

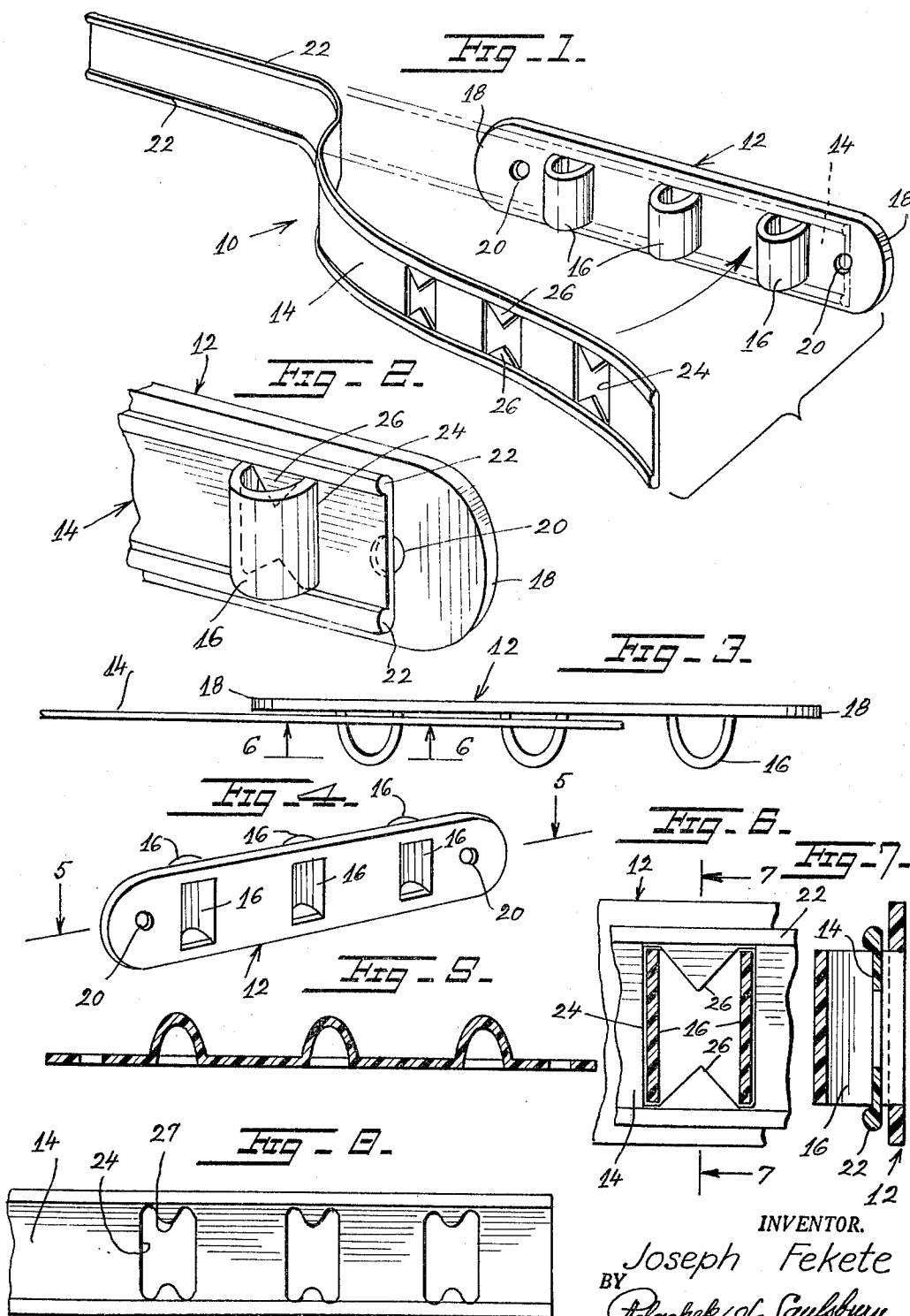
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J. FEKETE
PLASTIC CLOSURE DEVICE

3,263,292

Filed Sept. 30, 1964

3 Sheets-Sheet 1



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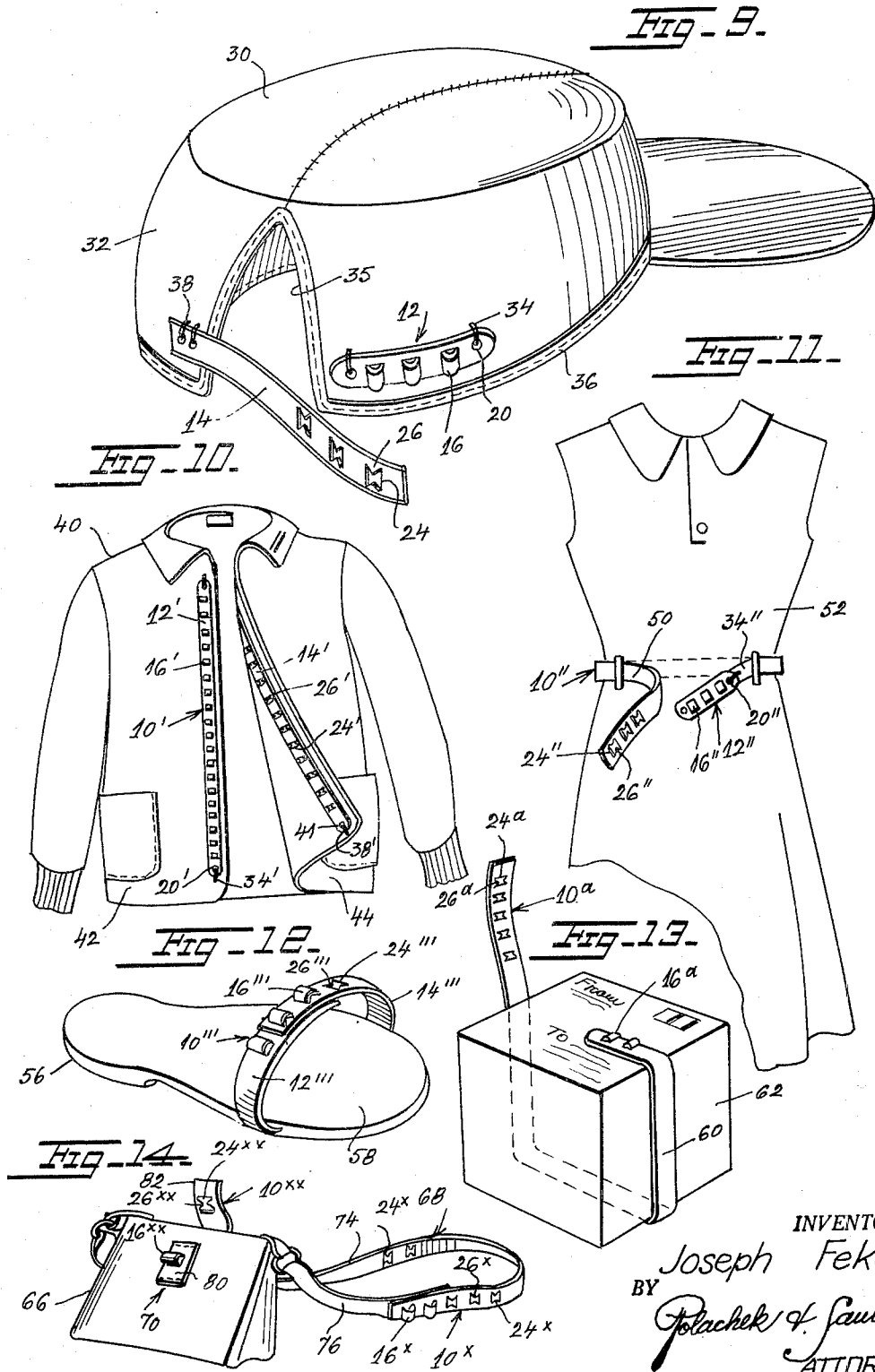
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3 Sheets-Sheet 2



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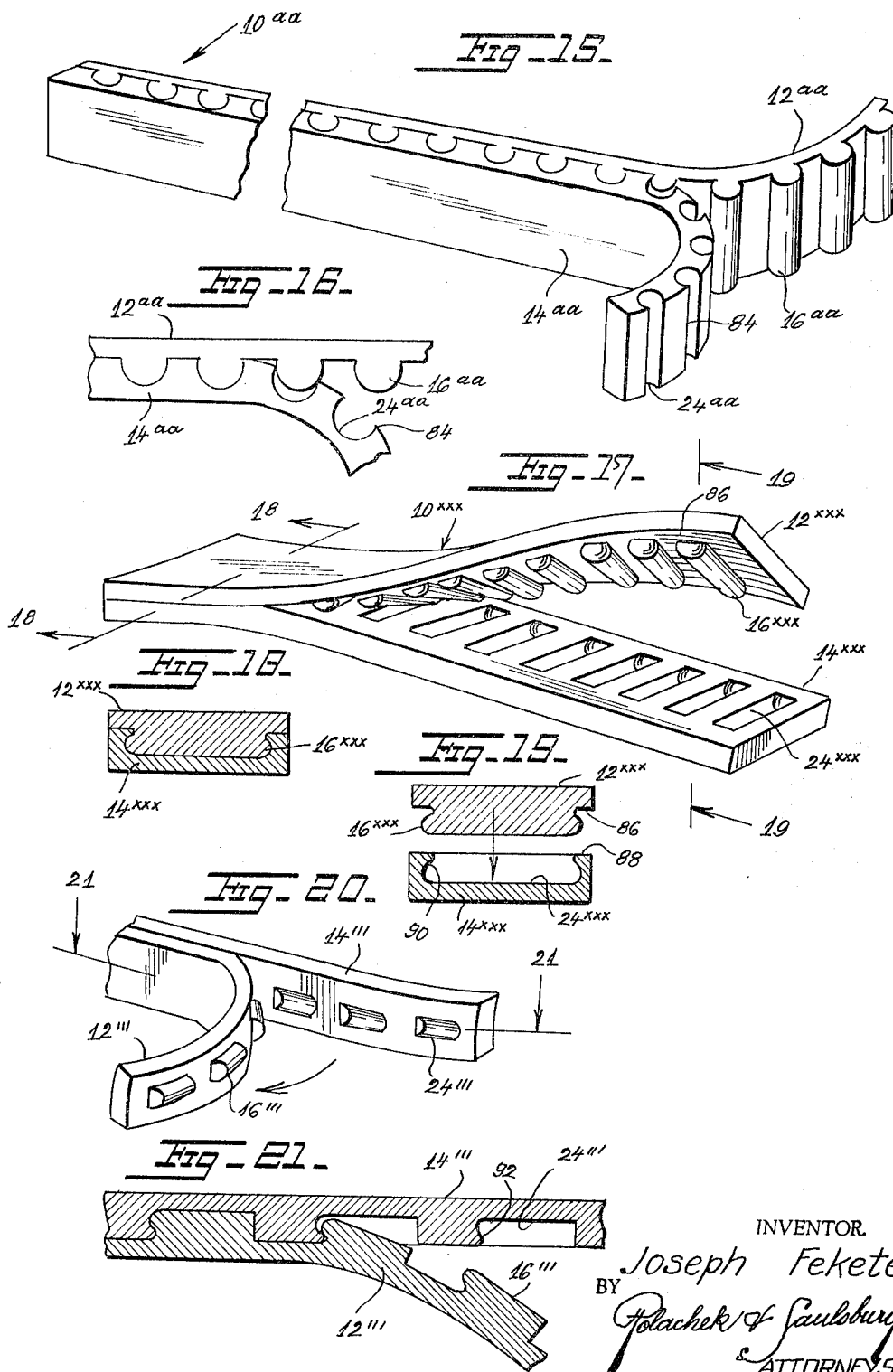
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3 Sheets-Sheet 3



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PLASTIC CLOSURE DEVICE

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5 Claims. (Cl. 24-206)

This invention relates generally to fastening devices and more particularly to new and useful improvements in two-part fastening devices for ready application to a variety of devices for drawing closely spaced edges of flexible material, defining openings, toward each other, into close relationship and for holding said edges in moved closed relationship.

Broadly, the invention consists of a pair of elongated flat flexible strips of flexible material, one strip having protuberances on one surface thereof, the other strip having spaced perforations therein to receive such protuberances in interlocking relationship, the strips being adapted to be secured on opposite side of the opening to be reduced or closed.

The invention, however, comprehends a single elongated strip of flexible material with spaced protuberances on one surface at one end thereof and with spaced perforations in the other end thereof for receiving the protuberances, the edge wall of the perforations carrying means for interlocking with the protuberances.

The primary object of the invention is to provide a two-part fastening device, each of which is adapted to be readily secured to one side edge of a two side edged opening, one of which having protuberances on one surface thereof, the other of which having spaced openings, the spacing of the openings conforming to the spacing of the protuberances.

Another object of the invention is to provide an elongated flexible one-piece fastening device, one end of the device having spaced protuberances on one surface thereof, the other end having spaced openings to receive the protuberances, and means carried by the openings for releasably interlocking with the protuberances.

Yet another object is to provide a fastening device that is adapted to readily replace other ordinary fastening elements such as snaps, locks, buttons, zippers, straps, buckles, tapes and the like.

Still another object is to provide a fastening device of this kind that is adapted to fit and hold articles of clothing on the wearer, such as jackets, caps, sandals and the like.

It is also proposed to provide a fastening device of this kind that is simple and economical to manufacture, self-locking, strong, adjustable and versatile.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

FIG. 1 is a front perspective view of a fastening device embodying one form of the invention, in inoperative position, the parts being shown in operative position in dash lines.

FIG. 2 is an enlarged perspective view of one end of the device, the parts being shown in operative position.

FIG. 3 is a top edge view showing the fastening device in operative position.

FIG. 4 is a bottom perspective view of one of the parts of the fastening device of FIG. 1.

FIG. 5 is a horizontal sectional view taken on the line 5-5 of FIG. 4.

FIG. 6 is a sectional view taken on the line 6-6 of FIG. 3.

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FIG. 7 is a vertical sectional view taken on the line 7-7 of FIG. 6.

FIG. 8 is a top plan view of one end of one part of the fastening device of FIG. 1 embodying a modified form of the invention.

FIG. 9 is a top perspective view of a cap with the fastening device of FIG. 1 applied thereto.

FIG. 10 is a front elevation view of a jacket with a fastening device embodying another modified form of the invention applied thereto, the device being shown in inoperative position.

FIG. 11 is a front elevational view of a dress with a fastening device embodying yet another modified form of the invention applied thereto, the device being shown in inoperative position.

FIG. 12 is a top perspective view of a sandal with a fastening device embodying a still further modified form of the invention applied thereto, the device being shown in operative position.

FIG. 13 is a top perspective view of a shipping receptacle with a fastening device embodying yet another modified form of the invention applied thereto, the device being shown in inoperative position.

FIG. 14 is a top perspective view of a handbag with a fastening device embodying a further modified form of the invention applied thereto, the device being shown in operative position.

FIG. 15 is a front perspective view of a fastening device embodying a still further modified form of the invention in operative, closed position, the end of the device being shown in separated inoperative position, parts being shown broken away.

FIG. 16 is a top plan view of the separated end of the device.

FIG. 17 is a top perspective view of a fastening device embodying yet another modified form of the invention, the device being shown in partly open condition.

FIG. 18 is a cross-sectional view taken on the line 18-18 of FIG. 17.

FIG. 19 is a cross-sectional view taken on the line 19-19 of FIG. 17.

FIG. 20 is a fragmentary front perspective view of a fastening device of still another modified form of the invention, partly in closed and partly in open condition.

FIG. 21 is a longitudinal sectional view taken on the line 21-21 of FIG. 20.

Referring now more in detail to the drawings, in FIG. 1 a fastening device or assembly embodying one form of the invention is shown and designated generally by the reference numeral 10. The fastening device consists of two parts, an elongated flat rectangular flexible but stiff thin plate 12 and an elongated rectangular flexible thin strap 14. The parts may be formed of plastic or other suitable material.

Plate 12 is molded with semi-round tubular loops 16 spaced therealong, three of such loops being shown. The plate is preferably formed with curved ends 18 and with holes 20 adjacent the ends thereof.

The strap 14 is reinforced by means of beads 22 along the long edges thereof. At one end of the strap, there are formed a plurality of openings 24 spaced to conform to the spacing of the loops 16 on plate 12. The openings are preferably rectangular in shape and projecting inwardly from each end thereof, there is a triangular-shaped pointed flexible lug or tongue 26. However, the tongues instead of being pointed may be blunted as indicated at 27 in FIG. 8.

The fastening device or assembly 10 may be utilized for fastening or holding wearing apparel on the wearer, such as the golf cap 30 shown in FIG. 9. In such an application of the invention, the plate 12 is secured to the crown 32 of the cap 30 by means of stitching 34

passing through the holes 20 and material of the cap, adjacent one side of a recess 35 in the crown of the cap intersecting the edge 36 of the crown. The strap 14 is secured at its end, opposite the openings 24, to the crown at the other side of the recess 35 by means of stitches 38 passing through the material of the strap and through the material of the crown. By merely pressing the perforated end of the strap 14 over and against the plate 12, the loops 16 will be snapped into the openings 24 with the tongues 26 of the openings snapping into interlocking relation with the passages in the tubular loops as shown in FIG. 2, whereby the cap will be releasably fitted and held on the head of the wearer. Adjustment is accomplished by inserting desired openings 24 over selected loops 16 as will be understood.

In FIG. 10, a modified form of fastening device or assembly 10' is shown applied to an article of wearing apparel, such as a jacket 40. The fastening device 10' comprises two parts.

One part of the assembly comprises an elongated flat rectangular flexible but stiff strap 12' molded with semi-round tubular loops 16' spaced along one surface thereof for the length thereof. Holes 20' are formed in the ends of the strap 12'.

The other part comprises a similar elongated flat rectangular flexible strap 14' formed with a series of rectangular openings 24' spaced therealong for the length thereof, the spacing conforming to the spacing of the loops 16'. Tongues 26' are formed in the ends of the openings 24' extending inwardly thereof. Holes 41 are formed in the ends of the strap.

In use, the strap 12' is placed flatwise along the edge of one of the front panels 42 of the jacket on the outer surface thereof and secured thereto by stitching 34' passing through the end holes 20' and through the material of the panel. The other strap 14' is similarly positioned along the edge of the other front panel 44 of the jacket on the inner surface thereof and similarly secured thereto by stitching 38' passing through the holes 41 and the material of the panel.

In practice, the loose edge of the panel 44 is folded over the loose edge of panel 42 and the openings 24' in the strap 14' snapped over the loops 16' on the strap 12' whereby the tongues 26' snap into the passages in the tubular loops 16' releasably holding the panels of the jacket in closed relation.

In FIG. 11, the fastening device 10'' takes the form of an elongated rectangular-shaped flexible belt 50 shown encircling a dress 52. The belt is formed of plastic material. On one end of the belt, a rectangular semirigid plate 12'' of plastic material is secured to the outer surface thereof by means of stitches 34'' extending through holes 20'' in the ends of the plate and through the material of the belt. The plate is formed with loops 16'' similar to loops 16 of the plate 12 of FIG. 1, three of such loops being shown.

The other end of the belt 50 is formed with a series of spaced rectangular openings 24'', the spacing being similar to the spacing of the loops 16''. Tongues 16'' similar to tongues 16 are formed on the ends of the openings 24''. The ends of the belt are fastened to each other by pressing the end having the openings 24'' over the plate 12'' so that the tongues 26'' interlock with the passages in the loops 16''.

The modified form of fastening device or assembly 10''' shown in FIG. 12 is shown applied to a sandal 56 and includes a pair of plastic straps 12''' and 14'''. Strap 12''' has one end secured to the sole 58 of the sandal and formed on the other end thereof is a series of loops 16''' similar to loops 16. Cooperating with the loops 16''' there is a series of openings 24''' formed in one end of the strap 14''', the other end of said latter strap being secured to the sole 58. The openings are formed with opposed tongues 26''' similar to tongues 26 for interlocking with the passages in the loops 16''', whereby the ends

of the straps are releasably fastened for holding the sandal on the foot of the wearer.

In FIG. 13 another modified form of fastening device 10a is shown in the form of an elongated strap 60 differing from the belt 50 of FIG. 11 in that the loops 16a are formed directly on one end of the strap 60 instead of on a separate plate, such as plate 12'', and only two loops 16a are shown. The other end of the strap carries the openings 24a similar to openings 24 with tongues 26a for cooperation with the loops 16a. The device 10a is useful in tying a shipping receptacle such as the box 62, and is readily adjustable.

FIG. 14 illustrates a lady's handbag 66 embodying various modified forms of the improved fastening device. A shoulder strap 68 is shown attached to the handbag embodying one form of fastening device 10x for fastening the ends of the strap together, and a closure clasp 70 for closing the opening in the bag is also shown embodying another form of fastening device 10xx.

The shoulder strap 68 is formed of two sections, a long section 74 and a short section 76. The free end of the short section 76 is formed with two spaced loops 16x similar to loops 16. The free end of the long section 74 is formed with a series of spaced openings 24x having inwardly extending tongues 26x similar to openings 24 and 26, respectively. Inwardly of the series of openings 24x, the long section 74 is also formed with another series of two similar openings 24x.

The ends of the sections 74 and 76 are secured to each other by pressing the openings 24x over the loops 16x whereby the tongues 26x in the openings interlock with the loops 16x.

A plate 80 is secured flatwise to one side of the handbag 66 and formed on the outer surface thereof is a loop 16xx similar to loop 16. A short flexible strap 82 has one end fastened to the other side of the handbag opposite the plate 80. The strap 82 is formed with an opening 24xx similar to opening 24 with a tongue 26xx similar to tongue 26. In order to close the opening in the handbag, the strap 82 is pressed over the plate with its opening 24xx interlocking with the loop 16xx.

In FIG. 15, the modified fastening device or assembly 10aa comprises a pair of elongated rectangular shaped flexible straps or tapes 12aa and 14aa. The strap 12aa is formed with spaced solid cylindrical protuberances 16aa thereacross, semi-circular in cross-section, and the strap 14aa is formed with grooves 24aa extending across the body of the strap and being similar in shape in cross-section to the protuberances 16aa, of slightly larger diameter, and formed with lips 84 along the outer edges thereof. The protuberances are adapted to be pressed into the grooves, the lips yielding and holding the protuberances in the grooves.

The modified form of fastening device 10xxx shown in FIGS. 17 to 19, inclusive, differs from the fastening device 10aa of FIG. 15 in that the protuberances 16xxx on strap or tape 12xxx extend only partly across the body of the strap leaving an imperforated area 86 along the long edges of the strap. The grooves 24xxx on strap 14xxx extend a corresponding distance across the surface of the strap leaving imperforated areas 88 along the long edges of the strap. The ends of the grooves 24xxx are formed with yieldable lips 90 to receive and hold the ends of the protuberances.

In FIGS. 20 and 21, another modification of the invention is shown wherein the protuberances 16''' on strap or tape 12''' are constructed substantially similar to the protuberances of FIG. 17 but extend lengthwise of the strap instead of transversely thereof. One end of each protuberance is round and the other end straight as seen in FIG. 21, and the grooves 24''' on strap 14''' extend lengthwise thereof and are shaped to correspond to the shape of the protuberances having a protruding lip 92 at one end thereof to receive yieldingly the round end of the protuberance. This construction allowed easy opening from one end only.

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While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

What is claimed is:

1. A two-part fastening assembly, one part including an elongated flexible but stiff plate with spaced tubular loops projecting from one surface thereof, the other part including an elongated flexible strap with spaced openings therein at one end thereof, the spacing of the openings conforming to the spacing of the loops, and tongues on opposed edges of the openings extending inwardly of the openings for cooperation with the loops for interlocking the strap and plate.

2. A two-part fastening assembly, one part including an elongated flexible but stiff plate with spaced tubular loops projecting from one surface thereof, the other part including an elongated flexible strap with spaced openings therein at one end thereof, the spacing of the openings conforming to the spacing of the loops, and tongues on opposed edges of the openings extending inwardly of the openings for cooperation with the loops for interlocking the strap and plate, said plate having means for fastening same to a flexible article of wearing apparel.

3. A two-part fastening assembly, one part including an elongated flexible but stiff plate with spaced tubular loops projecting from one surface thereof, the other part including an elongated flexible strap with spaced openings therein at one end thereof, the spacing of the openings conforming to the spacing of the loops, and tongues on opposed edges of the openings extending inwardly of the openings for cooperation with the loops for inter-

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locking the strap and plate, said plate having holes in the ends thereof for receiving stitches whereby the plate may be fastened to a flexible article of wearing apparel.

4. A two-part fastening assembly, one part including an elongated flexible but stiff rectangular plate with spaced tubular loops projecting from one surface thereof, said loops being rectangular in configuration in plan, the other part including an elongated flexible strap with spaced openings therein at one end thereof, the openings being rectangular in shape, the spacing of the openings conforming to the spacing of the loops, and tongues on opposed ends of the openings extending inwardly of the openings and having pointed ends for cooperating with the loops for interlocking the strap and plate.

5. A two-part fastening assembly as defined in claim 3, wherein the tongues have blunted ends.

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