

M. H. POWELL.
 BUTTONHOLE STRIP OR TAPE.
 APPLICATION FILED APR. 9, 1915.

1,185,933.

Patented June 6, 1916.

2 SHEETS—SHEET 1.

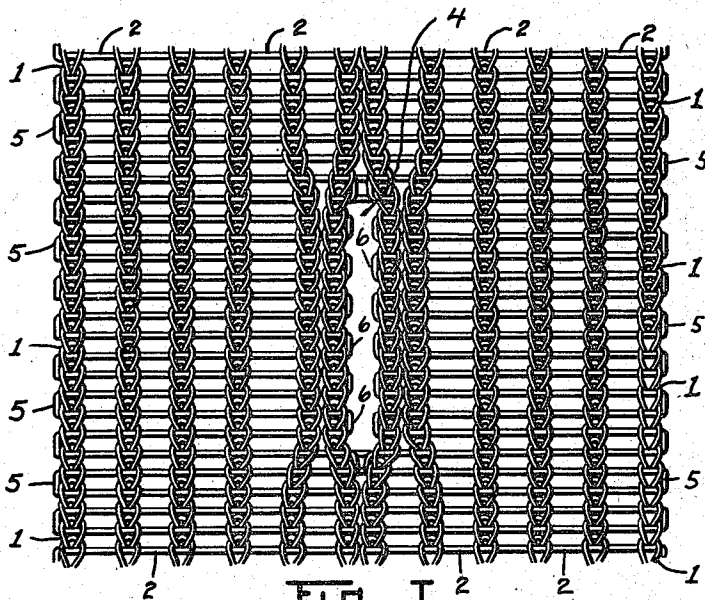


FIG. I.

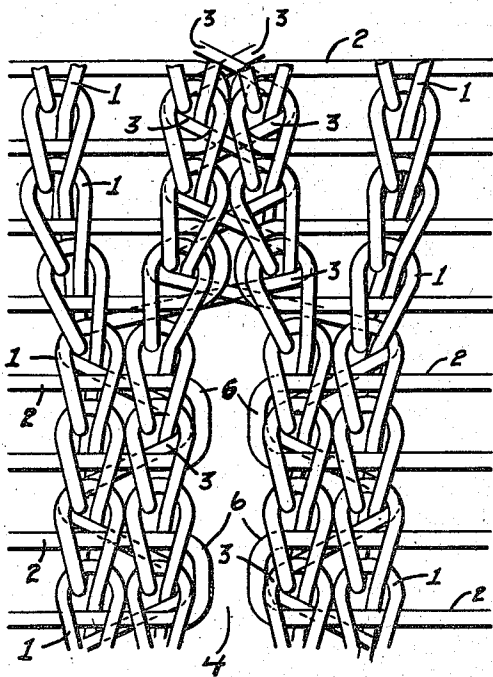


FIG. III.

WITNESSES:

B. M. Sander
 P. M. Pomeroy

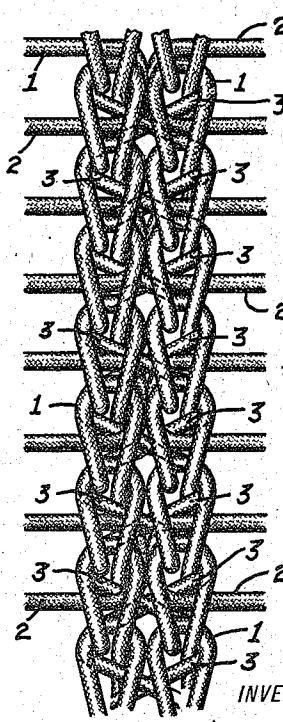


FIG. II.

INVENTOR

Myron H. Powell

BY

Chappell & Earl
 ATTORNEYS

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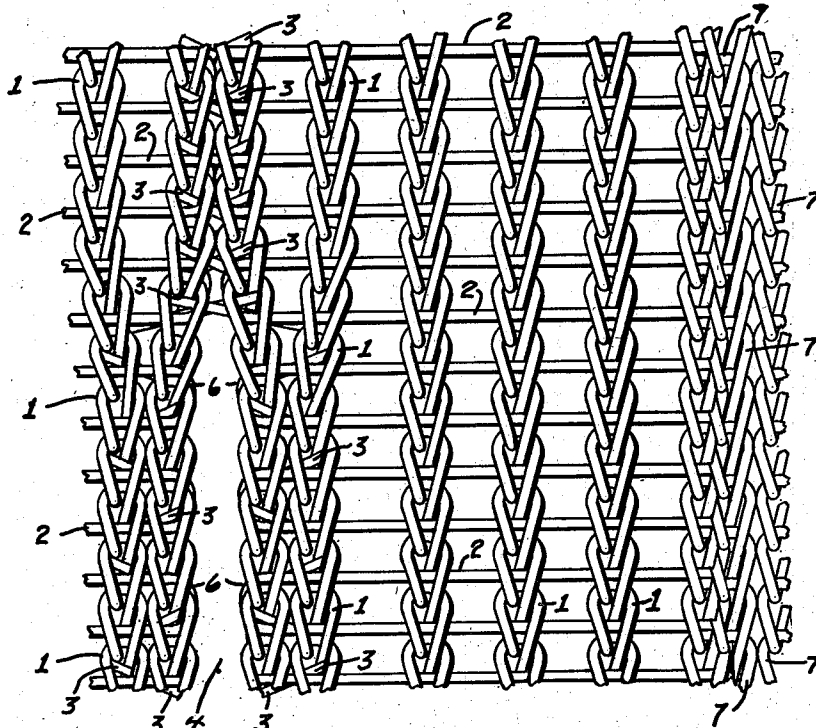


Fig. V.

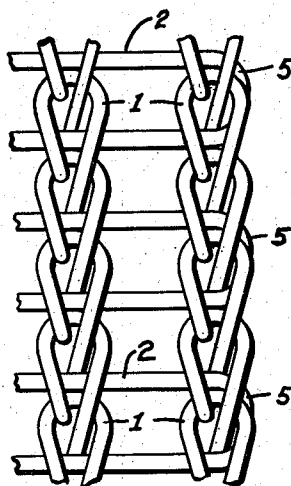


Fig. IV.

WITNESSES:
B. M. Sanders
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INVENTOR
Myron H. Powell

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UNITED STATES PATENT OFFICE.

MYRON H. POWELL, OF MUSKEGON, MICHIGAN, ASSIGNOR TO AMAZON KNITTING COMPANY, OF MUSKEGON, MICHIGAN.

BUTTONHOLE STRIP OR TAPE.

1,185,933.

Specification of Letters Patent.

Patented June 6, 1916.

Application filed April 9, 1915. Serial No. 20,218.

To all whom it may concern:

Be it known that I, MYRON H. POWELL, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Buttonhole Strips or Tapes, of which the following is a specification.

This invention relates to improvements in button-hole strips or tapes.

In various forms of knitted garments it has heretofore been common practice to sew on a button-hole strip of cloth. This is not entirely satisfactory for the reason that the cloth strip interferes with the uniform shrinking and stretching of the garment causing wrinkling and puckering and it also requires considerable care to attach the strips to the garments so that the garments are not puckered or drawn thereby and, further, the cloth strip usually becomes frayed or worn before the body of the garment.

The main objects of this invention are: First, to provide a knitted button-hole strip in which the button-holes are formed during the process of knitting on a knitting machine. Second, to provide a knitted button-hole strip which may be manufactured in strips of any desired length with the button-holes spaced as desired and the strip cut in lengths to suit the particular requirements. Third, to provide a knitted button-hole strip which has considerable longitudinal stretch with practically no lateral stretch. Fourth, to provide an article of the class described which is neat and attractive in appearance and constitutes an ornamentation to the garment to which it is applied. Fifth, to provide an article of the class described which can be readily formed on a knitting machine and is very simple and economical to produce.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in

the accompanying drawing forming a part of this specification, in which:

Figure I is a plan view of a fragment of a button-hole strip or tape embodying the features of my invention, considerably enlarged, the strands being shown more or less conventionally in order to better disclose their coacting relations. Fig. II is an enlarged detail showing a pair of the intermediate strands and lateral strands interwoven therewith. Fig. III is an enlarged detail plan view showing the pair of intermediate strands and a pair of adjacent strands and the tie and lateral strands showing the means for providing the button-hole. Fig. IV is an enlarged detail showing the edge of the strip. Fig. V is an enlarged detail plan view showing my improvements embodied in a garment in which the button-holes are formed in the garment proper instead of in a strip or tape adapted to be applied to the garment.

In the drawings, similar reference characters refer to similar parts throughout the several views.

Referring to the drawing, I provide a plurality of knitted longitudinal strands 1, the strands illustrated being of the double chain stitch type. These strands 1 are united by the lateral or cross strands 2 and the tie strands 3. The tie strands 3 and the cross strands 2 are laid into the loops of the longitudinal strands as shown in the drawing during the knitting of the longitudinal strands, the strips being formed on a knitting machine and the strands 2 and 3 laid in during the process of knitting. A machine commonly known as a warp knitting machine is readily modified for the manufacture of my improved button hole strip.

The tie strands 3 are interwoven or laid into the loops of an intermediate pair of the longitudinal strands binding or tying them together side by side at spaced intervals, the tie strands being separated between such intervals and interwoven or laid into the loops of one of such intermediate pair and an adjacent longitudinal strand at each side binding them together side by side between such intervals, thereby providing openings adapted as button-holes. The lateral or cross strands 2 are laid into the loops of the

longitudinal strands from one of said pair of intermediate strands the said outer longitudinal strands thus, in connection with the strands 3, tying all of the longitudinal strands together. This arrangement provides a selvage edge 5 and selvage edges 6 for the button-hole 4.

The lateral and tie strands support the longitudinal strands so that these strips have very little lateral stretch but they do not materially detract from the longitudinal stretch of the strands 1 so that the strip may be applied to a knitted garment and yields or stretches longitudinally therewith but at the same time is effective as a button-hole strip.

I have shown but a single button-hole but it will be understood that these are produced at regular intervals in the tape or strip. The button holes may be spaced as desired. In the modification shown in Fig. V the button-hole strip is formed as a portion of the body of the garment, the body being indicated at 7 and is united to the inner longitudinal strand in the usual manner in this class of knitting, this being shown conventionally only in the accompanying drawing as it will be fully understood by those skilled in the art to which this invention relates.

My improved button-hole strip is very economical to produce and may be used in a great many relations. It is also neat and attractive in appearance and constitutes an ornamentation to the garment to which it is applied.

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

1. A button-hole strip or tape, comprising a plurality of knitted chain stitch longitudinal strands, a pair of tie strands interwoven with and binding an intermediate pair of said longitudinal strands together side by side at spaced intervals, the said tie strands being separated between such intervals and interwoven with one of the strands of said intermediate pair and an adjacent longitudinal strand binding them together side by side between such intervals thereby providing an opening adapted as a button-hole, and a pair of cross strands interwoven with the longitudinal strands from one of the said intermediate pair to the outer strands, the said cross and tie strands being laid into the loops of the longitudinal strands.

2. A button-hole strip or tape, comprising a plurality of longitudinal strands, a pair of tie strands interwoven with and binding an intermediate pair of said longitudinal strands together side by side at spaced intervals, the said tie strands being separated between such intervals and interwoven with one of the strands of said intermediate pair

and an adjacent longitudinal strand binding them together side by side between such intervals thereby providing an opening adapted as a button-hole, and a pair of cross strands interwoven with the longitudinal strands from one of the said intermediate pair to the outer strands.

3. A button-hole strip or tape, comprising a plurality of knitted chain stitch longitudinal strands, a pair of tie strands interwoven with and binding an intermediate pair of said longitudinal strands together side by side at spaced intervals, thereby providing an opening adapted as a button-hole, and a pair of cross strands interwoven with the longitudinal strands from one of the said intermediate pair to the outer strands, the said cross and tie strands being laid into the loops of the longitudinal strands.

4. A button-hole strip or tape, comprising a plurality of longitudinal strands, a pair of tie strands interwoven with and binding an intermediate pair of said longitudinal strands together side by side at spaced intervals, thereby providing an opening adapted as a button-hole, and a pair of cross strands interwoven with the longitudinal strands from one of the said intermediate pair to the outer strands.

5. An article of the class described, comprising a plurality of knitted longitudinal strands, tie strands laid into the loops of and tying an intermediate pair of said longitudinal strands together at spaced intervals, the said tie strands being separated between such intervals and laid into the loops of one of the strands of said intermediate pair and an adjacent longitudinal strand tying them together between such intervals thereby providing an opening adapted as a button-hole, and cross strands laid into the loops of the longitudinal strands from one of said intermediate pair of strands tied together by said tie strands.

6. An article of the class described, comprising a plurality of knitted longitudinal strands, and tie strands laid into the loops of and tying an intermediate pair of said longitudinal strands together at spaced intervals, the said tie strands being separated between such intervals and laid into the loops of one of the strands of said intermediate pair and an adjacent longitudinal strand tying them together between such intervals thereby providing an opening adapted as a button-hole.

7. An article of the class described, comprising a plurality of knitted longitudinal strands, tie strands interwoven with and binding an intermediate pair of said longitudinal strands together at spaced intervals, the said tie strands being separated between such intervals and interwoven with one of the strands of said intermediate pair and an ad-

5 jacent longitudinal strand binding them together between such intervals thereby providing an opening adapted as a button-hole, and cross strands interwoven with the longitudinal strands.

10 8. An article of the class described, comprising a plurality of knitted longitudinal strands and cross strands interwoven with the longitudinal strands to support the same against lateral stretching, and tie strands interwoven with and binding an intermediate pair of longitudinal strands together at

spaced intervals only providing spaces between such intervals unobstructed by said cross and tie strands and adapted as button holes. 15

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

MYRON H. POWELL. [L. S.]

Witnesses:

LEWIS LUNSFORD,
DOROTHY GALE.