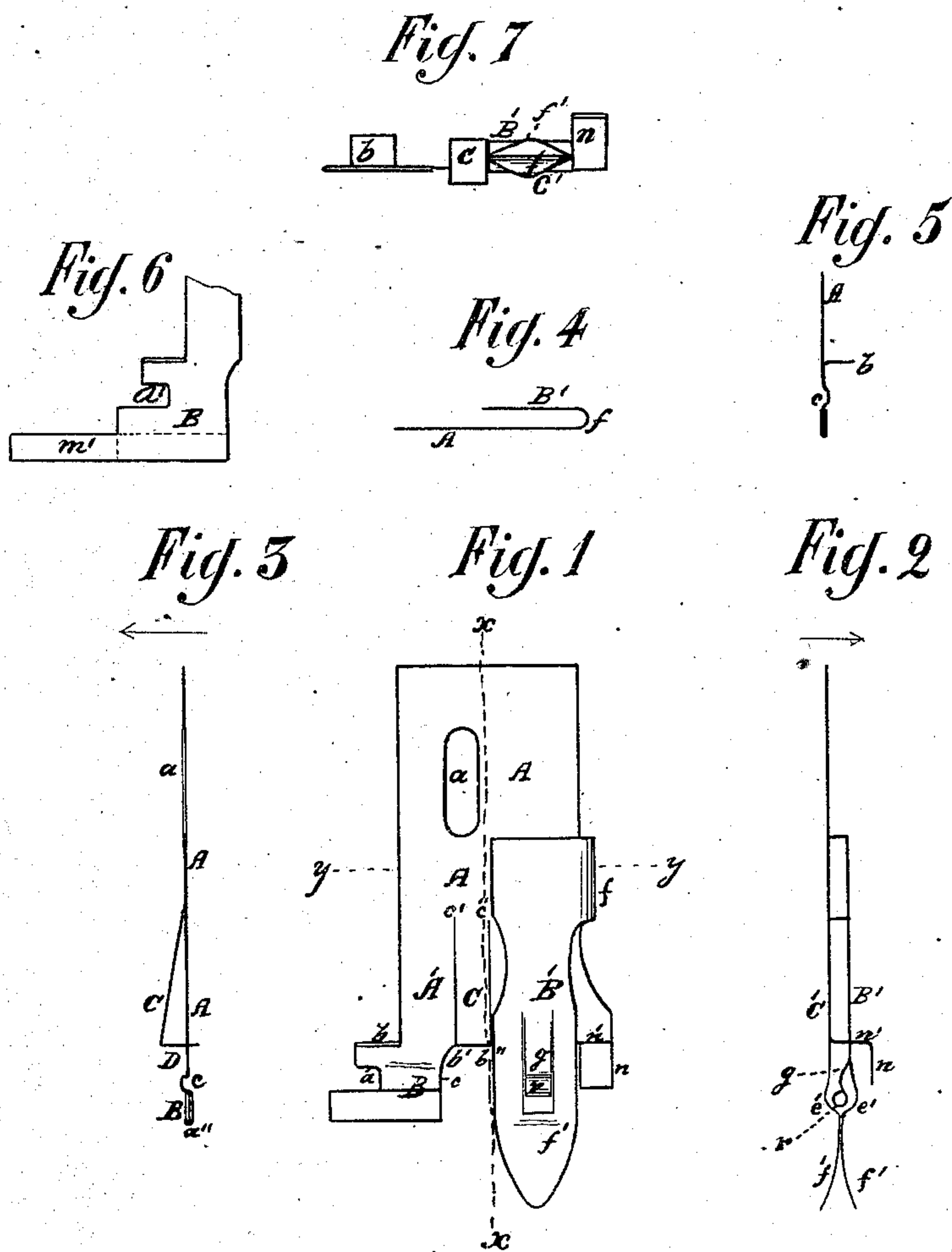


J. J. THOMPSON.
Sewing-Machine Attachment.

No. 161,076.

Patented March 23, 1875.



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UNITED STATES PATENT OFFICE.

JOHN J. THOMPSON, OF GOSHEN, NEW YORK.

IMPROVEMENT IN SEWING-MACHINE ATTACHMENTS.

Specification forming part of Letters Patent No. 161,076, dated March 23, 1875; application filed June 6, 1874.

To all whom it may concern:

Be it known that I, JOHN JAMES THOMPSON, of Goshen, in the county of Orange and State of New York, have invented an Attachment for Sewing-Machines, of which the following is a specification:

This invention may be applied for use upon any sewing-machine of ordinary or suitable construction, and is designed for "cording and ruffling," so termed, either or both, as may be desired. The invention comprises a novel combination of a cord-tube or guide, with certain other devices so arranged as to insure the most effective operation of the attachment, the said parts being so formed that not only is the cost of the manufacture of the attachment materially reduced, but the attachment itself is made much stronger and lighter, and with its parts much more accurately adjusted than would be possible if the said parts were secured together by rivets, solder, or the like.

Figure 1 is a plan view of a sewing-machine attachment made according to my invention. Fig. 2 is a longitudinal section of the same in the line *xx* of Fig. 1, looking from the left; and Fig. 3 is a like view in the same line looking from the right. Fig. 4 is a transverse sectional view taken in the line *yy* of Fig. 1. Fig. 5 is an edge or lateral view of one portion of Fig. 1, looking from the left. Fig. 6 is a plan view of a portion of the sheet-metal blank from which the device is made, and Fig. 7 is an end view of the said device.

In the manufacture of my improved attachment for sewing-machines, I provide a blank of sheet metal cut to shape preferably by suitable dies. The contour of this blank is such that when bent into specific shape, and in a certain manner folded upon itself, it will provide the attachment or device complete, as hereinafter set forth.

The larger, or as it may be termed the main, portion of the device comprises the plate A provided with a slot, *a*, for the passage of the screw, whereby it is attached to the bed-plate of the sewing-machine. The position of the plate A, when thus affixed in position for use, is such that the needle shall play up and down through the notch *a'* in the presser-plate B. In the under side of this presser-plate is provided transversely a groove, *c*, and projecting

upward from the inner or back portion of the said presser-plate is a fixed stud or guide, *b*, the presser-plate, with its immediate adjuncts just described, being formed upon the outermost portion of a tongue, A', provided by slitting the metal, as shown from *b'* to *c'* in Fig. 1. The metal is furthermore slit, as from *b''* to *c''* in the same figure, to form another elastic tongue, C, which is bent up at an angle to the plate A, as represented more fully in Fig. 2, and the outer or free extremity of which is bent at an acute angle to its main length to provide a fender, D, the purpose of which will hereinafter fully appear. Upon the side of the fender D, opposite that at which the presser-plate B is situate, are two fingers, B' C'. Of these fingers the lower one, C', projects during its main length in about the same plane as the plate; but the upper, B', formed in one piece of metal, with the other parts set forth, is brought over and above the other, as shown more plainly in Fig. 2, being connected with the plate A at its edge, as indicated at *f* in Figs. 1 and 4. The two fingers extend parallel and at a slight distance apart, as represented in Fig. 2, during their main length; but are curved, as shown at *e'*, and thence flared, as at *f'*, the acute angle of each between its curve and flare touching the corresponding angle of the other, as represented in the aforesaid figure. The uppermost finger, B', is cut or punched to provide a spur, *g*, the free end of which is bent to a circular or cylindrical form to provide a cord-tube, *r*, this cord-tube being in the same vertical plane as the groove *c* in the presser-plate. At the outer edges of the fingers is provided the fixed guide *n*, the vertical portion *n'* of which is in the same vertical plane as the guide *b*. It will be borne in mind that the hereinbefore-indicated parts are all formed in one—that is to say, from one piece of metal of uniform thickness—and, before shaping into the finished device, cut or stamped into a blank of the requisite contour, even the thickening of the outward portion *a''* of the presser-plate, as shown more fully in Fig. 3, in order to provide for the formation of the groove *c* of said plate, being accomplished by providing upon the blank a lateral spur, *m'*, as represented in Fig. 6, which is folded flat upon the under

side of the presser-plate, as indicated in Figs. 3 and 7.

In using the device the same is fixed upon the bed-plate of the sewing-machine, as hereinbefore set forth, so that the needle of such machine may play through the notch *a'* in the presser-plate B of the device, the said plate being situate under the presser-foot of the machine and capable of being pressed down or released thereby. When thus put in place the elastic fender D, having a tendency, as indicated in Figs. 3 and 7, to be thrust beyond the plane of the lower surface of the plate A, rests snugly and firmly upon the surface of the bed-plate, to which the device is affixed, and being held thereto by the continuous and elastic pressure of the tongue C, upon which it is formed, effectually prevents the fabric in hand, during cording or ruffling, either or both, from slipping edgewise under the plate A, and interfering with the easy management or manipulation of said fabric and the rapid and facile operation of the device.

In the use of the device thus attached in place upon the sewing-machine for cording, the cord is passed from the left-hand side of the device (as the same is represented in Fig. 1) through the cord-tube *r*. The welt is passed in the same direction between the fingers within the curve *e'*, folding over the outer side or surface of the cord-tube as it passes between the same and the adjacent surface of the curves *e'*. The welt is inserted between the flaring extremities *f'* of the fingers, which yield to permit such insertion. The welt passing over and upon the outer rounded surface of the cord-tube, the simultaneous passage in the same direction of the cord and welt fold the latter upon the former as the two issue toward the notch *a'*, or, in other words, toward the needle of the machine. Simultaneously with this the upper layer of fabric to be corded passes over the uppermost finger B', and the lower layer of said fabric passes underneath the lowermost finger C'. The two layers of fabric, the welt, and the cord all pass beneath the presser-plate B, the latter being depressed by the usual depression of the pressure-foot of the machine. The cord, being inclosed, causes a linear protuberance of the whole, and this protuberance or swelling caused by the presence of the cord passes longitudinally through or within the groove *c* in the presser-plate, the welt, and the layers of fabric as well, being by this means guided direct to the needle in such manner that the seam is sewed in the exact relation desired with reference to the cord, with only the slightest attention on the part of the attendant or operator.

The fabric, together with the cord and welt, is, of course, simultaneously fed to the needle by the usual action of the feeding devices of the machine, the guides *b* and *n* guiding, more

or less, the inward thrust of the edges of the fabric during its movement just described.

In order to both ruffle and cord the fabric, the upper layer of fabric, the welt, and the cord inclosed therein are caused to pass over the presser-plate, the lower layer of fabric alone passing below. The direct action of the feed upon the latter, by giving it a movement much more rapid than that allowed to the parts above, flutes or ruffles it during the formation of the seam, the cord, its enveloping-welt, and the upper layer of fabric remaining straight or even.

In order to simply ruffle one layer of fabric upon another, the two layers are caused to pass to the presser-plate in the same manner as in cording and ruffling, the cord and its welt being dispensed with.

It will be particularly kept in mind that, by making the device in one piece from a blank suitably shaped, not only is it rendered capable of manufacture at a greatly-reduced expense, but it is also rendered much stronger than would otherwise be the case, and that, furthermore, the upper finger, being connected with the plate A by the sheet-metal connection *f*, continuous with both the said upper fingers, may be bent and adjusted to regulate or adjust with the greatest facility and accurately its pressure upon or toward the lower finger C', as may be required to secure the most effective operation of the device. Furthermore, that the elastic fender D prevents the slipping of the layers of fabric, either or both, under the plate. Also, that the groove *c* in the operation of cording, as hereinbefore set forth, guides the cord to the needle in such relation thereto that the welt and layers of fabric are sewed through in proper contiguity to the cord, in perfect parallelism therewith, and with only the slightest attention from the operator. Also, that the cord-tube serves the double purpose of guiding the cord, and, in conjunction with the curves of the fingers B' C', to fold the welt upon the said cord. Also, that, being constructed for use for cording or ruffling, either alone or both together, as may be desired, a single device is made to perform functions that otherwise would require two distinct attachments for the sewing-machine.

What I claim as my invention is—

The sewing-machine attachment, comprising the fingers B' C', with the cord-tube *r* within their curves *e'*, the elastic pressure-fender D, and the presser-plate B formed with the groove *c* in its under side, the whole being constructed, and the several parts arranged, for co-operative action, substantially as and for the purpose set forth.

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Witnesses:

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