

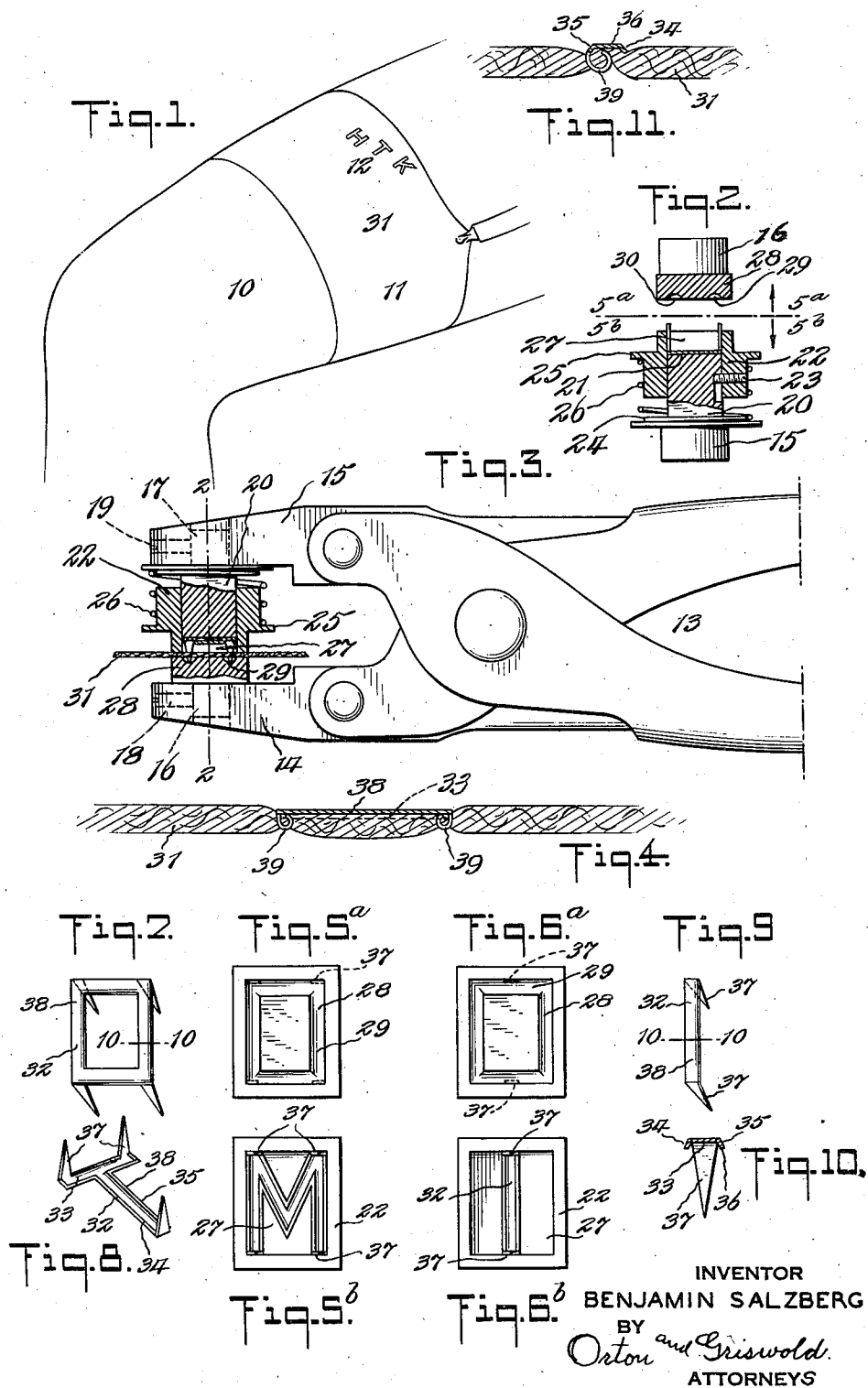
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B. SALZBERG

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INITIAL APPLICATOR

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INITIAL APPLICATOR

Benjamin Salzberg, New York, N. Y.

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1 Claim. (Cl. 1—50)

The invention relates to custom made initialled hosiery; to a set of initials or similar display characters particularly designed for this use, and to an applicator for securing the characters to hosiery or equivalent flexible support.

The invention contemplates the practice on the part of the salesperson at the hosiery counter of a store, in applying to a purchased pair of hose those metal initials or similar characters which may be selected by the purchaser in somewhat the same manner as metal initials are at present applied to handbags, belts and other leather goods. The practice herein featured also resembles known practices in applying metal initials to bags, pocketbooks and the like, in that the letters are supplied with prongs, passed through the leather and clinched in place.

The term "character" as hereinafter used is intended to designate a sheet metal stamping preferably of very thin gauge metal and having a form to represent any one of the letters of the alphabet, any one of the numeral digits, or any fanciful or decorative symbol used for identification of the person, his or her lodge or club, or for non-personal ornamental purposes.

The characters are intended to be made as a one-piece stamping of an inexpensive, easily worked sheet metal, preferably a metal which has some slight degree of resiliency and it is herein suggested that thin sheet brass is such suitable material. However, the disclosure herein is particularly intended to lend itself to hosiery of the more expensive grade, and it is accordingly suggested that the characters be made of gold, silver, platinum or other expensive metals, and which characters may be recovered when the hosiery is discarded and reused simply by bending the prongs back into their original positions and reinserting them in the applicator herein disclosed.

Hosiery, and particularly women's stockings of the character now on the market, particularly high grade stockings intended for evening wear, are made of knitted fabric of very fine interlocking loops, usually made of two or three fine threads of silk or "nylon," and this type of fabric is not designed to withstand any rough usage such as characterizes the present practice of securing metal letters to leather. As is well known, any breaking of a thread in hosiery will start an unsightly run or "ladder."

Accordingly, the invention has for one of its objects the providing of a metal initialled stocking or hose which will be in no way deleteriously effected in the act of securing the characters to

the knitted fabric even though the fabric be of fine and easily damaged texture.

Still another object of the invention is to provide a metal initialled stocking which can be laundered conventionally without disturbing the initials and which will be free of sharp or other small dimensioned parts which might catch in other clothing or scratch the user. This object is attained by providing fastening prongs so proportioned in both width and length dimensions and so angled that each prong will pass into a loop opening in the knitted fabric, and as each prong is curled circularly about on itself it will embrace within the metal loops so formed at least three or four of the threads. Further, the loops so formed are spaced apart a distance sufficient to provide a material amount of fabric loops or threads in the part of the fabric therebetween.

One way in which these objects are attained is to provide the characters, or at least the major part of each character, of straight strokes, and of concave channel form on their rear sides, and arranged so that as the clinching loop is formed from the prongs the material is stretched across the adjacent portion of the channel, is crimped into the channel by the end portions of the clinching loop so that the fabric is pinched between the tension loops and the side walls of the channel.

This has the effect of securing the character to the frail flexible fabric by crimping as well as by a clinching action, and further provides a structure which prevents the start of a run in case a prong should break one of the looped threads.

Referring to the applicator aspect of the disclosure, an object of the invention is to provide a simple hand operated instrument in the form of a pair of pliers which can be selectively loaded with any one of the characters forming the set supplied with the instrument; which will hold the character in position therein while the device is being inverted by the operator in the act of guiding the applicator to the desired point on the fabric where the character is to be affixed and then by simple squeezing of the jaw-like members together, the character is permanently and securely affixed in place while the fabric is being held from distortion or stretching while clamped between the jaws and on releasing of the manual pressure, all parts automatically become free.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawing and in

part will be more fully set forth in the following particular description of one form of device embodying the invention, and the invention also consists in certain new and novel features of construction and combination of parts herein-after set forth and claimed.

In the accompanying drawing:

Fig. 1 is a perspective view of the upper portion of a stocking provided with a set of initials, and constituting an embodiment of the hosiery aspect of the invention;

Fig. 2 is a detailed showing in vertical section of the jaw elements of an applicator more fully shown in Fig. 3, illustrating the position of the parts when one of the characters is in position therein, and prior to the movement of the jaws towards their clinching position and taken on the line 2—2 of Fig. 3;

Fig. 3 is a view in side elevation of the fore part of the applicator inverted from the position of its die parts shown in Fig. 2 with the die elements shown in vertical longitudinal section and thus at right angles to the showing in Fig. 2, and illustrating the position of the parts at the start of the clinching operation;

Fig. 4 is an enlarged view in longitudinal section of one of the characters for instance the "I" of Fig. 9 applied to the fabric exaggerated in its dimensions and illustrating the relation of the parts at the conclusion of the clinching operation;

Figs. 5a and 6a are views looking upwardly towards the anvil element of the applicator, as viewed from the plane 5—5 of Fig. 2 and showing in dotted lines the location where the prongs first contact, and Figs. 5b and 6b are each plan views looking downwardly from the plane 5—5, the showing in Fig. 5b disclosing the character "M" in place, and the disclosure in Fig. 6b showing the character "I" in place in the pocket elsewhere shown in Figs. 2 and 3;

Figs. 7, 8 and 9 are each perspective views of one of the complete set of alphabet letters showing respectively the front side of an "O", the rear side of a "T" and the front side of an "I"; and

Fig. 10 is a transverse sectional view through any of the strokes of the letters as, for instance, taken on the line 10—10 of Figs. 7 and 10; and

Fig. 11 is an enlarged transverse sectional view of one of the prongs turned into an adjacent cross channel as would be formed when one of the prongs at the heads of the "I" of Fig. 8 is bent inwardly on itself.

Referring first to the finished stocking element, there is shown in Fig. 1 a woman's stocking 10 provided with a welt 11 and intended to illustrate a fine knitted fabric support for the initials 12, herein illustrated to be "H," "T," "K." The details of construction of each of these initials in its engagement with its fabric mounting, will be described in connection with the applicator and the characters which form the set of initials.

Referring first to the showing in Fig. 3, there is disclosed a pair of pliers 13 of the parallel jaw type and including jaws 14 and 15. It is a feature of this disclosure that the jaws are free from projections of any kind on their outer sides and are thus capable of having the outer ends of either jaw inserted between closely lying layers of the stocking or fabric without catching on to the same. These jaws are provided with axially aligned sockets 16 and 17 for receiving die elements hereinafter described and which elements are demountably secured in place by means of

binding screws 18 and 19. One of the die elements constitutes a plunger 20 fixed to its associated jaw 15 and projecting towards the other jaw 14. The outer end of this plunger provides a flat character receiving seat 21. The plunger is of non-circular and preferably rectangular form in cross section. A holder sleeve 22 is slidably but non-rotatably mounted for sliding movement on the plunger 20. The extent of this movement is limited in both directions by a pin and slot form of stop 23. The plunger 20 is provided with a spring bearing flange 24 and the sleeve 22 is likewise provided with a spring bearing flange 25. Coil spring 26 encircles the plunger, bears at opposite ends against the flanges 24 and 25 and normally projects the sleeve upwardly to the limit of its movement as shown in Fig. 2.

The upper portion of the sleeve projects above the seat 21 to form a character receiving pocket 27 outlined by the four walls forming the upper portion of the sleeve and having the seat for its bottom when viewed as in Fig. 2. This pocket is particularly dimensioned to receive any one of the characters hereinafter more fully described.

The die element of the other jaw 14 forms an anvil 28 with the external dimensions of the upper portion of the sleeve 22. On its active face the anvil is provided with an endless groove 29 rectangular in plan as shown in Figs. 5a and 6a and semicircular or U-shaped in cross section as shown in Figs. 2 and 3. The outer edge 30 of this groove as seen in Fig. 2 is disposed opposite the corresponding walls forming the pocket 27. The portion of the anvil exteriorly of the groove and the opposing upper flat edges of the sleeve 22 coact to form a four-sided clamp for clamping therebetween the easily penetrable and highly flexible washable fabric 31 on which the character is to be mounted.

The anvil and plunger are substantially within the projected outlines of the two jaws and the sleeve with its flange 25 projects only slightly outside of said projected outlines whereby the parts between the jaws are substantially confined to the small space between the jaws.

All of the characters irrespective as to what may be their visual appearance, are proportioned to fit with a sliding, snug fit within the pocket 27, the plan of which will hereinafter sometimes be referred to as a dimensional rectangle. All of the characters intended to be loaded into this applicator are of the same height dimension and all except the "I" (see Figs. 6b and 9) are of the same width dimension. It is, of course, within the scope of this disclosure to make the characters of equal height and width, that is, capable of fitting within a dimensional square, but the greater height than width proportions herein suggested have the advantage of avoiding the improper locating of a character in the pocket and, from an aesthetic viewpoint, the relatively high characters herein illustrated present a more pleasing appearance than if they were of a strictly square design.

It is a feature of this disclosure that the letter characters are formed primarily of straight strokes 32. Even the "O" of Fig. 7 is formed of four straight strokes. These strokes are of channel form providing a groove 33 on their underside for receiving the loop formed by the prongs as illustrated in Figs. 4 and 11. An artistic form of lettering is provided where the channels are each formed of three long flat sides as illustrated in section in Fig. 10 which give the

appearance of an embossed effect when in position as in Fig. 1.

This construction has the further advantage in that the divergent sides 34 and 35 have at least a limited springing action which is capable of giving slightly outwardly to the pressure imposed thereon through the fabric as the prongs are moved into their final clamping position as shown in Fig. 11. The edges 36 form a neat flat joint with the fabric when the initials are finally in position as shown in Figs. 1, 4 and 11.

Each character is provided with at least two prongs 37 which extend from the outer top and bottom edges of the exposed display or body portion 38 of the character. These prongs are so located that they are at, or at least adjacent to, the free ends of all of the strokes so as to avoid any loose edges of the body portion springing away from the fabric on which it is mounted. Initially, the prongs extend substantially at right angles to the plane of the body portion as shown in Figs. 2, 3, 7, 8, 9 and 10, but are actually bent slightly outwardly from a true perpendicular; or, differently described, have their outer, free ends spaced apart a distance slightly greater than the spacing of their inner ends attached to the body portion. These prongs thus form friction fingers for engaging opposing walls of the pocket as shown in Fig. 2 so as to maintain the characters in position during the period of time when the device is turned upside down from the Fig. 2 into the Fig. 3 position.

In operation and assuming that there is in front of the salesperson a set of letters and, for example, that the purchaser indicates that she wishes the initials "H," "T," "K," affixed to one or both of the pair of stockings just purchased. The operator will first select from a partitioned cabinet the letter "H" and insert the same with the body portion 38 down and the prongs 51 uppermost into the pocket 27 of the applicator, as shown in Fig. 2. A little pressure will be sufficient to locate the selected character firmly bottomed on the seat 21. She will then open up the top of the stocking and by reversing the applicator from its loading position in Fig. 2 so that she can readily locate and guide the selected letter into the proper position on the outside of the welt 11 as suggested in Fig. 1. Then by squeezing the handles of the pliers, the holder sleeve 22 and anvil 28 will approach each other clamping the selected portion of the fabric firmly stretched in place as indicated in Fig. 3. Then, by a continued pressure on the handle ends, the anvil moves upwardly causing the straight prongs to first penetrate the fabric as indicated in Fig. 3. Further pressure causes each of the prongs to engage in the outer side edge 30 of the opposing length of the groove 29. The groove acts to turn each prong end circularly upon itself, penetrating the fabric for a second time, as best shown in Fig. 11, and in spaced relation to the first penetration so as to receive a material number of threads or fabric loops between the two points of penetration. As the pressure continues, the free ends of the prongs curl upwardly and inwardly as indicated in Figs. 4 and 11, bridging across the portion of the fabric stretched across the adjacent portion of the groove 33. This has the effect of forming of each prong a metal retaining loop 39 which clamps the fabric between itself and the walls 34 and 35 which form opposite sides of the groove as shown in Fig. 11. It is appreciated that the highly flexible knitted fabric is bent or crimped into the groove 33 at the point adjacent

each prong, the flexibility of the fabric permitting this action. During this entire crimping operation, the fabric surrounding the area being acted upon is held in a clamped position between the anvil and sleeve under pressure of the spring 26.

Releasing manual pressure on the plier handles, permits the jaws to retreat to their initial position, permitting the spring 26 to restore the initial relation between the plunger and sleeve as shown in Fig. 2, leaving the character permanently secured to its fabric support, releasing the clamping engagement with the fabric. The applicator is then free to be loaded with the next desired character, such as the "T" and the operation is repeated as described for each succeeding character affixed to the fabric.

By means of the applicator and its associated characters thus described, it is possible to make up an initialled stocking quickly with the assurance that the initials will remain permanently fixed to the stocking without damaging the stocking either in the act of applying the initials there-to or in subsequent laundering.

It is particularly noted that all of the characters are accurately located in place, except possibly the "I" so that the operator quickly becomes skilled in accurately locating the initials in any desired relative relation as, for instance, on the diagonal line shown in Fig. 1. Even in the case of the "I," dependence can be placed upon the outward spring of the prongs 37 as they fit within the pocket of the applicator to insure the proper location of the "I" in the desired assembly of letters. Even in the case of the "I," it has sufficient width to defeat any possibility of it becoming canted or otherwise disarranged in the pocket 27.

While the disclosure is illustrated in connection with a single layer of knitted fabric in order to emphasize the adaptability of the invention to the thin fabric for which it is intended, it is obviously within the scope of the disclosure to apply the initials of Fig. 1 to a double layer form of welt 11.

The retaining loops 39 present smooth, rounded surfaces exposed at the interior of the stocking and the characters are all free of pointed ends or edges which might catch in other apparel or scratch the user.

While there have been shown, described and pointed out in the annexed claim, certain novel features of the invention, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

I claim:

In a device for selectively applying different pronged letter characters rectangular in plan to a fabric, the combination of a pair of pliers of the parallel jaw type, a pair of coacting die elements, one for each jaw of the pliers and projecting from its associated jaw towards the other, one of said elements constituting a plunger secured at one end to one of the jaws of the pliers, being rectangular in cross section in the part projecting from its associated jaw and providing at its other end a character receiving seat rectangular in plan, a holder sleeve having a bore rectangular in cross section extending therethrough in which the plunger is fitted and provided with a spring bearing flange in spaced relation to both ends, a coil spring closely encircling the plunger

and bearing on said flange in a tendency to project the sleeve in the direction away from said jaw, said sleeve normally projecting beyond said seat to form a box-like pocket to receive the pronged character, the other die element secured at one end to the other jaw element and forming an anvil with a pressure side facing the sleeve and plunger, said side provided with an endless groove rectangular in plan and U-shaped in cross section, the outer edges of each of the four

5 sides of the rectangular groove being respectively in the same plane which contains the adjacent wall of the bore of the sleeve and the portion of said side exteriorly of the groove coacting with the sleeve to form a spring pressed clamp for holding the fabric while the character for the time being in the pocket is being applied to the fabric.

BENJAMIN SALZBERG.