Aug. 29, 1939. I. B. HOLTZ 2,171,448

BUCKLE

Filed May 2, 1938

Fig. 1.

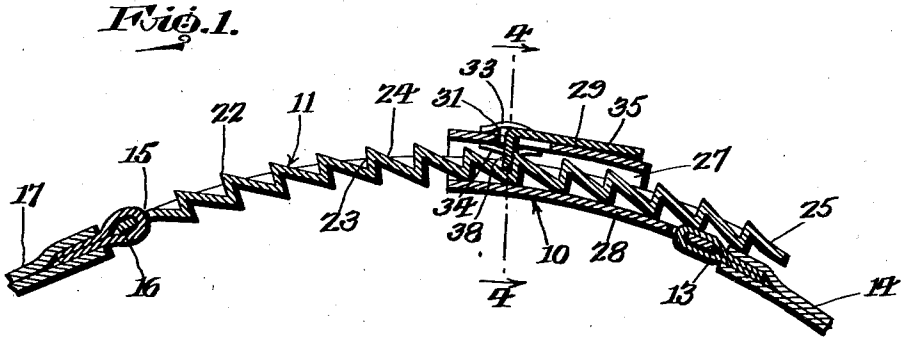


Fig. 2.

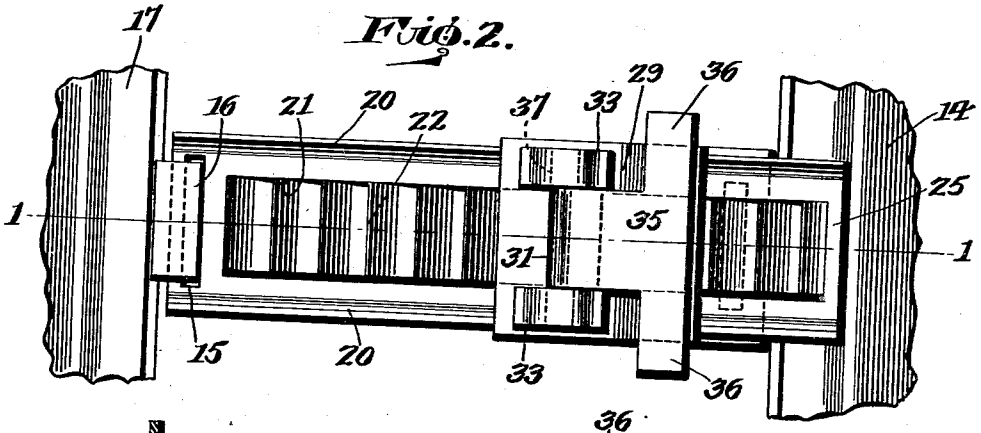


Fig. 3.

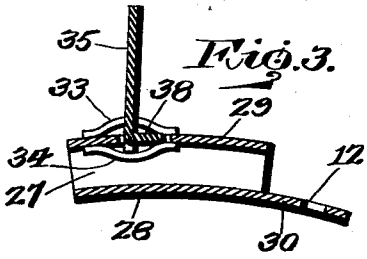


Fig. 5.

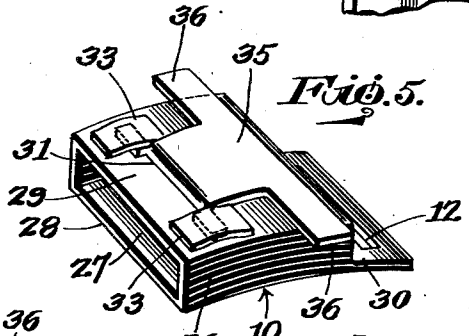


Fig. 4.

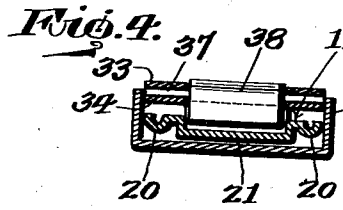


Fig. 6.

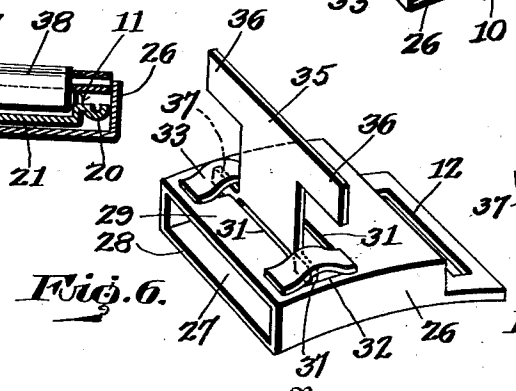
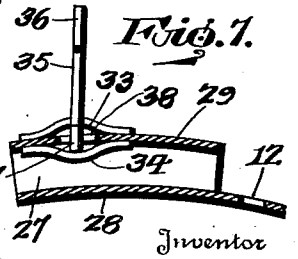


Fig. 7.



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UNITED STATES PATENT OFFICE

2,171,448

BUCKLE

Ireneus Basil Holtz, Ashville, Pa.

Application May 2, 1938, Serial No. 205,633

1 Claim. (Cl. 24—206)

This invention relates to buckles.

In the well known type of separable fasteners for overshoes, particularly the type known as arctics, a spring pressed lever on one of the separable fasteners is adapted to be received in one of a plurality of slots in the other member of the separable fastener, but the mounting of the lever and the spring tension on said lever are such that these levers frequently are released because of the direct pull on the lever, particularly where the lever has been slightly moved to open position by contact with other objects.

An object of the present invention is the provision of a buckle in the form of a separable fastener which has flat pivots adapted to be maintained in between a pair of spring members when the buckle is in locked position, the said lever being provided with a right angular projection adapted to engage teeth on the other member of the separable fastener with the teeth being always disposed in parallel relation with the projection when the lever is in locked position so that said lever will not be accidentally displaced when in locking position.

A further object of the invention is the provision of a separable fastener in which one member is provided with a plurality of spaced catches in the form of teeth, while the other member is provided with a sleeve to receive the first mentioned member and is also provided with a lever having pivot pins which are positively held against accidental rotation by spring members, said lever having a finger or projection at right angles to the body of the lever to engage the catches in flat contact so that a pull on the lever when in locked position will tend to maintain the lever at all times in said position.

This invention will be best understood from a consideration of the following detailed description, in view of the accompanying drawing forming a part of the specification; nevertheless, it is to be understood that the invention is not confined to the disclosure, being susceptible of such changes and modifications as define no material departure from the salient features of the invention as expressed in the appended claim.

In the drawing:

Figure 1 is a longitudinal vertical section taken along the lines 1—1 of Figure 2.

Figure 2 is a plan view of the separable fastener shown in locked position.

Figure 3 is a vertical section of a member of the separable fastener showing the lever in unlocked position.

Figure 4 is a transverse vertical section taken on the lines 4—4 of Figure 1.

Figure 5 is a view in perspective of one member of the separable fastener showing the lever in locked position.

Figure 6 is a view in perspective of the same member showing the lever in an open position.

Figure 7 is a vertical section of the member shown in Figures 5 and 6 taken through a pivot for the lever.

Referring more particularly to the drawings, 10 generally designates one separable fastener which is adapted to receive a second member generally designated by the numeral 11 of the separable fastener and this fastener while adapted for use particularly in overshoes, known as arctics, it can be substituted for buckles used on various types of clothing and manufactured articles. The member 10 is provided with a slot 12 which is adapted to receive a strap 13 connected with one portion 14 of a garment. The member 11 is also provided with a slot 15 adapted to receive a loop strap 16 secured to another section or member 17 on the garment.

The member 11 is stamped or formed from a single strip of metal and in this instance is shown as being curved to conform to the curvature at the front portion of the ankle of the wearer. Along the side edges, as shown more particularly in Figures 2 and 4, a bead 20 is provided for reinforcing the strip of metal. The central portion of the strip is depressed as shown at 21.

Teeth 22 are formed at spaced intervals. These teeth are provided with flat surfaces 23 which are located at an angle to the longer flat surfaces 24. The series of teeth 22 are located between the beads 20 of the strip. The depressed portion or insert 21 is shown in Figure 2 and terminates inwardly of the opposite ends of the strip 11 and the slot 15 is located in the flat portion at one end of the strip. The opposite end 25 of this strip is free and is adapted to be inserted through the member 10.

The other member 10 of the separable fastener consists of a housing or sleeve 26 which has a rectangular passage 27 therethrough. A bottom 28 of this housing is considerably longer than the top 29 to provide an extension 30 in which is formed the slot 12. The top and bottom of this housing may be slightly curved to conform to the curvature of the member 11.

The top 29 of the housing is provided with a transverse slot 31 which extends to the opposite

side walls of the housing where the slot is reduced in width.

Above and below the reduced portions 32 of the slot 31 are secured in any approved manner flat spring members 33 and 34. These members 33 and 34 are formed of strips of tempered spring steel.

A lever 35 has finger grips 36 extending slightly beyond the side walls of the housing 10. This lever has lateral extensions 37 which are flat lugs or trunnions adapted to be received between the spring members 33 and 34. A finger 38 projects at right angles from the inner end of the lever and is adapted to project through the slot 31.

The operation of my device is as follows: As has been explained the separable fastener may be employed on many types of wearing apparel or other articles in such a manner that the member 11 is connected at one end to one portion of the wearing apparel, while the housing 26 is connected to another member so that the members 10 and 11 will be in alinement in order that the member 11 may be received by the member 10 as shown in Figure 1.

Before the member 11 is received by the member 10 the lever 35 must be located in the position shown in Figures 3, 6 and 7 whereby the finger 38 will be in alinement with the top 29 of the housing 26. At this time the pivots 37 of said lever will have spread the spring members 33 and 34 apart and the lever will be frictionally held in an outward position. Since the finger 38 is flush with the top 29 of the housing 26 the member 11 may be moved through the housing to the proper position. The lever 35 is then moved to an operative locking position as shown in Figure 5, whence the finger 38 will be moved into engagement with the flat wall 23 of a tooth 22 as shown more particularly in Figure 1. At this time the flat trunnions 37 will lie flush with the top 29 on the housing 26 after they have been moved from their former angular position to the top.

When the lever is locked in position it will be seen that the flat trunnions are rigidly held in place by the oppositely disposed spring members 33 and 34 which are sufficiently strong to prevent accidental displacement of the lever 35 from its locked position. The finger 38 when in an inoperative position, as shown in Figure 3, will be located directly within the slot 31 while the flat trunnions 37 will be at right angles to the top 29 of the housing. On the other hand when the lever 35 is in locked position the finger 38 will be located at right angles to the top while the flat trunnions 37 will be embraced by the reduced ends 32 of the slot 31 and, therefore, lie flush with the top 29 of said housing.

I claim:

In a separable fastener comprising a sleeve having a transverse slot in one wall, a lever pivotally mounted on the sleeve and having a finger projecting through the slot into the sleeve, means for pivotally mounting the lever at the ends of the slot, said finger adapted to engage an end of a strap received by the sleeve when said lever is located in flat contact with the sleeve for locking the end of the strap to the sleeve, the pivotal mounting for the lever including flat trunnions at the opposite sides of the lever and movable within the ends of the slot, an outer flat spring extending across each end of the slot and having the opposite ends secured to the outer face of the sleeve, an inner flat spring extending across each end of the slot and having the opposite ends secured to the inner face of the sleeve in parallel relation with the first-mentioned springs, the trunnions being located between the pairs of parallel springs so that the springs will exert a pressure on said trunnions at all times, the inner springs supporting the trunnions at the slot, said finger adapted to be disposed horizontally in the slot and in the same plane with the wall containing the slot when the finger is in an inoperative position.

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