

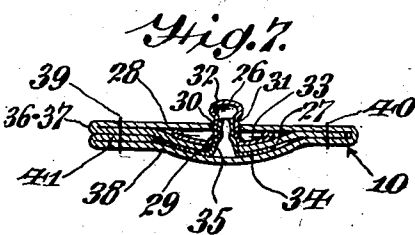
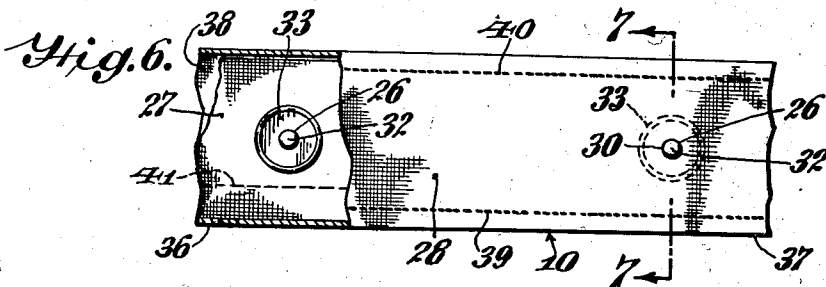
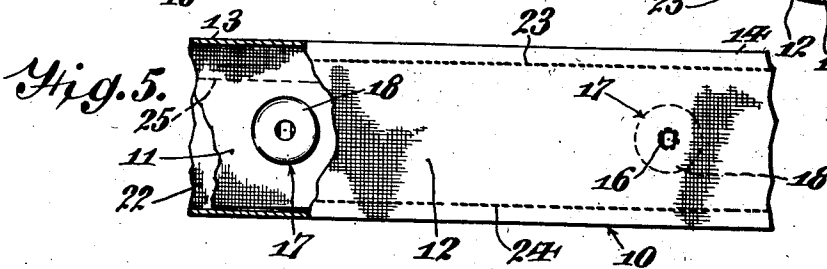
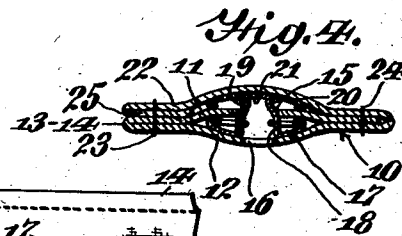
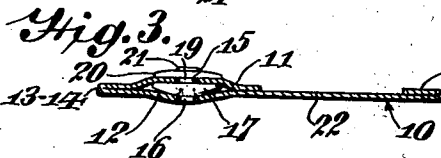
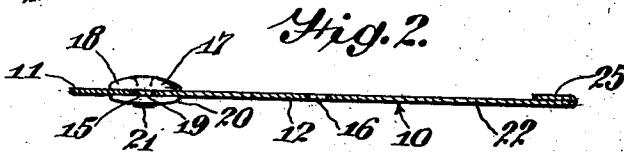
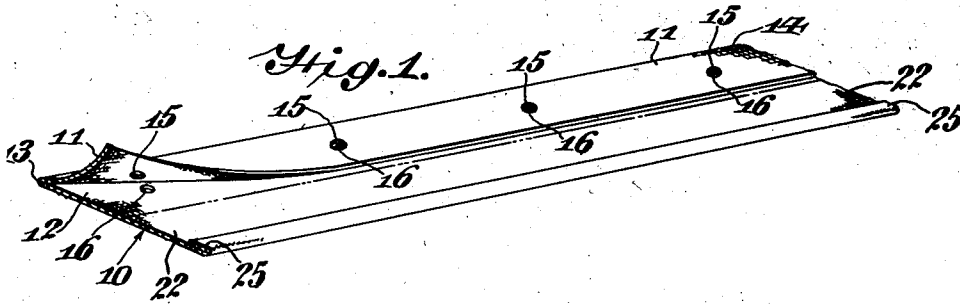
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FASTENER TAPE AND METHOD OF MAKING THE SAME

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2,080,751

FASTENER TAPE AND METHOD OF MAKING
THE SAMEGilbert R. Upham, Churchville, Pa., assignor to
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This invention relates to fastener tape of the type in which separable fastener devices, such as snap fasteners, are secured to strips of fabric material in order that the co-operating elements of the fastener devices, such as the posts and sockets of snap fasteners, may be readily secured to the edge portions of garments designed to be separably secured together.

In the manufacture of fastener tape of the general character to which the invention relates, it is desirable to secure the two co-operating elements of the fastener devices to the tape in such a manner that these elements may be concealed as much as possible, while leaving the operative portions thereof readily accessible. It is also desirable, and frequently convenient, to make such tape from multi-ply material, either in the form of separate strips or a single strip suitably folded to provide the required number and arrangement of plies. One of the primary objects of the invention, therefore, is the provision of a fastener tape in which the fastener elements are concealed within the plies or folds of the tape, with the operative portions alone accessible from the outside of the tape. It is a further object of the invention to provide a fastener tape in which the fastener devices are securely held in position upon the tape or a portion thereof. A still further object of the invention is the provision of a fastener tape in which the base portions of the fastener elements are entirely covered by a ply or fold of the fabric from which the tape is made. A still further object of the invention is the provision of a fastener tape in which the fastener elements are supported upon an inner ply, and in which suitable openings are provided in one or more of the outer plies or folds of the tape material for the reception of the post members of the fastener devices. It is also an object of the invention to provide a fastener tape in which these openings may be accurately and easily alined with the operative elements of the fastener devices. It is a further object of the invention to provide a novel method of manufacturing fastener tape so that the alined openings in the fastener supporting fold of the tape will accurately register with the openings which receive the post portions of the fastener devices through the outer plies or folds of the tape.

In order that the invention may be clearly understood, reference may be made to the accompanying drawing wherein:—

Fig. 1 is a perspective view of a portion of a

strip of tape showing a step in the method of practicing the invention;

Fig. 2 is a transverse sectional view through a strip of fabric from which the tape is made, with a socket member of a fastener device secured to one edge portion, and the opposite edge turned in;

Fig. 3 is a transverse sectional view showing the socket or fastener supporting portion of the tape folded over upon the body portion of the tape;

Fig. 4 is a transverse sectional view showing the completed tape with the cover portion of the fabric folded over the base of the fastener devices to conceal the same and secure them in place;

Fig. 5 is a plan view, with portions cut away, showing the socket tape with the invention embodied therein;

Fig. 6 is a similar view showing a section of post tape; and

Fig. 7 is a transverse sectional view taken on the line 7—7 of Fig. 6, and showing the complete assembly of the post tape.

In fastener tape as heretofore manufactured it has been difficult to secure the co-operating elements of the fastener devices to the tape in such a manner that these fastener devices are concealed within the folds or plies of the tape and at the same time have the openings in the outer plies or folds properly register with the fastener elements. This difficulty may be overcome by utilizing a strip of fabric 10 having a width substantially three times the width of the finished tape, and folding one edge portion 11 of the strip over the body portion 12 of the strip along a line 13—14 extending longitudinally of the strip, whereupon the two-ply thickness thus formed may readily be provided with a line of perforations 15, 16 in a suitable punching machine. The folded over portion 11 is then unfolded and the fastener elements are secured thereto in the perforations 15 in this portion.

The socket portions 17 of these fastener elements may be of any standard design, and as shown herein each comprises a basal portion 18 having an upstanding hollow post 19 which passes through one of the perforations 15 in the fastener supporting portion 11 of the tape with the closed outer end of the post extending through a washer element 20 and being upset as shown at 21 to secure the washer element thereon. It will be understood that the socket members 17 are provided with suitable spring means for retaining the cooperating post members therein. Follow-

ing the attachment of the socket elements of the fastener devices to the fastener supporting portion 11 of the tape, this portion of the tape is then folded back over the tape body portion 12 along the original line of fold 13—14, thus bringing the socket openings of the fastener devices into registry with the openings 16 in the body portion. The free edge portion 22 of the tape is then folded over the base portions of the socket members, thereby forming a cover for the bases and concealing them from view, and the three folds or plies of the fabric are secured together by suitable lines of stitching 23, 24 adjacent the edges of the tape. It is also desirable to turn in the extreme edge as shown at 25 and secure this narrow fold by the adjacent line of stitching 23.

In making the tape which carries the post elements 26 of the fastener devices a similar procedure is followed. One edge portion 27 of the strip of tape material is folded over upon the body portion 28 of the strip, whereupon a single line of perforations 29, 30 is provided in the two thicknesses of material thus formed. The folded over tape portion 27 is then unfolded and the post elements of the fastener devices are secured thereto. These post elements may likewise be of standard construction, and as shown herein each comprises a hollow post portion 31 having an enlarged head 32 thereon and extending upwardly from a base 33 which is assembled in contact with one face of the post supporting portion 27 of the tape, and another base portion 34 assembled in contact with the opposite face of the post supporting portion of the tape, and having an upstanding hub 35 projecting through one of the perforations 29 in the fastener supporting portion of the tape into the post portion 31, and being secured therein in any suitable manner. When the post portions 26 of the fastener devices have been assembled upon the post supporting portion 27 of the tape, this portion is re-folded along the original line of fold 36—37, thus bringing the posts 31 of the fastener devices into registry with the openings 30 in the body portion 27 of the tape, and the free edge portion 38 is then folded over the bases 34 of the post members, forming a cover strip concealing the bases from view, whereupon the three folds of the tape are secured together by lines of stitching 39, 40 adjacent the edges thereof. As in the case of the socket tape, it is desirable to turn in the extreme edge 41 and secure the same by the line of stitching 39.

By manufacturing tape in this manner the socket members of the fastener devices may be secured to one fold of the material from which the tape is made, and, when the socket supporting portion of the tape is folded over the body of the tape, registry of the sockets with the perforations in the body portion of the tape for the reception of the post members of the fastener devices is assured. Likewise, when the post members of the fastener devices are secured to the post supporting portion of the tape, and this portion is folded over upon the body portion of the tape, registry of the posts with the perforations in the body portion of the tape is assured.

While a method has been described above whereby each of the two co-operating elements of the fastener devices is assembled on a supporting portion of the tape comprising a folded over edge thereof, for co-operation with a line of perforations in the body portion of the tape in registry with a similar line of perforations in

which the fastener devices are assembled in the fastener supporting portion, it will be understood that it is not essential that the line of co-operating perforations be formed in the body portion of the tape. In some cases it may be desirable to provide the strip of fabric from which the tape is made with two spaced, parallel lines of transversely aligned perforations, one in each of the folded over edge portions. In such case, however, the position of the fastener elements with respect to the fastener supporting portion of the tape would be reversed so that, when the final edge portion of the material is folded, the line of perforations therein fold into registry with the fastener elements. When this method is employed the body portion of the tape then becomes the cover for the bases of the fastener devices. By the method heretofore described the fastener supporting portion of the tape is unfolded for the attachment of the fastener elements following the piercing operation whereby the double line of perforations is provided. It will be understood that the fastener elements may be attached without completely unfolding the fastener supporting portion.

Still other changes may be made in the method disclosed herein without departing from the invention as set out in the claims appended hereto, and various changes may be made in the tape itself so long as these changes come within the spirit of the invention.

The invention having thus been described what is desired to secure by Letters Patent is:—

1. A fastener tape comprising a fabric body member having perforations at intervals therein to receive the operative portions of fasteners, a fastener supporting member secured to said body member, fasteners secured to said supporting member only in co-operative relation to said perforations, and a fabric cover strip secured to said body member over the base portions of said fasteners.

2. A fastener tape comprising a fabric body member having perforations at intervals therein to receive the operative portions of fasteners, a fabric fastener supporting member secured to said body member, fasteners secured to said supporting member only with the post portions thereof projecting through said perforations, and a cover strip for the base portions of said fasteners.

3. A fastener tape comprising a fabric body member having perforations at intervals therein to receive fastener post portions, a fabric fastener supporting member secured to said body member, fastener socket members secured to said supporting member only with the sockets thereof in alinement with said perforations, and a fabric cover secured to said body member and said supporting member over the closed ends of said socket members.

4. A fastener tape comprising a strip of fabric having its opposite edges folded into overlying relation upon the same side of the median portion of the strip to form a three-ply length, fasteners secured to the inner ply only and having operative portions extending toward one of the outer plies, said outer ply having perforations therein in alinement with the operative portions of said fasteners, and means for securing the three plies together.

5. The method of making fastener tape, which comprises folding one edge of a strip of fabric over the body portion thereof, piercing the two plies of fabric at intervals to form fastener re-

ceiving openings, assembling fasteners in the openings in the folded portion of the strip in co-operative relation to the openings in the body portion, and securing the folded and body portions together.

5 6. The method of making fastener tape, which comprises folding one edge of a strip of fabric over the body portion thereof, piercing the two plies of fabric at intervals to form fastener receiving openings, assembling fasteners in the
10 openings in the folded portion of the strip in co-operative relation to the openings in the body portion, folding the remaining edge of the strip over the previously folded edge, and securing
15 the folded and body portions together.

7. The method of making fastener tape, which comprises folding one edge of a strip of fabric over the body portion thereof, piercing the two plies of fabric at intervals to form fastener receiving openings, assembling fasteners in the
20 openings in the folded portion of the strip in co-operative relation to the openings in the body portion and with their base portions exposed, folding the remaining edge of the strip over said
25 base portions, and securing the folded and body portions of the strip together.

8. The method of making fastener tape, which comprises folding one edge of a strip of fabric over the body portion thereof, piercing the two
30 plies of fabric at intervals to form fastener receiving openings, unfolding the folded portion of the strip, assembling fasteners in the openings in the previously folded portion of the strip, and folding said portion to bring the operative mem-
35 bers of said fasteners into co-operative relation with the openings in the body portion.

9. The method of making fastener tape, which

comprises folding one edge of a strip of fabric over the body portion thereof, piercing the two plies of fabric at intervals to form fastener receiving openings, unfolding the folded portion of the strip, assembling fasteners in the openings in the previously folded portion of the strip, folding
5 said edge to bring the operative portions of said fasteners into co-operative relation with the openings in the body portion, and securing the folded and body portions together.

10. The method of making fastener tape, which comprises folding one edge of a strip of fabric over the body portion thereof, piercing the two plies of fabric at intervals to form fastener receiving openings, unfolding the folded portion of the strip, assembling fasteners in the openings in the previously folded portion of the strip, folding
15 said edge to bring the operative portions of said fasteners into co-operative relation with the openings in the body portion, and folding the remaining edge of said strip over the previously
20 folded edge.

11. The method of making fastener tape, which comprises folding one edge of a strip of fabric over the body portion thereof, piercing the two
25 plies of fabric at intervals to form fastener receiving openings, unfolding the folded portion of the strip, assembling fasteners in the openings in the previously folded portion of the strip, folding
30 said edge to bring the operative portions of said fasteners into co-operative relation with the openings in the body portion, folding the remaining edge of said strip over the previously folded edge, and securing the body portion and the
35 folded portions together.

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