Feb. 11, 1941. G. H. ELWELL 2,231,259

SLIDE BUCKLE

Filed Nov. 10, 1939

Fig. 1

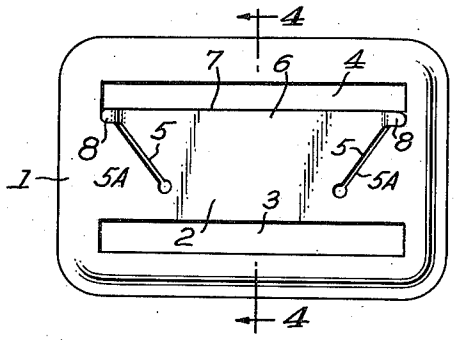


Fig. 2

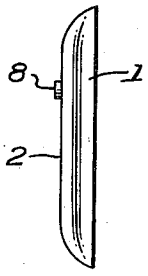


Fig. 3

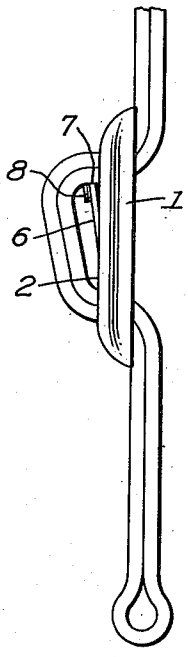


Fig. 4

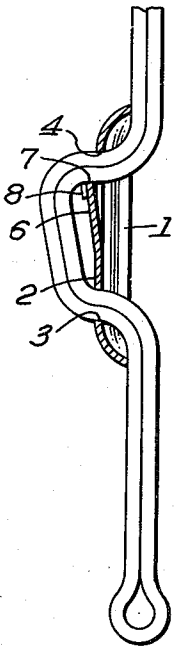


Fig. 5

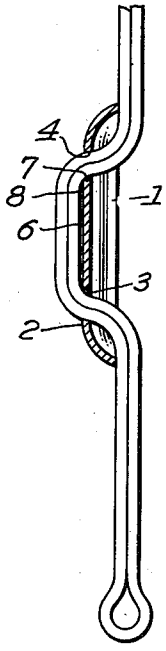
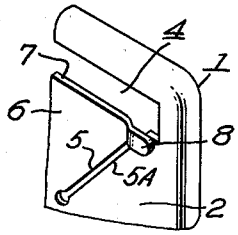


Fig. 6



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Patented Feb. 11, 1941

2,231,259

UNITED STATES PATENT OFFICE

2,231,259

SLIDE BUCKLE

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Application November 10, 1939, Serial No. 303,865

4 Claims. (Cl. 24—200)

This invention relates to improvements in slide buckles and more particularly to slides that are adapted for use in connection with a longitudinally folded strap threaded therein to provide a loop below the slide from which a metal button loop may be suspended.

The objects of this invention are to provide a slide buckle with a strap-binding element having a more uniform binding grip regardless of the particular thickness of the strap threaded therein, and to provide a slide buckle with strap-threading apertures of which one is normally of less short diameter than that of the other, but having a yielding strap-binding element capable of adjusting the aperture to receive therein a strap of any thickness that can be passed through the other aperture.

In the accompanying drawing the Figure 1 is a face view of the improved slide; Figure 2 is side view thereof; Figure 3 is a side view of the slide threaded with one thick folded strap; Figure 4 is a cross-section of the slide on the line 4—4 of the Figure 1, but illustrated with a thick folded strap threaded therein; Figure 5 is a cross-section of the slide illustrating a less thick strap threaded therein; and Figure 6 is a fragmentary detail illustrating an off-set stop element.

Referring more particularly to the drawing the slide buckle thereby illustrated preferably is intended to be struck up from sheet metal, or other sheet material, in one piece but, if desired, it may be made in any other manner in two or more pieces and assembled. The sheet body 1 of the slide preferably is marginally rounded rearwardly to provide a rigid body and to give better facial appearance, as illustrated by the Figures 1 and 2, although so far as use is concerned the body may retain its flat condition as when cut from the sheet material. As illustrated by the Figure 1, the face 2 of the slide is provided in its lower portion with the horizontal aperture 3 of such length and short diameter as will permit a double thickness of strap to be inserted freely therethrough. In the upper portion of face 2 there is provided the horizontal aperture 4 of less short diameter than that of the lower aperture 3 with which it is made parallel. Immediately below the aperture 4 and communicating therewith are the companion open cuts 5—5 converging toward the aperture 3 so that thereby there is provided between the open cuts 5—5 a resilient tongue portion 6 of which the extremity cut-metal edge 7 is a cut-metal edge of the communicating aperture 4. At both ends of the cut-metal edge 7 the metal at these points is so formed (following the cutting process) as to provide off-set stop-projections 8 adapted to engage adjacent rigid cut-metal edges 5A of the sheet body 1 for the purpose of arresting the tongue 6 so that it cannot be forced out of the plane of the face 2 in the direction of the interior of the marginally cupped formation of the sheet body 1. The off-set projection 8 as exaggeratingly illustrated by the Figure 6 is of conventional form only but, with a sufficient gauge of metal, a proper forming stroke adjacent both edges of a raised tongue 6 should so spread and form the metal at these points as to provide sufficient projections 8. Instead of providing the tongue 6 with the stops 8, proper stops "5" "5" might just as well be provided by the metal of the body 1 at the converging open cuts "5" "5".

In use, the threading into the improved slide of a doubled strap (two folded thicknesses), such as might freely pass through the aperture 3, is accomplished by partially entering from the rear the doubled end of the strap within the aperture 4, the spring tongue 6 yielding outwardly and thereby adjusting the aperture 4 to permit the full and desired length of passage of the strap therethrough. The folded end of the strap is then inserted into the aperture 3 and, as the threaded strap above and below the thus mounted slide is pulled taut, the portion of strap in the slide is drawn close to the face 2 and down upon the edge 7 of the tongue 6 which under the pulling strain is forced toward its normal position in the plane of the face 2 of the sheet body 1, the thickness of the doubled strap preventing its full return to normal position, as illustrated by the Figures 3 and 4. Thus the wedged contact of the edge 7 of the tongue 6 with the doubled strap is such that the slide is held fixed thereto and can be adjusted to different positions along the strap only by loosening and pulling away that portion of the strap lying against the face 2.

The Figure 5 illustrates in cross-section the same structure as above described and as illustrated in the drawing but is there shown in connection with a doubled strap of less thickness than that first above described, this doubled strap being similarly threaded into the slide, but, as the doubled strap is drawn tightly therein, the pulling strain forces the tongue 6 toward its normal position thereby tending to restore the normal diameter of the aperture 4 and thus crowding therein that portion of the doubled strap with which its edge 7 contacts and, if the

doubled strap thereby is sufficiently crowded into the aperture 4, the off-set projections 8 engage their adjacent edges 5A and hold the tongue 6 against swinging out of the plane of the face 2 of the sheet body 1 toward the cupped interior of the slide buckle.

From the foregoing it will be recognized that the improvement herein set forth provides a slide buckle with a novel strap binding element that is adapted for self-adjustment in its application of a substantially uniform grip upon a strap threaded into the slide without any special regard to its particular thickness. Of course the applicant is aware of the previous art which discloses spring tongues integral with the structure but, in each instance, the tongue there shown abuts a bar separated therefrom only by an open cut such as appears upon either side of the tongue. If it were not for the aperture 4 located above the edge 7 of the tongue 6 a strap of any great thickness would so deflect and distort the forced position of the tongue 6 that that portion of the strap lying over the tongue 6 would be so projected and humped as to be objectionable to the wearer.

I claim:

1. A slide buckle comprising a sheet-metal structure, cut-metal edged apertures in a common plane and of different widths with which the structure is provided for threading a strap therethrough, companion open cuts intermediate the apertures and communicating with the aperture of lesser width to provide a resilient strap-binding element integral with the structure and normally within the plane of the apertures, a cut-metal edge of the strap-binding element in normal position providing an edge of the aperture of the lesser width, and stop means provided adjacent the open cuts to limit in one direction the swinging of the resilient element out of the plane of the apertures.

2. A slide buckle comprising a sheet-metal structure having a rectangular margin receding from the plane of the sheet-metal to provide a rigid frame, spaced and parallel cut-metal edged apertures of different widths with which the structure is provided in the plane of the sheet-metal for threading a strap therethrough, companion open cuts intermediate the apertures and communicating only with the aperture of the lesser width to provide a resilient strap-binding element in the plane of the apertures and integral with the structure, a cut-metal edge of one of the apertures providing the strap-binding edge of the resilient element, and stop means provided by the structure adjacent the open cuts to arrest the swinging movement of the resilient element out of the plane of the apertures in one direction.

3. A slide buckle comprising a sheet-body frame, a pair of apertures in a common plane provided by the frame, a resilient tongue element integral with the frame and normally presenting a straight edge to, and thereby determining the width of, one of the apertures, and stop means with which the buckle is provided to arrest the movement of the tongue edge out of the plane of the apertures in one direction.

4. A slide buckle comprising a one-piece sheet-metal structure, a flat face with which the structure is provided, a rearwardly receding margin bounding said face, a pair of spaced upper and lower apertures in a common plane and extending across said face to provide openings for threading from the rear a strap therethrough, a tongue integral with the structure intermediate said apertures, the free extremity of the tongue being normally at rest in said plane within, and determining the width of, the upper aperture, and means by which in the insertion of a strap into said upper aperture from the rear the deflection of the free extremity of the tongue is limited to a forwardly direction out of said plane.

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