

(No Model.)

M. I. BAIRD.

HEMMER FOR SEWING MACHINES.

No. 264,845.

Patented Sept. 26, 1882.

Fig. 1.

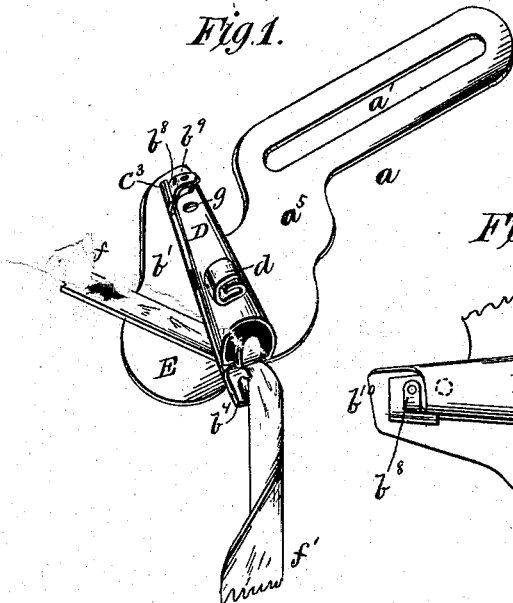


Fig. 2.

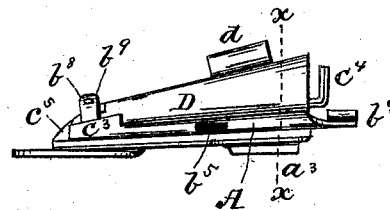


Fig. 7.

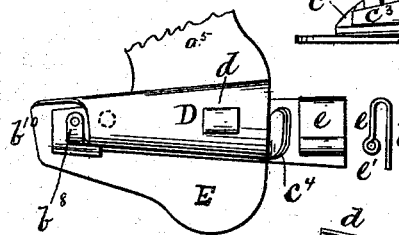


Fig. 3.

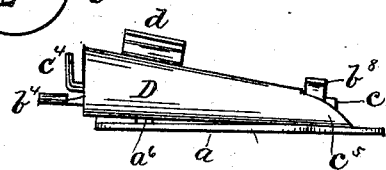


Fig. 4.

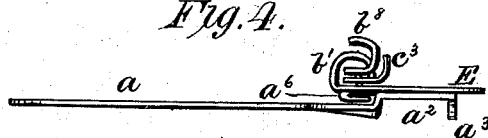


Fig. 6.

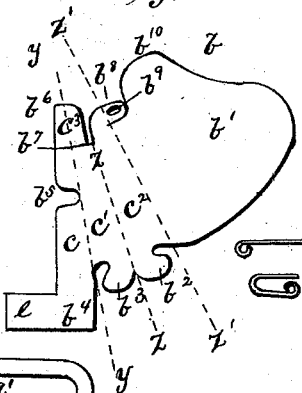


Fig. 5.

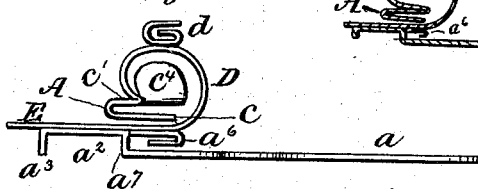


Fig. 8.

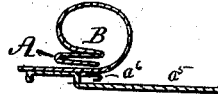
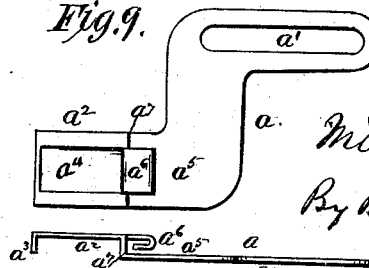


Fig. 9.



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MILTON I. BAIRD, OF ALLEGHENY, PENNSYLVANIA.

HEMMER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 264,845, dated September 26, 1882.

Application filed December 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, MILTON I. BAIRD, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Hemmers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention has for its object to furnish a new and improved hemming and binding attachment for sewing-machines.

It consists in two scrolls, one placed above the other, a guide-lip, side guides, and other mechanism, all combined and arranged to operate as hereinafter fully set forth.

In the drawings, Figure 1 is a perspective, Figs. 2 and 3 are elevations taken from opposite sides, Fig. 4 is an elevation of the exit end, and Fig. 5 is an elevation of the receiving or entrance end, of a device constructed according to my invention. Fig. 6 shows the blank from which the device is formed. Fig. 7 is a plan of the scroll, made on an enlarged scale. Fig. 8 is a section on line $x x$, Fig. 2; and Fig. 9 shows a plan and a side view of the slotted plate for holding the hemmer and binder.

a is the holder to which the hemmer and binder is fastened. It is provided with a slot, a' , through which passes the thumb-screw by which it is fastened to the cloth-plate of the sewing-machine. It has its other end stamped upward, so as to provide a raised portion or platform, a^2 , on which the hemmer is placed. The platform a^2 has its outer edge bent downward so as to form a short lip or foot, a^3 , which rests on the cloth-plate of the machine and gives firmness to the position of the platform. In constructing the foot a^3 and platform a^2 they are formed and arranged so as to hold the hemmer and binder in an inclined position, with the exit end lower and close to the cloth-plate. I cut from the middle portion of the platform a^2 a rectangular flap, a^4 , (one side of which remains attached,) which I bend over

toward the shank a^5 of the holder and down to a level with the said platform. The free end of this flap is bent under to form a hook-shaped folder, a^6 , which nearly touches the upper surface of the holder, as shown in Figs. 4 and 5, space being left below it to permit the passage of the fabric. It serves as a support for the ends of the bed-plate of the scrolls. The piece of goods is passed under the hemmer and its edge is folded by the folder a^6 , and it is then conveyed under the main seam, and is sewed to the under side thereof at the same time and by the same operation that the braid, piping, and lace are sewed to the upper side.

That my invention may be better understood, I will describe the form and method of folding the blanks from which the hemmer-scrolls are made. In the drawings, Fig. 6 shows this blank, which is designated by the letter b . The blank b is cut from a sheet of suitable metal in the irregular form shown. When thus cut there is presented the large wing b' , which becomes the bed-plate; the two semi-oval projections $b^2 b^3$, the projection b^2 being formed a little shorter than b^3 , which, when folded together and bent upward, make the lip or flange at the entrance of the hemmer-scroll; the nearly-rectangular projection b^4 , which extends outward from the under side of the entrance to the piping-scroll; a side notch, b^5 , which forms an opening for the passage of piping or other like finishing material; a tapering projection, b^6 , which projects outward from the under side of the exit end of the piping-scroll, and which is partially cut off by a cross-slit, b^7 , cut from the inner side thereof; a transverse tongue, b^8 , provided with an eye or opening, b^9 , all arranged around the edge of said blank in the positions shown. The notch b^5 and the slit b^7 are cut from opposite directions, and have their inner ends about on the same line, $y y$. The blank thus formed is folded into the scrolls as follows: Let line $y y$ be drawn across the blank from the inner edge of the projection b^4 to a point near the middle of the projection b^6 , another line, $z z$, be drawn from the middle point between the semi-oval projections $b^2 b^3$ to the inner end of the slot between the projection b^6 and the fast end of the transverse tongue b^8 , and a third line, $z' z'$, be drawn from near the outer end of the slot

cut to form the semi-oval projection b^2 to the inner end of the slit cut to separate the tongue b^8 from the body of the blank. It will be seen that these several lines, drawn as described, mark off three sections nearly equal in width, and having a corresponding taper from end to end. The first or outer section, c , is bent downward and under the second or middle section, c' . A sufficient space is left between these two sections for the passage of the fabrics. When the outer section is thus bent it, with the second section, forms what I call the "piping" or "under" scroll, A. The notch b^8 becomes an opening through to the under side of the piping-scroll, as shown in Fig. 2. In bending the first section, c , the crease on the line $y y$ does not extend through the projection b^6 , but reaches only to the inner end of slit b^7 . When the section is bent down as described that portion of the extension b^6 marked c^3 turns outward, and is afterward curved upward to form a nearly-vertical side guide, as shown in Fig. 4. The middle section, c' , is bent upward on the line $z z$ and over the third section, c^2 . It is pressed firmly against the section c^2 , so that the two together make a strong partition or central guide, B, between the piping-scroll and the hemmer-scroll, hereinafter described. When folded thus the two semi-oval projections come together, and the two plates or thicknesses of metal are bent upward to or nearly to a vertical position, and compose the lip or guide c^4 at the entrance of the hemmer-scroll. The narrow wing c^3 of the extension b^6 laps over and close to the inner end of the transverse tongue b^8 . In ordinary hemmers the lip c^4 , placed at the entrance of the scroll, is very light, and is easily and soon bent down by the fabrics which are passed over it. It has been impossible to make it strong enough in any of the ordinary hemmers to bear the strain made upon it. In my device I have provided a lip made double by the manner of folding of the blank, and thereby made strong enough to endure any strain that may be put upon it. The projection b^2 is cut a little shorter than the projection b^3 , so that when the two are bent upward to a vertical position their edges will be flush. The folded sections $c c'$ and the wing b' are now rolled together, so that the said wing will be formed into a tapering tubular-shaped hemmer-scroll, D, arranged above the piping-scroll A and separated from the latter by the intermediate guide or partition, B. The wing b' passes close to but does not touch the edge of the partition B; but space enough is left to afford facilities for manipulating the goods. The end of the wing b' passes under and close to the under side of the piping-scroll, and is carried outward horizontally and becomes a bed-plate for the scrolls, as shown at E, Figs. 4 and 5, while the extension b^{10} is below and reaches beyond the end of the extension b^6 . When thus folded it will be seen that the section c^2 is the bottom or under side of the hemmer-scroll D, and that the section c is

the bottom of the piping-scroll A. It will be seen, also, that the end of the section c^2 , to which the transverse tongue b^8 is attached, and the end of the section b^6 , and the end of the extension b^{10} together form a series of descending steps from the hemmer to the cloth-plate of the machine. By this arrangement the several articles of goods which are being sewed together are carried from the hemmer to the needle without being wrinkled or otherwise disarranged. In order to make this descent more gradual than it otherwise would be, it will be seen that the portion c^3 of the extension b^6 is severed from the end of the section c' , and does not form a part of the piping-scroll, but stands up at the side and permits the goods to pass from the end of the hemmer-scroll D onto the bottom plate of said piping-scroll. The portion c^3 , bent upward as shown, becomes a side guide and keeps the goods in order. The transverse lip b^8 is bent slightly inward and over the hemmer, so as to bring the eye b^9 over the line on which the stitching will be done. This lip serves as a side guide for use in putting on lace or for edge-stitching goods. The eye b^9 can be made through the top of the hemmer-scroll D, as shown at g , Fig. 1, instead of through the end of the tongue b^8 ; but I prefer to make it through the latter, as shown, as thereby it brings it closer to the needle, and less skill is required to manipulate the braid that is passed through it.

On the top of the hemmer-scroll, and near the larger end, I place a folder, d , composed of a narrow plate of metal, bent in the form shown, and adapted to fold the edge of the piece of goods passed through it.

e is a cord fixed on the upper side of the projection b^4 , as shown, and is arranged to hold and conduct a cord into proper position to be sewed to the goods that are passing through my device. It is so arranged with reference to the piping-scroll that the functions of the latter are not interfered with.

The bed-plate E is placed on the raised platform a^2 , so that the scrolls will be over the folder d and bring the latter in the same vertical plane with the folder d , guide b^8 , and lip c^4 . The bed-plate is soldered or otherwise made fast to the platform a^2 .

The operation of the device will be plain to those accustomed to the use of sewing-machine attachments. Braid is fed through the eye b^9 , one piece of the goods is passed through the hemmer-scroll D, another piece is carried under the piping-scroll on the top of the bed-plate, the piping is put through the piping-scroll, a piece of lace or other desired fabric is conveyed through the folder d and under the guide b^8 and below the braid, while an under facing for the seam is taken through the folder d below the bed-plate. If the piping used be too wide to pass freely through the piping-scroll, it may be taken out at the opening b^9 and conveyed thence under the said scroll to the needle; or if two pieces of piping are to be

sewed in the goods, one piece is taken out at opening b^5 , while the other passes out at the exit end of the scroll. I do not deem it necessary to describe any of the particular kinds of work which may be done by my improvements. The variety is great, and will readily suggest themselves to any intelligent operator.

It will be seen, further, that when the blank is folded, as hereinbefore described, the projection b^{10} extends upward and forms a side guide or shield, c^3 , which acts to carry the goods straight forward. It will also be seen that the exit end of the device is sloped downward, so as to allow it to pass as far as possible under the presser-foot, and thereby shorten the distance the goods must travel to reach the needle.

The extension or table b^4 serves as a support for the corder e and as a means to facilitate at the outset the putting of the piping into the piping-scroll. I have shown in Fig. 1 a piece of piping as it is being put into the scroll. The piping is first slipped under the scroll, with the end f extended to the left across the bed-plate, as shown. The other end, f' , is then turned up over the table b^4 , and is held firmly in this position. The end f is now carried along the bed-plate to the exit end of the device, and is drawn under the scroll, and then the piping, by a slight drawing movement, is drawn upward past the end of the bottom plate, c , into the scroll.

It will be further observed that the raised platform a^2 is so formed as to provide a vertical guide, a^7 . The use of this guide is to facilitate the sewing of lace to the under side of the hem. This guide has an incline corresponding to the incline given to the foot a^3 , and the bed-plate projects over the guide far enough for lace or other materials to pass readily forward and be sewed to the goods. The guide prevents the lace or other material from being moved too far to the left, and thereby thrown out of its proper position.

When it is desired to sew a piece of lace or other fabric on the upper side of the hem, which lace, &c., should not be folded, it is not put through, but passes over the top of the folder d and under the guide b^8 . The eye g may be used for braiding goods passed through the scroll D. The eye b^9 in the guide b^8 must be used for the braid when one of the articles to be sewed together is carried over the top of the said scroll D. I prefer to feed the braid through eye b^9 , even when the goods are put through the scroll, for reasons as hereinbefore set forth.

It will be seen that the corder e is formed from a flap made on the side of the extension b^4 . The eye e' is first formed, after which the flap is turned down under the extension b^4 . The folding of the blank, as hereinbefore described, brings the corder into its proper position before the piping-scroll. I prefer to form the corder by cutting and folding the blank

as set forth; but it may be formed in a separate piece, and afterward soldered or otherwise made fast to the extension b^4 . I prefer also to make the corder from the wide flap bent over the top of the extension; but it will be understood that it could be made from a piece of suitable wire bent into proper form and soldered or otherwise made fast on the edge of the end of said extension b^4 .

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, substantially as hereinbefore set forth, of a hemmer-scroll, a piping-scroll arranged below the hemmer-scroll, a bed-plate supporting the two scrolls, and a holder to which the said bed-plate is made fast, substantially as set forth.

2. A scroll hemmer attachment for sewing-machines, provided with an eye or opening on its upper side and near its exit end for feeding braid to the upper side of the hem, substantially as set forth.

3. A scroll hemmer attachment provided at its exit end with a transverse tongue, b^8 , extended upward and over the line or path of the hem to guide the fabric passed over the top of the scroll, substantially as set forth.

4. The combination, with the scroll A, having its under plate extended outward at the entrance end thereof, of a corder device, e , secured on the top of the extended end of said bottom plate, substantially as set forth.

5. The blank b , formed with the semi-oval projections b^2 b^3 , the extension b^4 , the extension b^6 , transverse tongue b^8 , and side projection, b^{10} , and adapted to be folded into a combined hemmer, corder, and piping device, substantially as set forth.

6. In a combined hemmer and piping attachment, the piping-scroll A, having its under plate raised above the bed-plate and provided with an exit-opening, b^5 , through said under plate, as and for the purpose set forth.

7. In a combined hemmer and piping attachment, the side guide c^3 and the side guide c^5 , placed opposite to each other and at the exit ends of the scrolls, and sloped downward toward the bed-plate, substantially as set forth.

8. In a hemmer-scroll for sewing-machines, the lip or flange c^4 , composed of two semi-oval plates or projections laid together and arranged in a vertical position in front of the entrance or mouth of said scroll, substantially as set forth.

9. The combination, with the scroll D, of the folder d , placed on the upper side and near the entrance of said scroll, and the corder b^9 , placed above the exit end thereof and in line with the folder d , substantially as set forth.

10. The improved holder a , having a slotted bent shank, a vertical shoulder or guide, a^7 , a flat table or platform, a^2 , inclined downward in the direction in which the goods are moved, and a leg or support, a^3 , bent downward from the outer end thereof, substantially as set forth.

11. The improved attachment for sewing-machines, consisting of the scroll A, open at its inner end, the scroll D, placed above and fixed to the scroll A, and open at its inner lower side and communicating with the open end of the scroll A, and the table or support E, placed below and disconnected from the scroll A, and having its inner end curved upward past and disconnected from the open end of the scroll A and inner end of partition B and joined to the scroll D, as set forth.

12. The combination, in a sewing-machine attachment, substantially as hereinbefore set forth, of the scroll D, the scroll A, a partition, B, between the scrolls, and the under plate or table, E, placed below and detached from the scroll A, whereby a passage-way for the fab-

ric is provided, and having its end b^{10} extended outward beyond the exit ends of the scrolls, as and for the purpose set forth.

13. The holder a , provided with a vertical shoulder or guide, a^7 , and a horizontal raised platform, a^2 , and having a folder, a^6 , extended horizontally from the shoulder or guide a^7 backward above the shank a^5 , substantially as set forth.

In testimony whereof I affix my signature, in presence of two witnesses, on this 26th day of November, 1881.

MILTON I. BAIRD.

Witnesses:

H. A. KUNZE,

G. B. McNULTY.