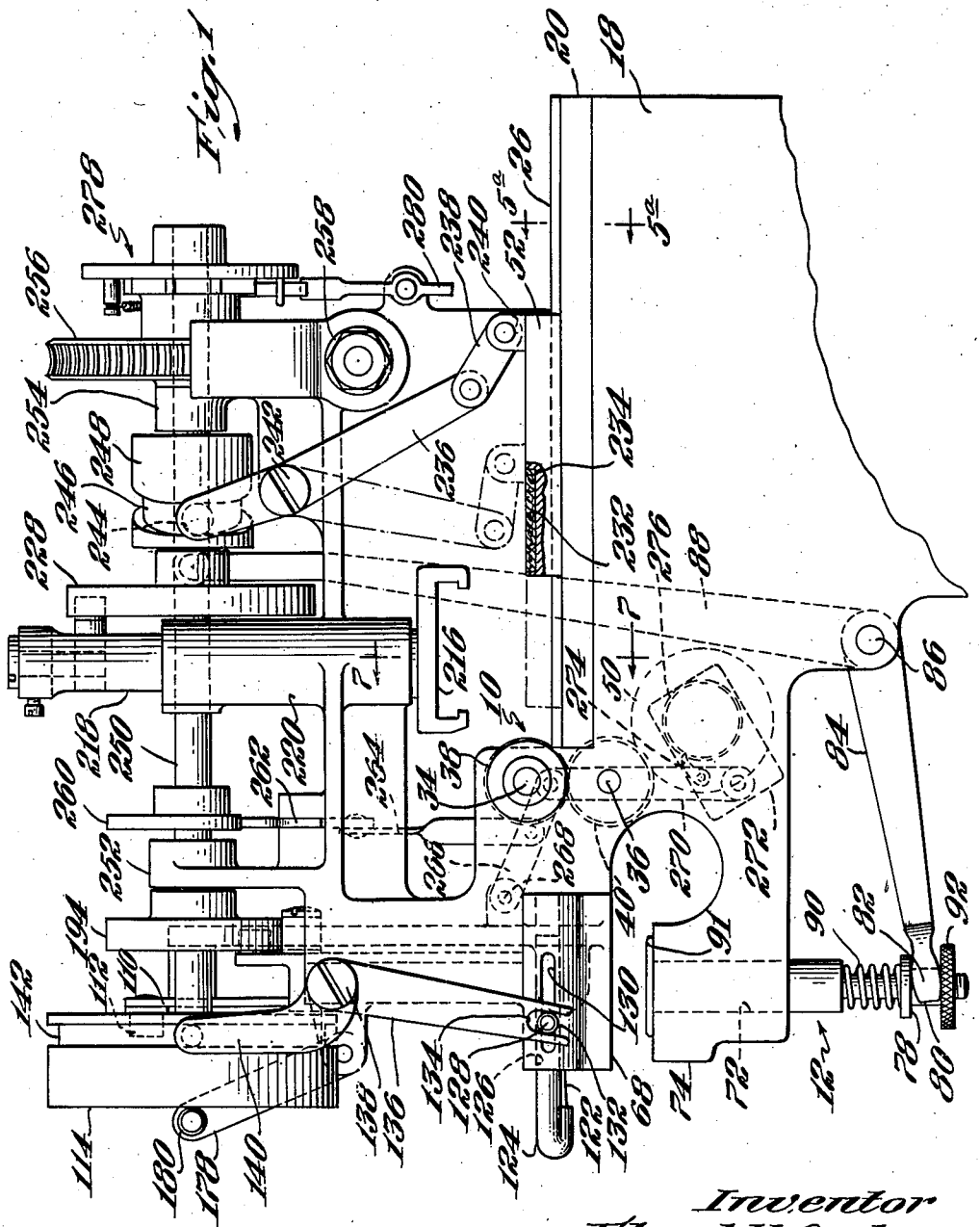
July 10, 1951 F. H. OGDEN 2,559,828

MACHINE FOR ATTACHING TICKETS

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Fig. 1



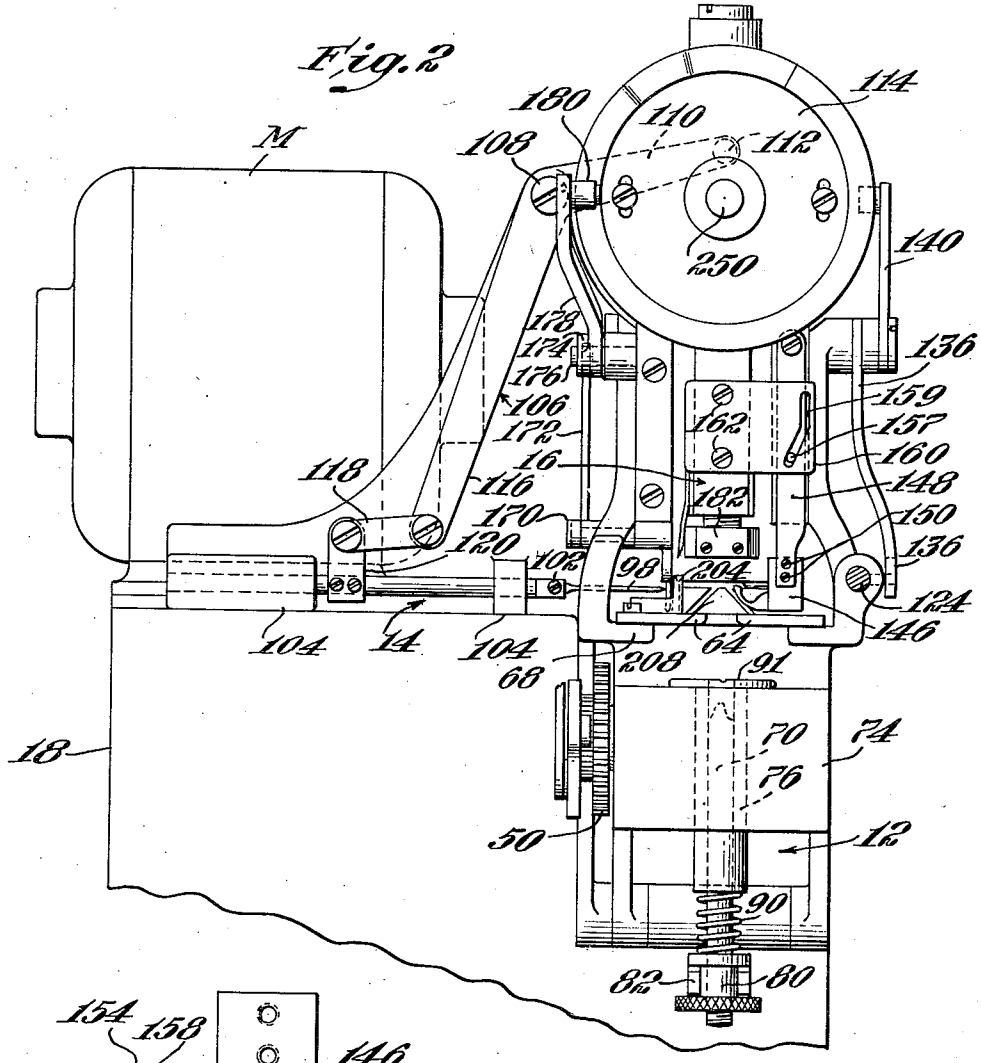
Inventor
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by Roberts, Cushman & Grover
Att'ys.

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MACHINE FOR ATTACHING TICKETS

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Fig. 2



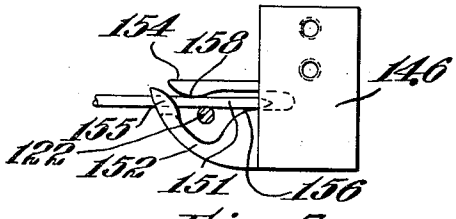


Fig. 3

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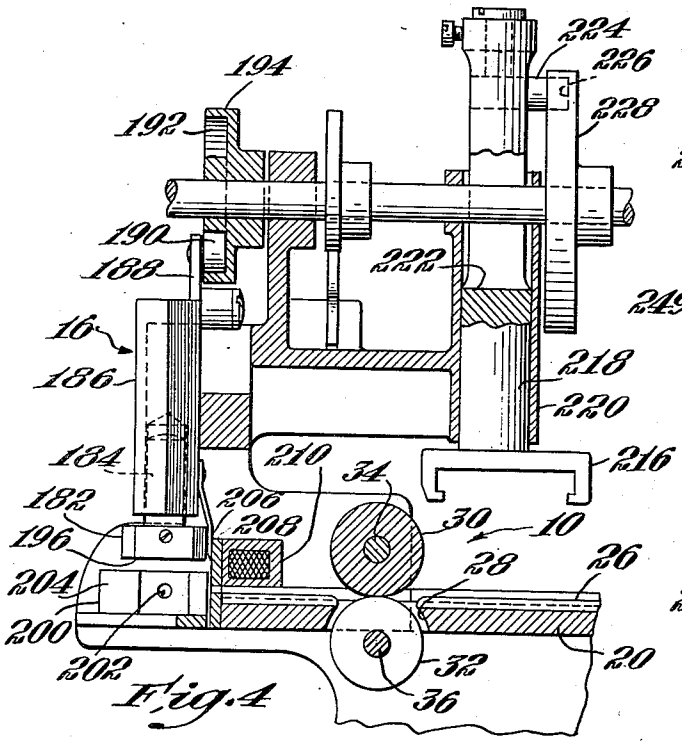


Fig. 4

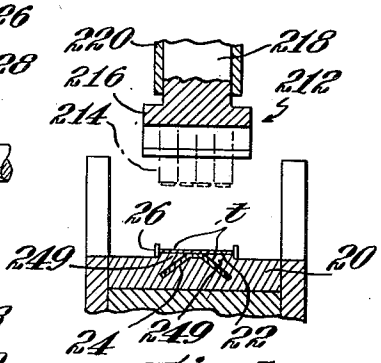


Fig. 7

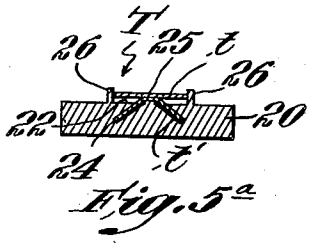


Fig. 5a

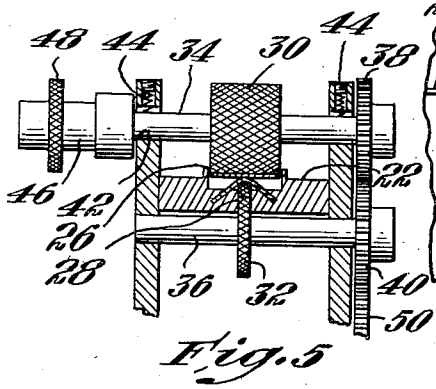


Fig. 5

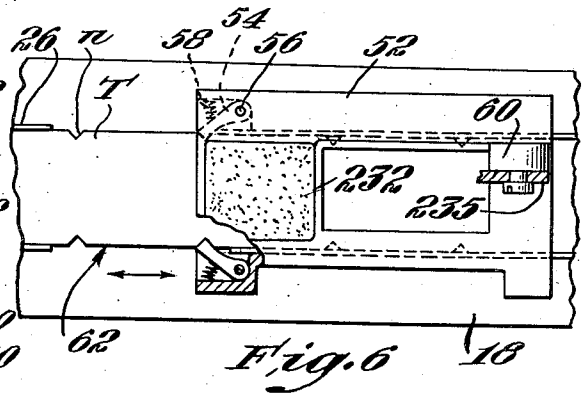


Fig. 6

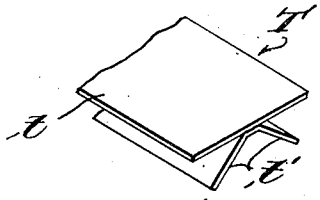


Fig. 8

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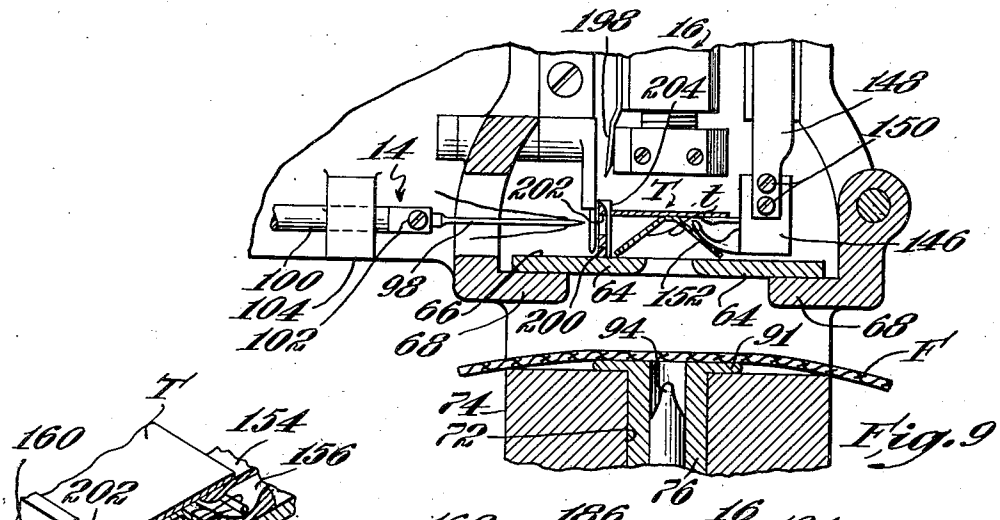


Fig. 9

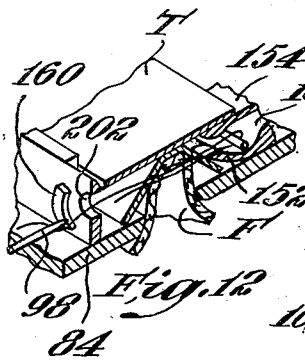


Fig. 12

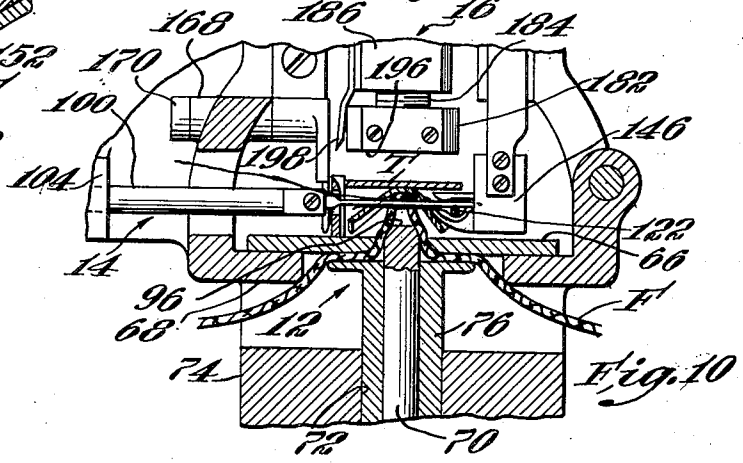


Fig. 10

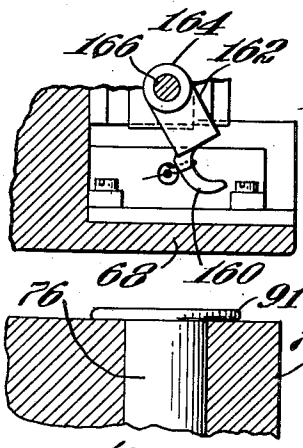


Fig. 13

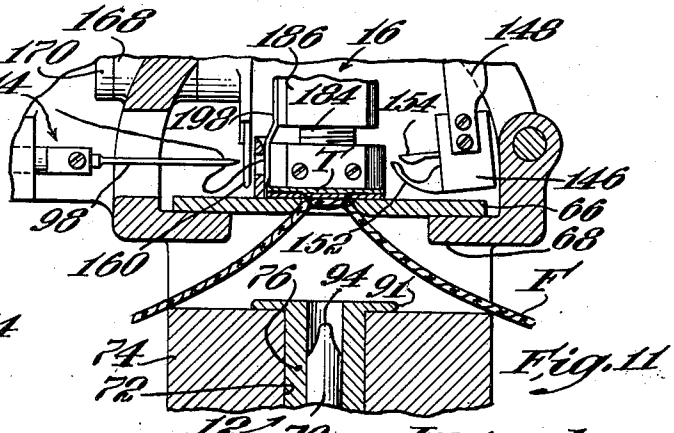


Fig. 11

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MACHINE FOR ATTACHING TICKETS

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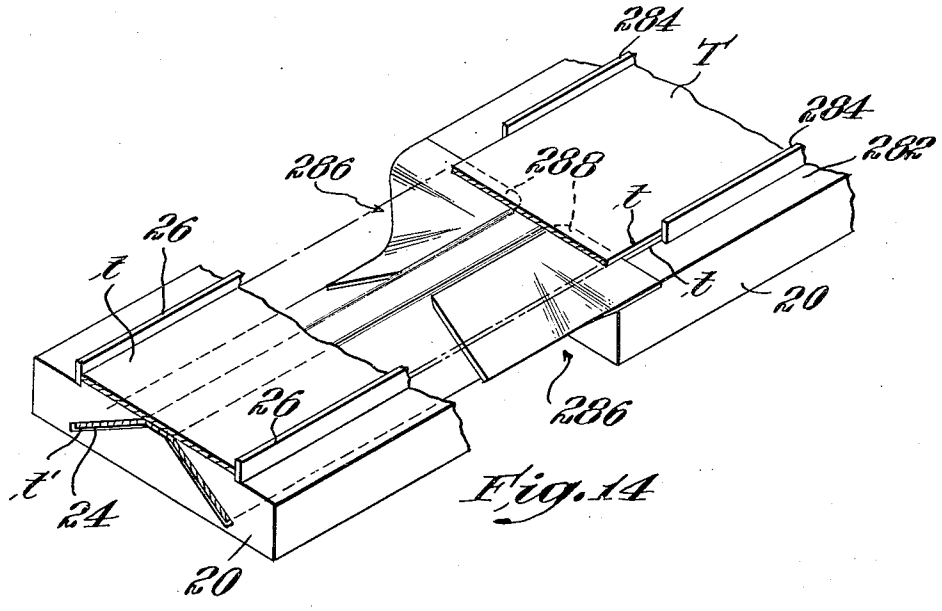


Fig. 14

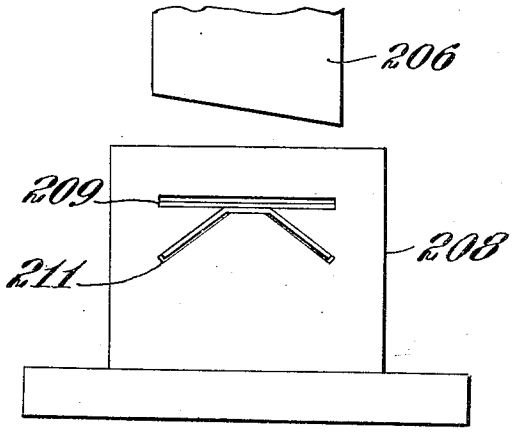


Fig. 15

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UNITED STATES PATENT OFFICE

2,559,828

MACHINE FOR ATTACHING TICKETS

Floyd H. Ogden, Arlington, Mass., assignor, by direct and mesne assignments, to Dennison Manufacturing Company, Framingham, Mass., a corporation of Massachusetts

Application December 22, 1947, Serial No. 793,226

35 Claims. (Cl. 112—104)

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This invention relates to a method of and machine for attaching identifying tickets to a fabric.

In applications Serial No. 533,986, filed May 31, 1944, in the name of Milton Heimlich and Floyd H. Ogden, now Patent No. 2,453,949, issued on January 6, 1948, and Serial No. 700,511, filed October 19, 1946, in my name, now Patent 2,532,459, issued on December 5, 1950, there are disclosed the combination of a fabric with a readily removable ticket attached thereto, and a method of making a readily removable ticket. As illustrated therein, the ticket is comprised of two superposed layers of sheet material united along a medial zone but unjoined from each other adjacent to their opposite marginal portion, and the ticket as thus constructed is attached to the fabric by a length of thread, the ends of which lie between the marginal portion of the layers and are secured therebetween by adhesively joining the marginal portions and an intermediate portion which extends through one of the layers at each side of the medial zone and into and beneath the adjacent face of the fabric.

Objects of this invention are to provide a method for securing the individual ticket blanks to the fabric and for securing the thread between the superposed layer of the blank material. Other objects of the invention are to provide a machine which will automatically feed tickets from a strip thereof, apply the ticket in accordance with the foregoing method, and sever the applied ticket from the strip. Further objects are to provide a machine which is rapid, automatic and will, in addition, apply indicia to one of the strips if desired. Still further objects of the invention are to provide a novel means for varying the length of the attaching element or thread passing through the fabric, a novel presser foot and needle guide, and a novel strip guide.

In accordance with the aforesaid objects, the fabric and a piece of sheet material, consisting of two layers joined medially of their opposite edges but unjoined at the opposite edges, are brought together, a flexible attaching element is placed with its ends between the unjoined portions of the layers with an intermediate portion extending through one layer at opposite sides of the joined area and beneath the fabric, and then the layers and ends of the attaching element are adhesively secured together. The two layers may initially be joined medially by a line of stitching, but preferably an adhesive is employed. For the attaching element any suitable flexible natural or artificial thread may be employed, and for joining the layers and ends of the thread a non-

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activated adhesive is applied to one of the strips and is activated after the thread has been emplaced therebetween. If an artificial thread is employed the adhesive may be omitted and fusing of the thread itself depended upon to stick the layers together.

As herein illustrated, the machine has means for feeding the aforesaid strip of tickets to a place of attachment to a fabric with the marginal portions of the bottom strip diverging downwardly, means for bringing a projecting end of the ticket strip and the fabric together so that a portion of the fabric lies between downwardly diverging marginal portions of the bottom strip, means for inserting an attaching element through the aforesaid marginal portions of the bottom strip and the included fabric, and means for thereafter pressing the top and bottom strips into coplanar engagement and to adhesively secure them together with the ends of the attaching element included therebetween. In one aspect of the invention the means for bringing the ticket and fabric into adjoining relationship is adjustable so that the position of the ticket strip and included fabric may be moved relative to the means for inserting the attaching element, thereby to permit placing a long or a short length of the attaching element through the fabric. More specifically, the attaching element is a thread and a reciprocating needle carries it transversely of the ticket strip through the marginal portions of the bottom strip and the included fabric. The means for bringing the fabric into position is a forming member over which the fabric is placed, which is raised by suitable means toward the ticket strip and which is adjustably connected to its actuating means thereby to afford variation in the extent of its movement toward the ticket strip. There is associated with the forming element a clamping member movable therewith but lagging in its movement to clamp the fabric after the forming element has moved into position.

The thread carrier is in the form of a needle and as its free end passes through the strip it tends to displace the strip laterally and also to be displaced by the sloping surfaces of the marginal portions of the bottom strip. In another aspect there is a combined presser foot and a needle guide arranged to bear against the side of the strip remote from the needle. The presser foot has a toe arranged to bear against the sloping surface of the bottom strip, between the top and bottom strips, and guide surfaces are spaced thereon and diverge at their entrance so as to catch and restore the deflected needle to its nor-

mal position. A conventional loop former cooperates with the needle to catch and hold a loop of thread so that a double length of thread is emplaced and a slack forming element serves to deflect the thread away from the needle point at the end of its stroke.

Spaced abutments are situated directly below the ticket strip and the lower edges of the marginal portions of the bottom strip rest on the abutments, the forming member rising between these abutments. When the thread has been emplaced, the means for pressing the strips into coplanar relationship, which is in the form of a presser head, descends from above the strips and presses them against the abutments situated therebelow. A heating element adjacent to the top of the strip preheats and hence activates the adhesive on the lower surface of the top strip. Hence, when the presser head brings the strips together against the abutments they will be adhesively joined. Cutting members are carried by the presser head for severing both the thread and the strip.

The ticket strip is fed into the attaching position by a strip guide and feeding means. As illustrated, the guide is in the form of a flat plate having a top surface upon which rests the composite strip and downwardly diverging slots in which reside the marginal portions of the bottom strip so that the unjoined portions of the strip at the opposite sides of the joined zone are held separated. A pair of cooperating feed rolls are situated above and below the guide, one of which engages substantially the entire upper surface of the top strip and the other of which projects through a gap or aperture in the guide into engagement with the bottom strip in the narrow zone between the diverging marginal portions. At least one of the feed rolls is yieldably urged toward the other and there is means for rotating the feed rolls independently of the means for driving the same to permit advancing the strip initially to a proper position.

Alternatively, the feeding means may be accomplished by a reciprocating block having spring-pressed latches thereon for engagement with notches in the opposite edges of the top strip. Reciprocation of the block is arranged to advance the ticket strip the length of one ticket for each operation. This form of feed is preferable when the ticket strip is pre-notched and it is desirable to apply indicia to the top strip of the ticket centered as to any given ticket, since it eliminates slippage and hence the possibility of imperfect timing of the ticket movement and the printing member. Conventional marking means in the form of type mounted for reciprocal movement into and out of engagement with the top strip is operated in timed relation with the ticket-feeding means so that indicia is applied to each length of ticket strip as it is fed forward.

The invention will now be described with reference to the accompanying drawings in which:

Fig. 1 is a side elevation of the machine;

Fig. 2 is a front elevation;

Fig. 3 is a detail of the presser foot and needle guide;

Fig. 4 is a longitudinal vertical section through the forward portion of the machine;

Fig. 5 is a transverse section in a vertical plane through the axes of one form of strip-feeding means;

Fig. 5ª is a transverse section in a vertical plane on the line 5ª—5ª of Fig. 1;

Fig. 6 is a plan view of a modified form of strip-feeding means particularly suitable when marking the tickets with indicia;

Fig. 7 is a transverse section in a vertical plane on the line 7—7 of Fig. 1;

Fig. 8 is a perspective view of a length of strip tickets which are to be attached with this machine;

Fig. 9 is a transverse section taken on the line 9—9 of Fig. 1 showing the initial position of the various operating parts prior to insertion of the thread through the ticket and fabric;

Fig. 10 is a similar section showing the needle passed through the ticket and included fabric;

Fig. 11 is a similar section showing the needle withdrawn and the parts of the ticket pressed into engagement with opposite ends of the attaching thread;

Fig. 12 is a perspective view of the relation between the ticket, the fabric and the thread;

Fig. 13 is a longitudinal, vertical section on the line 13—13 of Fig. 11;

Fig. 14 is a perspective view of a modified guide plate; and

Fig. 15 is a vertical front view of the ticket-cutting means.

Referring to the drawings, the machine comprises essentially strip ticket-feeding means 10 for feeding a length of ticket to a position to be applied to a fabric, means 12 for moving a portion of the fabric into a position to be attached to the ticket, which includes a fabric-forming member and a clamping member, means 14 for inserting a flexible attaching element through portions of the ticket and the fabric to attach the two together, and means 16 for pressing the layers of the ticket into engagement with the end portions of the attaching element, for cutting off the attaching element from its source and for severing a ticket from the strip. The aforesaid means are mounted in operating relationship to each other upon a base or frame 18 and actuated from a common source of power.

The ticket-feeding means 10 includes a guide 20, Figs. 1, 5 and 5ª, in the form of an elongate, flat plate resting on the top of the frame, the upper surface 22 of which has a ridge 25 extending longitudinally thereof midway between its edges, and has formed therein at opposite sides of the ridge a pair of spaced diverging grooves 24, the grooves entering the plate from the top surface and diverging toward the bottom. The aforesaid guide is provided to support and guide the ticket strip as it is fed forward to attaching position, and, as illustrated, the mid-portion of the underside of the ticket strip T rests on the ridge 25 so that the top ply or strip *t* is spaced above the surface 22 and downwardly projecting marginal portions of a strip *t'*, which is secured to the underside of the strip *t* longitudinally thereof by a narrow strip of adhesive, reside in the grooves 24. The form of the ticket strip T is shown in Fig. 8, and while, as illustrated herein, the two strips *t* and *t'* are secured together along their medial portions by adhesive, other attaching means may be employed, as, for example, stitching. To prevent lateral movement and to assist in guiding the strip so that the diverging portions of the strip *t'* will not become jammed in the grooves 24, upright ribs 26 are formed integral with the upper surface of the plate 20 at such a spacing as closely to engage the opposite edges of the strip *t*. Near the forward end of the guide 20 there is disposed feeding means in the form of a pair of cooperating upper

and lower feed rolls 30 and 32, the former engaging the entire upper surface of the top strip *t* while the latter engages the bottom strip *t'* only along the medial portion thereof. A gap 28 is formed in the guide through which projects the upper portion of the lower feed roll 32, as illustrated in Figs. 4 and 5. The feed rolls 30 and 32 are fastened to parallel shafts 34 and 36 mounted for rotation in the frame, as shown in Fig. 5, and to the shafts are fixed meshing gears 38 and 40, the latter being driven by a gear 50. The gear 50 is fixed to a short shaft journaled on the frame, and has fixed to it a ratchet 276. There is also on the shaft a freely pivoted block 270 which carries a pawl 276 arranged to engage the gear 50. The block 272 is connected by a link 270 to a lever 266, one end of which is pivoted to the frame and the other end of which is connected to a link 264. The link 264 is in turn connected to an arm 262 engaged with the peripheral surface of a cam 260. Rotation of the cam will effect oscillation of the block 272 by way of the aforesaid links and levers to ratchet the gear 52 in one direction, thereby causing rotation of the feed rolls 30 and 32. The upper shaft 34 is yieldably mounted to permit relative movement between the feed rolls to prevent damage by enlarged bearing apertures 42 formed in the frame which loosely receive the ends of the shaft 34 and by springs 44 set into apertures against the top side of the shaft. The aforesaid ratchet connection makes it possible to rotate the feed rolls forwardly independently of the power operation of the machine and hence to adjust the initial position of the ticket. To facilitate manual rotation of the feed rolls there is fastened to one end of the shaft 34 a knob 46 having a knurled head 48.

The aforesaid feeding means is suitable in most cases. However, if indicia is to be applied to the ticket strip at definitely spaced points with the machine, it is desirable to provide feeding means which will insure feeding exact portions of the ticket without slippage. Accordingly, an alternative ticket-feeding means is illustrated in Fig. 6 wherein there is shown a block 52 mounted for sliding movement on the guide plate 20 straddling the ribs 26 which serve as a track for the block. The block 52 has at its forward end a pair of latches 54 pivoted at 56 and yieldably urged inwardly toward each other by springs 58. In this case the ticket strip T is provided at spaced points in its opposite edges with notches *n* into which the latches 54 are pressed by the springs 58. The block 52 is reciprocated to advance the ticket strip, one ticket at a time, by way of a lever connected to a stub 60 which is fixed to the rear end of the block in such a manner as to move the block 52 rearwardly by a greater amount than the length of a single ticket, then forwardly until it engages a pair of notches and then to advance a single length of ticket forward. To permit engagement of the latches with the opposite edges of the ticket strip sections of the ribs 26 are omitted at 62.

When the ticket strip has been fed forward either by the feeding rolls 30 and 32 or by the feed block 52 to advance the forward end of the strip into a position to be attached to the fabric, its free end projects from the guide by an amount equal to the length of a single ticket. This free end is partially supported by a pair of spaced abutments 64 which comprise the opposite sides of a slotted plate 66. The plate 66 rests on and is secured to a pair of inwardly directed spaced

flanges 68 formed integral with the frame of the machine and situated directly above the means 12 for moving the fabric into engagement with the ticket. The lower edges of the diverging portions of the strip *t'*, as shown in Fig. 9, rest on the spaced abutments 64.

Below the abutments 64 there is situated the means 12 for moving the fabric into a position to be attached to the ticket strip. This means comprises a fabric-forming member 70 slidably mounted for vertical movement in a vertical opening 72 formed in a forwardly extending limb 74 projecting from the forward end of the frame. Surrounding the fabric-forming member 70 is a fabric-clamping member 76 which is also slidably mounted within the vertical opening 72. The lower end of the forming member 70 is threaded into a nut 78, Fig. 2, which has an annular groove 80 therein for reception of the forked end 82 of a bell-crank lever 84 pivotally attached to the frame at 86. One arm 88 of the bell-crank lever bears against a cam which imparts rocking movement thereto about its pivot 86 and by such movement moves the fabric-forming member 70 vertically upwardly through the space between the abutment 64 to carry with it a portion of the fabric in the form of a fold or bight. The clamping member 76 is partially independent of the fabric-forming means, being connected indirectly thereto for vertical movement by a spring 90 interposed between its lower end and the nut 78, the spring surrounding the forming member, and by reason of its weight and frictional engagement within the opening 72 lags when the forming member 70 rises. In operation the fabric-forming member 70 moves upwardly, lifting a fold or bight of fabric upwardly through the space between the abutment 64 into engagement with the underside of the ticket strip between the downwardly diverging portions of the bottom strip *t'*, and as the forming member approaches its upper limit of movement, the clamping member 76 is picked up by the spring 90 and moved vertically into engagement with the underside of the spaced abutment 64 to clamp the adjacent portions of the fabric thereagainst. To facilitate such clamping, the upper end of the clamping member is provided with an enlarged annular flange 91. The upper end of the fabric-forming member 70 is tapered, as shown at 94, and has a transverse slot 96 therein through which the thread-carrying member may pass, as will appear herein.

The means 14 for inserting the flexible attaching element through the ticket and the fabric after they have been brought into position is a thread-carrying needle 98, the butt end of which is fixed to a rod 100 by a screw 102. The needle is supported for reciprocation transversely of the ticket above and parallel to the spaced abutments 64 but below the plane of the upper strip *t* so that it will pass through portions of the diverging marginal portions of the bottom strip *t'*. To permit such movement the rod 100 is slidably mounted in spaced bearing members 104 fastened to the frame, and movement is imparted to the rod by a bell-crank lever 106, Fig. 2, pivoted for rocking movement at 108. One arm 110 of the bell-crank lever has fixed thereto a cam follower 112 adapted to ride in a cam groove formed in the rear face of a cam 114. The opposite arm 116 of the bell-crank lever is attached by way of a link 118 to a stud 120 fastened to the rod.

A suitable flexible attaching element, such as

a cotton thread, is supplied to the eye of the needle 98 from a source not shown, and is carried thereby through the downwardly diverging marginal portions of the bottom strip t' and the included bight or fold of fabric, as illustrated in Fig. 10. It is to be understood that any of the natural threads of which cotton is one example or artificial threads may be employed. Such artificial threads may be plastic and hence heat fusible. To catch, form and hold a loop of the thread so that when the needle is retracted a double length of thread will be left in place, a loop-forming element 122, Fig. 1, of the conventional type, is provided for movement in timed relation with the needle. To this end the loop former 122 is attached for movement to a reciprocable slide 124 arranged to slide in a way 126 formed in the frame. The slide 124 has fixed thereto a pin 128 carrying a roller 132 for engagement with the forked end of a lever 136. The lever 136 is pivotally fastened at 138 to the frame of the machine and has secured to its upper end an arm 140, the free end of which engages a cam groove 142 formed in the peripheral surface of the cam 114. Oscillation of the arm 136 by way of the aforesaid arm and cam groove reciprocates the slide 124 to move the loop-forming device into and out of operative position.

There is provided a combination presser foot and needle guide 146, Fig. 3, which functions to prevent lateral displacement of the ticket strip as the needle enters from the opposite side and to prevent undue deflection of the free end of the needle. The presser foot is attached to the lower end of a rod 148, Fig. 2, by screws 150. The rod 148 is pivoted at its upper end for swinging movement transversely of the ticket strip. The foot has on its inner face a convex toe 152, Fig. 3, which is adapted to engage the external surface of the diverging marginal portion of the bottom strip t' at that side to inhibit lateral movement thereof and an overlying ledge 154 adapted to contact the underside of the top strip t. The toe and ledge have converging guide surfaces 156 and 158 which cooperate to catch the free end of the needle as it approaches the end of its transverse movement and return it to an undeflected position if it has been deflected by its passage through the diverging portions of the bottom strip t'. To permit entrance of the needle through the toe portion, a notch 155 is formed therein. Oscillation of the rod 148 to move the presser foot into and out of operative position is afforded by a pin 157 fixed thereto, which occupies an angular slot 159 formed in a plate 160 attached to the means 16 and movable therewith.

After the needle has been retracted, leaving a length of thread in place through the ticket and fabric, a slack-forming member 166, Fig. 13, in the form of a hook, is moved into engagement with the thread adjacent to the end of the needle while the thread is as yet unsevered in a manner to displace it away from the needle end, as shown in Fig. 11, so that the cut end will not be picked up by the needle point as it begins another traverse of the ticket strip. As shown, the slack-forming hook is fastened to an arm 162, the latter being secured to a short shaft 166 journaled in a bearing member 168 formed in the frame of the machine. To one end of the shaft 166 there is attached an arm 170, and the free end of this arm is connected by a link 172 to a corresponding arm 177 fixed to a shaft 176. The shaft 176 has in turn connected thereto an arm 178 having at its free end a cam follower 180 adapted to engage a cam surface formed on the face of the cam 114.

After the thread has been placed through the ticket and fabric and the needle has retracted to an inoperative position, the strips t and t' are pressed into engagement with the opposite ends of the thread by the means 16. This means comprises a head or presser member 182 having a neck 184 threadably engaged with the lower end of a carrier 186 so that it may be adjusted therein, the carrier being mounted for vertical movement to and from the spaced abutments 64. To this end the upper end of the carrier 186 has formed integral therewith a strap 188, Fig. 4, to the inner face of which is pivotally fastened a cam follower 190 which occupies a cam groove 192 formed in one face of a cam 194. The lower or acting face 196 of the presser 182 is flat and, as it moves into engagement with the top strip t, forces it downwardly and simultaneously spreads the diverging portions of the bottom strip t', restoring them to the plane of the strip t as the two strips are forced into engagement with the spaced abutments 64.

To sever the thread there is attached to one side of the carrier 186 and projecting downwardly along one side of the presser member 182 a thin, flexible blade 198, the cutting edge of which runs transversely of the path of the movement of the thread carrier. The blade is made resilient and so positioned that it springs outwardly from the side of the member 182. There is fixed to the abutment 64 below the blade a vertical plate 200, the upper inner edge of which is convex and cooperates with the blade to sever the thread. The convex surface of the plate catches the lower edge of the resilient blade, flexing it inwardly as the latter moves downwardly, thereby improving the cutting action. The plate 200 also has at opposite sides of the convex surface vertical bearing surfaces 204 for engagement with the edge of the ticket strip to prevent lateral movement thereof as the needle is retracted. The plate 200 has an aperture 202 therein to permit passage of the needle.

To sever the projecting end of the ticket from the strip, there is fastened to the back side of the carrier 186, as shown in Fig. 4, a second resilient blade 206 which extends transversely of the ticket and cooperates with a stationary shearing plate. The stationary plate 208 is secured in a vertical position to the slotted plate 66 directly below and just to the rear of the blade 206. The plate 208 has a forwardly facing convex surface which operates to deflect the resilient blade forwardly from its rearwardly sprung position to insure positive and clean shearing of the strip, and, as illustrated in Fig. 15, is provided with a horizontal slot 209 through which the top strip t passes and diverging slots 211 through which pass the downwardly diverging marginal portions of the bottom strip t'.

To hold the two strips t and t' in engagement with the end portions of the thread after it is emplaced, the under surface of the upper strip t is coated with an unactivated heat-sensitive adhesive, and means is provided in the form of a heating element 210, Fig. 4, for activating the adhesive prior to and as the strips are pressed together. This is accomplished by placing the heating element 210 above the guide plate close to the point at which the strip passes through the plate 208 and substantially in contact with

the upper surface of the top strip *t*. This preheats the adhesive activating it so that as the strips are pressed into engagement, they will be caused to adhere. If a plastic thread is employed, the adhesive may be omitted. The joining of the strips and the thread ends is then accomplished solely by fusion of the plastic thread which causes adhesion between the strips and the thread.

In the use of this machine it may be desirable, although it is not necessary, to apply indicia to the tickets prior to their attachment to the fabric, and this may conveniently be accomplished by including a printing member 212, Fig. 7, which is arranged, as will now appear, to imprint indicia on the upper surface of the strip *t* just before it is fed into attaching position. Accordingly, as shown in Figs. 1, 4 and 7, printing members, in the form of type 214, are removably supported in a head 216 fixed to the lower end of a carrier 218, the latter being vertically reciprocable in a hollow tube 220 fixed to the frame of the machine. The carrier 218 has a vertical slot 222 therein for a purpose which will appear hereinafter, and has fixed to its upper end a horizontal pin 224, the projecting end of which occupies a cam groove 226 formed in the face of a cam 228. Below the printing member there is arranged means for supplying ink to the printing faces of the type carried thereby. This means is afforded by an absorbent pad 232, Fig. 1, seated in a shallow recess 234 formed in the upper surface of the block 52. The block 52, which is indicated above, carries the latch members 54 for feeding the ticket strip is employed since its movement in that capacity is suitable for applying ink to the printing members in timed relation with the feeding of the tickets. Reciprocation of the block 54 is afforded by a lever 236, one end of which is connected by a link 235 to the stub 60. The lever 236 is pivoted at 242 on the frame of the machine, and its opposite end carries a cam roll 244 situated in a cam groove 246 formed in the peripheral surface of a cam 248. Since the portion of the top strip *t* to which the indicia is applied is unsupported, there are provided in the guide in the vicinity of the printing means, as shown in Fig. 7, a pair of inwardly projecting ledges 249 elevated above the surface 22 substantially to engage and support the underside of the strip *t*.

Fig. 14 shows a modified guide plate 20' which has a flat ungrooved top surface 282. The ticket strip T is fed along the guide plate in a flattened condition, that is, with both strips *t* and *t'* in engagement, spaced ribs 284 holding the strip in place. At a place beyond the printing means and the feed rolls the guide strip changes in form from the flat plate shown at the right-hand end of Fig. 14 to the grooved form of plate shown at the left-hand end of this figure and also in Fig. 7, and at the junction between the two portions of the guide are a pair of deflector members 286 having leading edges 288 lying in a plane to intercept the forwardly fed strip T between the layers *t* and *t'* thereby to separate them. The deflectors are shaped to deflect the marginal portions of the bottom strip *t'* downwardly from the top strip into a position to enter the grooves 24—24 of the forward portion of the guide plate 20, so that the divided strip T will be presented at its place of attachment with the marginal portions of the bottom strip diverging from the plane of the top strip. By providing a guide plate made up in two sections in which the grooves 24—24 are comparatively short, that is, only in the forward position and which function automatically to separate the two strips *t* and *t'*, it is easier to feed the strip to the machine, there is less likelihood of jamming of the guide and feeding means, and the strip will be supported across its entire width during the printing operation.

Operation of the various moving parts of the machine, as heretofore recited, is accomplished from a main drive shaft 250 mounted for rotation in spaced bearings 254 fixed to the frame of the machine to which are fixed the cams 114, 194, 228, 248 and 260 heretofore referred to. The slot 222 in the carrier 218 permits passage of the shaft 250 therethrough. Freely mounted on the shaft 250 is a worm gear 256 which may be drivably connected to the shaft by a clutch 278. The worm gear 256 meshes with a worm 258, the latter being fixed to the drive shaft of an electric motor *m*.

The clutch 278 is of a conventional type and hence will not be described. It is operated by a conventional shifting lever 280.

In the operation of the device as a whole, one end of a continuous strip of tickets, mounted at some convenient point, for example, on a bracket fixed to the rear portion of the machine but not shown herein, is introduced to the guide plate 20 with the medial portion of the composite strip T resting on the ridge 25 and the diverging marginal portions of the bottom strip *t'* seated in the grooves 24 and is pushed forwardly therein until the forward end is engaged by the feed rolls 30 and 32 or by the feed pawls 54. The machine is then set in operation by engaging the clutch 278, whereupon the strip is advanced to a position for attachment to the fabric. The feeding members 30, 32 and 54 are arranged to feed a length corresponding to one ticket during each cycle of movement of the machine, and when a length of ticket arrives at the place of attachment the successive operations necessary to attach the ticket follow before the feeding means operates again to feed a succeeding length of strip into position. With the ticket in attaching position, the fabric-forming and clamping devices 70 and 76 rise to project a fold or bight of the fabric through the gap between the abutments 62 into the space between the downwardly diverging marginal portions of the bottom strip *t'* and to clamp the fabric in place adjacent the underside of the abutments 62. The length of thread which is emplaced through the ticket and the fabric may be varied by adjusting the fabric-forming member 70 with respect to its operating lever 84. This may be done by rotating the nut 78 so as to change the initial position of the forming device with respect to the lever 84. By moving the folding device to a greater height, the freely projecting end of the ticket strip may be raised relative to the path of movement of the needle, and hence the thread will be passed through the diverging portions of the bottom strip *t'* closer to their lower edges. By adjusting the position of the forming device relative to the lever 84 so that it is raised to a lower point, the thread may be caused to pass through the diverging portions of the bottom strip *t'* closer to the zone of attachment of the bottom strip *t'* to the top strip *t* and hence a shorter length of thread will be inserted through the fabric.

As soon as the fabric-forming device has entered the fabric between the diverging flanges of the bottom strip *t'*, the needle is thrust transversely of the strip carrying the thread with it

through the downwardly diverging flanges of the bottom strip *t'* and the included fabric. As the needle begins to retract but before it has withdrawn through the furthermost flange, the loop former 122 moves into position to engage within a loop of the thread in a conventional manner and hold it as the needle returns so that a double length of thread is placed through the flanges and fabric. At the end of the return movement of the needle, the thread slack hook 160 moves forwardly and displaces the thread away from the end of the needle. Following this the presser member 182 descends toward the abutments 62, engages the top surface of the strip *t* and presses it together with the diverging marginal portions of the bottom strip *t'* into coplanar relationship against the top surface of the abutments 62. Since the heating element 210 activates the adhesive on the under surface of the strip *t* just before the strip moves into attaching position when the strips are pressed together, they will adhere thereby to hold the ends of the thread between them. Simultaneously, the blades 198 and 206 sever the thread from its source and the ticket from the strip. As the presser member descends, the fabric-forming member 70 is withdrawn, followed by the clamp, thereby releasing the fabric so that it may be removed from the machine together with the attached ticket. The cycle of operation may be repeated as many times as desirable simply by engaging or disengaging the clutch.

If the tickets are to be printed at the same time, type may be placed in the holder 216 and as the ticket strip is fed forward to its position of attachment, the head reciprocates in timed relation with the feeding movement to impress indicia in the upper surface thereof. The printing, however, is optional and may or may not be included as a part of the present machine. When employing the printing attachment as heretofore pointed out, the feeding means 54 is preferably employed and the feed rolls 30 and 32 may either be removed or disconnected from their operating cam.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

I claim:

1. A machine for attaching, to a fabric, tickets in the form of a strip having opposite marginal portions separable in a medial plane, said machine comprising means operable to feed said strip, means for effecting operation of the feeding means intermittently to advance successive portions of the strip of individual ticket length during each cycle of operation of the machine, means operable to bring together the endmost ticket and a portion of the fabric to which it is to be attached, instrumentalities for attaching the ticket to the fabric including means movable transversely of the strip for placing a length of a flexible attaching element through the fabric and ticket with its end portions lying between the separable marginal portions of the ticket and with an intermediate portion passing through the separable portions and beneath the adjacent fabric, means movable into engagement with the separable marginal portions of the ticket for adhesively uniting them with the ends anchored therebetween and kinematic means for effecting operation of the foregoing instrumentalities in the order named during each cycle of operation of the machine.

2. A machine for attaching tickets to a fabric, said tickets including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges and separable lengthwise into individual tickets, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket length projecting freely, means operable to bring together the endmost ticket and a portion of the fabric to which it is to be attached, means for effecting operation of the last named means in timed relation with the feeding means and attaching instrumentalities including means movable transversely of the ticket for inserting a length of a flexible attaching element with its end portions lying between the marginal portions of the top and bottom strips and with an intermediate portion passing through one of the strips and through and beneath the adjacent fabric, and means for adhesively joining the marginal portions of the strips and the included end portions of the attaching element, and kinematic means operable to effect actuation of the said attaching instrumentalities in the order mentioned during each cycle of operation of the machine.

3. A machine for attaching tickets to a fabric, said tickets being in strip form and including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely, means for effecting operation of the feeding means intermittently to advance a single length during each successive cycle of operation of the machine, means operable to bring together the endmost ticket and a portion of the fabric to which it is to be attached, means for effecting operation of the last named means in timed relation to the strip feeding means and attaching instrumentalities including means movable transversely of the strip for inserting a length of a flexible attaching element with its end portions lying between the unjoined marginal portions of the juxtaposed strips and with an intermediate portion passing through one of the strips and through beneath the adjacent fabric, and means for varying the position at which the ticket strip and fabric are brought together relative to the means for inserting the attaching element and kinematic means for effecting operation of said attaching instrumentalities in the order named during each cycle of operation of the machine.

4. A machine for attaching tickets to a fabric, said tickets being in strip form and including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of the bottom layer diverging from the plane of the top layer, means for effecting operation of the feeding means intermittently to advance a single length during each successive cycle of operation of the machine, means operable to move a fold of fabric into the space between the diverging marginal portions of the bottom strip, means for effecting operation of the last named means in timed relation to the strip feeding means and attaching instrumentalities including reciprocable means movable transversely of the strip in a plane between diverging portions of the juxtaposed strips to insert a flexible attaching element through the bodies of the diverging portions of the strip

next to the fabric and the included fold of fabric, and means for effecting reciprocation of said reciprocable means once during each cycle of operation of the machine, said second-named means being adjustable to change the initial position of the strip relative to the plane of movement of the reciprocable means.

5. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one strip diverging from the plane of the other strip, means for effecting operation of the feeding means, fold-forming means over which a portion of fabric may be placed, means connected to the fold-forming means for effecting movement thereof from a position below the ticket strip to a position in engagement with the underside of the ticket between the diverging marginal portions of the one strip, reciprocable means movable transversely of the strip in a plane below the other strip to insert a flexible attaching element through the bodies of the diverging portions and the included fold of fabric and means for effecting reciprocation of said reciprocable means, said fold-forming means being relatively adjustable to vary the initial position of the ticket strip with respect to the plane of movement of the reciprocable means.

6. A machine for attaching tickets to a fabric, said tickets being in the form of a strip including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the plane of the other layer, means for effecting operation of the feeding means, a movable fold-forming member, means for effecting movement of the fold-forming member into engagement with the underside of the strip to introduce a fold of fabric between the diverging marginal portions of the one layer, reciprocable means movable transversely of the strip in a plane between the diverging portions of the layers to insert a flexible attaching element through the bodies of the diverging portions of the one layer and the included fold of fabric, means for effecting reciprocation of the reciprocable means, and an adjustable connection between the fold-forming member and the means for effecting movement thereof adjustable to change the initial position of the strip relative to the plane of movement of the reciprocable means.

7. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one strip diverging from the plane of the other strip, means for effecting operation of the feeding means, a fold forming member, means for effecting movement of the fold-forming member into engagement with the underside of the strip to introduce a fold of fabric between the diverging marginal portions of the one strip, spaced members at opposite sides of the fold-forming member upon which the lower edges of the diverging portions of the one strip rest, a clamp associated with the fold-forming member and movable therewith into engagement with the underside of the spaced members to clamp the fabric at opposite sides of the fold, reciprocable means movable transversely of the strip in a plane below the other strip to insert a flexible attaching element through the bodies of the diverging portions and the included fold of fabric, and means for effecting reciprocation of said reciprocable means.

8. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the plane of the other layer, means for effecting operation of the feeding means, a fold forming member, a lever operable to move the fold-forming member from a position below the strip into engagement with the underside thereof to introduce a fold of the fabric between the diverging marginal portions of the one layer, spaced members at opposite sides of the fold-forming member upon which the lower edges of the diverging portions of the one layer rest and between which the fold-forming member passes, a yieldable clamp associated with the fold-forming member and movable therewith to clamp the fabric at opposite sides of the fold against the underside of the spaced members, reciprocable means movable transversely of the strip in a plane below the other layer to insert a flexible attaching element through the bodies of the diverging portions and the included fold of the fabric and means for effecting reciprocation of the reciprocable means.

9. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the plane of the other layer, means for effecting operation of the feeding means, a fold-forming member, a lever operably connected thereto for effecting vertical movement thereof from a position below the strip into a position between the diverging portions of said one layer, spaced abutments at the opposite sides of the fold-forming member through which it passes, a clamp member yieldably associated with the fold-forming member, means for effecting movement of the lever successively to advance the fold-forming member into operative position and to move the clamp into engagement with the spaced abutments, reciprocable means movable transversely of the strip in a plane below the other layer to insert a flexible attaching element through the bodies of the diverging portions and the included fold of fabric, and means for effecting reciprocation of said reciprocable means.

10. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one

layer diverging from the plane of the other layer, means for effecting operation of the feeding means, movable fold-forming means for introducing a fold of fabric into the space between the diverging marginal portions of said one layer, a presser foot movable into the space between the diverging portions of the layers at one side of the layer, a portion of which engages one of the diverging marginal portions of said one strip, a thread-carrying needle movable into the space between the diverging portions of the layers at the opposite side of the strip to insert an attaching thread through the bodies of the diverging portions of said one layer and the included fold of fabric, means for effecting operation of the fold-forming means, presser foot and needle in sequence, and guide surfaces on said presser foot cooperate with the free end of the needle to restore it to an undeflected position if deflected by passage through the diverging portions of the one layer.

11. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the plane of the other layer, means for effecting operation of the feeding means, movable fold-forming means for introducing a fold of fabric into the space between the diverging marginal portions of said one layer, a presser foot movable into the space between said other layer and the diverging portion of said one layer at one side, a portion of which engages said diverging portion of said one layer, a thread-carrying needle movable from the opposite side of the strip into the space between said other layer and the opposite diverging portion of said one layer in a plane parallel to said other layer to insert a length of attaching thread through the bodies of the diverging portions of said one layer and the included fabric, means for effecting operation of said fold-forming means, presser foot and needle in sequence during each cycle of operation of the machine, and spaced upper and lower guide members on said foot having diverging entrance surfaces adapted to engage the free end of the needle and restore it to an undeflected position if deflected by passage through the diverging portions of said one layer.

12. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the plane of the other layer, means for effecting operation of the feeding means, movable fold-forming means for introducing a fold of fabric into the space between the diverging marginal portions of said one layer, an abutment against which one longitudinal edge of said other layer bears, a presser foot against which one of the diverging marginal portions of said one layer bears, said abutment and presser foot cooperating to inhibit lateral movement of the projecting strip but permitting vertical movement thereof, a thread-carrying needle movable into the space between said other layer and the diverging portion of said one layer at the side where the abutment is situated in a plane below said other layer to insert a length of thread through the bodies of the diverging portions and the included fold of fabric, means for effecting operation of the fold-forming means, presser foot and needle in sequence, said movable fold-forming means being adjustable to change the initial position of the strip relative to the plane of movement of the needle, and said abutment and presser foot having surfaces adapted to maintain engagement with the strip throughout its range of movement relative to the needle.

13. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, ticket support means situated below the projecting portion of the strip upon which the edges of the diverging marginal portions of said one layer rest, means for introducing a fold of fabric between the diverging portions of said one layer, a thread carrier situated at one side of the ticket strip reciprocable in a plane parallel to the ticket support transversely of the strip and below said other layer to insert a length of thread through the diverging marginal portions of said one layer and the included fold of fabric, means for effecting reciprocation of said thread carrier, a die situated above the ticket support means, movable to and from the support means, a cutter on said die extending transversely of the path of the thread carrier, and means for effecting movement of the die upon retraction of the thread carrier to sever a ticket from the projecting end of the ticket strip, to sever the thread at the entering edge of the ticket and to press said layers into coplanar engagement against the ticket support.

14. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, ticket support means situated below the projecting portion of the strip upon which the edges of the diverging marginal portions of said one layer rest, means for introducing a fold of fabric between the diverging portions of said one layer, a thread carrier situated at one side of the ticket strip reciprocable in a plane parallel to the ticket support transversely of the strip and below said other layer to insert a length of thread through the diverging marginal portions of said one layer and the included fold of fabric, means for effecting operation of the thread carrier, a die situated above the ticket support means, movable to and from the support means, a cutter on said die extending transversely of the ticket strip, a second cutter on the die extending transversely of the path of the thread carrier, and means for effecting movement of the die upon retraction of the thread carrier to sever a ticket from the projecting end of the ticket strip, to sever the thread

at the entering edge of the ticket and to press the juxtaposed layers into coplanar engagement against the ticket support, said ticket support means having a forwardly open slot therein through which the fabric is introduced from below and through the open ends of which the attached ticket and fabric may be withdrawn.

15. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, ticket support means situated below the projecting portion of the strip upon which the edges of the diverging marginal portions of said one layer rest, means for introducing a fold of fabric between the diverging portions of said one layer, a thread-carrying needle situated at one side of the ticket strip reciprocable in a plane parallel to the ticket support transversely of the strip and below said other layer to insert a length of thread through the diverging marginal portions of said one layer, means for effecting reciprocation of the needle, a presser foot opposite the thread-carrying needle movable into engagement with the diverging marginal portion of said one layer at that side to restrain lateral movement of the strip by entrance of the needle through the opposite diverging marginal portion, means for effecting operation of the presser foot, guide members on the presser foot for catching the free end of the needle as it passes through the diverging marginal portion with which the presser foot is in engagement to restore it to an undeflected position, a loop former operable in timed relation with the needle to catch and form a loop in the thread as the needle begins to retract, a die situated above the ticket support means, movable to and from the same, means for effecting movement of the die into engagement with the support means to press said other layer and diverging portions of said one layer into coplanar engagement, and means on the support means cooperable with the die to sever the projecting portion of the ticket strip and the thread.

16. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, ticket support means situated below the projecting portion of the strip upon which the edges of the diverging marginal portions of said one layer rest, said support having a central slot therein, means situated below the support movable through the central slot to introduce a fold of fabric upwardly between the diverging portions of said one layer, means for effecting operation of said last-named means, a thread carrier situated at one side of the ticket strip movable in a plane parallel to the ticket support transversely of the strip and below said other layer to insert a length of thread through the diverging marginal portions of said one layer and the included fold of fabric, a die situated above the

ticket support movable to and from the ticket support, means for effecting movement of the die into engagement with the support to press said other layer and the diverging portions of said one layer into coplanar relationship, and means on the ticket support cooperable with the die to sever a ticket from the projecting end of the strip and to sever the inserted thread from its source.

17. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, spaced supports situated below the projecting portion of the strip upon which the edges of the diverging marginal portions of said one edge rest, means situated below the support over which the fabric may be placed, said means being movable through the space between the supports to introduce a bight of fabric upwardly between the diverging portions of said one layer, means for effecting operation of said last-named means, a thread carrier situated at one side of the ticket strip movable in a plane parallel to the ticket support transversely of the strip and below said other layer to insert a length of thread through the diverging marginal portions of said one layer and the included bight of fabric, means for effecting reciprocation of said thread carrier, a die situated above the spaced supports movable to and from the supports, means for effecting movement of the die into engagement with the supports and simultaneously to retract the second-named means to an out-of-the-way position below the supports, and means on the supports cooperable with the die to sever a ticket from the projecting end of the strip and to sever the inserted thread from its source.

18. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, spaced supports situated below the projecting portion of the strip upon which the edges of the diverging marginal portions of said one layer rest, means situated below the support over which the fabric may be placed, said means being movable to introduce a fold of fabric upwardly into the space between the diverging marginal portions of said one layer and to clamp the adjacent fabric against the bottom of the supports, means for effecting operation of said last-named means, a thread carrier situated at one side of the ticket strip movable in a plane parallel to the ticket supports transversely of the strip and below said other layer to insert a length of thread through the diverging marginal portions of said one layer and the included fold of fabric, means for effecting reciprocation of said thread carrier, a die situated above the ticket supports movable to and from the supports, means for effecting movement of the die into engagement with the supports, and means on the supports cooperable

with the die to sever a ticket from the projecting end of the strip and to sever the inserted thread from its source.

19. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, spaced supports situated below the projecting portion of the strip upon which the edges of the diverging marginal portions of said one layer rest, a bight forming device situated below the spaced supports over which a fold of the fabric may be placed, a fabric clamp associated therewith, means for effecting movement of the bight forming device successively to advance the latter upwardly between the spaced supports to introduce a bight of fabric between the deflected marginal portions of said one layer and to move the clamp against the underside of the spaced supports, a thread carrier situated at one side of the ticket strip movable in a plane parallel to the spaced supports transversely of the strip and below said other layer to insert a length of thread through the diverging marginal portions of said one layer and the included bight of fabric, means for effecting reciprocation of the thread carrier, a die situated above the spaced supports movable to and from the supports, means for effecting movement of the die into engagement with the supports, and means cooperable with the die for severing a ticket from the projecting end of the strip and for severing the inserted thread from its source.

20. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, spaced supports situated below the projecting portion on the strip upon which the edges of the diverging marginal portions of said one layer rest, an adjustable bight former, means for effecting movement of the bight former through the space between the supports to hold a bight of fabric projecting upwardly between the diverging marginal portions of said one layer, a yieldable clamp member movable with the bight former to clamp the fabric to the underside of the supports, a thread carrier situated at one side of the ticket strip movable in a plane parallel to the spaced supports transversely of the strip and below said other layer to insert a length of thread through the diverging marginal portions of said one layer and the included fabric, means for effecting reciprocation of the thread carrier, a die situated above the spaced supports movable to and from the supports, means for effecting movement of the die into engagement with the supports, and means cooperable with the die for severing a ticket from the projecting end of the strip and the inserted thread from its source.

21. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, spaced supports situated below the projecting portion of the strip upon which the edges of the diverging marginal portions of said one layer rest, a forming device over which a piece of fabric may be placed, a clamp associated with the forming device, means for effecting upward movement of the former toward the spaced supports to advance a bight of fabric between the supports into the space between the deflected portions of said one layer, means on the former operable near the end of its upward movement to engage the clamp and move it into engagement with the bottom of the spaced supports, means for adjusting the initial position of the former, a thread carrier situated at one side of the ticket strip movable in a plane parallel to the ticket support transversely of the strip and below said other layer to insert a length of thread through the diverging marginal portions of said one layer and included fabric, means for effecting reciprocation of the thread carrier, a die situated above the ticket support movable to and from the support, means for effecting movement of the die into engagement with the support, and means on the support cooperable with the die to sever a ticket from the projecting end of the strip and the inserted thread from its source.

22. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, and one of said strips having a coating of adhesive on the unjoined areas thereof, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, a ticket support situated below the projecting portions of the strip upon which the edges of the diverging marginal portions of said one layer rest, means for introducing a fold of fabric between the diverging portions of said one layer, a thread carrier situated at one side of the ticket strip reciprocable in a plane parallel to the ticket support and below said other layer to insert a length of thread through the diverging marginal portions of said one layer and the included fold of fabric, means for effecting reciprocation of the thread carrier, a die situated above the ticket support movable to and from the support, and means for effecting movement of the die into engagement with said other layer to press it into coplanar engagement with said one layer adhesively to secure the strips together, to sever a ticket from the projecting end, and to sever the thread from its source.

23. A machine for attaching tickets to a fabric, said tickets being in the form of a strip including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, one of said strips having a coating of pressure-sensitive adhesive on the unjoined marginal portions thereof, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other

layer, means for effecting operation of the feeding means, a ticket support situated below the projecting portions of the strip upon which the edges of the diverging marginal portions of said one layer rest, means for introducing a fold of fabric between the diverging portions of said one layer, a thread carrier situated at one side of the ticket strip reciprocable in a plane parallel to the ticket support and below said other layer to insert a length of thread through the diverging marginal portions of said one layer and the included fold of fabric, means for effecting reciprocation of the thread carrier, a die situated above the ticket support movable to and from the support, and means for effecting movement of the die into engagement with said other layer to press it into coplanar engagement with said one layer to cause activation of the pressure-sensitive adhesive, to sever a ticket from the projecting end, and to sever the thread from its source.

24. A machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, one of said strips having a coating of heat-activated adhesive on the unjoined marginal portions thereof, said machine comprising means operable to feed a strip of tickets to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for effecting operation of the feeding means, a ticket support situated below the projecting portions of the strip upon which the edges of the diverging marginal portions of said one layer rest, means for introducing a fold of fabric between the diverging portions of said one layer, a thread carrier situated at one side of the ticket strip reciprocable in a plane parallel to the ticket support and below the other layer to insert a length of thread through the diverging marginal portions of said one layer and the included fold of fabric, means for effecting reciprocation of the thread carrier, a die situated above the ticket support movable to and from the support, means for heating the die to cause activation of the adhesive, and means for effecting movement of the die into engagement with the other layer to press it into coplanar engagement with said one layer, to sever a ticket from the projecting end, and to sever the thread from its source.

25. In a machine for attaching tickets to a fabric, said tickets being in the form of a strip, having opposite marginal portions separable in a medial plane to divergent positions, said machine comprising means for holding a free length of the strip with the margins divergent, means operable to cut a ticket from the strip, said cutting means including cooperable, relatively movable shearing blades, one of which has slots therethrough arranged to permit passage of the strip through it and means for effecting operation of the blades to sever a ticket from the strip.

26. In a machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, said machine comprising means operable to feed the strip to a place of attachment with the endmost ticket projecting freely and with the opposite marginal portions of one layer diverging from the other layer, means for cutting off the projecting end of the strip, said means including relatively movable shearing blades, one of which has horizontal and diverging slots therethrough arranged to permit free passage of the strip through it, and kinematic means for effecting operation of the feeding and cutting means in succession.

27. In a machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges; instrumentalities for attaching a ticket to the fabric, guide means for receiving a strip of said ticket, said guide having a medial surface upon which the intermediate area of the composite strip rests and diverging slots at opposite sides thereof in which the opposite marginal edges of one layer reside for holding them at an angle to the other layer, said guide terminating close to said attaching instrumentalities, and means for feeding the strip along the guide to project a free end thereof beyond its end to the place to be acted upon by said operating instrumentalities.

28. In a machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, attaching instrumentalities for placing an attaching thread through the fabric and between the layers and a guide for holding one layer in a substantially horizontal plane and the opposite marginal portions of the other layer diverging from the plane of said one layer to facilitate introduction of the attaching thread.

29. In a machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, instrumentalities operable to effect attachment of a ticket to the fabric, guide means for receiving a strip of tickets prior to attachment of a ticket to the fabric, said guide means including a support upon which the intermediate area of the strip rests, and angularly arranged grooves in which the marginal edges of one layer reside for holding the opposite marginal portion of said one layer at an angle to the other layer to facilitate operation of the attaching instrumentalities, said guide having a gap along its length, and feeding means situated at the gap for engagement with the other layer and the intermediate area of said one layer to advance it toward the attaching instrumentalities.

30. In a machine for attaching tickets to a fabric, said tickets being in the form of a strip including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, instrumentalities for attaching a ticket to the fabric, guide means for receiving a strip of tickets prior to attachment, said guide means including a support upon which the intermediate area of the strip rests, and angularly arranged grooves in which the marginal edges of one layer reside for holding the latter at an angle to the other layer to facilitate operation of the attaching instrumentalities, said guide having a gap along its length, a pair of cooperating feed rolls situated at the gap for engagement with opposite sides of the strip, power operating means for effecting rotation of the feed rolls to advance the strip to the attaching instrumentalities, and means for rotating the feed rolls to advance the strip independently of the power operation of the machine.

31. In a machine for attaching tickets to a fab-

fic, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, instrumentalities for attaching a ticket to the fabric, guide means for receiving a strip of tickets prior to attachment, said guide means including a support upon which the intermediate area of the strip rests, and angularly arranged grooves in which the marginal edges of one layer reside for holding the latter at an angle to the other layer, said guide having a gap along its length at which there is situated feeding means for engagement with the longitudinal edges of said other layer, said feeding means being adapted to grip and advance the strip a distance equal to the length of a ticket toward the attaching instrumentalities.

32. In a machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges and notched at opposite longitudinal edges at lines dividing one ticket from the next, instrumentalities for attaching the ticket to a fabric, guide means for receiving a strip of tickets prior to attachment, said guide means including a support upon which the intermediate area of the strip rests, and angularly arranged grooves in which the marginal edges of one layer reside for holding the latter at an angle to the other layer to facilitate operation of the attaching instrumentalities, said guide means having a gap therein of greater length than the length of a ticket, feed pawls situated at the gap arranged to engage within the notches at the opposite sides of said other layer, and means for advancing the feed pawls after engagement with a pair of notches by an amount equal to the length of a ticket and for retracting the feed pawls by an amount greater than the length of a ticket but less than the length of two tickets.

33. In a machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, instrumentalities for attaching a ticket to the fabric, a guide for receiving a strip of tickets prior to attachment, means for feeding the strip along the guide toward the attaching instrumentalities, and means on said guide for entering between the layers at opposite sides thereof to deflect the marginal edges of the layers to divergent positions.

34. In a machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, instrumentalities for attaching a ticket to the fabric, a guide for receiving a strip of tickets prior to attachment, means for feeding the strip along the guide toward the attaching instrumentalities, separators projecting inwardly from the opposite sides of the guide having leading edges located substantially in the plane of the contacting faces of the layers to separate the same, and spaced diverging grooves in the guide beyond the separators, said separators being adapted to separate the marginal portions of the layers and to guide them into said grooves.

35. In a machine for attaching tickets to a fabric, said tickets being in the form of a strip, including juxtaposed layers of sheet material joined along an area intermediate their longitudinal edges, instrumentalities for attaching a ticket to the fabric, a guide for receiving a strip of tickets prior to attaching, said guide including a support upon which the intermediate area of the strip rests, and angularly arranged grooves in which the marginal edges of one layer reside for holding the latter at an angle to the other layer, a printing member movable in timed relation to the feeding movement of the strip to apply indicia to said other layer during a period of rest, and spaced supports on the guide projecting inwardly from opposite sides thereof beneath said other layer and between said other layer and diverging marginal portions of the one layer to support the other layer during the application of the indicia thereto.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,048,136	Davis	Dec. 24, 1912
1,155,086	Noble	Sept. 28, 1915
1,156,672	Davis	Oct. 12, 1915
1,326,806	Tily et al.	Dec. 30, 1919
1,337,650	Hammer et al.	Apr. 20, 1920
1,432,554	Henry, Jr.	Oct. 17, 1922
1,574,391	Henry, Jr.	Feb. 23, 1926
1,643,406	Finch	Sept. 27, 1927
1,667,810	Kohnle	May 1, 1928
1,815,214	Plass	July 21, 1931
2,063,917	Flood	Dec. 15, 1936
2,063,918	Flood	Dec. 15, 1936