

June 22, 1937.

V. NEWMAN

2,084,499

SLIDE FASTENER

Filed Jan. 26, 1935

2 Sheets-Sheet 1

FIG. I.

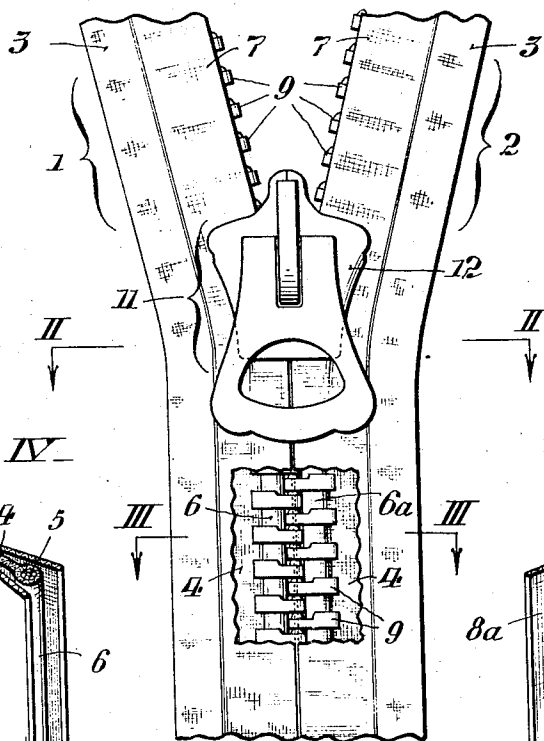


FIG. IV.

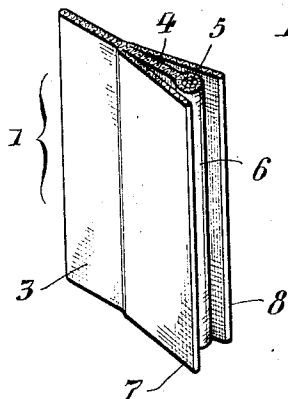


FIG. XI.

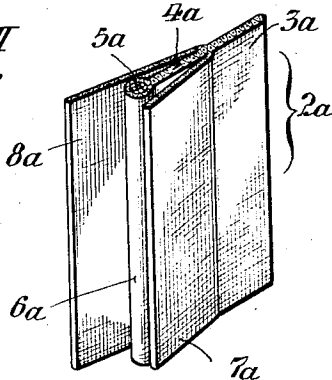


FIG. II.

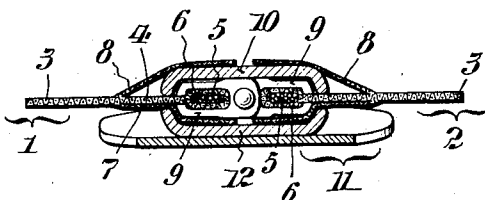


FIG. III.

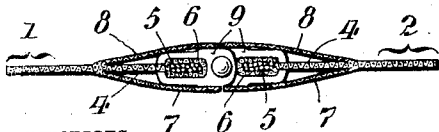
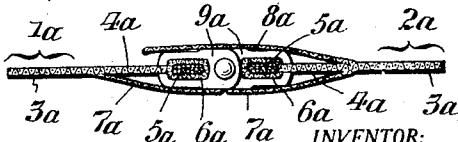


FIG. X.



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FIG. V

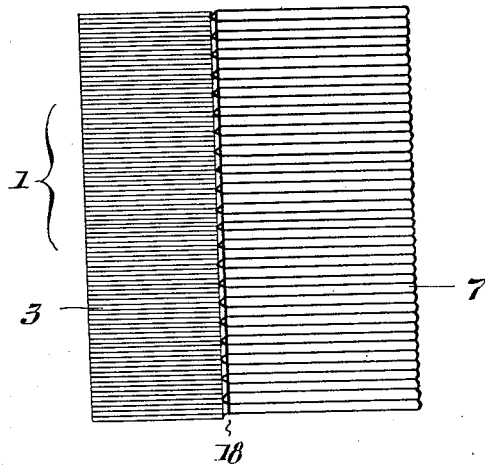


FIG. VI

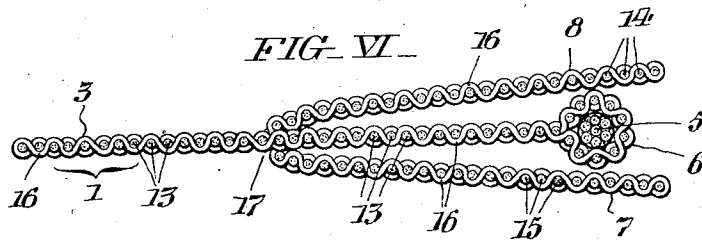


FIG. VII

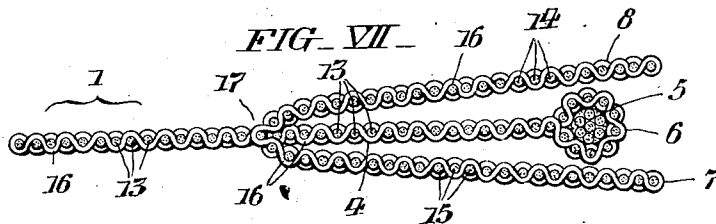


FIG. VIII

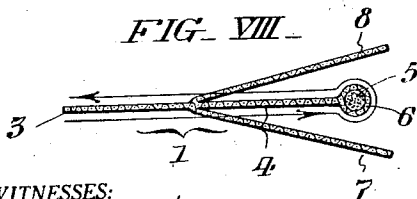
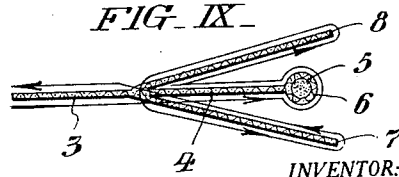


FIG. IX



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UNITED STATES PATENT OFFICE

2,084,499

SLIDE FASTENER

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Application January 26, 1935, Serial No. 3,554

6 Claims. (Cl. 24-295)

This invention relates to slide fasteners such as commonly used in lieu of buttons to detachably unite the edges of openings in garments such as shirts, sweaters, drawers, shoes, etc., as well as in articles like tobacco pouches, hand bags, etc.

In slide fasteners as ordinarily made, the interengaging slide-operated metallic lugs on the two attaching tapes are exposed both at the back and at the front. Thus when the fasteners are used on undershirts and sweaters for example, the metal is apt to come in contact with the skin of the wearer, and in closing the fasteners the hair of the skin is often caught between the lugs, thereby causing annoyance and discomfort. Again, with the slide fasteners on shoes, the unprotected lugs are likely to pinch and tear the stockings incident to operation of the fasteners. In still other instances as for example, tobacco pouches, particles of the tobacco invariably become lodged between the lugs of the fasteners and interfere with the free operation of the slides.

Considered from the broadest aspect, my invention is directed toward obviating the above mentioned drawbacks, which objective I realize as hereinafter more fully disclosed in a slide fastener whereof the attaching tapes are provided at the back, or both at the back and the front, with flexible flanking wings which overlap the metallic lugs of the fastener as well as the posterior portion of the slide, and which by concealing the lugs lend an improved and attractive finish to the fastener.

Another object of my invention is to secure the foregoing advantages through provision of attaching tape for slide fasteners which may be woven or otherwise economically produced as strip textile fabric with the flanking wings integral, and the whole of such texture that the tape is immune against distortion notwithstanding unequal shrinkage of its parts incident to dyeing or washing operations.

Further objects and attendant advantages will be manifest from the following detailed description of the drawings, in which Fig. I is a fragmentary view of a slide fastener conveniently embodying my invention.

Fig. II is a horizontal section taken as indicated by the arrows II—II in Fig. I.

Fig. III is a horizontal section taken as indicated by the arrows III—III in Fig. I.

Fig. IV is a fragmentary perspective view of one of the edge tapes of the slide fastener.

Fig. V is a fragmentary illustration showing the side view of the tape.

Figs. VI and VII are magnified cross-sectional views of the tape at different levels showing the interlacing of the warps and wefts embodied into the weave.

Figs. VIII and IX are diagrammatic views showing the course of the weft through the tape fabric.

Fig. X is a view corresponding to Fig. III showing a modified embodiment of my novel slide fastener; and,

Fig. XI is a fragmentary perspective view of one of the edge tapes of the modified slide fastener shown in Fig. X.

The form of my improved slide fastener delineated in Figs. I-IV comprises a pair of attaching fabric tapes 1 and 2 which are identical in construction and adapted to be sewed or otherwise secured along opposite edges of an opening in articles like sweaters, shirts, shoes, hand bags, tobacco pouches, etc. Each tape 1, 2, it will be observed, has a main or body portion 3 which affords a central tongue 4 with an incorporated cord 5 providing a thickened edge or bead 6. At opposite sides each tape 1 is moreover formed with flanking plain wings 7 and 8 respectively, said wings merging into the body portion 3 at about the longitudinal median of the latter and extending somewhat beyond the bead 6 of the tongue 4 as shown in Fig. IV. The tapes 1 and 2 I preferably produce with the wings 7 and 8 integral on a suitable narrow fabric loom, although if desired or found convenient in practice, the wings 7, 8 may be separately woven and afterwards sewed to the body portions 3.

In making up the fastener, the interlocking metallic lugs 9, which may be of any of the common conventional types, are clinched at uniformly spaced intervals over the beaded edges 6 of the tongues 4 as shown in Figs. I and II in accordance with the practice ordinarily followed in the art. In the assembled fastener, it will be noted that the flanking wings 7 and 8 of the tapes 1 and 2 overlap and completely conceal the lugs 9. As a result, not only is the fastener given a more finished and attractive appearance, but the lugs 9 are prevented from contacting directly with the skin of the person wearing a garment fitted with the fastener.

From Fig. II it is to be particularly observed, that the wings 8 of the tapes 1 and 2 also overlap the anterior portion 10 of the slide member 11 of the fastener; while at the front, the posterior portion 12 of said slide member overlies the wings 7. The latter feature is also clearly shown in Fig. I.

The texture of the tape may be as shown in Figs. VI and VII, wherein the warps or lengthwise running threads of the body portion 3 are indicated at 13 and the warps of the wings 7 and 8 at 15 and 14 respectively. A single weft thread is employed in the weaving, these threads being indicated at 16. From Fig. VI it will be observed that the weft 16 passes across the full width of the body portion of the tape, around the bead cord 5, and then back again, being incidentally interlaced with the warps 13. This pick cycle is graphically indicated by the arrowed line in Fig. VIII. In the next pick cycle, the weft 16 passes from left to right the full width of the tape as shown in Fig. VII and as graphically indicated by the arrowed line in Fig. IX, around the bead cord 5, then leftward to the juncture 17 between the tongue 4 and the wings 7 and 8, then rightward of the wing 8 around the free edge of the latter and leftward of the same, then rightward of the wing 7 around the free edge of the latter and back to the juncture 17, and finally from thence to the rear edge of the body portion, the weft being interlaced during the last described cycle with the warps 13, 14 and 15. These two cycles are continuously repeated as the weaving progresses with the result that there are just twice as many layers of the weft 16 in the body portion 3 as there are in the wings 7 and 8 with incident formation of open or perforate sutures such as shown diagrammatically at 18 in Fig. V at the junctures of said wings with the body portion of the tape. These open or perforate junctures 18 compensate automatically for differential shrinkage between the wings 7 and 8 and the body portion 3 of the tape during washing or dyeing operations, with avoidance of buckling or distortion such as might interfere with proper operation of the completed slide fastener, or which would detract from the appearance of the fastener. Preferably, in weaving the tape, I employ a silk or rayon weft 16 throughout, silk or rayon warps 14 in the wings 7 and 8, and warps 13 of cotton or other relatively inexpensive yarn in the body portion 3 of the tape since said body portion is hidden by the material of the article on which the slide fastener is used. The diversified yarns may give rise to the differential shrinkage which has been mentioned, but this will be automatically compensated for by the open or perforate junctures 18 as explained. The above method of forming the tape is to be regarded as an example of many other ways in which the tape can be made in practice, the paramount consideration being that the wings 7 and 8 are integrally formed with the body portion 3 of the tape.

In the modified form of fastener illustrated in Figs. X and XI the tape 1a is formed with but a single flanking wing 7a. The tape 2a, on the other hand, is like the tapes 1 and 2 of Figs. I and II, i. e., formed with two flanking wings 7a

and 8a, the wing 8a being however of a greater width so as to overreach the lugs 9a on both tapes as shown in Fig. X. The modified tapes 1a and 2a may be woven in a manner similar to that described of the tapes 1 and 2 of Figs. I-IV.

Having thus described my invention, I claim:

1. A slide fastener comprising a pair of attaching tapes each with a central tongue having a bead over which the metallic lugs of the fastener are secured, and flanking wings at opposite sides extending beyond the beaded edge of the central tongue to cover the lugs at the front and the back of the fastener; and a metallic slide to cooperate with the lugs on the two tapes to open and close the fastener, the anterior portion of the slide overlying the cover wings of the tapes at the front of the fastener, and the posterior portion of the slide being overlapped by the cover wings at the back of the fastener.

2. A tape for slide fasteners integrally formed with a central tongue having an edge bead for anchorage of the metallic lugs of the fastener, and flanking plain cover wings for the lugs extending to different extents beyond the beaded edge of the tongue respectively at opposite sides of the tape.

3. A fabric tape for slide fasteners integrally woven with a relatively stiff and heavy central tongue having an edge bead for anchorage of the metallic lugs of the fastener, and with lighter and more flexible plain edge flanking cover wings for the lugs extending beyond the beaded edge of the tongue respectively at opposite sides of the tape and merging into the body portion of the latter at about the longitudinal median thereof.

4. A fabric tape for slide fasteners integrally woven with a central tongue having an edge bead for anchorage of the metallic lugs of the fastener, and with flanking plain cover wings for the lugs extending to different extents beyond the beaded edge of the tongue respectively at opposite sides of the tape.

5. In a slide fastener wherein a slide cooperates with two sets of serially-arranged interlocking lugs, attachment tapes to which the lugs of the respective series are secured, said tapes having integrally-formed plain wings merging longitudinally into the body portion and jointly providing overlaps to cover the lugs at the front and the back of the fastener as well as the posterior portion of the slide.

6. In a slide fastener wherein a metallic slide cooperates with two sets of serially arranged lugs; tapes to which the lugs of the respective series are secured, said tapes having complementary plain edge wings overtravelled by the anterior portion of the slide and covering the lugs at the front of the fastener, and one of said tapes having a wing for covering the lugs as well as the posterior portion of the slide at the back of the fastener.

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