Jan. 17, 1956 R. M. LODEN 2,730,976

SEWING MACHINE ATTACHMENT FOR APPLYING BAND LOOP AND BAND AND LINING TO TROUSERS

Filed Dec. 14, 1953 4 Sheets-Sheet 1

Fig. 1

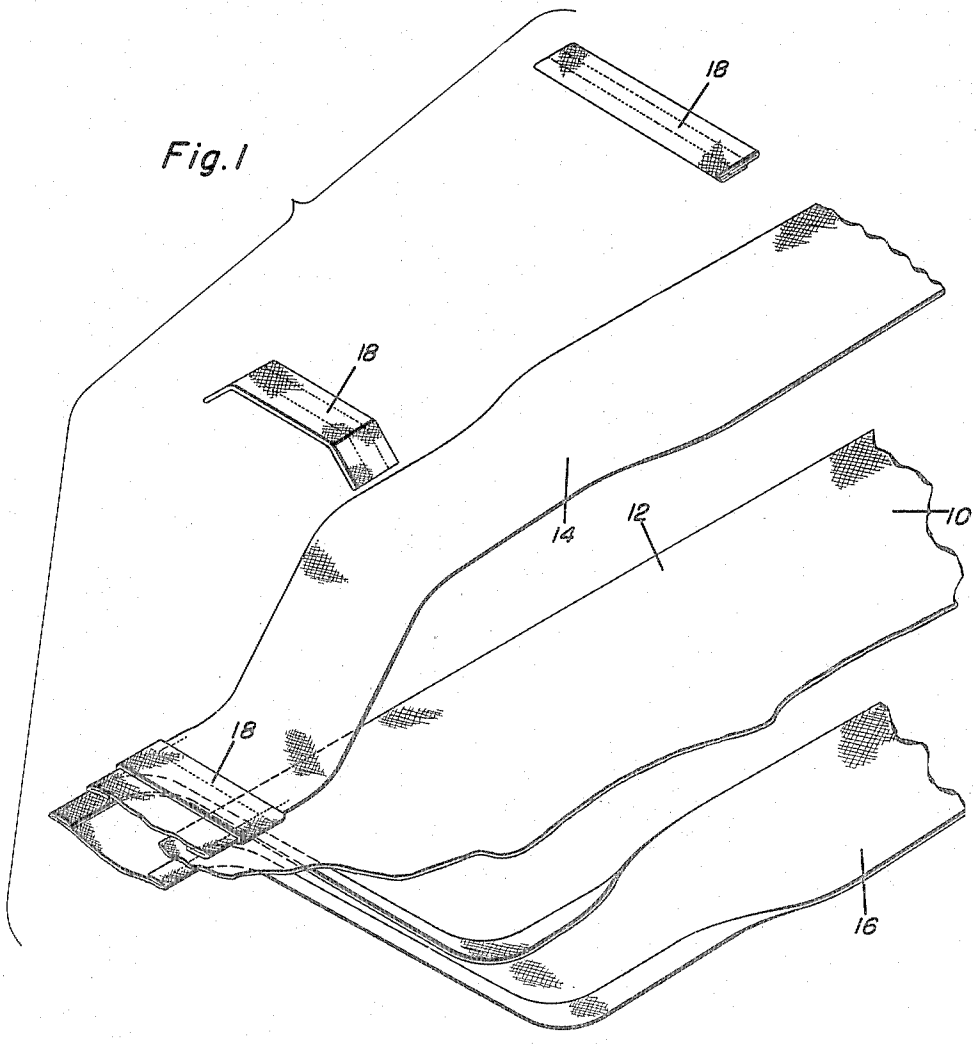


Fig. 3

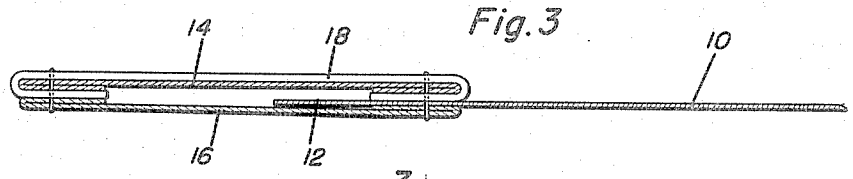
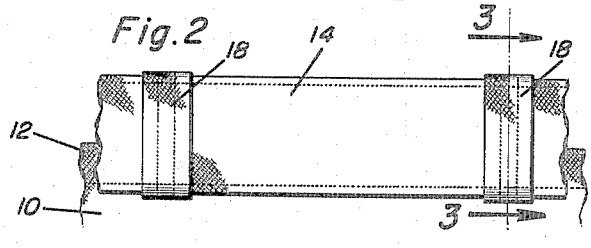


Fig. 2



Roy M. Loden
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

Jan. 17, 1956 R. M. LODEN 2,730,976

SEWING MACHINE ATTACHMENT FOR APPLYING BAND LOOP AND BAND AND LINING TO TROUSERS

Filed Dec. 14, 1953 4 Sheets-Sheet 2

Fig. 4

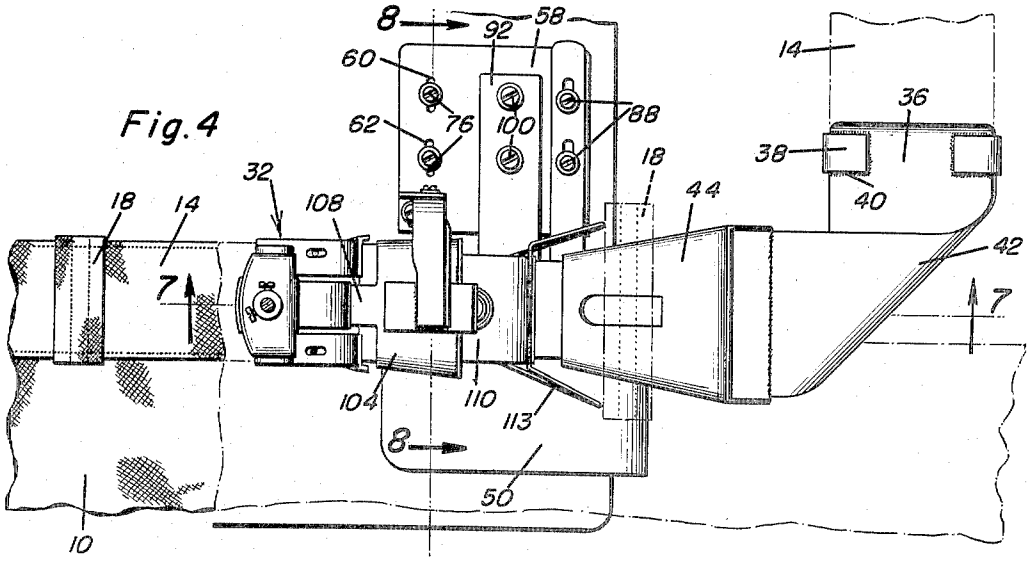
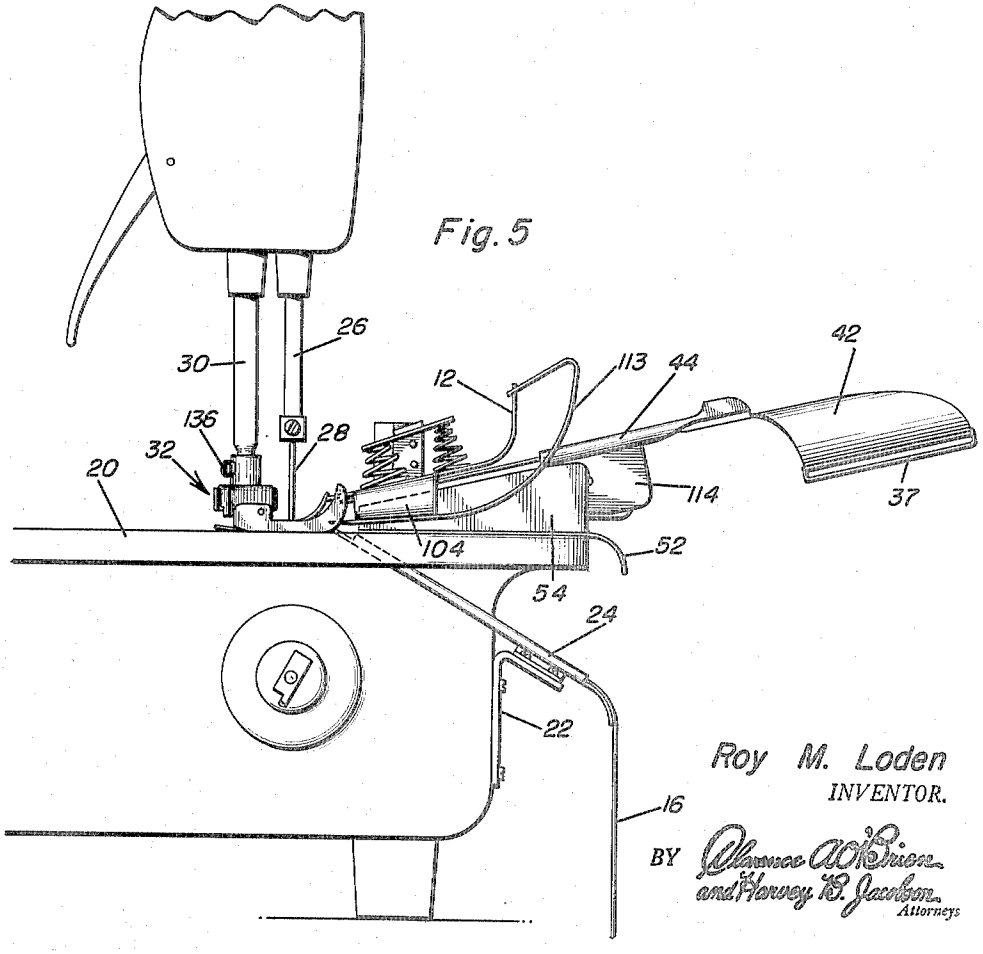


Fig. 5



Roy M. Loden
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

Jan. 17, 1956 R. M. LODEN 2,730,976

SEWING MACHINE ATTACHMENT FOR APPLYING BAND LOOP AND BAND AND LINING TO TROUSERS

Filed Dec. 14, 1953 4 Sheets-Sheet 3

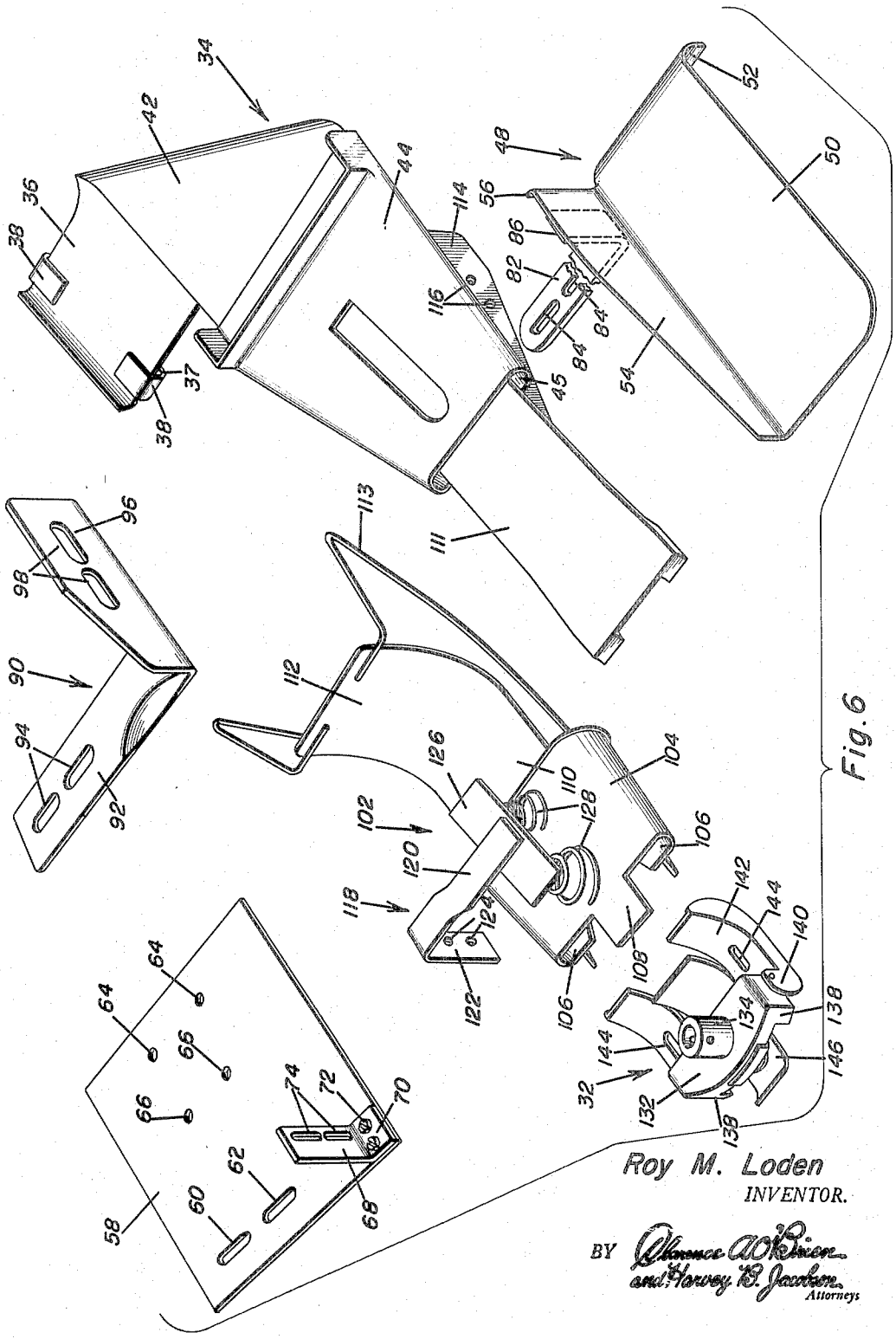


Fig. 6

Roy M. Loden
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

Jan. 17, 1956 R. M. LODEN 2,730,976

SEWING MACHINE ATTACHMENT FOR APPLYING BAND LOOP AND BAND AND LINING TO TROUSERS

Filed Dec. 14, 1953 4 Sheets-Sheet 4

Fig. 7

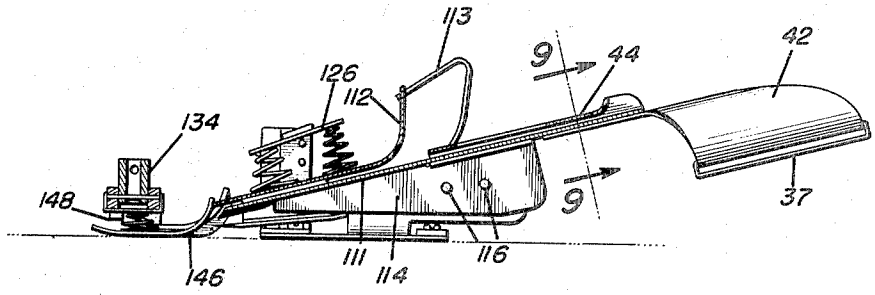


Fig. 8

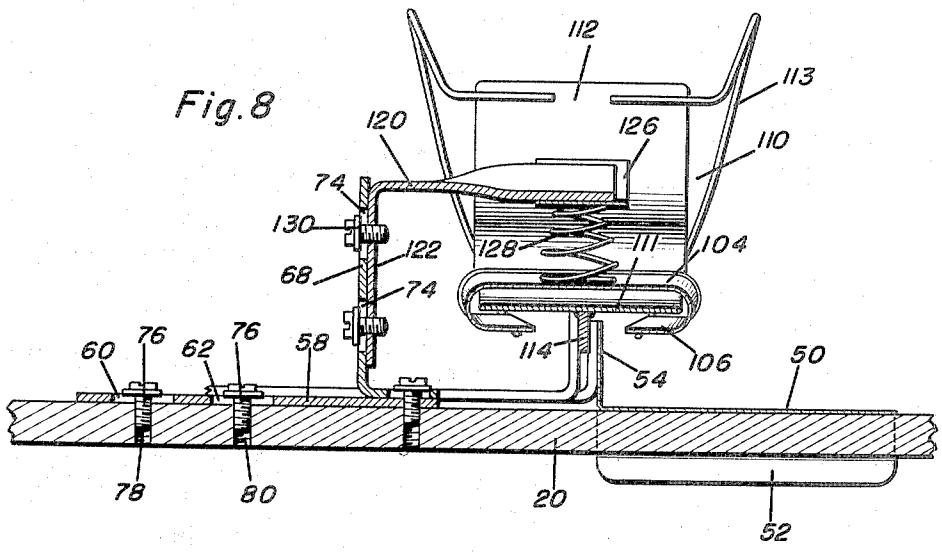
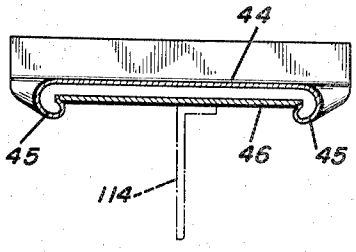


Fig. 9



Roy M. Loden
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office 2,730,976 Patented Jan. 17, 1956

2,730,976

SEWING MACHINE ATTACHMENT FOR APPLYING BAND LOOP AND BAND AND LINING TO TROUSERS

Roy M. Loden, Abilene, Tex., assignor of ten per cent to Bruce Weldon Du Bose, Abilene, Tex.

Application December 14, 1953, Serial No. 398,038

5 Claims. (Cl. 112—151)

This invention comprises novel and useful improvements in a sewing machine attachment for applying band loop, band and lining to trousers, and more specifically relates to an attachment which will adapt a conventional type of sewing machine for simultaneously securing a band loop, band and lining to trousers in a single sewing operation.

The primary object of this invention is to provide an attachment whereby a conventional form of sewing machine may be converted for the simultaneous sewing of band loops, a band and a lining to the waist portion of trousers.

A further object of the invention is to provide an attachment wherein the band and lining, dispensed from separate rolls of material, may be marginally folded and placed in proper position upon a sewing machine for simultaneous stitching of the same to the waistband of trousers.

A further object of the invention is to provide an improved attachment in accordance with the foregoing objects wherein provision is made for applying at appropriate intervals band loops to the folded bands and linings of trousers for simultaneous attachment thereto.

Yet another object is to provide an improved presser foot having a suitable spring tension and adapted to coact with a novel guide construction for holding in juxtaposition the folded edges of a band and band lining for trousers for the simultaneous sewing of the same upon the waistband of trousers.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

Figure 1 is an exploded perspective view showing the manner in which loops, a band, a band lining are juxtaposed upon a piece of trouser material for simultaneously securing the same together;

Figure 2 is a fragmentary plan view, parts being broken away, showing the band, band lining and loops applied to a portion of a pair of trousers;

Figure 3 is a vertical transverse sectional view taken upon an enlarged scale substantially upon the plane indicated by the section line 3—3 of Figure 2 and showing the manner in which the band lining, band and loops are attached to the trouser material;

Figure 4 is a top plan view of a portion of a sewing machine head indicating the manner in which the attachment of the present invention is applied thereto, the position of the material being worked upon by the apparatus and being shown therein;

Figure 5 is a side elevational view of the arrangement of Figure 4;

Figure 6 is an exploded perspective view of the various

elements forming the subject of the novel attachment disclosed and claimed herein;

Figure 7 is a vertical longitudinal sectional detail view taken substantially upon the plane indicated by the section line 7—7 of Figure 4;

Figure 8 is a vertical transverse sectional view taken upon an enlarged scale substantially upon the plane indicated by the section line 8—8 of Figure 4; and

Figure 9 is a vertical transverse sectional view taken substantially upon the plane indicated by the section line 9—9 of Figure 7.

The attachment of the present invention is intended to expedite the attachment of a waistband, a waistband lining and belt loops to the waist portion of a pair of trousers by adapting a conventional sewing machine to perform the necessary sewing in a single operation. Heretofore separate operations have been necessary in order to secure these elements in the desired assembled relation.

Referring now specifically to Figures 1–3, there is disclosed a portion of the upper part of a pair of trousers 10 having a waistband portion 12 to which is to be secured a waistband 14, a waistband lining 16 and a plurality of belt straps or loops 18.

In order to secure the waistband and the waistband lining to the waistband portion of the trousers, it is necessary to fold the marginal edges of the band 14 and the lining 16 and bring these marginal edges into juxtaposition upon opposite sides of the waistband portion 12 of the trousers 10. In order to effect this purpose the waistband 14 and the trousers lining 16 are preferably supplied in the form of strips from rolls which are mounted upon suitable portions of the sewing machine in any desired manner. These ribbons or bands are fed through suitable guides which fold and inturn the marginal edges of the same into proper position for juxtaposition in the manner shown in Figure 1. These guides are so located as to position the folded waistband and trouser lining on opposite sides of the waistband portion of the trouser material 10 immediately adjacent the needles of the sewing machine whereby two seams may be simultaneously sewed in the juxtaposed folded edges of the material. The preformed loops 18 are passed into one of the guides upon the top of the waistband 14 in proper position and is likewise secured to the other pieces of material by a simultaneous stitching operation.

Reference is now made more particularly to Figures 4 and 5 which show the novel attachment forming the subject matter of this invention in proper position upon a sewing machine for performing the above indicated functions.

In the conventional sewing machine illustrated therein there is a bed or table 20 having a conventional form of bracket 22 supporting a guide 24 by which the roll of lining material 16 is folded and delivered to proper position for the sewing operation. The machine further includes the usual needle bar 26 having a pair of spaced needles 28 for sewing the two seams on the opposite folded edges of the band and lining. Finally, the machine includes the usual presser bar 30 to which is applied the novel presser foot attachment indicated generally by the numeral 32 and whose construction forms a part of the present invention.

The material 14 for the band in the form of a strip is fed through a guide and folder indicated generally by the numeral 34 and whose construction is best shown in Figure 6. This folder is provided with a substantially flat sheet of metal 36 having beneath its forward or inlet end a transverse bar constituting a guide bracket 37 having lugs 38 which are welded at 40 to the top of the material 36 or otherwise secured to the same as shown in Figures 4 and 6. Intermediate its ends the sheet 36 is turned over upon itself at right angles by the curved portion 42 and is welded to a vertical spaced overlying member 44 which receives the forward portion 46 of

the curved portion 42 as will be apparent from Figures 7 and 9. The portion 44 has its side walls forwardly converging and downwardly inturned as at 45 whereby the strip of material 14 sliding under the member 44 and upon the member 46 will have its marginal edges folded and inturned under itself in the manner suggested in Figure 1.

The attachment further includes a shelf-like guide member indicated generally by the numeral 48 which includes a flat plate 50 adapted to rest upon the bed 20 of the sewing machine as will be best apparent from Figures 4 and 8, this shelf being provided at its rear end with a downturned flange 52 constituting a curved apron over which the material of the trousers is adapted to slide when being fed into the needles, the member having further an upstanding side wall 54 with a sloping upper edge and which has its rearward end provided with an outwardly turned flange 56. This side wall also acts as a guide to properly position the edge of the material of the trousers with respect to the waistband, waistband lining, the belt loops and the needles of the sewing machine.

There is further provided a substantially square or rectangular plate 58 having a pair of slots 60 and 62 adjacent one edge of the same together with two pairs of apertures 64 and 66. An L-shaped vertically extending bracket 68 is secured to one corner of the plate by means of a foot or flange 70 attached thereto as by fastening screws 72, the bracket 68 having a pair of vertically spaced slots 74. The plate 58 is adapted to be secured to the bed 20 of the sewing machine by means of screws 76 which extend through the slots 60 and 62 and into suitable screw threaded bores 78 and 80 in the bed of the sewing machine as shown in Figure 8. The plate 58 constitutes the means by which the attachment is rearwardly secured to the sewing machine bed.

Referring now again more specifically to Figure 6 it will be observed that the member 48 has an L-shaped bracket 82 whose horizontal arm is provided with elongated slots 84 and whose vertical arm 86 is welded or otherwise rigidly attached to the upstanding flange 54. The bracket 82 serves to mount the member 48 rigidly upon the plate 58. For this purpose the slots 84 are aligned with the openings 64 and are retained thereon in laterally adjusted position as by means of the fastening screws 88, see Figure 4, which extend into the screw threaded bore 64 previously mentioned.

There is provided a still further mounting bracket indicated by the numeral 90 and which as shown in Figure 6 consists of a flat plate like horizontal portion 92 having elongated slots 94 therein, and a vertical perpendicularly disposed portion 96 has a pair of slots 98. As will be seen from Figure 4, the plate 92 is mounted upon the plate 58, suitable fastening screws 100 being disposed through the slots 94 and into the threads in the apertured bore 66 whereby the bracket 90 is adjustably secured upon the plate 58 in laterally adjusted position thereon. An assembling guide indicated generally by the numeral 102 is provided, the same consisting of a hood-like guide member 104 having downwardly and inwardly turned folding and positioning flanges 106 which serve to fold and position the ends of the belt loops. At its forward end the top surface of this guide has a forwardly extending substantially rectangular tongue 108. Received within the guide 104 between its top surface and the inturned flanges 106 and welded to the top surface is a flat guide plate 110 which extends rearwardly of the member 104 and is provided with an upwardly curving guide portion 112. A plate 111 is welded to the member 44, forming a bottom wall thereof and extends forwardly into and through the member 104. Upon the bottom of plate 111 is welded a vertically and medially disposed plate 114 constituting a mounting flange, this plate being suitably apertured as at 116 for the reception of suitable fasteners which cooperate with the apertures 98 of the bracket 90 to thereby adjustably support the plate 111 and the guide assembly 34 carried thereby. A bracket member indicated generally by the numeral 118 is provided having a horizontally disposed arm 120 and a vertically disposed arm 122 apertured as at 124. The arm 120 has secured thereto a transverse plate 126 which carries a pair of helical springs 128 that in turn yieldingly and floatingly support the member 104 in spaced embracing position relation to the plate 111. As shown more clearly in Figure 8, the vertical portion 122 is secured to the bracket 68 previously mentioned in vertically adjusted position as by means of fastening screws 130 which extend through the slots 74 and engage the screw threaded apertures 124.

The presser foot assembly 32 consists of a horizontally extending body 132 from the central portion of which rises a collar 134 adapted to be received upon the lower end of the presser rod 30 and to be removably retained thereon as by a setscrew 136. Pivoted to the outside of downturned flanges 138 of the member 132 are the ears or lugs 140 of a pair of presser feet 142 having apertures 144 through which the previously mentioned needles 28 are adapted to operate. The ends of the presser feet 142 are upwardly curved as shown in Figure 6 as well as in Figure 5 to assist in guiding the material under the presser feet. Beneath the member 132 and between the legs 138 thereof there is mounted a movable shoe 146, which as shown in Figure 7 is yieldingly urged downwardly as by a compression spring 148. The forward end of this shoe is adapted to engage against the previously mentioned tongue 108.

With the device constructed as described and assembled as shown in Figures 4 and 5, it will be apparent that the roll of band material 14 will be fed through the member 34 and will be delivered with its marginal edges folded inwardly and under itself into the member 104, see Figure 8, above the plate 111. Simultaneously, the roll of lining material 16 will be fed from its roll upwardly through the guide member 24 where at its edges will also be folded upwardly upon itself and will be delivered below the plate 111 and beneath the presser feet 142. The sheet of trouser material 10 will be fed upon the member 50 with its waistband edge against the guide flange 54 and upon the top of the lining band 16. Finally, at proper intervals as the materials are simultaneously fed, folded belt loops 18 will be fed into the member 104 beneath the guide arms 113 and upon the top of the folded band 14 by means of sliding upon the plate 111 until they pass beneath the presser feet 142. As the assembled elements pass below the feet, they will be united by seams from the two needles 28.

The mounting springs 128 permit the guide member 104 to vertically float relative to the stationary plate 111, whereby the guide 104 will hold the folded band 14 upon the plate 111, but will momentarily yield to permit the passage of the additional thickness of a belt loop plate upon the band 14 and fed into the member 104 by the arms 113.

Thus, by this attachment the various elements may be appropriately positioned and assembled and simultaneously united by a seaming operation of a conventional sewing machine.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A sewing machine attachment comprising a mounting plate adapted for attachment upon the bed of a sewing machine adjacent the needle bar thereof, a positioning guide for placing the waist of trousers in juxtaposition to a waistband, a folder guide for folding the marginal edges of a strip of material to form a trouser waistband, loop guide means for positioning a band loop upon a waistband, a presser foot assembly adapted for mounting upon the presser bar of a sewing machine, an assembly guide for holding a folded waistband and a band loop upon the waist portion of trousers for simultaneously uniting the same, said assembly guide being operatively associated with the presser foot assembly for positioning the folded waistband, band loop and waist portion of trousers in assembled relation to the presser foot assembly, means for mounting each of said guides on said mounting plates, said mounting means for said assembly guide including an arm transversely overlying said assembly guide, a spring connected to said arm and assembly guide for yieldingly supporting the latter for limited vertical movement, said loop guide means comprising a pair of guide arms mounted upon said assembly guide and extending in embracing relation to the sides of said folder guide.

2. A sewing machine attachment comprising a mounting plate adapted for attachment upon the bed of a sewing machine adjacent the needle bar thereof, a positioning guide for placing the waist of trousers in juxtaposition to a waistband, a folder guide for folding the marginal edges of a strip of material to form a trouser waistband, loop guide means for positioning a band loop upon a waistband, a presser foot assembly, an assembly guide for holding a folded waistband and a band loop upon the waist portion of trousers for simultaneously uniting the same, said assembly guide being operatively associated with the presser foot assembly for positioning the folded waistband, band loop and waist portion of trousers in assembled relation to the presser foot assembly, means for mounting each of said guides on said mounting plates, said mounting means for said assembly guide including an arm transversely overlying said assembly guide, a spring connected to said arm and assembly guide for yieldingly supporting the latter for limited vertical movement, said

assembly guide having a tongue, said presser foot assembly including a bar adapted for mounting upon the presser foot rod of a sewing machine, a pair of presser feet pivoted to said bar and embracing said tongue, a presser shoe resiliently carried by said bar for limited vertical movement, said shoe having an upwardly curving portion engaging the end of said tongue.

3. The combination of claim 2 wherein the mounting means for said assembly guide comprises upstanding support on said mounting plate, a member having a vertical portion adjustably mounted upon said support and a horizontal bar extending transversely above said assembly guide, a plate mounted on said bar and positioned longitudinally above the assembly guide, means supporting the latter from said plate for limited vertical movement.

4. The combination of claim 1 wherein said folder guide has a bottom wall extending longitudinally therebeyond and into said assembly guide, said bottom wall having a longitudinal, medial depending flange, the mounting means for said folder guide comprising a bracket having portions adjustably secured to said mounting plate and to said depending flange.

5. The combination of claim 1 wherein said folder guide has a bottom wall extending longitudinally therebeyond and into said assembly guide, said bottom wall having a longitudinal, medial depending flange, the mounting means for said folder guide comprising a bracket having portions adjustably secured to said mounting plate and to said depending flange, said positioning guide including a vertical guide wall, the mounting means of said positioning guide comprising a bracket having horizontal and vertical portions adjustably secured to said mounting plate and secured to said vertical guide wall, said flange being engaged on opposite sides by the brackets of the mounting means of the folder guide and the positioning guide.

References Cited in the file of this patent

UNITED STATES PATENTS

2,133,225	Goodwin	Oct. 11, 1938
2,298,770	Kucera	Oct. 13, 1942
2,674,213	Lopez	Apr. 6, 1954
2,700,946	Stanley	Feb. 1, 1955