July 13, 1954 A. HAYNER 2,683,273

METHOD AND APPARATUS FOR WRAPPING AND MARKING SHANK STIFFENERS

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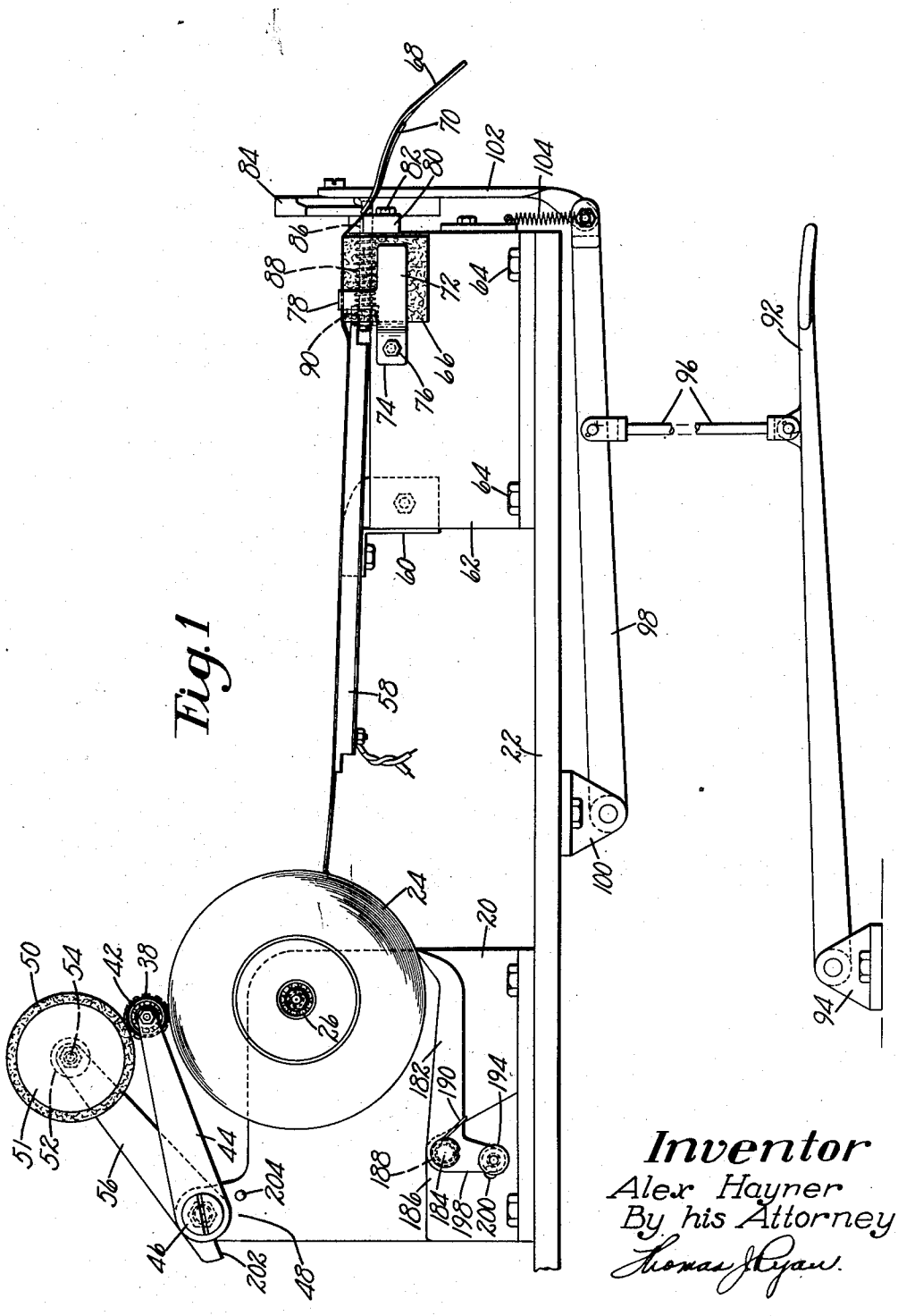


Fig. 1

Inventor
Alex Hayner
By his Attorney
Thomas J. Ryan

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Fig. 4

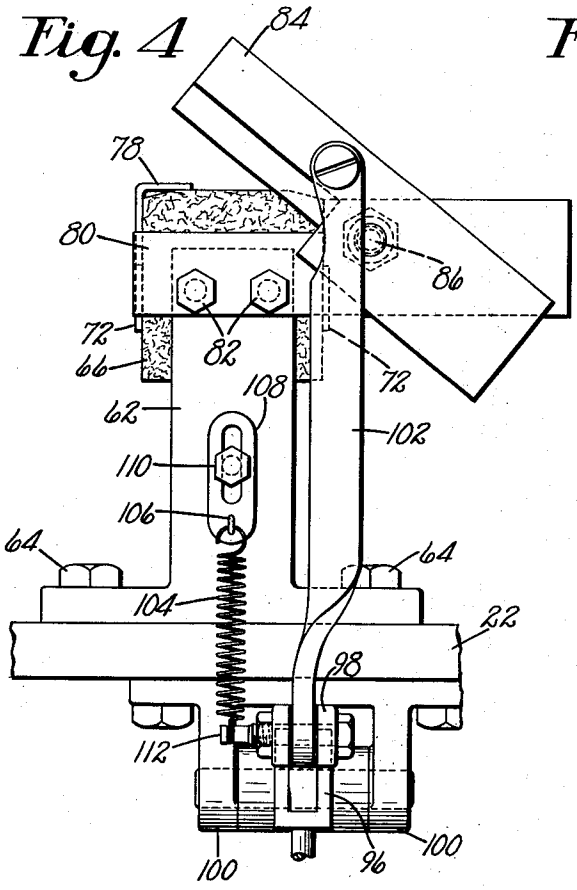


Fig. 2

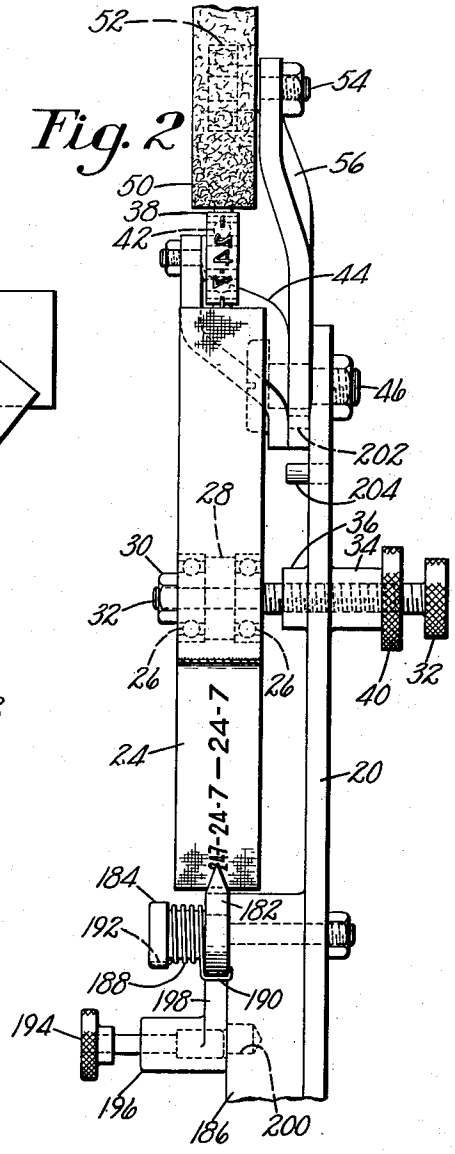
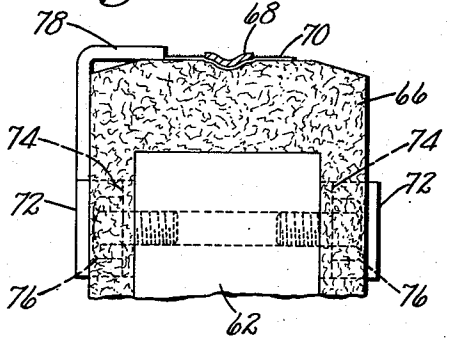


Fig. 3



Inventor
Alex Hayner
By his Attorney
Thomas Ryan

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METHOD AND APPARATUS FOR WRAPPING AND MARKING SHANK STIFFENERS

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Fig. 5

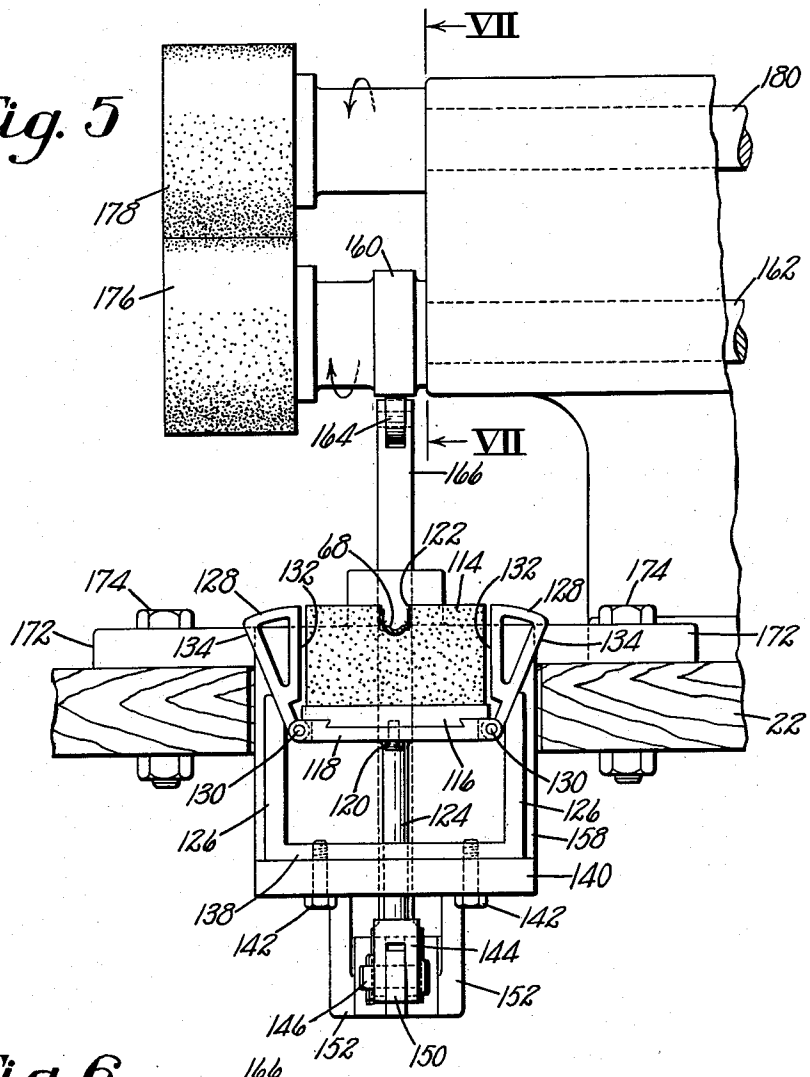
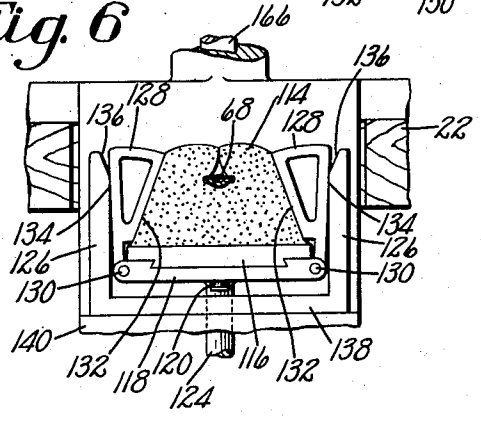


Fig. 6



Inventor
Alex Hayner
By his Attorney
Thomas J. Ryan.

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Fig. 9

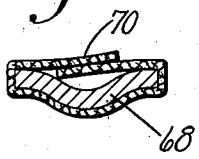


Fig. 10

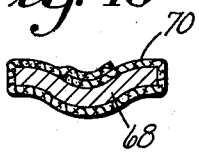
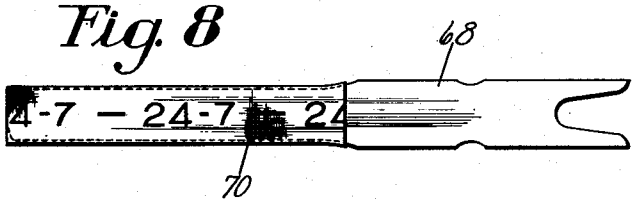


Fig. 7

Fig. 8



Inventor

Alex Hayner

By his Attorney

Thomas J. Ryan.

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UNITED STATES PATENT OFFICE

2,683,273

METHOD AND APPARATUS FOR WRAPPING AND MARKING SHANK STIFFENERS

Alex Hayner, Boston, Mass., assignor to United Shoe Machinery Corporation, Flemington, N. J., a corporation of New Jersey

Application December 27, 1950, Serial No. 202,852

4 Claims. (Cl. 12—60)

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This invention relates to the taping of members such, for example, as shoe shank stiffeners and is herein illustrated in its application to apparatus for assembling a tape with a shank stiffener and to improved methods of assembling such members with a tape. While the invention is particularly applicable to the manufacture of taped shank stiffeners it is to be understood that the invention is not limited in its scope to apparatus and methods employed in the manufacture of shank stiffeners but is applicable to apparatus and methods employed in taping other elements or articles of manufacture.

It is a usual practice in the manufacture of shoe shank stiffeners to apply a length of tape to a portion at least of the stiffener in order to prevent squeaking of the stiffener by rubbing action against the shoe soles in the flexing of the shoe, and in order to improve the attachment of the stiffener in the shoe bottom in shoe constructions in which adhesion is the sole or principal means for effecting such attachment. It has been the practice heretofore to identify shank stiffeners with the shoes in which they are to be employed by forming characters in an appropriate portion of the body of the stiffener, which is usually a rigid strip of steel. It has been found that the formation of such characters in the steel weakens it to such an extent that stiffeners frequently break in the wear of the shoe in the region where such characters are formed. This is particularly true in the case of taped stiffeners because the tape covers all but the heel portion of the stiffener and reduces the space available for the formation of characters to such an extent that in most cases a character is formed in the portion of the stiffener where breakage most commonly occurs which is the portion underlying the breast face of the heel.

It is an object of the present invention to reduce the breakage of shank stiffeners by providing in a tape applying apparatus means for printing characters on the tape instead of forming them in the stiffener itself.

It is a further object of the invention to provide a taped shank stiffener in which the identifying characters are easily legible by reason of the fact that they are printed on the tape instead of being formed in the stiffener.

More generally, it is an object of the invention to provide improved apparatus for assembling an adhesive tape with another member to produce an improved article of manufacture.

With these objects in view the invention in one aspect thereof consists in the provision in apparatus for use in printing characters upon a tape and assembling the tape with another member to produce an improved article of manufacture, of means for printing characters with ink upon a tape, resilient means, herein illustrated as a layer of felt, for supporting the leading end portion of a tape bearing characters applied by the printing means, and means, herein illustrated as a member having an electric heating element incorporated therein, for drying the ink on the tape as the tape advances from the printing means and before it comes in contact with the supporting means thereby to prevent blurring of ink upon the tape by contact of wet ink on the tape with the supporting means. As herein illustrated the printing means comprises a type roll for applying characters to the tape and an ink roll arranged to bear against the type roll. In the illustrated organization the type roll and the ink roll are removably mounted on rotary bearings carried at the free ends of freely swinging arms which swing by gravity to bring the type roll into engagement with the tape which is also in the form of a roll removably mounted on a rotary bearing which turns on a fixed axis. Cooperating with the printing and drying means and the tape supporting means is means operable to sever the leading end portion of the tape from the remaining or body portion thereof after the leading end portion has been assembled with a member such, for example, as a shank stiffener.

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The invention in another aspect thereof is not limited to apparatus including printing means but consists in a combination comprising resilient means for supporting the leading end portion of a length of tape for assembly with another member, and means for applying heat to a section of said tape adjacent to its leading end portion thereby to activate a coating of adhesive on the tape in order to improve its attachment to the shank stiffener.

In a further aspect thereof the invention comprises a method which consists in printing characters with ink upon a tape having on one side thereof a coating of adhesive which is activatable by the application of heat thereto, applying heat to the printed tape in order to dry the ink and to activate the adhesive, and resiliently supporting the leading end portion of the tape with its coated surface uppermost and with the adhesive in activated condition while a member such, for example, as a shank stiffener is brought to bear against the leading end portion of the tape. After pressing the member against the

leading end portion of the tape the leading end portion is severed from the body portion of the tape and the severed end portion is wrapped about the member while the adhesive is in activated condition. In order to create a secure bond between the tape and the member pressure is applied to the assembled tape and member after the performance of the wrapping operation.

The invention will now be described with reference to the accompanying drawings and pointed out in the appended claims.

In the drawings,

Fig. 1 is a left side elevation of apparatus embodying the features of the present invention;

Fig. 2 is an enlarged view in front elevation illustrating particularly the printing means;

Fig. 3 is an enlarged view in front elevation illustrating the resilient member for supporting the leading end portion of the tape while the shank stiffener is assembled therewith;

Fig. 4 is a front elevation similar to Fig. 3 illustrating the means for shearing off the leading end portion of the tape;

Fig. 5 is a front elevation illustrating mechanism for wrapping the tape about the shank stiffener and resilient rolls for pressing the tape against the stiffener after the wrapping operation;

Fig. 6 is a front elevation showing the wrapping means as it appears at the completion of a wrapping operation;

Fig. 7 is a right side elevation illustrating the wrapping means and the resilient rolls with the roll shafts shown in section on the line VII—VII of Fig. 5;

Fig. 8 is a plan view of a shank stiffener to which a tape has been applied by the illustrated apparatus;

Fig. 9 is an enlarged cross section of a shank stiffener illustrating the position of the tape on the stiffener after the wrapping operation but before the operation of the pressure rolls; and

Fig. 10 is an enlarged cross section similar to Fig. 9 illustrating the position of the tape on the stiffener after the pressure rolls have operated thereon.

Referring to Fig. 1 the illustrated apparatus comprises printing mechanism mounted on a work bench and operated by drawing tape from a tape roll mounted relatively to the printing apparatus to print characters with ink upon the exposed surface of the upper portion of the roll. The tape is drawn forwardly from the roll over an electric heating unit to a resilient member which supports the leading end portion of the tape while a steel shank stiffener is pressed against it. The heating unit accelerates the drying of the ink on the tape so that there is no danger of blurring of the ink by contact with the resilient supporting member. The tape has a coating of adhesive on one surface thereof which is activated, or rendered more tacky, by the heating unit. It will be understood that the tape roll is so mounted that the coated surface of the tape is uppermost as the tape proceeds from the roll to the tape supporting member. For severing the leading end portion of the tape from the remaining portion thereof a treadle operated shearing member is arranged to act against a stationary shearing member to shear off the tape at a point adjacent to the end of the stiffener after the assembled stiffener and tape have been drawn forwardly to bring the tape into its position relatively to the shearing member shown in Fig. 1.

For mounting the tape roll and the printing means a standard 20 is fixed to the upper surface of a bench 22. Referring to Fig. 2 a tape roll such, for example, as the roll 24 is removably mounted on two roller bearings 26 arranged on opposite sides of a spacer 28 and secured by a clamping nut 30 to the reduced end portion of a knurled headed screw 32 mounted in a tapped hole formed in the standard 20 and in bosses 34 and 36 extending in opposite directions therefrom. The screw 32 is adjustable in the tapped hole to adjust the tape roll toward and from the standard in order to bring it into predetermined relation to a type roll 38, the screw being secured in adjusted position by a knurled locknut 40. Referring to Fig. 1 the illustrated type roll is a rubber ring having a smooth inner surface which permits the ring to be removably mounted on a roller bearing 42 carried by an arm 44 freely mounted on a headed screw 46 fixed in an ear 48 projecting upwardly from the rear portion of the standard 20. Referring to Fig. 2 the illustrated type roll has characters molded in its peripheral surface and arranged to bear against the upper surface of the tape roll 24. As shown in Fig. 2 the arm 44 is bent so that its free end portion is offset to the left as seen in Fig. 2 in order to bring the type roll into position to engage the tape roll. Ink for the type roll is carried by a felt ring 50 attached to a wooden disc 51 (Fig. 1) mounted on a roller bearing 52 on the headed end of a screw 54 fixed in the free end portion of an arm 56 freely mounted on the headed screw 46. The arm 56 is bent slightly as shown in Fig. 2 to cause its end portion to be offset to the left in order to position the roll 50 in registration with the type roll 38. It will be understood that the type roll is pressed against the upper portion of the tape roll by the action of gravity on the arm 44 and similarly the roll 50 is brought to bear against the type roll by the action of gravity on the arm 56.

While it is within the scope of the present invention to use any suitable ink for printing characters on the tape I prefer to use a quick drying ink having a glycerine base such, for example, as the class of ink commonly employed in rubber stamp pads. Such ink has been found suitable for the printing operation performed by the type roll 38 and its quick drying characteristic permits it to be dried sufficiently with the aid of the illustrated heating unit to prevent blurring of ink upon the tape by contact of the ink, while still in wet condition, with the illustrated tape supporting member.

For applying heat to the tape as it is drawn away from the roll in order to accelerate the drying of the fresh ink thereon and also to activate the coating of cement on the tape electric heating means is incorporated in a table 58 (Fig. 1) fixed to a bracket 60 secured to the rear portion of a standard 62 fastened by screws 64 to the upper surface of the bench 22. The table is arranged to incline downwardly slightly toward the forward portion of the bench in order that its upper surface will be positioned in a plane substantially normal to the position of the tape as it proceeds from the roll forwardly to a resilient and deformable tape supporting member 66 where the leading end portion of the tape is assembled with a shank stiffness such, for example, as the stiffener 68 illustrated in Figs. 1 and 8. In assembling the shank stiffener with the tape the operator holds the stiffener by its heel end portion and moves the forward portion

of the stiffener downwardly onto the cement coated surface of the end portion of the tape positioned on the support 66. The operator applies sufficient downward pressure to the shank stiffener to insure cement attachment of the tape to the stiffener throughout the entire extent of their mutually contacting surfaces. As shown in Fig. 1 the portion of the stiffener which is attached to the tape is slightly curved. In order to facilitate the attachment of the stiffener to the tape the supporting member 66 yields sufficiently to the downward pressure of the stiffener to cause the tape to engage the then bottom surface of the stiffener throughout the greater part of its length. The substance of the tape supporting member is also resilient in character and, therefore, springs back to its normal shape shown in Fig. 1 after the downward pressure of the stiffener against the tape is relieved. In Fig. 3 the shank stiffener 68 is shown in its position relatively to the leading end portion of the tape and the tape supporting member 66 when downward pressure is being applied to the shank stiffener to effect adhesive attachment thereof to the tape, the leading end portion of the tape being identified by the numeral 70. The illustrated tape supporting member 66 is a piece of resilient felt which is recessed to receive the upper portion of the standard 62 and is clamped to the opposite side faces of the standard by plates 72 which have their rear end portions 74 inwardly offset and secured to the opposite side faces of the standard by screws 76. In order to assist the operator in locating the leading end portion of the tape centrally widthwise of the supporting member 66 the clamping plate 72 at the left side of the support has an arm 78 extending upwardly in contiguous relation to the left side of the supporting member and inwardly over the top of the supporting member, the end face of the arm providing a gage for the left edge of the leading portion of the tape.

After the shank stiffener is cement attached to the leading end portion of the tape, as above described, the assembled stiffener and tape are drawn forwardly into their position shown in Fig. 1 in which the leading portion of the tape is arranged to be severed from the body of the tape by mechanism now to be described, and the succeeding portion of the tape is positioned on the supporting member 66 for cement attachment to a shank stiffener similar to the stiffener 68. The illustrated means for severing the leading end portion of the tape comprises a fixed shear member 80 secured by screws 82 to the front face of the standard 62 and a swinging shear member 84 fixed to the forward end portion of a shaft 86 extending rearwardly through a bore in the shear member 80. The shear member 84 is held against the fixed shear member 80 by a spring 88 (Fig. 1) surrounding the shaft 86 and confined between the rear face of the shear member 80 and a nut 90 on the threaded end portion of the shaft. For actuating the shear member 84 a treadle 92 is pivotally mounted on a floor bracket 94 and is connected by means of a link 96 to a lever 98 pivotally mounted at its rear end on a bracket 100 secured to the bottom surface of the bench 22. The forward end of the lever 98 is connected by means of a link 102 to the shear member 84. The shear member is normally held in its retracted position shown in Figs. 1 and 4 by a spring 104 the upper end of which is anchored to a hook 106 projecting forwardly from a plate 108 secured to the standard 62 by a clamping screw 110. The lower end of the spring is anchored to an extension of a screw 112 which provides the pivotal connection of the lever 98 to the link 102.

Referring to Figs. 5 and 6 the marginal portions of the tape on the shank stiffener are wrapped about the stiffener by mechanism now to be described. A deformable member herein illustrated as a piece of sponge rubber 114 rectangular in cross section is bonded to a plate 116 which has a dovetail structure formed on its bottom surface to provide for the mounting thereof on a head 118 having a complementally shaped structure in its upper surface. The plate 116 is held against movement relatively to the head 118 by a latch mechanism illustrated in Fig. 7 comprising a latch bolt 120 fixed to a resilient arm 121 and arranged to register with an opening in the plate 116 when said plate is in its position shown in Fig. 7. The rear portion of the arm 121 is upwardly offset from the body portion of the arm and secured to the head 118 by a screw 123. To facilitate the assembly of the plate 116, with the sponge rubber member attached thereto, on the head 118 the bottom surface of the plate is provided with a bevel 125 at its rear margin. It will be understood that the beveled surface of the plate cams the latch bolt downwardly to permit the assembly of the plate on the head 118. The arm 121 is extended forwardly beyond the head 118 to facilitate downward movement of the latch bolt 120 to permit removal of the plate from the head when it is desired to remove the sponge rubber member 114 and mount another such member in its place. As shown in Fig. 5, the sponge rubber member is provided with a groove or channel 122 in its upper surface which is substantially the same width as the narrow portion of the shank stiffener 68. The depth of the groove is slightly greater than the width of the opposite marginal portions of the tape projecting upwardly from the opposite side edges of the shank stiffener and lying against the walls of the groove 122. In order to wrap the opposite marginal portions of the tape about the stiffener the sponge rubber member is deformed as shown in Fig. 6. In its deformed condition the opposite walls of the groove in the sponge rubber member extend inwardly over the shank stiffener and press the marginal portions of the tape against the margins of the stiffener. Preferably the margins of the tape are wide enough to overlap one another along the longitudinal axis of the stiffener as shown in Fig. 6. The head 118 is fixed to the upper end of a vertical shaft 124 which is moved downwardly by mechanism to be described in order to cause fixed cam members 126 to act on presser members 128 to deform the sponge rubber member. The illustrated presser members are hinged on pins 130 in the opposite side margins of the head 118. The illustrated presser members are hollow elements generally triangular in cross section with the base of the triangle at the upper extremity of the presser member and the vertex at the hinging point. In its rest position, as shown in Fig. 5, each presser member has its inner surface 132 arranged vertically and in parallel relation to the side wall of the sponge rubber member, and its outer surface 134 inclined outwardly and bearing against the beveled surfaces 136 (Fig. 6) of the cam members 126. Dur-

ing the downward movement of the shaft 124 the cam members act against the outer surfaces 134 of the presser members swinging said members inwardly toward each other from their position in Fig. 5 to their position illustrated in Fig. 6. The illustrated cam members are the upwardly extending arms of a U-shaped member having its base portion 138 fixed to the upper surface of a bracket 140 by screws 142. The shaft 124 is mounted for sliding movements in a bore extending through the bracket 140 and the base 138 of the U-shaped member and has fixed to its lower end a yoke 144 which carries a cross pin 146. As shown in Fig. 7 the cross pin extends through a slot 148 in the forward portion of a lever 150 mounted in the yoke. The lever 150 is fulcrumed at the lower end of a bracket 152 bolted to the bottom surface of the bench 22 and is urged upwardly by a spring 154 the lower end of which is anchored to the lever and the upper end to a hook 156 fixed to a vertical portion 158 of the bracket 140. The lever 150 is moved downwardly in order to impart like movement to the shaft 124 by a cam 160 fixed to a power driven shaft 162 and arranged to engage a roll 164 pivotally mounted in the bifurcated upper end portion of a sliding shaft 166 mounted in a bore formed in the vertical portion 158 of the bracket. The bifurcated lower end portion of the slide carries a cross pin 168 which operates in a slot 170 formed in the lever 150 approximately midway between its ends. To provide for the mounting of the bracket 140 it has a flange 172 extending rearwardly and laterally from the upper extremity of its vertical portion 158, said flange being drilled to receive bolts 174 which secure the bracket to the bench 22.

In order to cause the tape to be forced into the groove in the shank stiffener and securely bonded to the stiffener throughout the entire extent of their mutually contacting surfaces a cylindrical rubber roll 176 is fixed to the shaft 162 and a like roll 178 is fixed to the shaft 180 which is power driven in the opposite direction to and at that same speed as the shaft 162. The two shafts 162 and 180 are mounted in fixed bearings and have no movement vertically relatively to each other. The rolls 176 and 178 are sufficiently resilient to permit the deformation thereof required for the passage between them of the assembled shank stiffener and tape as shown in Fig. 7, but have sufficient resistance to such deformation to cause heavy pressure to be applied to the tape surrounding the stiffener as the assembly passes through the line of tangency of the rolls.

The shafts 162 and 180 are continuously driven in opposite directions such that the upper roll 178 is rotated in a counterclockwise direction as seen in Fig. 7 while the lower roll 176 is rotated in a clockwise direction. The shaft 162 also imparts continuous rotation to the cam 160 which actuates the mechanism hereinbefore described for deforming the sponge rubber member 114 in order to wrap the tape about the shank stiffener. The speed of rotation of the shaft 162 is such that the operator has no difficulty in inserting the shank stiffener with the tape assembled thereon into the groove 122 in the sponge rubber member while said member is in its normal or undeformed condition shown in Fig. 5. Upon the completion of the upward movement of the sponge rubber member after the tape is wrapped about the stiffener the operator has sufficient time to remove the assembly from the sponge rubber member before said member begins its next downward movement.

In the operation of the illustrated apparatus the operator grasps a shank stiffener such, for example, as the stiffener 68 illustrated in Fig. 8 by its heel end portion and holds the stiffener in a generally horizontal position with its convex surface uppermost as shown in Fig. 7. The stiffener is so positioned lengthwise thereof relatively to the leading end portion of the tape on the supporting member 66 (Fig. 1) that the terminal edge of the tape is located relatively to the stiffener approximately as shown in Fig. 8. The operator then presses the stiffener downwardly against the adhesive coated upper surface of the tape with sufficient force to cause the tape to be brought into adhesive engagement with the bottom surface of the stiffener throughout the entire extent of their mutually contacting surfaces. The operator then draws the shank stiffener with the tape attached thereto forwardly into its position shown in Fig. 1 and then depresses the treadle 92 in order to actuate the shear member 84 to sever that portion of the tape attached to the stiffener from the remaining or body portion of the tape. The forward portion of the shank stiffener with the tape attached thereto is then inserted into the groove 122 (Fig. 5) of the sponge rubber member 114 while said member is at the limit of its upward movement. During its succeeding downward movement the sponge rubber member is deformed as shown in Fig. 6 thereby wrapping the opposite marginal portions of the tape about the stiffener and causing said margins to be overlapped upon each other as shown in Fig. 6. The sponge rubber member applies sufficient pressure to the marginal portions of the tape to cause them to be retained by adhesion in their position shown in Figs. 6 and 9 when the operator removes the assembly from the sponge rubber member after it returns to its elevated position shown in Fig. 5. The operator then inserts the stiffener with the tape thereon between the rotating rolls 176 and 178 and the assembly is advanced through the rolls and deposited by the rolls on a chute (not shown) which conducts the stiffener to a container in which stiffeners are accumulated. The action of the rolls brings the tape into intimate contact with the stiffener, as shown in Fig. 10.

It frequently happens that the tape roll is wound so tightly that a relatively strong pull has to be exerted on the leading end of the tape in order to cause the tape to separate from the roll. Under such circumstances a recoil force is created which tends to cause a reverse rotation of the tape roll after the leading end portion is severed causing it to draw the leading end portion of the tape rearwardly as much as two inches thus requiring the operator to locate the leading end portion of the tape relatively to the tape supporting member 66 before bringing the shank stiffener into contact with the tape. In order to prevent such reverse movement of the tape roll a brake member 182 (Fig. 1) is pivotally mounted on the headed portion of a screw 184 projecting from the enlarged base portion 186 of the standard 28. The illustrated brake member is a horizontal arm having an upwardly inclined end portion which terminates in a point. The pointed end of the arm is brought to bear against the tape roll with relatively light pressure by a torsion spring 188 which, as shown in Fig. 2, is wound about the headed end portion of the screw 184 and has one leg 190 anchored to the arm 182 and the other

leg 192 set into a notch in the head of the screw 184. The free end portion of the arm 182 is directed upwardly with a forward inclination and consequently any recoil force acting on the roll and tending to cause the roll to turn in a clockwise direction, as seen in Fig. 1, causes the pointed end of the arm to penetrate the roll sufficiently to prevent any considerable recoil movement. In the case of tape rolls that are lightly wound the tape comes off the roll under a relatively light pull and consequently there is no recoil action of any consequence. If desired the arm 182 may be retracted when a lightly wound roll is being used and may be held in retracted position by a knurled headed pin 194 (Fig. 2) mounted in a bore in a boss 196 formed in a downwardly extending end portion 198 of the arm and arranged to register with a socket 200 formed in the base portion 186 of the standard 20.

When it is desired to assemble shank stiffeners with a tape having no characters printed thereon the arm 56 is swung in a counterclockwise direction as seen in Fig. 1 into a position in which the arm is held against downward movement by the engagement of an ear 202 projecting from the hub of the arm with a pin 204 projecting laterally from the forward portion of the ear 48, and the arm 44 which carries the type roll is swung in a counterclockwise direction from its position in Fig. 1 into a position in which it is held against downward movement by the engagement of the type roll 38 with the ink roll 50.

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

1. Apparatus for use in assembling a tape with a shank stiffener at an assembling station, having, in combination, means for rotatably supporting a roll of tape, a table having an upper surface for supporting tape drawn from the roll, means for applying heat to the tape as it is fed across the upper surface of said table for softening adhesive and drying ink on said tape, a resilient support at the end of said table having its upper surface position higher than the upper surface of said table for yieldingly urging the leading end portion of the tape into engagement with the bottom of a shank stiffener placed thereon to insure cement attachment of the tape to the stiffener, and tape cutting means at the end of said resilient support for severing the assembled leading end portion of the tape from the succeeding portion of the tape positoned on the upper surface of said resilient support after the assembled tape and stiffener are moved forwardly of said cutting means.

2. Apparatus for use in assembling a tape with a shank stiffener at an assembling station, having, in combination, means for rotatably supporting a roll of tape, means for preventing rotation of the roll in a direction to wind the tape on the roll, a table having an upper surface for supporting tape drawn from the roll, tape cutting means including a fixed cutter spaced from the forward edge of said table, and a resilient support mounted between the end of said table and said cutter having its upper surface positioned higher than said fixed cutter and the upper surface of said table for yieldingly urging the leading end portion of the tape into engagement with the bottom of a shank stiffener placed thereon to insure cement attachment of the tape to the stiffener, said cutter being arranged to sever the assembled leading end portion of the tape from the succeeding portion positioned on the upper surface of said resilient support after the assembled tape and stiffener are drawn forwardly of said support and said cutter.

3. Apparatus for use in applying characters to an adhesive tape and assembling the tape with a shank stiffener at an assembling station, having, in combination, means for rotatably supporting a roll of tape, a table having an upper surface for supporting tape fed from the roll, means for applying heat to the tape as it is fed across the upper surface of said table for softening adhesive and drying ink on said tape, tape cutting means including a fixed cutter spaced from the end of the table in the direction of feed of the tape, and a resilient support mounted in the space between said cutter and said table with its upper surface positioned higher than said cutter and the upper surface of said table for yieldingly urging the leading end portion of the tape into engagement with the bottom of a shank stiffener placed thereon to insure cement attachment of the tape to the stiffener, said tape cutting means being arranged for severing the assembled leading end portion of the tape from the succeeding end portion of the tape positioned on the upper surface of said resilient support after the assembled tape and stiffener are moved forwardly of said support and cutter.

4. Apparatus for use in assembling of tape with a shank stiffener at an assembling station having, in combination, means for rotatably supporting a roll of tape, a brake arm having its free end pointed for engagement with the periphery of a roll of tape on said means arranged to prevent rotation of the roll in a direction to wind the tape on the roll while permitting the roll to rotate freely in the opposite direction, a table having an upper surface for supporting tape drawn from the roll, tape cutting means including a fixed cutter spaced from the forward edge of said table, and a resilient support mounted between the end of said table and said cutter having its upper surface positioned higher than said fixed cutter and the upper surface of said table for yieldingly urging the leading end portion of the tape into engagement with the bottom of a shank stiffener placed thereon to insure cement attachment of the tape to the stiffener, said cutter being arranged to sever the assembled leading end portion of the tape from the succeeding portion positioned on the upper surface of said resilient support after the assembled tape and stiffener are drawn forwardly of said support.

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2,328,695	Ushakoff	Sept. 7, 1943
2,350,244	Malhiot	May 30, 1944
2,518,189	Sadler	Aug. 8, 1950
2,590,239	Elsman	Mar. 25, 1952
2,598,892	Critchlow et al.	June 3, 1952