Dec. 8, 1936. L. H. MORIN 2,063,515

SEPARABLE SLIDE FASTENER AND METHOD OF MAKING THE SAME

Filed Sept. 8, 1934

Fig. 1

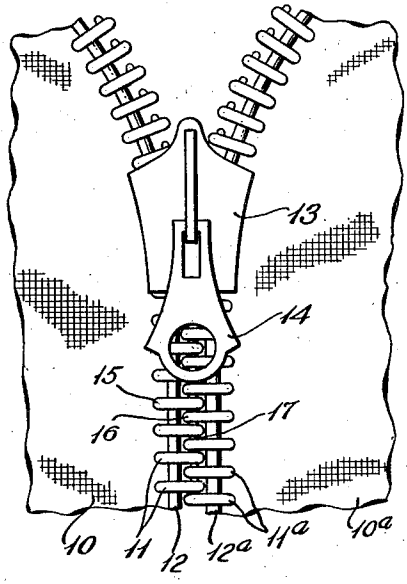


Fig. 2

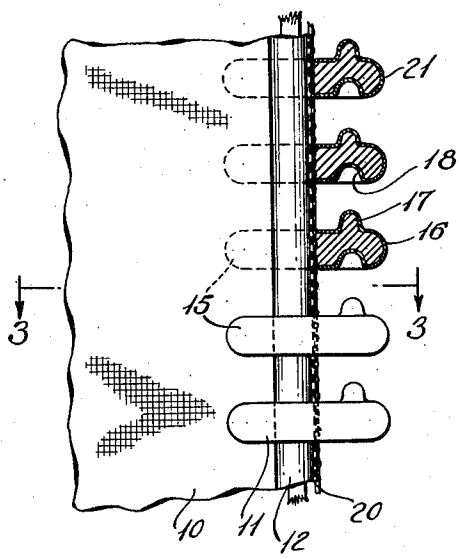


Fig. 3

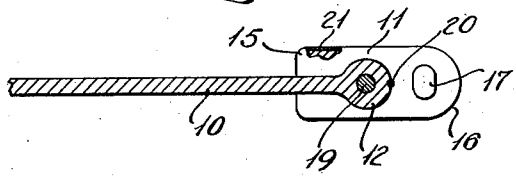


Fig. 4

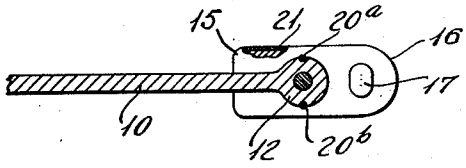


Fig. 5

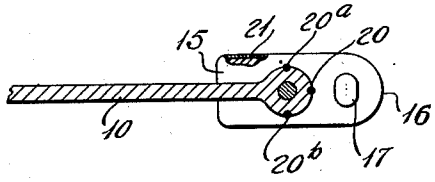
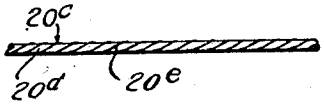


Fig. 6



INVENTOR
LOUIS H. MORIN

BY
Howard E. Thompson
ATTORNEY

Patented Dec. 8, 1936 2,063,515

UNITED STATES PATENT OFFICE

2,063,515

SEPARABLE SLIDE FASTENER AND METHOD OF MAKING THE SAME

Louis H. Morin, Bronx, N. Y., assignor to Whitehall Patents Corporation, New York, N. Y., a corporation of New York

Application September 8, 1934, Serial No. 743,256

12 Claims. (Cl. 204—8)

This invention relates to separable slide fasteners employing stringers consisting of mounting tapes with a plurality of coupling links or elements disposed longitudinally of one edge thereof and the object of the invention is to provide the mounting tapes or supports for said coupling links with means facilitating the plating of the links by establishing electrical communication between the links of each stringer; a further object being to provide a mounting tape, ribbon or other support for the link of fasteners of the class under consideration with a metallic strip or strand extending longitudinally thereof and exposed through one surface to engage the links mounted in connection with the support and preferably to the arrangement of said strip or strand in an enlarged or beaded portion of the mounting tape or support; and with these and other objects in view the invention consists in a device of the class and for the purpose specified and made in accordance with the method hereinafter more fully described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:

Fig. 1 is a plan view of a part of a separable fastener.

Fig. 2 is a plan and sectional view of a part of one of the stringers which I employ.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Figs. 4 and 5 are views similar to Fig. 3 showing modifications; and,

Fig. 6 is a detail view of a form of conductor strand which I may employ.

For the purpose of illustration, I have indicated in Fig. 1 of the drawing, a part of a separable slide fastener consisting of two stringers 10—10*a*, constituting the mounting tape or support for a plurality of coupling links or elements 11—11*a* which are disposed and spaced longitudinally of an enlarged or beaded edge 12—12*a* of the stringers. At 13, I have indicated a slider movable longitudinally of the stringers for coupling or uncoupling the links 11—11*a* in accordance with other devices of this class, 14 representing a finger piece or pull by means of which the slider 13 is operated.

As each stringer 10—10*a* is substantially of the same construction, the brief description of one will apply to the other. In Figs. 2 and 3 of the drawing, the stringer 10 is shown in detail, on an enlarged scale, and from these figures it will appear that each link or element 11 consists of an end portion 15 secured to the support 10 and a coupling end portion 16 projecting beyond the beaded edge 12 of the support, the latter portion having at one side face a projecting coupling knob 17 and at the opposite side face a recess 18 to receive the knob of a companion stringer.

The coupling links or elements 11 are composed of metal and may be formed in any desired manner and likewise attached to the tape or support 10 in any way.

In the construction shown, the beaded portion 12 includes a filler cord or strand 19 but this strand may or may not be employed, but in carrying my invention into effect, I employ in conjunction with the tape or support 10, or the beaded portion thereof, a metallic strip or strand 20 which extends longitudinally throughout the length of the support 10 and is exposed through the outer surface thereof, or of the beaded portion 12, so as to contact with each of the links or elements 11 mounted thereon. The strip or strand 20 may be in the form of a single or multiple strand wire or a strand such as shown in Fig. 6 of the drawing; and this strand is interwoven or otherwise fixed or attached to the material of the tape or support 10 in such manner as to form almost a continuous exposure of the strand throughout the length of the support 10 to establish an electrical contact through the strand 20 and the separate links of the stringer.

In Fig. 4 of the drawing, I have shown a slight modification wherein two strands 20*a*—20*b* are employed instead of a single strand, the latter being arranged on the upper and lower surfaces of the support 10, or the beaded edge 12 thereof, instead of on the outer edge as in Figs. 1 to 3 inclusive.

In Fig. 5 of the drawing I have shown another modification which incorporates the strand 20 as well as the strands 20*a*—20*b*. The purpose of utilizing more than a single strand would be in the first place to insure the establishment of an electrical contact with each of the links of a stringer, and secondly, to expedite the plating operation which is made possible by virtue of the construction disclosed.

The purpose in providing a mounting tape or support with a conductor strand such as at 20, 20*a*—20*b* is to facilitate the application of a plate coating indicated at 21 to the several links of a stringer to give to the links distinct color values contrasting to the color value of the base metal used in the construction of the links.

In this way, links may be given such coloring as to represent a silver color, a gold color, black or other desired colors capable of being produced in accordance with the electro-plating process.

In producing stringers of the class under consideration it will be understood that the links are applied to the tape or support **10**, including the contact strip **20** or the strip **20***a*—**20***b* so as to contact therewith, and a continuous strip of indefinite length with the arrangement of links thereon continuously or in groups in accordance with conventional method may be fed through an electro-plating bath to plate the links with the desired plating in their passage therethrough by simply establishing the electric circuit through the conductor strand **20**, **20***a*—**20***b*, or to that portion of the strand and the links thereon passing through the bath. On the other hand the stringers may be cut up into their desired length sizes and then plated by dipping or otherwise, subjecting them to the electro-plating bath establishing the electric circuit through the links of each stringer length.

The strands **20**, **20***a*—**20***b* may constitute single or multiple wire strands but it is preferred that a strand, such as shown at **20***c* in Fig. 6, be employed consisting of a fibrous member **20***d* around which is loosely wound a thin strand of wire **20***e*. This type of construction becomes more flexible and will avoid any tendency of breakage of the wire in the flexure of the strip or tape.

It is also possible to perform the plating by first coupling two stringers together and then subjecting them to the plating operation. In this connection, it will also be understood that my invention is not necessarily limited to the particular means herein shown and described for establishing the electric communication between the separate links of the stringer, nor to the particular manner of attaching or locating the conductor upon the stringer or the mounting tape thereof.

As heretofore stated, the invention is applicable to stringers employing metallic links of various kinds and classes and is particularly adapted to links which are die-cast directly upon the tape by reason of the fact that the cast metal penetrates into the inerstices of the thread of the tape and establishes a positive contact with the conductor.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A separable slide fastener of the class described comprising stringers, each consisting of a mounting member of fibrous material with a plurality of links spaced longitudinally of and projecting from one edge thereof, and metallic means arranged continuously throughout the length of said edge of the mounting member and interwoven with said fibrous member and exposed therethrough for contact with each of the links thereon.

2. A separable slide fastener of the class described comprising stringers, each consisting of a mounting member of fibrous material, with a plurality of links spaced longitudinally of and projecting from one edge thereof, metallic means arranged continuously throughout the length of said edge of the mounting member and interwoven with said fibrous member and exposed therethrough for contact with each of the links thereon, and each of the links of the stringer comprising metallic bodies with an electro-plate coating thereon.

3. The herein described method of manufacturing stringers of separable fasteners to permit electro-plating of the separate links of the stringers which consists in providing an elongated mounting member having an electric conductor extending longitudinally of one edge portion thereof and exposed through the outer surface of said edge at a multiplicity of closely arranged points longitudinally thereof, and securing the coupling links of the stringer to said edge at longitudinally spaced intervals and in contact with said exposed conductor whereby electric circuit is established to each of said links.

4. The herein described method of manufacturing stringers of separable fasteners to permit electroplating of the separate links of the stringers which consists in providing an elongated mounting member having an electric conductor extending longitudinally of one edge portion thereof and exposed through the outer surface of said edge longitudinally thereof, and securing the coupling links of the stringer to said edge at longitudinally spaced intervals and in contact with said exposed conductor whereby electric circuit is established to each of said links and forming the separate links by metallic bodies die-cast directly upon said mounting member and the conductor thereof.

5. A mounting member for stringers of separable fasteners of the class described comprising an elongated strip of fibrous material on one edge portion of which a plurality of metallic links are adapted to be secured in spaced relation to each other, and means arranged longitudinally of said edge of the strip for producing an exposed conductor electrically continuous throughout the length of said strip, and said means comprising a metallic strand interwoven with said edge of the strip and exposed at a multiplicity of closely arranged points longitudinally of said strip to contact all the links attached to the strip and to facilitate electroplating of said links.

6. A tape for separable fastener stringers comprising an elongated strip of woven fibrous material having a longitudinal beaded edge, and a conductor interwoven at said beaded edge only and exposed through the outer surface thereof at a multiplicity of closely arranged points longitudinally thereof.

7. A tape for separable fastener stringers comprising an elongated strip of woven fibrous material having a longitudinal beaded edge, a conductor interwoven at said beaded edge only and exposed through the outer surface thereof at a multiplicity of closely arranged points longitudinally thereof, and another conductor interwoven with said beaded edge and arranged in spaced relation to said first named conductor.

8. A tape for separable fastener stringers comprising an elongated strip of woven fibrous material having a longitudinal beaded edge, a conductor interwoven at said beaded edge only and exposed through the outer surface thereof at a multiplicity of closely arranged points longitudinally thereof, and said conductor comprising a fibrous strand upon which a wire is wound.

9. A tape for separable fastener stringers comprising an elongated strip of woven fibrous material having a longitudinal beaded edge, a conductor interwoven at said beaded edge only and exposed through the outer surface thereof at a multiplicity of closely arranged points longitudi-

nally thereof, and said beaded edge including a longitudinal filler piece.

10. A tape for separable fastener stringers comprising an elongated strip of woven fibrous material having a longitudinal beaded edge, a conductor interwoven at said beaded edge only and exposed through the outer surface thereof at a multiplicity of closely arranged points longitudinally thereof, and said conductor comprising a plurality of wire strands arranged on a fibrous cord.

11. A separable slide fastener of the class described comprising stringers, each stringer consisting of an elongated strip of fibrous material, a metallic strand interwoven with said strip and arranged longitudinally of one edge portion thereof and exposed at a plurality of closely arranged points longitudinally of the strip, a plurality of metallic links secured to said edge portion of the strip and arranged in spaced relation to each other longitudinally thereof, and all of said links contacting said metallic strip to electrically couple all of said links together to facilitate electroplating thereof.

12. A separable slide fastener of the class described comprising stringers, each stringer consisting of an elongated strip of fibrous material, a plurality of die cast links secured directly to one edge portion of the stringer in spaced relation to each other longitudinally of said stringer, a metallic strand arranged longitudinally of said edge of the stringer and contacting each of said cast links to place all of the links in a stringer length in electric circuit with each other to facilitate electroplating thereof.

LOUIS H. MORIN.