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A. E. CARLILE

1,962,479

SLIDER FOR SEPARABLE FASTENERS

Filed Feb. 24, 1932

Fig. 1.

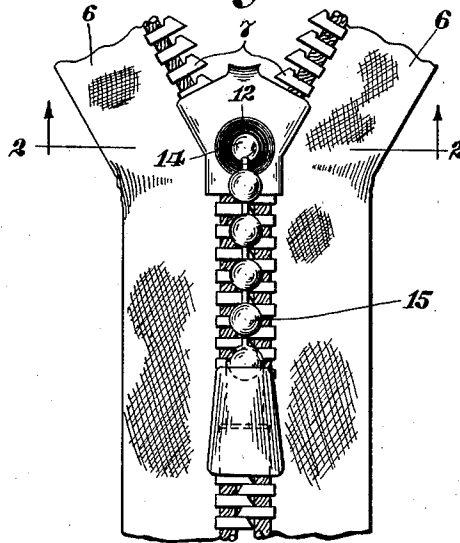


Fig. 2.

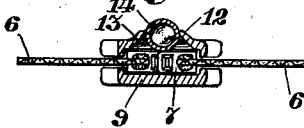


Fig. 5.

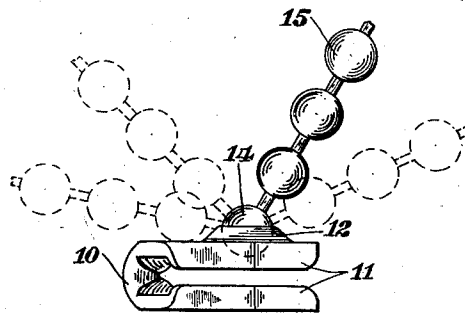
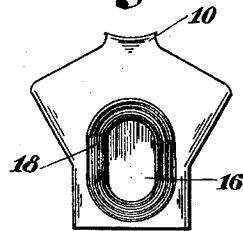


Fig. 4.

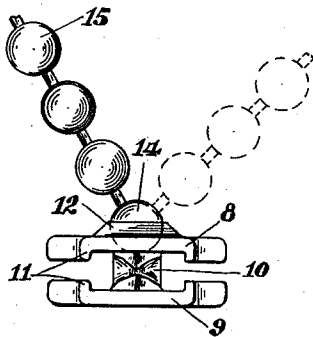


Fig. 3.

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UNITED STATES PATENT OFFICE

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SLIDER FOR SEPARABLE FASTENERS

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Pennsylvania

Application February 24, 1932, Serial No. 594,852

6 Claims. (Cl. 24-205)

My invention relates to interlocking slide fasteners and particularly to the operating sliders therefor.

One of the objects of my invention is to provide an improved slider construction in which the pull device has a completely universal connection with the slider body so that it will swing freely and hang downwardly regardless of the position in which the fastener is applied.

Another object of the invention is to provide an improved slider construction which will be very neat and attractive and which will be lighter and less bulky than other sliders.

Still another object is to provide an improved slider construction which will be capable of easy and cheap manufacture.

Still other objects and advantages of the invention will appear to those skilled in the art upon a clear appreciation of the device as explained in the following specification and shown in the accompanying drawing. In the drawing:

Fig. 1 represents a plan view of a fastener equipped with an operating slider embodying my invention;

Fig. 2 is a cross sectional view on line 2-2 of Fig. 1;

Fig. 3 is an end view of the operating slider showing the free swinging connection of the pull device in the transverse plane;

Fig. 4 is a side view of the operating slider showing the free swinging connection in the longitudinal plane; and

Fig. 5 is a plan view of a slider body of slightly modified construction.

The interlocking slide fastener may be of any known type and the one illustrated is of a type familiar to the general public and fully disclosed in Sundback Patent 1,219,881, March 20, 1917. The principal elements of the fastener are tape stringers 6, having attached thereto the interlocking elements 7 which interengage with one another in the manner described in the above patent. The operating slider which controls the engagement and disengagement of the fastener elements comprises top and bottom wings 8 and 9 respectively and wing connecting means such as the combined integral neck and spreader construction indicated at 10. The slider wings have inturned flanges 11 to guide the interlocking elements into engagement, and generally flat outer surfaces.

As distinguished from operating sliders of prior known types suitable for modern fastener practice, the slider of the present invention has

almost no protruding boss or lug for the attachment of the pull device. At the same time, all of the known advantages of the flexible bead chain type of pull device are made use of.

In accordance with the preferred embodiment of the invention, the metal of the top wing is pierced and deformed upwardly to provide the circular flange 12, thus forming a socket 13 in substantially the plane of the flat wing surface. In the socket 13 is confined the ball member 14 and it will be clear that the same is so mounted that it will rotate freely in its socket in all planes. The ball member 14 is preferably the end member of a flexible bead chain 15 which makes an efficient and attractive pull device for the operating slider. The construction of the bead chain device is well known and will not be described here in detail. It is sufficient to say that the balls are of considerable strength so that a small chain will be strong enough for the purposes of this invention.

In Fig. 5 the socket 16 is elongated longitudinally so that the pull device may have a small travel on the slider. The flange 18 is still formed of the wing metal. This modified construction permits shifting of the point of application of the pulling force in accordance with the direction in which the slider is being moved.

As a result of my invention it will be observed that a very neat and compact slider has been devised capable of being easily and cheaply manufactured and one which has numerous advantages for the fastener user both from the standpoint of appearance and utility. The ball and socket connection is believed to be the preferable embodiment but, of course, most, if not all, of the advantages of my invention may be attained by other forms of connections.

While I have shown and described one embodiment and a slight modification thereof which my 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 forms may be devised within the scope of my invention as defined in the appended claims.

What I claim as my invention is:

1. In an interlocking slide fastener, an operating slider comprising a body having a generally flat top surface, said body having a socket formed therein in substantially the plane of said top surface, and a pull device comprising a flexible chain, and a ball at one end thereof mounted in said socket.

2. In an interlocking slide fastener, an operating slider comprising opposed wings and wing connecting means, said wings having generally flat outer surfaces, the metal of one of said wings being deformed to provide a socket in substantially the plane of the wing, a ball member confined in said socket and so mounted that it may rotate freely in all directions, and a flexible chain pull connected with said ball member.

3. A slider for interlocking slide fasteners comprising in combination a body having a generally flat top surface, said body having a socket formed therein substantially in the plane of the top surface, a member confined in the socket and freely rotatable therein, and a flexible chain attached to said member for operating the slider.

4. A slider for interlocking slide fasteners comprising in combination a body having a generally flat top surface, said body having a longitudinally elongated socket formed therein in substantially the plane of said top surface, a member confined in the socket and freely rotatable and slidable therein, and a flexible chain secured to the member for operating the slider.

5. A slider for interlocking slide fasteners comprising in combination a body having a generally flat top surface, said body having a socket formed therein substantially in the plane of the top surface, an operating handle for the slider comprising a flexible chain having a ball at one end thereof, said ball being placed within the socket and the material of the body being deformed to retain the ball in the socket.

6. A slider for interlocking slide fasteners comprising in combination a body having a substantially flat top surface, said body having a socket formed therein and substantially in the plane of the top surface, a chain pull for the slider including a series of beads flexibly joined together, the end bead of the chain being mounted in said socket to form a universal joint connection between the slider and pull.

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