Aug. 14, 1934. C. SEAMAN 1,969,950

SEWING MACHINE ATTACHMENT

Filed Dec. 23, 1932 5 Sheets-Sheet 1

Fig. 1.

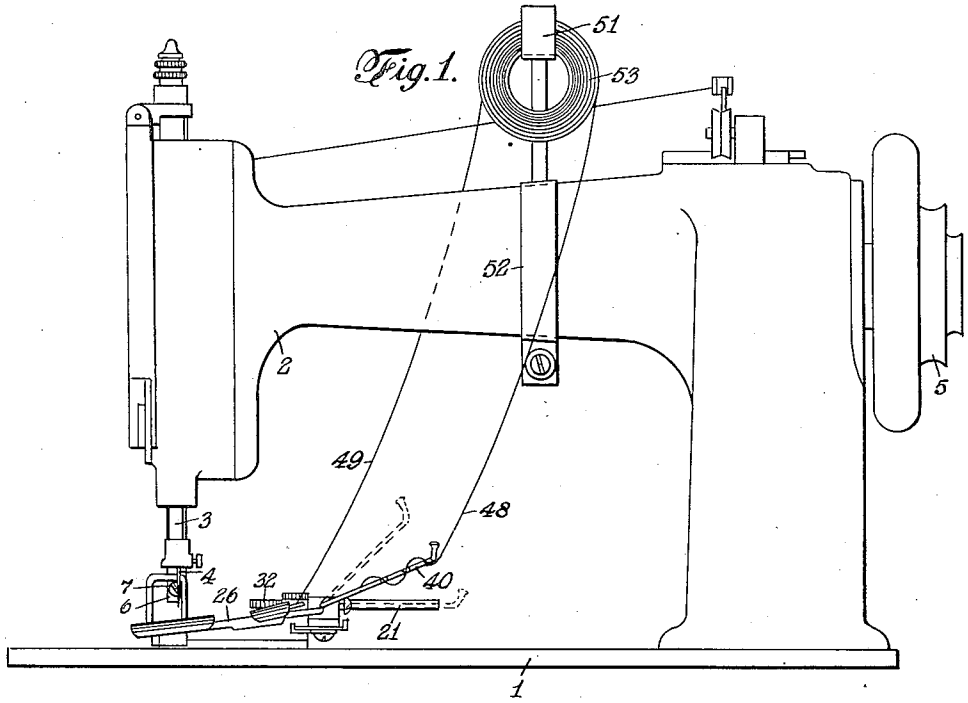
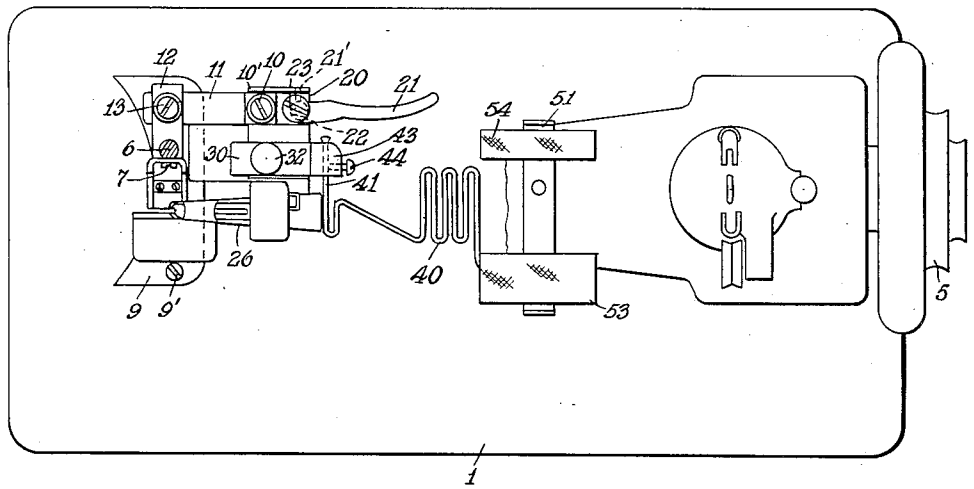


Fig. 2.



Charles Seaman INVENTOR

BY.

Wm. S. Pritchard ATTORNEY

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Fig. 3.

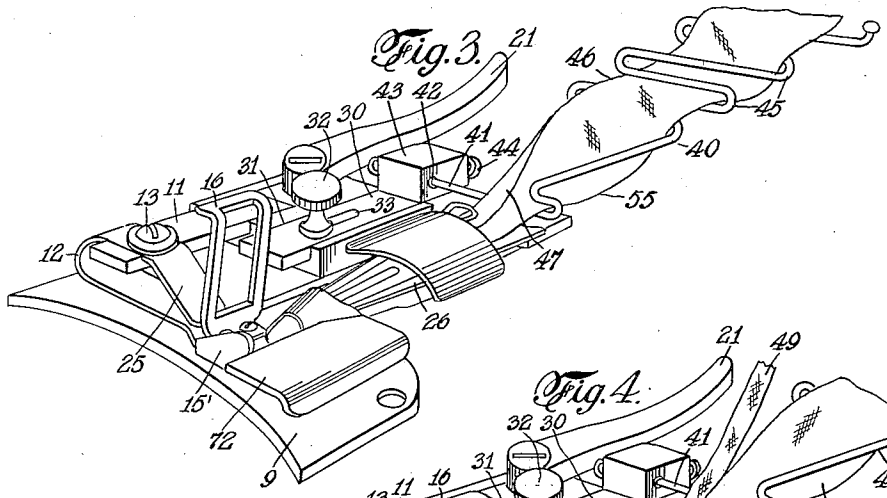


Fig. 4.

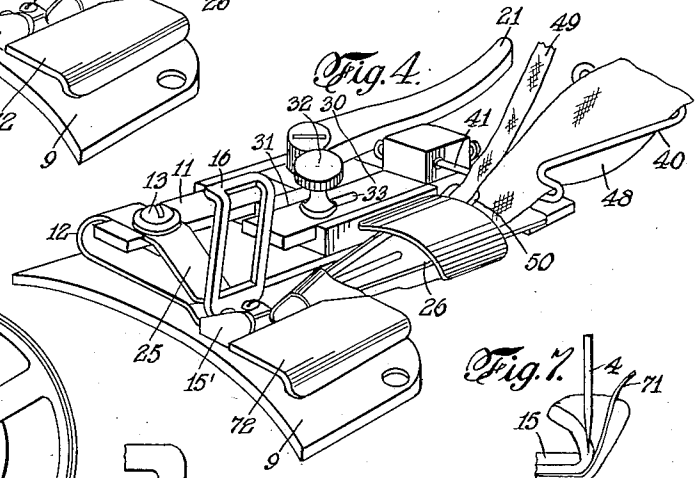


Fig. 5.

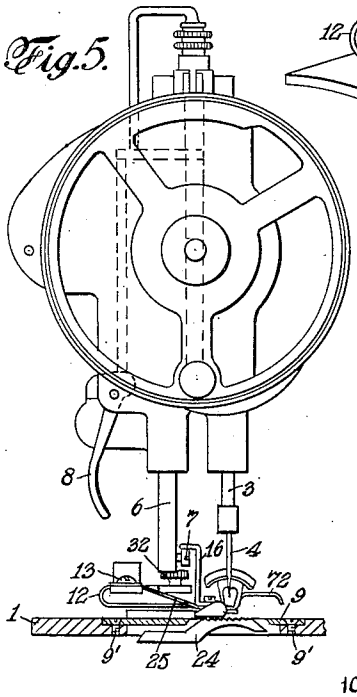


Fig. 7.

Fig. 6.

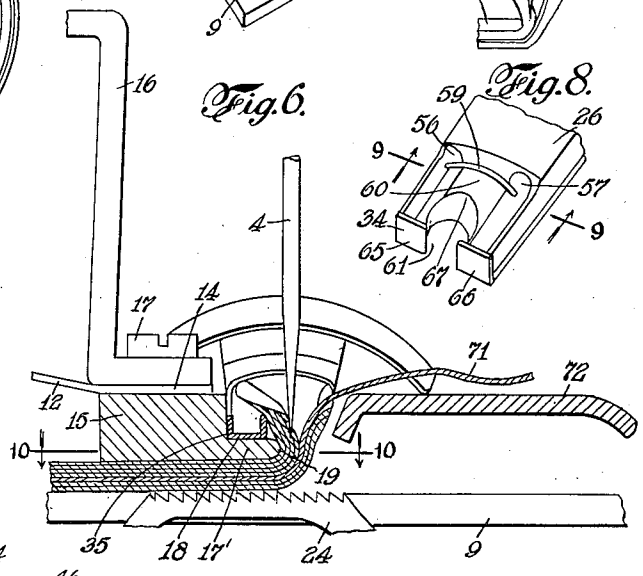


Fig. 8.

Fig. 9.

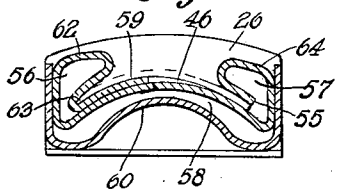




Fig. 10.

Charles Seaman INVENTOR

BY

Wm. S. Pritchard ATTORNEY

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SEWING MACHINE ATTACHMENT

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Fig. 11.

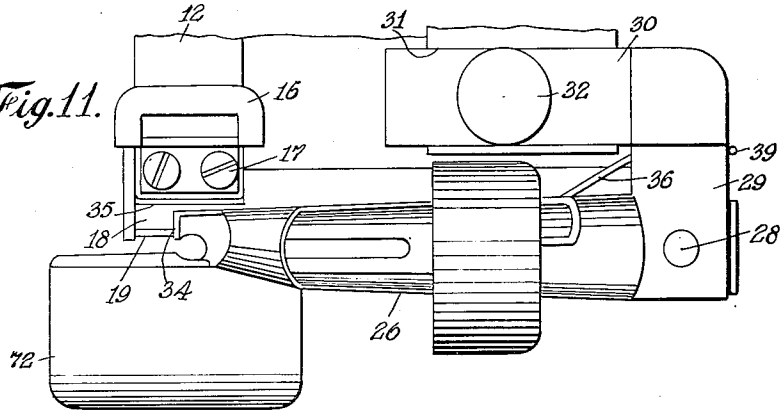


Fig. 12.

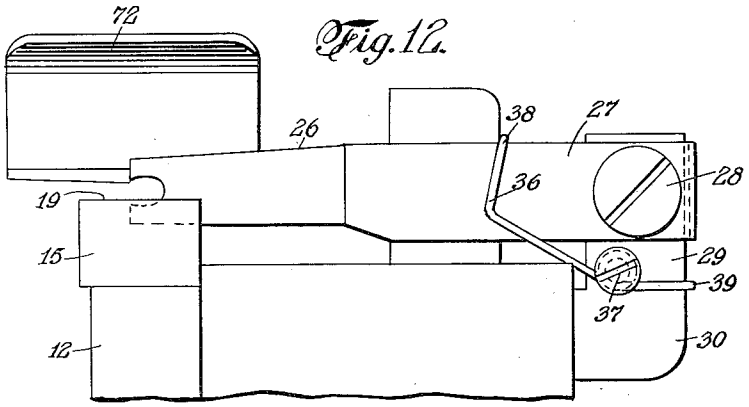


Fig. 13.

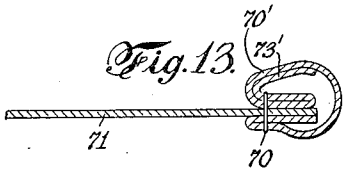


Fig. 14.



Fig. 15.



Charles Seaman INVENTOR

BY Wm. S. Pritchard

ATTORNEY

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SEWING MACHINE ATTACHMENT

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Fig. 16.

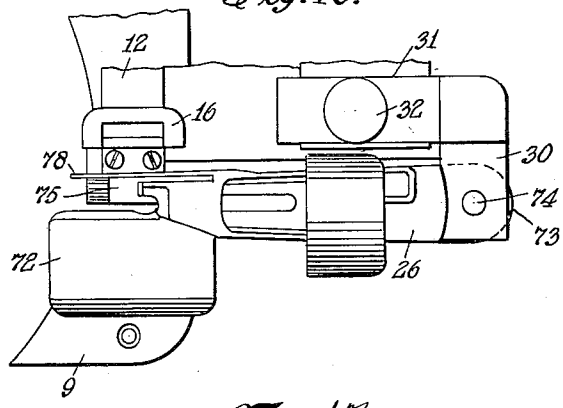


Fig. 17.

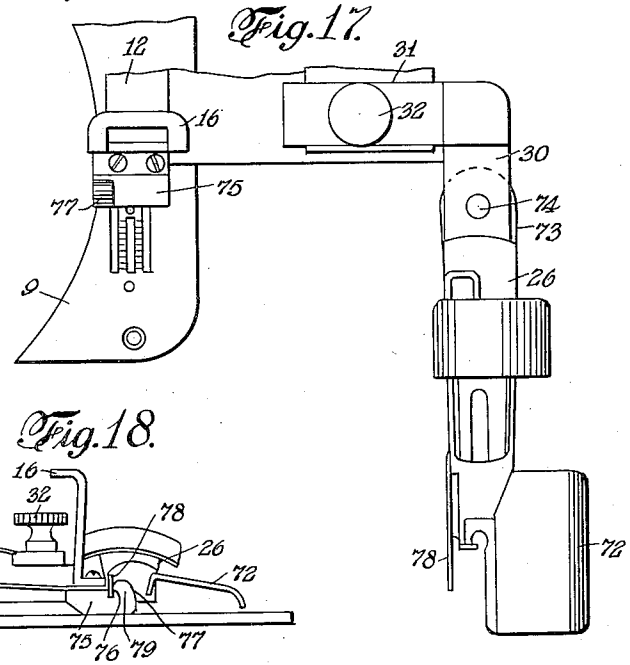


Fig. 18.

Fig. 19.

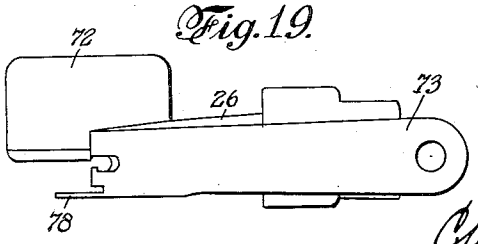
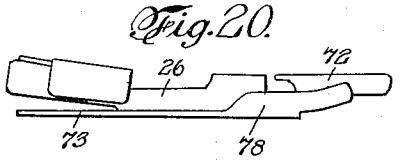


Fig. 20.



Charles Seaman INVENTOR

BY

Wm. S. Pritchard ATTORNEY

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SEWING MACHINE ATTACHMENT

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Fig. 21.

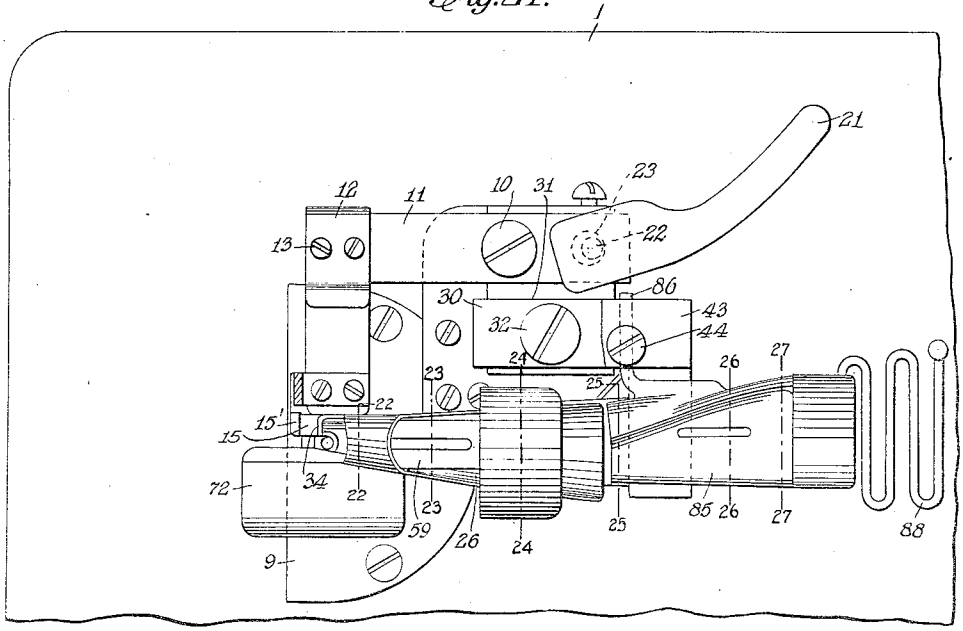


Fig. 22.

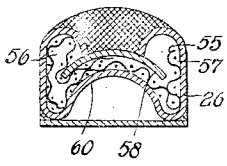


Fig. 23.

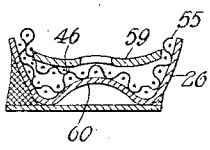


Fig. 24.

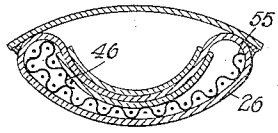


Fig. 25.

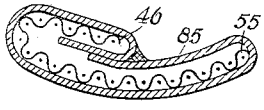


Fig. 26.

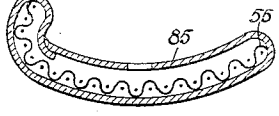


Fig. 27.

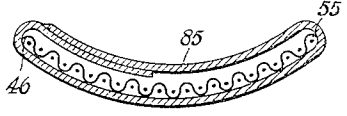


Fig. 28.

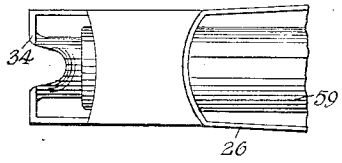
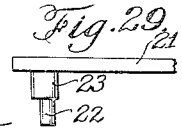


Fig. 29.



Charles Seaman INVENTOR

BY

Wm. S. Rutherford.

ATTORNEY

Patented Aug. 14, 1934 1,969,950

UNITED STATES PATENT OFFICE

1,969,950

SEWING MACHINE ATTACHMENT

Charles Seaman, Jamaica Estates, N. Y.

Application December 23, 1932, Serial No. 648,600

33 Claims. (Cl. 112—137)

This invention relates to means for forming piping, particularly the kind of piping adapted for application to the edge of a piece of material, such as dress goods, and still more particularly blind stitch piping commonly known as French piping.

This application is in part a continuation of my copending application Serial No. 617,092, filed June 14, 1932, for Sewing machine attachment.

This invention is an improvement on the invention disclosed in Patent No. 1,756,036, granted on April 29, 1930 to Charles Seaman and Gerhard Braf.

One object of this invention is to provide a simple construction for forming piping which can be readily attached to a standard sewing machine and which will be substantially free from the effects of vibration of the head of the sewing machine so as to produce piping of maximum perfection.

Another object of this invention is to provide simple effective means for accurately adjusting the presser foot edge which cooperates with the needle to produce the piping.

Another object of this invention is to provide a construction which will yield, when a seam or other thick place in the goods is encountered, to avoid breaking the needle.

Another object of this invention is to provide a construction in which the binding folder and guide can be moved away from the needle and presser foot so that the sewing machine can be used for ordinary machine sewing.

Another object of this invention is to produce an adjustable gate adapted to vary the amount of infolding of the binding material.

A further object of this invention is to provide a filler guide to correctly position and feed a separate filler strip when the latter is used in forming piping.

The above and other objects will appear from the following description, appended claims and accompanying drawings forming a part of this specification and in which:

Figure 1 is a front elevation of a sewing machine having applied thereto an attachment for the practice of this invention.

Figure 2 is a top plan view of Figure 1 with part of the head broken away to show the attachment and with the binder and filler omitted from the attachment for clearness.

Figure 3 is a perspective view of the attachment for producing piping with a strip of binding used to form an integral filler by infolding of the binding.

Figure 4 is a perspective view similar to Figure 3 but showing a separate filler strip used with the binding.

Figure 5 is a left end elevation of Figure 1.

Figure 6 is an enlarged fragmental view of a portion of Figure 5 shown in section on a vertical plane extending through the axis of the needle.

Figure 7 is a fragmental view of a portion of Figure 6 with the piping shown in elevation instead of in section.

Figure 8 is an enlarged perspective view of the nose or throat portion of the binding guide and folder.

Figure 9 is an enlarged cross-sectional view on line 9—9 of Figure 8 with the binding which is illustrated in Figure 3 shown in cross section as it issues from the binding guide and folder just prior to being turned and passed downwardly through the throat in the end of the binding guide and folder.

Figure 10 is an enlarged cross-sectional plan view on line 10—10 of Figure 6 of the binding after it passes downwardly through the throat of the binding guide and folder.

Figure 11 is an enlarged top plan view of part of the attachment with the cover plate omitted, illustrating the manner in which the binding guide and folder swings laterally when a seam or other thick place in the goods is encountered.

Figure 12 is a bottom plan view of Figure 11.

Figure 13 is a cross-sectional view showing piping applied to a piece of goods, the piping having an integral filler by means of an infolded portion of the binding material as shown in Figures 3, 9 and 10.

Figure 14 is a cross-sectional view similar to Figure 13 of piping in which the filler consists of a separate piece as shown in Figure 4.

Figure 15 is a cross-sectional view of piping similar to Figure 14 but with no filler.

Figure 16 is a plan view of part of a modified construction.

Figure 17 is a plan view of the construction shown in Figure 16 with the binding folder and guide swung to one side to permit the sewing machine to be used for ordinary machine sewing.

Figure 18 is an elevation from the left of Figure 16.

Figure 19 is a bottom plan view of the binding guide and folder.

Figure 20 is a side elevation of the binding guide and folder from the left of Figure 17.

Figure 21 is a top plan view of the attachment showing a modified form of folder.

Figures 22–27 are enlarged sections taken on

the lines 22—22, 23—23, 24—24, 25—25, 26—26 and 27—27 respectively of Figure 21 showing the folder and the binder therein.

Figure 28 is an enlarged detail of the throat of the binding guide and folder, and

Figure 29 is a detail view of the eccentric adjusting means associated with the lever 21.

Referring to the drawings wherein like reference numerals designate like parts, the reference numeral 1 (Figures 1, 2 and 5) designates the base of a sewing machine head of any standard type carrying a standard and an overhanging arm upon which is secured a needle head 2 in which reciprocates a rod 3 carrying a needle 4. The reciprocating rod 3 may derive its power from any suitable source as, for example, a pulley 5 driven by a belt or otherwise. Slidably mounted in the head 2 is a presser foot rod 6 (Figure 5) carrying a screw 7 and adapted to be drawn upwardly for a purpose to be later explained by means of an operating lever 8.

The standard presser foot is removed from its position on the presser foot rod 6, and in place of the regular cover plate provided on the base of the sewing machine, a cover plate 9 (Figures 2, 3, 4 and 5) of special construction is substituted which is secured to the base 1 by any suitable means, such as screws 9', and carries the various parts which cooperate with the needle of the sewing machine to produce piping.

Pivoted by the screw 10 (Figure 2) on a block 10' mounted on the cover plate 9 is a lever 11, to one end of which is attached a spring 12 (Figures 3, 5, 6 and 18) by means of a screw 13. To the outer end 14 of the spring 12 is secured by means of the screws 17 a presser foot 15 and a lifting ear 16. The presser foot 15 has an extension 17' (Figure 6) provided with an upper bearing surface 18 and an outer curved edge 19 adapted to cooperate with the needle 4 of the sewing machine in a manner to be later described, to permit accurate adjustment of the edge 19 in relation to the needle 4. The presser foot 15 may also carry a side shield 15' having a rounded front edge to assist in guiding material for stitching. The end 20 (Figures 2, 21 and 29) of the lever 11 is provided with suitable means for adjusting it about the pivot screw 10 in opposite directions. This adjustment means comprises a lever 21 having an extension 22 extending downwardly through the end 20 and pivoted to the block 10' on the cover plate 9 and provided with an eccentric 23 engaging in the end 20 of the lever 11, so that by swinging the lever 21 in one direction or the other the eccentric 23 will correspondingly swing the lever 11 about its pivot to move the edge 19 of the presser foot 15 toward or from the path of travel of the needle 4. Obviously a sufficient clearance may be provided in the lever 11 either at the screw 10 or at the eccentric 23 to permit the necessary reciprocation of the lever 11 to take place as the eccentric 23 is rotated. The lever 21 has substantial friction by any suitable means, such as by having the pivot screw 10 fairly tight or by having a screw 21' frictionally engage the pivoted extension 22, or both, so that it readily remains in whatever position it is placed in to thereby maintain the edge 19 in adjusted position.

The presser foot 15 is normally pressed downwardly by the spring 12 to cooperate with the toothed feed member 24 (Figures 5 and 6) which extends through a suitable slot in the cover plate 9 (Figure 17) to feed goods past the needle 4 of the machine in a manner similar to the way goods are fed by the presser foot, which is carried on the presser foot rod 6 on standard sewing machines. Where it is desired to increase the pressure of the presser foot on the goods, as in the case of heavy goods, a spring member 25 (Figures 3, 5 and 6) can be made to press downwardly against the spring 12. The spring 25 may be formed as an integral extension of the spring 12 as shown, or it may be a separate spring member. If desired, the spring 25 can be adjustably mounted so as to enable it to be adjusted to press downwardly against the spring 12 with any desired pressure.

In order to properly fold and supply binding material to the needle to form piping, a binding folder and guide 26 (Figures 1, 2, 3 and 11) is carried by a flat spring member 27 (Figure 12), which is pivoted by a screw 28 to a bar 29 of a slide 30, which is longitudinally adjustable in a slideway 31 (Figures 2, 3 and 11) in the block 10' mounted on the cover plate 9 and held in adjusted position by means of a thumb screw 32 which extends through a slot 33 in the slide 30. Thus, by suitable adjustment of the slide 30, the binding guide and folder 26 can be adjusted longitudinally to bring its throat end 34 in proper cooperative position with the needle.

The binding guide and folder has its throat end 34 resting upon the surface 18 (Figures 6 and 11) of the presser foot 15 and is pressed thereagainst by the flat spring 27 (Figure 12). One side of the end 34 is normally pressed against an abutment face 35 of the presser foot 15 by means of a spring 36 (Figures 11 and 12) which is coiled about a securing screw 37 and has its opposite bent ends 38 and 39 respectively engaging the spring 27 and the bar 29.

A binding guide and tensioning gate 40 (Figures 1, 2, 3 and 4), preferably made of wire, has its end 41 extending within a bushing 42 in a block 43 on the slide 30. By means of a screw 44, the bushing 42 is made to press upon the end 41 of the tensioning gate 40 with sufficient friction to hold the tensioning gate in any position to which it is moved. The tensioning gate 40 is provided with a plurality of reverse bends 45 which provide a plurality of loops, through any desired number of which a binding or binding strip 46 passes on its way to the binding guide and folder 26. The gate 40 is preferably formed with a short loop or bend adjacent the mouth of the guide and extending over only a part of the width of the binding, as shown in Figure 2. This short loop assists in infolding the adjacent edge of the binding and in regulating the amount of infold.

The amount of infolding is determined by the tension of the side of the binding 46 from which fold 47 is to be formed. As the binding 46 passes over the short loop of the tensioning gate 40, it tends to be drawn toward the side of said small loop due to the pull of the material as it enters the folder 26. This pull is increased or decreased according to the relative position of the tensioning gate with respect to the line of travel of the binding 46 through the folder 26.

Where the piping is to be formed with an integral filler made by infolding part of the binding, the binding 46 of suitable width, as illustrated in Figure 3, is used. As this binding is considerably wider than the entrance to the tapered binding guide and folder 26, the binding is given a fold 47 as it enters the guide and folder 26. By passing the binding 46 through a greater or less number of loops of the tensioning gate 40,

the tension upon the binding can be varied as desired. To vary the amount of infolding 47, the tensioning gate 40 can be swung to various adjusted positions. When the gate is in horizontal position as shown in Figure 1, the infolding is of a minimum amount, and when the gate is swung upwardly to other adjusted positions, the amount of infolding increases in accordance with the steepness of the angular adjustment. Where the piping is to have a separate filler, a narrower binding 48 (Figure 4) is used in conjunction with a separate filler 49, which latter is preferably passed through a guide loop 50 at the upper portion of the entrance of the binding guide and folder 26.

Supplies of binding and filler may be carried in any desired way. One way is illustrated in Figures 1 and 2 in which a bracket 51 is secured to the head 2 of the sewing machine by means of a clamp 52. Loosely hung over one end of this bracket 51 is a roll of binding 53, and on the other end of the bracket can be placed a roll of filler 54 when a separate filler is to be used. The binding can extend down to the tensioning gate gate 40 and the filler can extend down to the guide loop 50 as shown.

As the binding 46 with the integral infold 47 passes onwardly through the tapering guide and folder 26, which latter becomes progressively narrower towards its throat end 34, the infolding 47 is increased still further and the other side edge 55 (Figures 3, 9 and 22–24) of the binding is also folded somewhat. As the binding 46 emerges from the guiding and folding portion of the guide and folder 26, the binding passes out of the openings 56 and 57 (Figures 8 and 9) at opposite sides and the opening 58 between the curved top guide plate 59 and the curved bottom guide plate 60. The binding 46 passes onwardly toward a throat 61 and then passes downwardly through the latter. As the binding makes this change of direction and extends downwardly through the throat 61 (Figure 8), the direction of curvature of the central or body portion of the binding 46 becomes reversed and the fold or loop portion 62 of the binding flattens out and folds over approximately on the line 63 (Figures 9 and 10) and the opposite fold or loop 64 of the binding also flattens out as shown. The two opposite flattened folds or loops 62 and 64 are also folded toward each other (Figure 10) as they pass downwardly through the throat 61.

The proper formation of the infolding of the sides of the binding 46 is aided by virtue of the end plates 65 and 66 (Figure 8) and the curved edge 67 which slopes oppositely, downwardly toward and below the top of the end plates 65 and 66, thereby tending to cause the folds 62 and 64 as they pass downwardly through the throat 61 to slide along the edge 67 towards the end plates 65 and 66, which latter act as limiting abutments to hold the extreme edges 68 and 69 of the folded binding in proper feeding position.

It is to be understood that instead of infolding both longitudinal edges of the binding only one of said edges may be infolded.

After passing downwardly through the throat 61, the binding passes to the left (Figures 6 and 7) beneath the presser foot 15. The binding will now be seen (Figures 6 and 10) to be shaped in the form of piping with four layers at one edge of the piping and two layers at the other edge. In order to sew the piping with a blind stitch, the needle 4 is made to pass downwardly as shown in Figure 6 so as to pass midway of the four layers of material of the fold 62 at the left edge of the piping. This produces blind stitch piping as illustrated in Figure 13. It will be appreciated that by adjusting the edge 19 of the presser foot closer towards the path of travel of the needle for the distance of one layer of the material, the needle would pass through three layers of the material at the left edge of the piping and still produce blind stitch piping without any stitches 70 (Figure 13) showing on the surface 70' of the piping. Also, the edge 19 could be moved away from the needle sufficiently to cause the latter to engage only a single layer of the material of the fold 62 at the left side of the piping to produce blind stitch piping.

Where the piping is to be sewed upon a piece of goods 71 (Figures 6 and 10), the latter is passed along a guide 72 which is attached in any suitable way, as, for example, by soldering, to the side of the binding guide and folder as shown. The goods 71 pass downwardly between the opposite folded sides of the piping and then take a right angle turn to the left and pass beneath the foot 15 and are fed along by the toothed feed member 24 in a way that is well known. On all standard sewing machines, when the presser foot rod 6 is lifted upwardly by the lever 8 or its equivalent, the tension on the thread is released. To remove the goods 71, to which the piping is attached, from the machine, the lever 8 is swung upwardly, which causes the tension on the thread to be released and causes the screw 7 carried by the presser foot rod 6 to engage and lift the ear 16 and presser foot 15 against the action of the spring 12, thus releasing the goods and piping from the foot 15 and feed member 24.

The edge 19 of the presser foot normally extends within the throat a short distance (Figure 12), thus restricting the width of the throat. The edge 19 is made to extend past the edge of the throat in the manner described to insure accurately positioning the layers of piping with respect to the needle for accurate and proper sewing of the piping. When using the needle 4 of the usual tapered form, the needle is sprung somewhat to one side of the edge 19 each time that it passes downwardly through the piping. The binding guide and folder 26 is pivoted at 28 (Figures 11 and 12) in order to permit it to swing away from the edge 19 when a seam or other thick place is encountered in the goods to which the piping is being stitched. As such a seam passes downwardly through the throat, it causes the guide and folder 26 to swing outwardly to produce an effective enlargement of the throat to permit the seam to pass readily without breakage of the needle. As soon as the seam has passed the throat, the spring 36 returns the guide and folder 26 to its normal operating position.

Where the filler consists of the separate piece 49 (Figure 4), the operation will be similar to that previously described for the formation of an integral filler except that the binding does not take a double fold but forms piping as shown in Figure 14 with the separate filler 49.

It is also possible to produce piping from the narrow binding 48 (Figure 4) without any filler, in which case the piping is as shown in Figure 15.

Where binding intermediate in width between the bindings used to produce the pipings shown in Figures 13 and 15 is used without any separate filler, piping will be produced similar to that shown in Figure 13 but without a layer 73'.

In the modified construction illustrated in Fig-

ures 16–20, the binding guide and folder 26 is mounted on a flat spring 73 (Figures 19 and 20), which is pivoted to the slide 30 at 74. A modified form of presser foot 75 is provided with a latching slot 76 and a cam surface 77 on a keeper 79 which may be formed integral with the presser foot 75 or may be rigidly secured thereto, as desired. The flat spring 73 preferably has an integral bent-up side, spring-latching finger 78, which normally rests in the latching slot 76 of the presser foot 75. The spring-latching finger 78 may be made of any suitable thickness and connected at any suitable location along the spring 73 to give any desired degree of springiness. The spring-latching finger 78 permits the binding guide and folder 26 to spring out sufficiently to permit effective enlargement of the throat of the binding guide and folder when a seam is encountered, in a manner similar to the construction shown in Figures 11 and 12 which has been fully described.

When it is desired to use the sewing machine to produce ordinary machine sewing instead of piping, the binding guide and folder 26 is lifted upwardly against the action of the spring 73 sufficiently to disengage the spring-latching finger 78 from the slot 76 to permit the finger to ride over the top of the keeper 79, whereupon the binding guide and folder 26 can be swung outwardly to a position such as illustrated in Figure 17. The lever 21 (Figures 2, 3 and 4) can then be swung in the proper direction to retract the presser foot 75 (Figure 17) from the path of travel of the needle. When it is desired to again use the device to produce piping, the lever 21 is swung in the opposite direction to position the presser foot properly adjacent the path of travel of the needle of the sewing machine, and the binding guide and folder 26 is swung towards the presser foot 75, whereupon the spring-latching finger 78 rides up the cam surface 77 of the keeper 79 and snaps into latching position in the latching notch 76.

It will be observed that all the parts which cooperate to produce the piping are mounted on the cover plate 9, which can be made of any suitable form to be readily inserted in the place of the usual cover plate on any standard sewing machine. Thus, the various parts of the mechanism which require adjustment are all mounted upon the plate 9, which can be readily attached to a standard sewing machine and which is firmly secured to the comparatively rigid base 1 of the sewing machine and which, therefore, is substantially free from the vibration which is necessarily inherent in parts that are mounted upon the head 2, which is necessarily subject to violent vibrations due to the reciprocating mechanism which actuates the needle 4. This is of special importance as regards maintaining the edge 19 of the presser foot 15 in accurately adjusted position.

In certain instances, for example, where the binder is formed of comparatively thick or stiff material, it may be desirable to use the positive folding means adapted to accurately produce the infold 47 before applying the binder to the binding folder and guide 26. For this purpose, a separate folder 85 (shown in Figure 21) may be substituted for the tensioning gate 40 of Figure 2. This folder 85 is provided with a supporting rod 86, which is adapted to enter the bushing 42 in the block 43 and to be secured thereto by the screw 44 as above described in connection with the tensioning gate 40.

The folder 85 may be of general concave form at its entrance end, as illustrated in Figure 27, and may be progressively folded toward its discharge end to provide a double fold for the material, as illustrated in Figures 25 and 26. One side of the binding 46 is thus folded over to produce the infold 47, and in this condition it is applied to the binding guide 26, wherein it is given the reverse folds in the manner above described.

A tensioning gate 88 may be secured to the folder 85 to apply suitable tension to the binding before it enters said folder. This tensioning gate 88 may comprise a wire having reverse folds over which the binding 46 is threaded.

Although the folder 85 has been disclosed as a separate folder located at the entrance side of the guide and folder 26, it is obvious that two folders may be constructed as a single unit if desired. It is also obvious that the tensioning gate 88 may be omitted if the folder 85 produces sufficient tension to cause the binding 46 to properly pass through the machine.

Since it is obvious that various modifications may be made in the specific details above described, the invention is not restricted thereto except as defined in the appended claims.

I claim:

1. A sewing machine for stitching binding comprising a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a presser foot mounted on said base and having an edge which guides the binding into a position to be blind stitched, and a folder mounted on said base, said folder having a throat adjacent the path of travel of the needle whereby the binding is fed to the presser foot for stitching.

2. A sewing machine for stitching binding comprising a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a binding folder and guide mounted on the base adapted to infold one or both edges of the binding and to fold the binding into general U-shape and having a throat adjacent the path of travel of the needle, means for guiding the folded binding downwardly through said throat, and a presser foot mounted on said base and having an edge closely adjacent the path of travel of the needle for receiving the binding from said throat and guiding the binding into a position to receive the stitch.

3. A sewing machine for stitching binding comprising a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a presser foot having an edge closely adjacent the path of travel of the needle for guiding the binding into position to be stitched, a binding folder and guide carried by the base, and a gate adapted to guide binding to said binding folder and guide, said gate being pivotally supported adjacent the entrance to said binding folder and guide and being adjustable to various angular positions.

4. A sewing machine for stitching binding comprising a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a presser foot having an edge for guiding the binding into a position to be stitched, a folder having a throat adjacent to the path of travel of the needle for feeding the binding to the presser foot for stitching, and a tensioning gate mounted adjacent the entrance of said folder, said gate comprising a wire having reverse folds, one of said folds extending over a part only of the width of the binding, whereby the pull of the binding over

said fold causes transverse adjustment of the binding with respect to the folder.

5. A sewing machine for stitching binding comprising a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a presser foot having an edge closely adjacent the path of travel of the needle, a folder having a throat adjacent the path of travel of the needle and cooperating with said edge to guide the binding into position to be blind stitched and a second folder mounted at the entrance side of said first holder, said second folder having means to infold one edge of the binding prior to passage thereof to said first folder.

6. A sewing machine for stitching binding comprising, in combination, a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a presser foot having an edge closely adjacent the path of travel of the needle for guiding the binding into a position to receive the stitch, and a binding guide and folder provided with a throat adjacent the path of travel of the needle with a side of the throat normally overlapping said edge for restricting the throat, the binding guide being resiliently mounted to permit it to temporarily move in a direction to reduce said overlapping and cause effective enlargement of said throat in response to pressure exerted by the work.

7. A sewing machine for stitching binding comprising, in combination, a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a presser foot having an edge closely adjacent the path of travel of the needle for guiding the binding in a position to receive the stitch, and a pivoted binding guide provided with a throat adjacent the path of travel of the needle, the binding guide being resiliently held with a side of the throat normally overlapping said edge for restricting said throat and being movable about its pivot in a direction to reduce said overlapping and cause effective enlargement of said throat in response to pressure exerted by the work.

8. A sewing machine for stitching binding comprising, in combination, a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a presser foot having a supporting surface and an edge closely adjacent the path of travel of the needle for guiding the binding into a position to receive the stitch, a resiliently mounted binding guide and folder having a portion resting on said supporting surface and provided with a throat adjacent the path of travel of the needle with a side of the throat normally overlapping said edge for restricting the throat, the resilient mounting permitting the binding guide to temporarily slide on said supporting surface in a direction to reduce said overlapping and cause effective enlargement of said throat in response to pressure exerted by the work.

9. A sewing machine for stitching binding comprising, in combination, a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a presser foot having an edge closely adjacent the path of travel of the needle for guiding the binding in a position to receive the stitch, and a binding guide and folder provided with a throat adjacent the path of travel of the needle for feeding folded binding to said edge of said presser foot, the binding guide being pivotally mounted to permit the throat portion of the binding guide to be moved horizontally away from the needle to permit the needle and presser foot to be used for ordinary machine sewing.

10. A sewing machine for stitching binding, comprising, in combination, a base, a standard, an overhanging arm, a needle head, a reciprocating needle, a presser foot having an edge closely adjacent the path of travel of the needle for guiding the binding into a position to receive the stitch, a binding guide and folder provided with a throat adjacent the path of travel of the needle for feeding folded binding to said edge of said presser foot, the binding guide being mounted to permit the throat portion of the binding guide to be moved away from the needle to permit the needle and presser foot to be used for ordinary machine sewing, and a latch detachably holding the throat portion of the binding guide adjacent the path of travel of the needle.

11. A sewing machine for stitching binding, comprising, in combination, a base, a standard, an overhanging arm, a needle head, a reciprocating needle, a presser foot having an edge closely adjacent the path of travel of the needle for guiding the binding into a position to receive the stitch, a binding guide provided with a throat adjacent the path of travel of the needle for feeding folded binding to said edge of said presser foot, the binding guide being mounted to permit the throat portion of the binding guide to be moved away from the needle to permit the needle and presser foot to be used for ordinary machine sewing, and a latch detachably holding the throat portion of the binding guide adjacent the path of travel of the needle, the latch being resilient and normally holding the throat portion with a side of the throat overlapping said edge for restricting said throat, said latch permitting the binding guide to temporarily move in a direction to reduce said overlapping and to cause effective enlargement of said throat.

12. A sewing machine for stitching binding comprising a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a presser foot secured to the base and normally unsupported by the head, the presser foot having a fabric guiding edge closely adjacent the path of travel of the needle, and means to guide material downwardly over said edge and rearwardly under said presser foot, said needle being adapted to pierce the downwardly extending portion of said material, entering and leaving said material from the same side to form a stitch which is blind from the other side.

13. A sewing machine comprising a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a spring on the base, a presser foot secured to the spring and normally unsupported by the head, the presser foot having an edge closely adjacent the path of travel of the needle for guiding material into position for stitching, and means for adjusting said edge of the presser foot toward and from the path of travel of the needle.

14. A sewing machine comprising a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a spring on the base, a presser foot secured to the spring and normally unsupported by the head, the presser foot having an edge closely adjacent the path of travel of the needle for guiding material into position for stitching, and means including a pivoted lever for adjusting said edge of the presser foot toward and from the path of travel of the needle.

15. A sewing machine comprising a base, a standard, an overhanging arm, a needle head carrying a reciprocating needle, a spring on the base, a presser foot secured to the spring and

normally unsupported by the head, the presser foot having an edge closely adjacent the path of travel of the needle for guiding material into position for stitching, and means including a pivoted lever and an eccentric associated therewith for adjusting said edge of the presser foot toward and from the path of travel of the needle.

16. A sewing machine attachment for stitching binding comprising a member adapted to be secured on the base of a sewing machine head adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into position to be blind stitched, and a folder mounted on said member, said folder having a throat cooperating with said edge of said presser foot to feed said binding.

17. A sewing machine attachment for stitching binding comprising a member adapted to be secured on the base of a sewing machine adjacent the path of travel of the needle, a presser foot resiliently mounted on said member having a fabric guiding edge for guiding the binding into a position to receive the stitch, a folder mounted on said member, said folder having a throat cooperating with said edge of said presser foot to feed the binding.

18. A sewing machine attachment for stitching binding comprising a plate adapted to be secured on the base of a sewing machine adjacent the path of travel of the needle and provided with openings adapted to receive the feeding teeth of a sewing machine, a presser foot mounted on said plate in position to cooperate with said feeding teeth and having an edge for guiding the binding into a position to receive the stitch, and a folder mounted on said plate, said folder having a throat cooperating with said edge of said presser foot to feed the binding.

19. A sewing machine attachment for stitching binding, comprising a member adapted to be secured on the base of a sewing machine adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into a position to receive the stitch, a folder mounted on said member, said folder having a throat cooperating with said edge of said presser foot to feed the binding, and a gate adjustably mounted adjacent the entrance of said folder for guiding said binding to said folder.

20. A sewing machine attachment for stitching binding comprising a member adapted to be secured on the base of a sewing machine adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into a position to receive the stitch, a folder mounted on said member, said folder having a throat cooperating with said edge of said presser foot to feed the binding, a tensioning gate comprising a wire having a plurality of reverse folds adjacent the entrance of said folder for guiding said binding to said folder, and means for adjusting the angular position of said gate with respect to the folder to thereby vary the amount of infold of the binding.

21. A sewing machine attachment for stitching binding comprising a member adapted to be secured on the base of a sewing machine head adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into a position to receive the stitch, a folder mounted on said member, said folder having a throat cooperating with said edge of said presser foot to feed the binding, and a tensioning gate mounted adjacent the entrance of said folder, said gate comprising a wire having reverse folds, one of said folds extending over a part only of the width of the binding, whereby the pull of the binding over said fold causes transverse adjustment of the binding with respect to the folder.

22. A sewing machine attachment for stitching binding comprising a member adapted to be secured on the base of a sewing machine adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into a position to receive the stitch, a folder mounted on said member, said folder having a throat cooperating with said edge of said presser foot to feed the binding, and a second folder mounted at the entrance side of said first folder, said second folder having means to infold one edge of the binding prior to passage thereof to said first folder.

23. A sewing machine attachment for stitching binding comprising a member adapted to be secured on the base of a sewing machine adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into a position to receive the stitch, a folder mounted on said member, said folder having a throat cooperating with said edge of said presser foot to feed the binding, a second folder mounted on said member adjacent the entrance of said first folder, said second folder having one edge thereof progressively infolded from the entrance to the exit side thereof, whereby the corresponding edge of the binding is infolded prior to application thereof to said first folder, and a tensioning gate comprising a wire having reverse folds carried by said second folder.

24. A sewing machine attachment for stitching binding comprising a member adapted to be secured to the base of the sewing machine head adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into a position to be stitched, and a binding guide and folder mounted on said member having a throat normally overlapping said edge for restricting the throat, the binding guide and holder being resiliently mounted whereby it may move temporarily in a direction to reduce said overlapping and to cause effective enlargement of said throat in response to pressure exerted by the work.

25. A sewing machine attachment for stitching binding comprising a member adapted to be secured to the base of the sewing machine head adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into a position to be stitched, and a binding guide and folder pivotally mounted on said member having a throat normally overlapping said edge for restricting the throat, the binding guide and folder being resiliently mounted whereby it may move temporarily about its pivot in a direction to reduce said overlapping and to cause effective enlargement of said throat in response to pressure exerted by the work.

26. A sewing machine attachment for stitching binding comprising a member adapted to be secured to the base of the sewing machine head adjacent the path of travel of the needle, a presser foot mounted on said member having a supporting surface and an edge for guiding the binding into a position to be stitched, and a binding guide and folder mounted on said member having a portion resting on said supporting surface and provided with a throat normally overlapping said edge for restricting the throat, the binding guide

and folder being resiliently mounted whereby it may slide on its supporting surface in a direction to reduce said overlapping and to cause effective enlargement of said throat in response to pressure exerted by the work.

27. A sewing machine attachment for stitching binding comprising a member adapted to be secured to the base of the sewing machine head adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into a position to be stitched, and a binding guide and folder mounted on said member having a throat for feeding folded binding to said edge of said presser foot, the binding guide being mounted to permit the throat portion thereof to be moved away from the needle to permit the needle and the presser foot to be used for ordinary machine sewing.

28. A sewing machine attachment for stitching binding comprising a member adapted to be secured to the base of the sewing machine head adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into a position to be stitched, a binding guide and folder mounted on said member having a throat for feeding folded binding to said edge of said presser foot, the binding guide being mounted to permit the throat portion thereof to be moved away from the needle to permit the needle and the presser foot to be used for ordinary machine sewing, and a latch detachably holding the throat portion of the binding guide adjacent the path of travel of the needle.

29. A sewing machine attachment for stitching binding comprising a member adapted to be secured to the base of the sewing machine head adjacent the path of travel of the needle, a presser foot mounted on said member having an edge for guiding the binding into a position to be stitched, a binding guide and folder mounted on said member having a throat for feeding folded binding to said edge of said presser foot, the binding guide being mounted to permit the throat portion thereof to be moved away from the needle to permit the needle and the presser foot to be used for ordinary machine sewing, and a latch detachably holding the throat portion of the binding guide adjacent the path of travel of the needle, said latch being resilient and normally holding the throat portion with a side of the throat overlapping said edge for restricting said throat, said latch permitting the binding guide to temporarily move in a direction to reduce said overlapping and to cause effective enlargement of said throat.

30. A sewing machine attachment for stitching binding comprising a member adapted to be secured to the base of a sewing machine head adjacent the path of travel of the needle and a pressed foot carried by said member, said presser foot having a fabric guiding edge around which the fabric feeds in a position such that the needle may pierce the downwardly extending portion of the material adjacent said edge entering and leaving said material from the same side to form a stitch which is blind from the other side.

31. A sewing machine attachment for stitching binding comprising a member adapted to be secured on the base of a sewing machine head adjacent the path of travel of the needle, a presser foot, a spring carried on the member and connected to the presser foot for pressing the presser foot toward the base, the presser foot having an edge for guiding the binding into a position to receive the stitch.

32. A sewing machine attachment for stitching binding comprising a member adapted to be secured to the base of a sewing machine head adjacent the path of travel of the needle, a spring carried on said member, a presser foot carried by said spring, a presser foot having an edge for guiding the binding into a position to receive the stitch, and an additional spring for increasing the pressure of the presser foot toward the base.

33. A sewing machine attachment for stitching binding comprising a member adapted to be secured on the base of a sewing machine adjacent the path of travel of the needle, a presser foot mounted on said plate having an edge for guiding the binding into a position to receive the stitch, and means to adjust the edge of said presser foot toward and away from the path of travel of the needle.

CHARLES SEAMAN.