Oct. 5, 1954 H. S. VAN BUREN, JR 2,690,601

BUCKLE ASSEMBLY

Filed Oct. 21, 1950

FIG. 1.

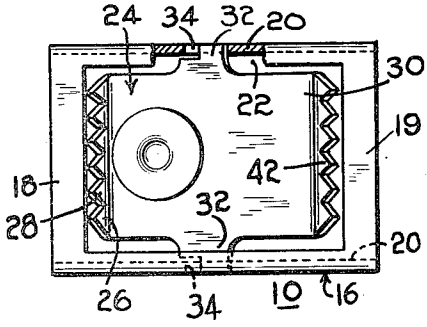


FIG. 2.

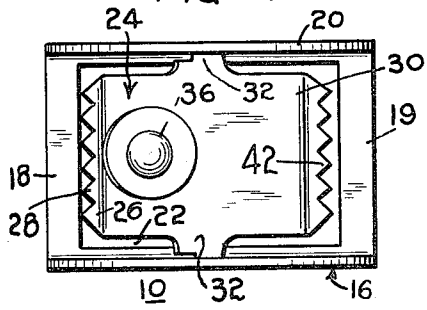


FIG. 3.

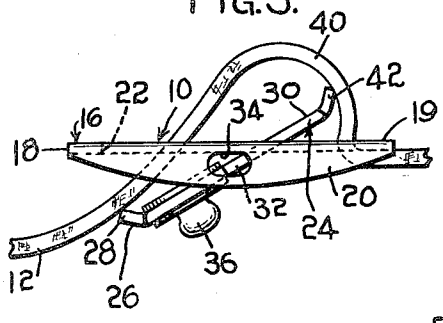


FIG. 4.

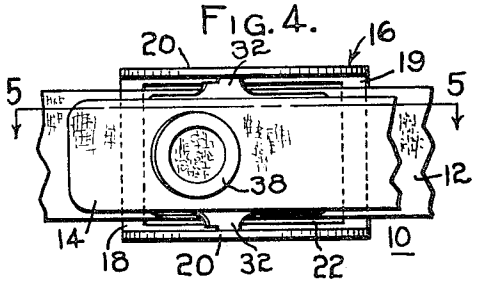


FIG. 5.

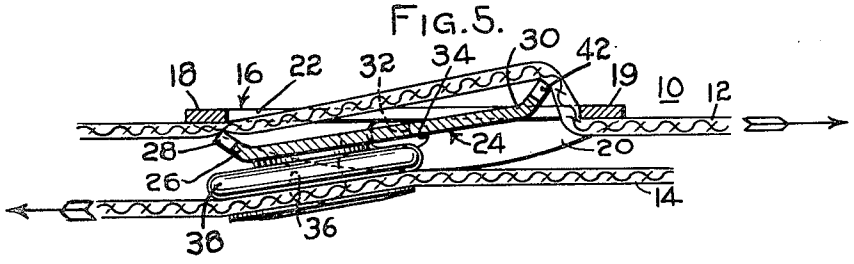
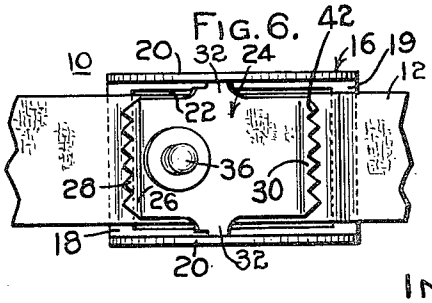


FIG. 6.



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BUCKLE ASSEMBLY

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1 Claim. (Cl. 24—78)

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This invention relates generally to buckles, and has particular reference to an improved buckle of the type which is adapted to be assembled onto a strap so as to be easily adjustable thereon.

The object of the invention is to provide a buckle in which a strap-gripping member is forced into gripping position by downward pressure of a portion of an assembled strap disposed over the gripping member.

A further object of the invention is to provide a buckle assembly in which a tiltable strap gripper element assembled in a buckle frame is provided with lever means which is disposed to force a gripper portion into a gripping position in response to downward pressure of a portion of an assembled strap.

A still further object of the invention is to provide a buckle assembly as described above in which the gripping member has snap fastener means thereon to enable the assembly to be snapped into engagement with a supporting member.

Other objects of the invention will, in part, be obvious, and will, in part, appear hereinafter.

In the drawing:

Fig. 1 is a top plan view of a buckle embodying the features of the invention;

Fig. 2 is a bottom plan view of the buckle of Fig. 1;

Fig. 3 is a view in side elevation of the buckle of Fig. 1 illustrating the method of assembling a strap into the buckle;

Fig. 4 is a bottom plan view of the buckle of Fig. 1 and a strap assembled therein in which the buckle has been snapped into engagement with a supporting member;

Fig. 5 is a view in section taken on line 5—5 of Fig. 4; and

Fig. 6 is a bottom plan view of the buckle with the assembled strap as illustrated in Fig. 5 without the supporting member.

Referring to the drawing, there is illustrated a buckle assembly 10, which is adapted to receive a strap 12 and be snapped into engagement with a supporting member 14.

The buckle assembly 10 comprises a frame 16 having ends 18 and 19 and sides 20 which form an opening 22, and a strap-gripping member 24 assembled with the frame in the opening 22. The strap-gripping member 24 comprises a strap-gripping end 26 which may be provided with upwardly inclined gripping teeth 28, and a lever end 30 which extends in a direction generally opposite to that of the strap-gripping end for a purpose to be hereinafter described. The opposite

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sides of the medial portion of the strap gripper element 24 are provided with outwardly extending pivot pins 32 which extend into openings 34 in the sides 20 of the frame. The pins 32 are preferably flat, and the openings 34 have a vertical dimension which is greater than the width of the pins, so that the pins are capable of only a predetermined amount of rotation therein, to allow the strap-gripping member to tilt a predetermined amount in the opening 22 relative to the frame (see Fig. 3). To enable the buckle assembly to be attached to the supporting member 14, a snap fastener part such as a stud 36 is mounted on the gripping end for snapping engagement with a snap fastener socket member 38 on the supporting member.

As illustrated in Fig. 3, to assemble the strap 12 with the buckle, the strap-gripping member 24 is tilted relative to the frame so that the gripping end 26 is disposed below the frame and the lever end 30 is disposed above the frame, and the end of the strap is then passed under the frame end 19, over the strap-gripping member 24, and under the frame end 18, so that a loop 40 of the strap is disposed in the opening 22 over the strap-gripping member. The buckle may then be snapped into engagement with the supporting member as illustrated in Fig. 5. As tension is applied to the strap 12 and the supporting member 14 as illustrated by the arrows in Fig. 5, the loop 40 bears against the lever end 30, forcing it downwardly, thereby forcing the gripping end 26 upwardly so that the strap is gripped between the teeth 28 and the frame end 18. The length of the gripping end 26 preferably is such that when the teeth are in the gripping position, they are disposed below the frame end 18. Since the teeth 28 are inclined upwardly from the plane of the gripping member, when the teeth are in the gripping position, the gripping member is slightly inclined relative to the frame so that the lever end is disposed above the frame. Consequently, further tension applied to the strap after the teeth are in the gripping position will cause the strap to tend to force the lever end further downwardly and urge the gripping end into tighter engagement with the strap. Since the snap fastener stud 36 is mounted on the gripping end, which is disposed slightly below the frame, the pull of the strap 12, which is transmitted to the supporting member through the snap fastener parts 36 and 38, also tends to force the gripping end 36 upwardly into firm engagement with the strap.

The lever end 30 may also be provided with

teeth 42, to assist in gripping the strap, and to facilitate disengagement of the strap from the gripping member to permit adjustment of the buckle along the strap. When the tension on the strap is released, the strap may be pushed upwardly into the opening under the frame end 19, and the engagement of the teeth 42 with the strap lifts the lever end 30 to lower the gripping end 26 out of engagement with the strap.

The buckle of the invention may be cheaply and rapidly manufactured on automatic machinery from sheet metal. It is particularly adapted for receiving straps of different thickness, so that one design and size of buckle may be used in many different applications.

Since certain obvious modifications may be made in the device without departing from the scope of the invention, it is intended that all matter contained herein be interpreted in an illustrative and not in a limiting sense.

I claim:

A buckle assembly for receiving a strap, comprising a frame forming an opening, a strap-gripping member assembled within the frame in the opening and being hinged at the medial portion to the frame and being longitudinally tiltable in the opening whereby the strap will extend over the ends of the frame and over the strap-gripping member, said member having a serrated gripping end disposed under the adjacent end of the frame, the other end of the strap-gripping member being serrated and extending above the plane of the frame and being forced downwardly by the strap to urge said gripping end against the strap, the serrated ends of said strap-gripping member being turned upwardly, and said strap-gripping member having a strap-fastener member disposed on the lower side thereof at the gripping end.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
350,226	Youmans	Oct. 5, 1886
1,024,830	Cook	Apr. 30, 1912
1,691,453	Alterson	Nov. 13, 1928