

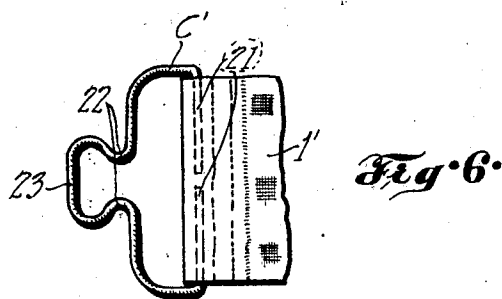
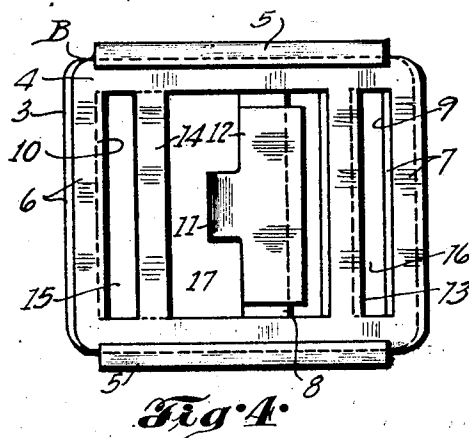
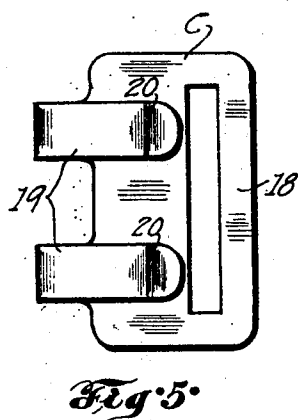
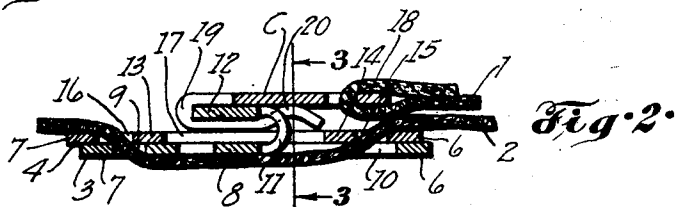
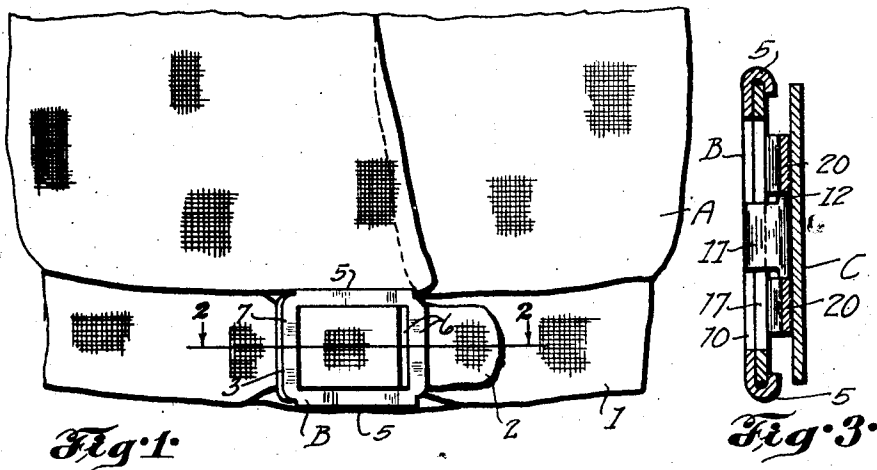
Jan. 8, 1929.

1,698,398

L. J. FRIEDHEIM

FASTENING DEVICE

Filed Nov. 11, 1927



By

INVENTOR
Leon J. Friedheim.
Ralph K. Kline
ATTORNEYS

Patented Jan. 8, 1929.

1,698,398

UNITED STATES PATENT OFFICE.

LEON J. FRIEDHEIM, OF ST. LOUIS, MISSOURI.

FASTENING DEVICE.

Application filed November 11, 1927. Serial No. 232,630.

This invention relates generally to fastening devices and, more particularly, to a certain new and useful improvement in fastening devices of the type commonly known as buckles.

My invention has for an object the provision of a buckle especially adapted for belts, straps, and the like, which comprises few, conveniently manipulated parts, and which dispenses with teeth or other such more or less material-ruining gripping means for holding the buckle to the material.

My invention has for another object the provision of a buckle which shall be simple, convenient, light and compact, economical, reliable, and efficient and satisfactory for use wherever found applicable.

My invention has for still another object the provision of a buckle which, when once adjusted, will hold at said adjusted position without slippage.

My invention has for a further object the provision of a buckle which shall have no pivoted parts, apt to come out of order after limited usage but instead will have slidable parts with large bearing surfaces and adapted to grip or clamp the material therein, in either direction of attempted relative movement between the material and the device.

Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art to which this invention appertains from the disclosures herein given, and with all such objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts herein shown and described and pointed out in the claims.

In the accompanying drawing,

Figure 1 is a plan view of a fragment of a garment equipped with a buckle embodying my invention;

Figure 2 is a longitudinal sectional view taken approximately on the line 2—2, Figure 1;

Figure 3 is a cross-sectional view taken approximately on the line 3—3, Figure 2;

Figure 4 is a plan view of the buckle as seen from the rear or under side;

Figure 5 is a plan view of a clasp or fastening member adapted for co-operation with the buckle proper; and

Figure 6 is a modified form of fastening-member also adapted for co-operation with the buckle shown in Figure 4.

Referring now more in detail and by reference characters to the drawing, wherein I have illustrated preferred embodiments of my invention, A designates a garment of any suitable type, such as knickers for sport wear, the lower end of each leg of which has a flexible band or strip 1 therearound adapted for adjustment so as to tightly encircle the wearer's knee, the free end of the strip being indicated at 2. Ordinarily, so far as I am aware, a buckle having a tongue thereon adapted to selectively engage in one of a series of apertures through a tab is used for this purpose, or a clamping member having gripping teeth thereon is substituted for the tongued buckle; but with such devices, which have generally been unsatisfactory, the cloth of the garment is very apt to become torn or otherwise damaged under strain.

To overcome these and other defects, I have provided a buckle made of substantially but two parts, which are adapted to grip the material of one end-portion of the band or strip to prevent relative movement therebetween in either direction after the desired adjustment has been made, the opposed end of the band or strip having a fastening or clamping member thereon adapted for co-operation with the buckle in securing the ends of the strip together.

The buckle proper is indicated at B and consists of a pair of flat plates 3 and 4, termed the front and rear members, respectively, inasmuch as the front member is seen as superimposed on the rear member when in position upon the garment.

Said plates are disposed in flatwise abutting relation for slidable movement longitudinally upon one another, and in order to prevent lateral movement therebetween, the opposite end, or, as seen in Figures 1, 3, and 4, the top and bottom, edges of one of the plates is provided with flanges 5 adapted to overlie and slidably engage the adjacent end edges of the other plate.

The plates 3 and 4 are approximately of the same length, substantially rectangular in shape, and each provided with transversely extending cross-bars 6 and 7 at their side margins. Intermediate its said cross-bars 6, 7, the front plate 3 is provided with a cross-bar 8 and thereby formed with parallel slotted openings 9, 10, the latter being preferably wider than the former. Integrally formed with said intermediate cross-bar 8,

is a preferably T-shaped hook, the shank or neck 11 of which, the two plates 3, 4, being in flatwise superposed and slidable relation, is bent to extend somewhat into the wider opening 10 and then bent back and spaced from the rear face of the plate 3 with the bill or head 12 of the T-bar extending endwise of and substantially parallel with, and disposed in a plane spaced transversely from the plane of the plates, as best seen in Figure 4.

The rear plate 4 is formed with a spaced pair of intermediate cross-bars 13, 14, and thereby provided adjacent the cross-bars 6, 7, with a pair of parallel relatively narrow transversely or endwise extending slots 15 and 16, and a central preferably wider slot 17 between said intermediate pair of cross-bars. The hook of the front plate 3 projects through the intermediate or central opening 17 of the rear plate 4, its bill 12 being disposed in parallel relation to said plate, with sufficient space therebetween to permit of a clasp member to straddle said bill in a manner about to be described. The shank or neck 11 of the hook also forms a stop to limit relative movement longitudinally of the plates in both directions.

Such clasp member C is preferably of the form best seen in Figure 5 and, as there shown, is provided with an end cross-bar 18, whereby the same may be secured permanently to one end of the band or web 1, and is also provided with a pair of integral, transversely spaced and longitudinally extending prongs 19, which are bent back upon themselves to provide a space therebetween and the surface of the clasp member C substantially equal to the thickness of the material out of which the rear plate 4 is constructed. The transverse space between the prongs is substantially equal to the width of the shank 11 of said hook, whereby, when the clasp member C is arranged so that its prongs 19 straddle both ends of the hook-head 12, there will be a large bearing surface between the two elements, but there will be no play between said members in a transverse direction. The prongs 19 are also preferably provided with humps 20 adjacent their free ends, so that such ends must be sprung apart slightly before the clasp member C can be snapped over the buckle.

In order to secure the buckle on the free end of the band 1, the slots 6, 7, of the one plate are brought into registry with the slots 15, 16, of the other plate, when the tab is threaded therethrough. Upon a slight pull of one of the plates in either direction, the plates will clamp or grip the material of the tab tightly in place, and without the use of pivots, teeth, or the like.

It is obvious that after the buckle is adjusted to the desired position to make the band 1 of the proper tightness, the clasp

member C may be unclamped and re-clamped as often as desired without moving the parts out of their correct, adjusted relationship, the bill of the hook, as will be noted, being concealed from outer view when the buckle is in use or normally, as I may say.

In the modification shown in Figure 6, the clasp member is slightly different and is somewhat cheaper to construct. The member C' there shown is formed of a single length of wire, the free ends 21 of which are intumed toward one another to enter an opening or loop in the end of the webbing 1', said wire being bent into the form of a loop having a contracted neck portion 22 and thence widened outwardly so as to make a loop 23 of just sufficient width to nicely receive the shank-portion of the hook of the buckle, while the widest part of the wire element will pass over the head of the hook. In this form, the bearing between the hook and clasp member is somewhat reduced, as compared with the first form, and only the shank-portion of the hook is used as a bearing surface between the parts.

I may add that, while not specifically shown, the clasp member may be merely in the form of a tab integral with or suitably fixed to the band 1, and provided with an aperture in the nature of a button-hole for detachable engagement with the hook 12.

From the foregoing, it is obvious that I have provided a construction of the kind described, which will be extremely efficient and desirable for the purposes named, and which may be manipulated and adjusted with extreme ease and convenience.

It is to be understood that various modifications may be made in my new fastening device without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, construction, arrangement, and combination of parts herein shown and described, or uses mentioned, except as limited by the claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a fastening device, in combination with a flexible strip, of a pair of plates loosely disposed operatively together in flatwise abutting relation, the one plate having engagement with the other for relative slidable movement longitudinally in either direction, said plates having pairs of spaced slots adapted for registration in the normal relative position of said plates and said plates being threaded at said slots on said strip, endwise pull on the strip in either direction longitudinally of said plates slidably actuating one of said plates and effecting gripping engagement by the plates with said strip, and a hook member on one of said

plates adapted for engagement by a co-operating member, the hook-member having its bill disposed to the rear of said plates and in a plane spaced transversely from the plane of the plates.

2. In a fastening device, in combination with a flexible strip, of a pair of plates disposed operatively together in flatwise abutting relation for relative longitudinal movement, said plates having pairs of end-slots adapted for registration in the normal relative position of said plates and said plates being threaded at said slots on said strip, endwise pull on the strip in either direction longitudinal of said plates slidably actuating one of said plates and effecting gripping engagement by the plates with said strip, one of said plates having a slot intermediate its said end-slots, and a hook on the other of said plates projecting through said intermediate slot for limiting the relative longitudinal movement of said plates and being adapted for engagement by a cooperating member of the fastening device.

3. In a buckle, a pair of slotted plates adapted for threaded engagement with a

strip, said plates being loosely disposed in flatwise abutting relation, the one plate having flanged marginal engagement with the other for relative slidable movement longitudinally the one with respect to the other and a hook projecting from one of said plates at a point spaced inwardly from the margin thereof and adapted for detachable engagement with a cooperating member, the bill of the hook being presented rearwardly of the plates and disposed in a plane spaced transversely from the plane of the plates.

4. In a buckle, front and rear slotted plates adapted for threaded engagement with a strip, said plates being loosely disposed in flatwise abutting relation, the one plate having flanged marginal engagement with the other for relative slidable movement longitudinally the one with respect to the other, and a hook presented rearwardly from the front plate and projecting through the rear plate adapted for engagement with a cooperating member.

In testimony whereof, I have signed my name to this specification.

LEON J. FRIEDHEIM.