

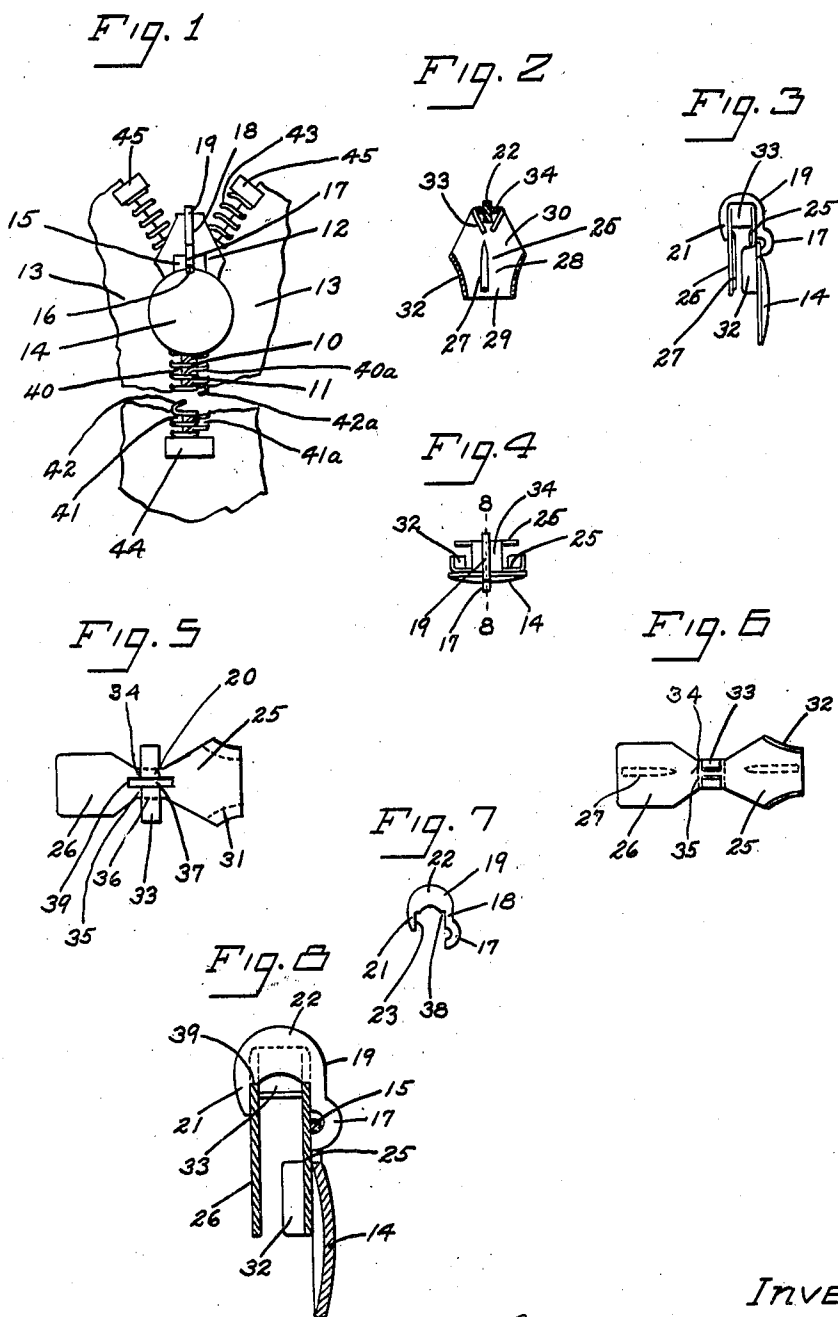
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G. E. PRENTICE

SLIDE CONSTRUCTION

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Inventor
George Edward Prentice -
By Louis M. Schmidt
Att'y.

UNITED STATES PATENT OFFICE.

GEORGE EDWARD PRENTICE, OF BERLIN, CONNECTICUT.

SLIDE CONSTRUCTION.

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My invention relates to improvements in slide construction, having to do with the operating of interlocking fastener devices of the form that are used for the closing and opening of gaps in garments, shoes, Arctic overshoes, and in pouches and the like, one form of which is shown and described in my application that was filed April 28, 1924, Serial No. 709,643, and the object of my improvement is to produce a slide for engaging and disengaging the active elements of such interlocking devices that is relatively simple in form and convenient and efficient in use.

In the accompanying drawing:—

Figure 1 is a front elevation of my improved slide as applied to a set of interlocking fastener devices mounted on a pair of strips of fabric that represent the two sides or borders of a gap in a garment structure or pouch, the parts being assumed to be in a vertical position.

Figure 2 is a similar view of the slide only with the front or top plate thereof broken away, showing the divergent channels for the fastener devices.

Figure 3 is a side elevation of the slide.

Fig. 4 is a top plan view of the same.

Figure 5 is a plan of the blank for the main part.

Figure 6 is a similar view of the same with the guide wings bent to the operating position and the strengthening ribs indicated by broken lines.

Figure 7 is a view of the clamp piece.

Figure 8 is a sectional view on an enlarged scale on the line 8—8 of Fig. 4.

My improved slide is used with a set of interlocking fastener devices 10 that have overlapping and interengaging active portions 11 that are arranged in series and are brought to the engaging position and are disengaged one from the other by a longitudinal movement of the slide, which is designated as a whole by the character 12. The devices 10, as shown, are mounted and arranged in two series on the two opposed and adjacent strips 13 of fabric.

For manipulating the slide there is provided a disc-like handle, pull device or finger-and-thumb piece 14 that is normally in dependent position and is pivotally connected to the slide proper. As shown, the handle or pull device 14 has at its upper end a tail-like extension 15 that has a per-

foration 16 for receiving a hook 17 that is disposed substantially midway of the length of said slide proper.

The hook 17 is in the form of a downward extension of the front arm 18 of the clamp piece or yoke 19 that is made of relatively heavy sheet metal and that, besides holding the handle 14 in place, serves as the means for maintaining the substantially parallel relation of the top and bottom or front and rear plates of the main part 20. To this end, said clamp piece or yoke 19 is generally of U-shape, comprising the front arm 18 already mentioned and the rear arm 21, and the curved connecting member 22. The opposed edges 23 of the gap or open space between the arms 18 and 21 are straight and parallel, and engage individually with the outer faces respectively of the front plate 25 and the rear plate 26. Said plates 25 and 26 may be provided, as shown, with longitudinally directed strengthening ribs 27 and 27^a that are formed by suitably indenting the sheet of metal of which the main part 20 is made.

The top and bottom plates 25 and 26 are of suitable area and are spaced suitably to provide between them the two channels 28 that serve as the ways for the active portions 11 of the fastener devices 10 and which channels, as is usual, combine to form a substantially Y-form. That is to say, the lower portions 29 of the channels 28 may be said to be merged, corresponding to the position in which the active locking elements 11 are interengaged, and the upper portions 30 thereof are divergent, corresponding to the disengaged position of the elements 11. Intermediate said lower portion 29 and the upper portions 30 the active elements 11 are more or less forcibly acted upon by the slide 12 to effect the interlocking and disengagement thereof.

As shown, the lower plate or bottom plate 26 is substantially flat or plain, except for the strengthening rib 27, and the upper plate 25 has the body portion flat or plain, except for the strengthening rib 27^a, and is bordered along the lateral edges 31 with dependent flanges 32 that form the outer walls of the channels 28.

Divergent walls 33 are provided adjacent the upper ends of the channels 28 that form the border walls of the upper portions 30 of said channels 28 on the inner sides there-

of. That is to say, regarding said upper portions 30 as individual channels in the broad sense, the divergent walls 33 serve as border walls for the same. As to location with relation to the front plate 25 and the rear plate 26 or to the structure of the slide generally, the particular walls 33 are located along the inner sides of the individual channels 30. Operatively, said divergent walls 33 function when the slide 12 is moved in the downward direction for disengaging the fastener devices 10 by making contact with said devices 10 successively, the two opposed and adjacent walls 33 combining to form a wedge-like structure, as will be noted from inspection of Fig. 2.

In functioning as described, said walls 33 serve virtually as the end of a substantially Y-shaped channel structure and the other two walls of said channel structure are provided by the portions of the front plate 25 and rear plate 26 that are adjacent said walls 33.

As to the details of construction, said divergent walls 33, as shown, are freely supported structures that are formed as laterally directed tabs or wings 33 relatively to a central neck 34 that serves to interconnect the front and rear plates 25 and 26, the junctions of the latter with said neck being shown by the broken lines 35 in Fig. 5. The lines 36 show the connections with the wings or walls 33.

Solder is used to hold the clamp piece 19 in place.

The clamp piece 19 is positioned so as to appear as a fin-like structure relatively to the neck 34 and adjacent portions of the front and rear plates 25 and 26.

A relatively compact structure is effected by entering the yoke 22 into a slot 37 that extends vertically across the neck 34 and a short distance along the adjacent portion of the front and rear plates 25 and 26. Shoulders 38 provided at the ends of the active engaging edges 23 of the arms 18 and 21 engage with the end walls 39 of the slot 37.

As described, the clamp piece is plain and flat and makes edgewise contact with the opposed front and rear plates. Also, the hook 17 is disposed edgewise to the connecting tail 15 of the handle.

The overlapping and interengaging active portions 11 are constructed after the manner of those shown in the application referred to and of the particular form that involves the use of a pair of coil springs that are swaged or shaped to improve the locking effect, such swaging being different for the two sides.

The left active members 11, having reference to Fig. 1, are part of a spring 40 that is threaded along the border or edge portion 41 of the fabric 13. The adjacent active

portions 11 are interconnected by the portions 42 of the spring 40 that are threaded through the fabric 13.

The springs are wound on a cylindrical arbor and are swaged in any manner that will produce active members 11 that will have improved holding qualities over the plain circular form for the convolutions. To this end, as shown, the active portions 11 of the right spring 40^a, which is threaded on the fabric border 41^a, has downwardly directed hook-like ends 43 that enter slightly though appreciably into the mating convolutions of the left active portions 11.

The connecting portions 42^a serve to interconnect the right active portions 11 and are the parts of the spring 40^a that are threaded through the fabric border 41^a.

Clips of any suitable form are provided that serve to limit the movement of the slide and are also adapted to secure the ends of the springs 40 and 40^a and to position the parts relatively to the fabric 13.

Thus at the lower ends of the springs a single clip or stop 44 is used and at the upper ends are the individual clips or stops 45.

I claim as my invention:-

1. A slider for fasteners of the class described, said slider comprising spaced front and rear plates united by a neck, said parts being provided with guide elements defining divergent channels, and a U-shaped yoke interlocked with said neck and plates, said yoke having arms engaging the respective plates, one of said arms having a hook-like extension, and a handle having an opening for receiving said extension.

2. A slider for fasteners of the class described, said slider comprising spaced front and rear plates having divergent channels between them for the reception of series of fastener elements, a neck uniting said plates, a U-shaped yoke interlocked with the neck and having portions engaging the respective plates at points adjacent to the neck, each of the plates being provided with a longitudinally extending strengthening rib.

3. A slider for fasteners of the class described, said slider comprising spaced front and rear plates united by a neck, a U-shaped yoke embracing the neck and having arms engaging the outer faces of the respective plates, each of said plates having a stiffening rib extending beyond the end of the corresponding arm of the yoke toward the free end of such plate.

4. A slider for fasteners of the class described, said slider comprising substantially parallel front and rear plates of sheet material united by a neck member, one at least of said plates being provided with an indentation providing an integral reinforcing rib extending longitudinally of the plate, and a pull device for actuating the slider.

5. A slider for fasteners of the class de-

scribed, said slider comprising an integral piece of sheet material having wide end portions or wings united at one end by a relatively narrow neck bent to bring the wing portions into substantially parallel relation, each wing being furnished with an integral reinforcing rib extending from its free end toward the neck portion, and a pull device for actuating the slider.

10 6. A slider for fasteners of the class described, said slider comprising substantially parallel front and rear plates of sheet material having inwardly directed marginal flanges defining divergent channels for co-
15 operating series of fastener elements, and a pull device for actuating the slider, said plates having indentations furnishing integral stiffening ribs.

20 7. A slider for fasteners of the class described, said slider comprising substantially parallel front and rear plates of sheet material integrally united at one end by a relatively narrow neck, each of said plates being provided with an integral reinforcing rib
25 extending longitudinally thereof, means for reinforcing the neck, and a pull device for actuating the slider.

8. A slider for fasteners of the class described, said slider comprising substantially
30 parallel front and rear plates of sheet material and a relatively narrow neck uniting said plates at one end, each of said plates being provided with a longitudinally extending indentation forming an inwardly
35 projecting stiffening rib.

9. A slider for fasteners of the class described, said slider comprising substantially parallel front and rear plates of sheet material and a relatively narrow neck integrally
40 uniting said plates at one end, and a U-shaped yoke embracing said neck for reinforcing the latter, the legs of said yoke terminating short of the free ends of the plates, each of said plates having an integral stiff-
45 ening rib forming in effect continuations of the respective legs of the yoke.

10. A slider for fasteners of the class described comprising front and rear plates of

sheet material integrally united at one end by a neck, said neck having a longitudinal
50 slot therein, a U-shaped yoke having spaced legs, the bend of the yoke seating in the slot in the neck, means securing the yoke in position, one leg of the yoke having a hook-like extension disposed substantially
55 midway of the length of the slider, and a pull device attached to said hook-like extension.

11. A slider for fasteners of the class described comprising parallel front and rear
60 plates of sheet material integrally united at one end by a neck, a one-piece U-shaped yoke of sheet material embracing said neck and disposed in a plane perpendicular to the planes of said front and rear plates, and
65 means securing the yoke in position, one leg of the yoke having a hook member, and a pull device pivotally supported by said hook member.

12. A slider for fasteners of the class de-
70 scribed comprising front and rear plates of sheet material integrally united at one end by a neck, a one piece reinforced fin of sheet material perpendicular to the plane of one of said plates, means securing said rein-
75 force fin in position, and a pull device pivotally secured to said reinforce fin, one at least of said plates having an indentation furnishing an integral stiffening mem-
80 ber.

13. A slider for fasteners of the class de-
scribed comprising front and rear plates of sheet material integrally united at one end by a neck, a fin of substantially uniform thickness and of sheet material disposed
85 with its edge engaging the outer surface of the front plate, said fin terminating substantially midway of the length of said plate, means securing the fin in position, and a pull device attached to said fin near the
90 terminus of the latter, said front plate having an integral stiffening rib extending from near the end of the fin toward the free end of said plate.

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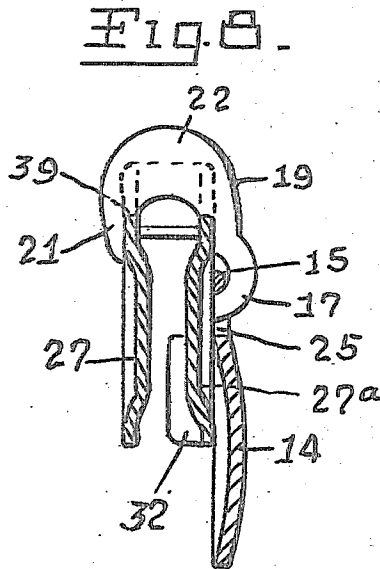
Certificate of Correction.

Patent No. 1,679,783.

Granted August 7, 1928, to

GEORGE EDWARD PRENTICE.

It is hereby certified that error appears in the above-numbered patent requiring correction as follows: In the drawings Figure 8 should appear as shown below instead of as shown in the drawings:



and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 4th day of September, A. D. 1928.

[SEAL.]

M. J. MOORE,
Acting Commissioner of Patents.