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M. BLASKOPF

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SEPARABLE FASTENER

Filed July 3, 1929

Fig. 1

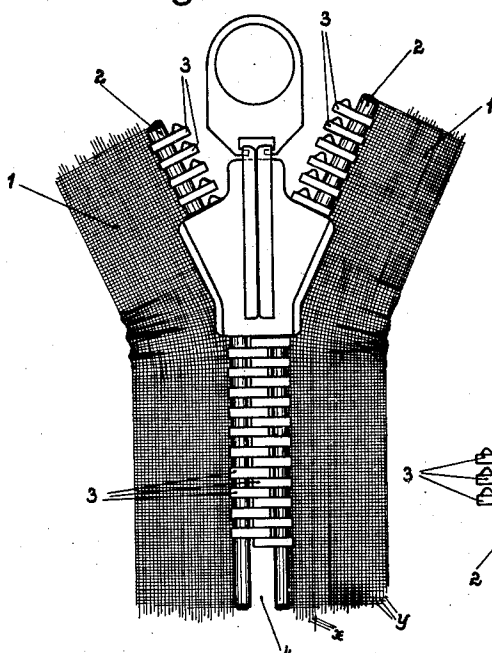


Fig. 2

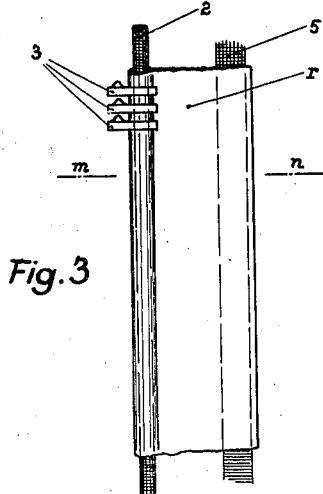
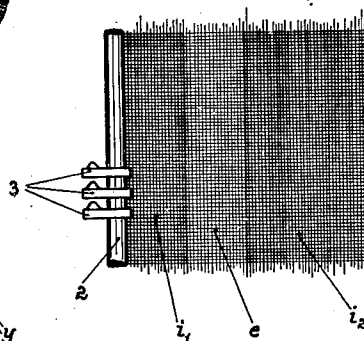


Fig. 3

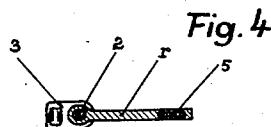


Fig. 4

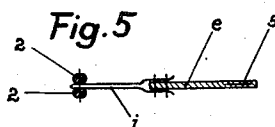


Fig. 5

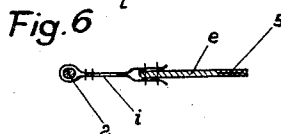


Fig. 6

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SEPARABLE FASTENER

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This invention relates to improvements in separable fasteners of the kind comprising material lengths carrying longitudinally disposed series of interlocking units and a slider adapted to cause the units to engage and disengage. However the fasteners of this kind, when used in connection with garments, boots, gloves or the like, possess the drawback, that the connection between the units to be engaged with one another is too rigid and inflexible, thereby rendering disagreeable their use. The reason for this inflexibility resides in the fact that the units are attached, as a rule, to the strengthened borders of strong and inelastic material length, which are secured to the parts to be engaged with one another. As a matter of fact, the flexible units have to be secured to a material length which is inelastic in the longitudinal direction, because otherwise the units could automatically disengage themselves. This is the reason why up to now it has not been taken into consideration to impart to the fastener the flexibility necessary when used in connection with certain garments.

An object of the present invention is to provide the fastener connected with the two parts of the object with the necessary flexibility in that the length carrying the units are inelastic in the longitudinal direction but elastically extensible in the transverse direction of the fastener-slit.

Some modes of carrying out the present invention are illustrated by way of example on the accompanying sheet of drawings.

Figs. 1, 2 and 3 show in front elevation three embodiments of the invention.

Fig. 4 illustrates a cross section on line *m-n* of Fig. 3.

Figs. 5 and 6 show two further embodiments of the invention in cross section.

In the embodiment of the invention illustrated in Fig. 1 the material lengths 1 provided on their edges 2 with the interlocking units 3 are elastic in the transverse direction, that is to say transversely to the slit 4 between the two series of units but inelastic in the longitudinal direction. These lengths may consist of a web in which the threads α extending in the longitudinal direction are

made of an inelastic material as for instance of yarn, while the threads γ extending in the transverse direction are made of an elastic material as for instance rubber, contrary to the common rubber bands used for various objects which are elastic in the longitudinal direction, but inelastic in the transverse direction. The lengths 1 act as an elastic intermediate member between the interlocking units 3 and the parts of the object to be closed.

The outer edges of the lengths 1 may be provided with suitable inelastic strengthening strips in order to provide a firm connection between the said lengths and the parts of the object to be interlocked. The cord forming the edge 2 and carrying the interlocking units 3 is secured to the length 1 in any convenient manner, for instance the web forming the length 1 may be passed around and sewn to the cord 2.

It is not necessary that the length 1 is elastic over its entire width. As shown in Fig. 2 only a part *e* of the width may be elastic, so that the length comprises for instance two inelastic strips i^1, i^2 , and a strip *e* elastic only in the transverse direction. Also a number of such strips may be provided. The threads of the inelastic strip are formed by yarn, while in the elastic strip the threads extending in the transverse direction are constituted by rubber strings. A combined fabric of this kind can be made in a single piece or the individual strips may be interconnected in any convenient manner.

In the embodiment shown in Figs. 3 and 4 (plan view and cross-sectional view respectively) the length comprises a solid rubber strip *r*, in which is embedded at one border the cord 2, while the opposite border carries a strengthening strip 5 of linen or the like through which pass the means connecting the length with the parts of the object provided with the fastener. Strengthening strips of this kind may be arranged in any convenient manner also on the outside of the length and also the cord 2 may be secured to the rubber strip *r* in any other manner than by way of embedding.

Figs. 5 and 6 show two further embodi-

ments of the invention in which the strip of inelastic web is formed by folding a broad strip *i*. Between the two layers of this strip an elastic strip *e* is secured. In the embodiment illustrated in Fig. 5, two cords 2 are secured at the outside for the attachment of the units while in the construction shown by Fig. 6 one cord 2 is enclosed in and sewn to the folded strip *i*. Also two separate strips sewn together may form the two layers.

Of course the subject matter of the invention may be carried out also in various manner without departing from the scope of the present invention.

I claim:

1. Separable fastener comprising two material lengths fixed on the margins of which the fastener is applied, which are inelastic in the longitudinal but elastic in the transverse direction, interlocking units arranged in series upon the edge of each length and a slider adapted to engage and disengage the units of the two lengths.

2. Separable fastener comprising two material lengths of web fixed on the margins of which the fastener is applied the web being composed of inelastic threads in the longitudinal direction of the length and of elastic threads in the transverse direction of the length, interlocking units arranged in series upon the edge of each length and a slider adapted to engage and disengage the units of the two lengths.

3. Separable fastener comprising two material lengths of web fixed on the margins of which the fastener is applied the web being composed of threads of yarn in the longitudinal direction of the length and of elastic threads in the transverse direction of the length, interlocking units arranged in series upon the edge of each length and a slider adapted to engage and disengage the units of the two lengths.

4. Separable fastener comprising two material lengths of web fixed on the margins of which the fastener is applied each length comprising strips inelastic in the longitudinal direction, at least one of these strips being elastic in the transverse direction, interlocking units arranged in series upon the edge of each length and a slider adapted to engage and disengage the units of the two lengths.

In testimony whereof I affix my signature.

MAX BLASKOPF.