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J. P. BENNETT ET AL.

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SLIDE FASTENER

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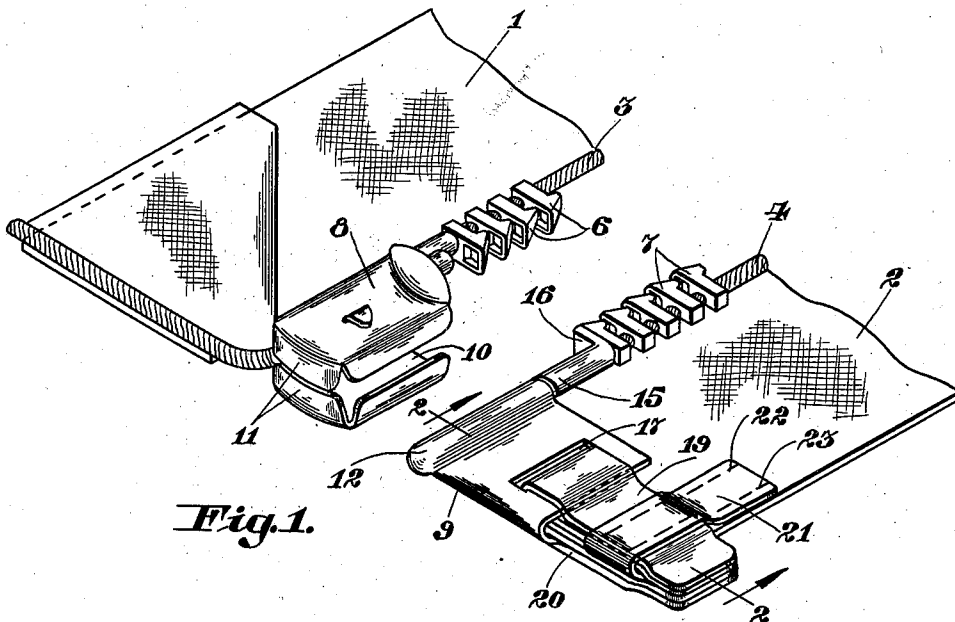


Fig. 1.

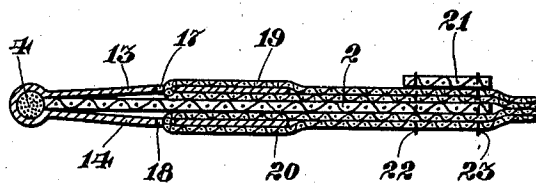


Fig. 2.

INVENTORS.
John P. Bennett.
Ernest C. Happold.
BY *Kelley & Chisholm*
ATTORNEYS.

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SLIDE FASTENER

John Pugh Bennett and Ernest Conrad Happold,
Birmingham, England, assignors to Hookless
Fastener Company, a corporation of Pennsylvania

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3 Claims. (Cl. 24—205)

This invention relates to slide fasteners of the kind comprising two flexible stringers having cooperating series of fastener elements mounted thereon and adapted to be connected and disconnected by a slider. More particularly, the invention is concerned with a separable end connection for such fasteners, and means for strengthening the portions of the fastener stringers adjacent the engaging parts of the end connection.

The ends of the stringer and the parts of the separable end connection are repeatedly submitted to heavy stresses throughout their entire period of use in a garment. Such stresses may result in loosening of the parts of the separable end connection on the fastener stringers or in the tearing of the tapes, making it difficult or impossible to operate the fastener in the intended manner.

Attempts have been made to overcome these difficulties by riveting extension portions of the metal parts of the separable end connection to the mounting tapes, and to the article to which the fastener is connected. Such fittings, however, are unsightly in appearance in some garments, they are inflexible, and are troublesome when machine sewing the fastener to garments, as the sewing has to be stopped short on reaching the projecting portion of the fitting and an additional operation of inserting a rivet for attaching the end of the fastener to the garment is often necessary.

The object of our invention therefore is to provide an improved construction in which the above difficulties will be overcome and which will enable a fastener of the separable end type to be securely attached to the garment in a neat and efficient manner.

In the accompanying drawing, we have shown for purposes of illustration, one embodiment which our invention may assume in practice. In this drawing:

Fig. 1 is a perspective view of the separated ends of a slide fastener made in accordance with our invention; and

Fig. 2 is a cross-section on line 2—2 of Fig. 1. In Fig. 1 the numerals 1 and 2 designate two fastener stringers or tapes having beaded edges 3 and 4, respectively, to which are secured the cooperating series of fastener elements 6, 7. These series of fastener elements terminate short of the ends of the separable end connection.

The separable end connection may be of any known form having engaging parts 8 and 9. The part 8 is termed a socket member and in

the present instance is formed up of sheet metal to provide a socket open at its upper end and opening at its front side through the slot 10. It is closed at its bottom end by the returned sheet metal portions 11 to provide a stop for the cooperating part. The part 9 is termed a pin member and has a cylindrical pin 12 with integral flat extensions 13, 14 on opposite sides of the tape 2. This part of the end connection may also have a secondary pin member 15 with a lug 16 extending under the endmost fastener element. The extensions 13, 14 are provided with apertures 17, 18 respectively, through which are threaded the strain tapes 19, 20 respectively. The ends of these strain tapes extend crosswise of the tape 2 throughout the width thereof and preferably beyond, as shown in the drawing. These strain tapes are secured to the stringer tape 2 by any suitable means such as cementing or by stitches. In the construction shown an extension 21 of the tape 2 is folded back over the upper strain tape 19 and two rows of stitches 22, 23 are passed through the entire assembly including the turned-back portion 21, the two plies of each of the strain tapes, and the main portion of the tape 2. This firmly secures the strain tapes in position.

As a result of our invention it will be apparent that the stress coming on the rigid pin element of the separable end connection is transmitted directly to the garment in which the fastener is attached. At the same time the fastener may be very conveniently attached in the garment by continuing the row of stitches to the end of the tape. In stitching of the fastener to the garment, the needle easily passes through the fabric tapes 19 and 20. By this construction a neat appearance of the end of the stringer is obtained and at the same time, the assembly is relatively flexible. If desired a similar reinforcement may be provided for the socket part of the end connection. However, in practice it is found that difficulties are more commonly experienced with the pin part of the connection.

While we have shown and described in this application one embodiment which our invention may assume in practice, it will be understood that this embodiment is merely for the purposes of illustration and description and that various other embodiments may be devised within the scope of our invention as defined in the following claims.

What we claim as our invention is:

1. A slide fastener adapted to be attached to the edges of an article to be fastened, compris-

ing in combination narrow fabric stringers, cooperating series of fastener elements on said stringers, and a separable end connection for said stringers at one end of the fastener comprising

5 ing cooperating engaging parts of rigid material secured to adjacent edges of the stringers, one of said engaging parts having portions extending on each side of the stringer part way across the end of the stringer, each of said portions having

10 an eye therein, and a reinforcing member threaded through each eye and extending the remainder of the way across the end of the stringer, said reinforcing member being flexible and being capable of being penetrated by stitches.

15 2. A slide fastener comprising a pair of tape stringers, cooperating series of fastener elements on the adjacent edges of said stringers, a separable end connection for said stringers comprising engaging parts secured to the stringers at the

20 ends of said series of elements, at least one of said parts being provided with an aperture, a strain tape threaded through said aperture and extending across the end of said tape stringer,

a portion of said tape stringer being folded back over said strain tape, and stitches securing said folded back portion and said strain tapes securely to the underlying portion of the stringer tape.

3. A slide fastener adapted to be attached to the edges of an article to be fastened, comprising narrow fabric stringers, cooperating series of fastener elements on said stringers, and a separable end connection for said stringers at one end of the fastener comprising cooperating

10 engaging parts made of rigid material and secured to adjacent edges of the stringer, one of said engaging parts extending only part way across the end of the stringer and having an aperture therein, and a flexible reinforcing member

15 threaded through said aperture and extending the remainder of the way across the end of said stringer and secured to said stringer, said reinforcing member being capable of being penetrated by stitches.

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JOHN PUGH BENNETT.
ERNEST CONRAD HAPFOLD.