Oct. 28, 1952

R. E. ROSS
GRIPPING SLIDER TYPE BUCKLE WITH
FASTENER MEMBER ON SLIDER
Filed Jan. 13, 1950

2,615,218

FIG. 1.

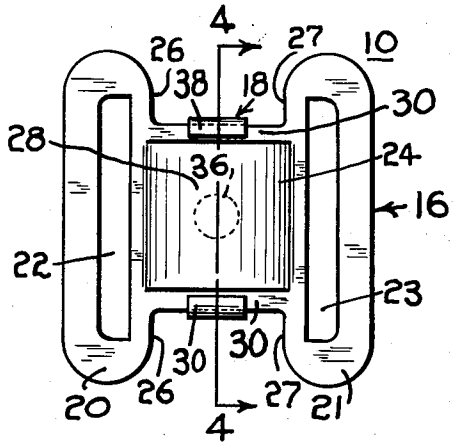



FIG. 2.

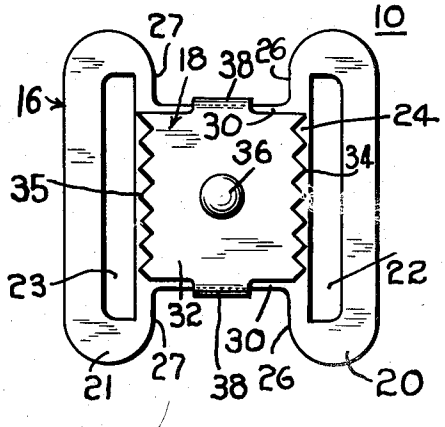



FIG. 3.

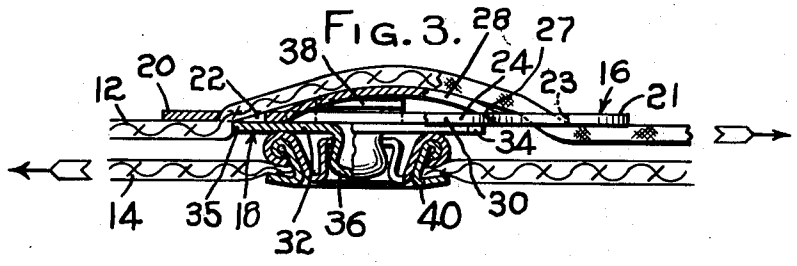
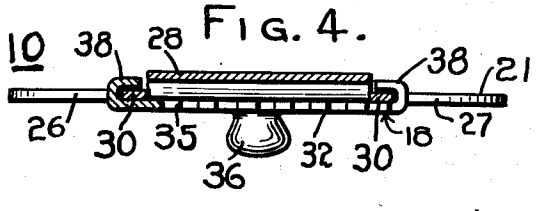



FIG. 4.




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Patented Oct. 28, 1952 2,615,218

# UNITED STATES PATENT OFFICE

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## GRIPPING SLIDER TYPE BUCKLE WITH FASTENER MEMBER ON SLIDER

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Application January 13, 1950, Serial No. 138,421

1 Claim. (Cl. 24—77)

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This invention relates generally to buckles, and has particular reference to a buckle assembly of the type having a slidable strap-gripper element with means thereon for attaching the assembly to a supporting member.

The object of the invention is to provide an improved buckle assembly comprising a minimum number of parts which are capable of production and assembly on automatic machines.

A further object of the invention is to provide a buckle assembly in which a buckle frame has means thereon for preventing interference between an assembled strap and the means for attaching a strap-gripper element to the frame.

A further object of the invention is to provide a buckle assembly in which a strap support means is provided for separating an assembled strap from slider support rails carrying a strap-gripper element.

Other objects of the invention will, in part, be obvious, and will, in part, appear hereinafter. For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description, taken in conjunction with the accompanying drawing, in which:

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

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

Fig. 3 is a view in elevation, partly in section, of the buckle assembly of Fig. 1 and an assembled strap in which the buckle assembly is attached to a supporting member; and

Fig. 4 is a view in section taken on line 4—4 of Fig. 1.

Referring to the drawing, there is illustrated a buckle assembly 10, which is adapted to receive a strap 12, and to be attached to a supporting member 14. The assembly 10 comprises a buckle frame 16 and a slider member 18 which are assembled so as to allow relative movement therebetween in a direction lonigtudinally of an assembled strap. The frame 16 comprises end portions 20 and 21 which have transverse strap-receiving openings 22 and 23, and a medial portion 24 connecting the ends. In the preferred embodiment the medial portion 24 is narrower than the end portions, thereby forming a pair of shoulders 26 and 27 at the junction of each end of the medial portion with the end portions.

The medial portion 24 comprises a central strap support portion 28, and a pair of slider support rails 30 disposed alongside of the strap support portion and extending directly between the end

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portions 20 and 21. The strap support portion 28 is spaced upwardly out of the plane of the rails 30 for a purpose to be hereinafter described, and in the preferred form is embossed upwardly into a relatively smooth arch extending longitudinally between the strap-receiving openings 22 and 23.

The slider member 18 comprises a strap-gripper element 32, which may be provided with serrated ends 34 and 35, a support-engaging member 36 disposed centrally therein, and a pair of frame-engaging tabs 38 which extend upwardly from the sides of the gripper element and then inwardly over the rails 30 to retain the slider in assembly with the frame. In the illustrated embodiment the attaching member 36 is in the form of a snap fastener socket 40 disposed on the supporting member 14.

The slider 18 is freely movable on the frame longitudinally of an assembled strap, and the movement thereon is limited by the pairs of shoulders 26 and 27 at either end of the medial portion. The gripper element 32, at the extreme limits of the movement of the slider, is capable of at least partially obstructing the strap-receiving openings 22 and 23 to engage a strap disposed therethrough as will be hereinafter described.

In the preferred embodiment of the device, the slider 18 is formed of a single piece of sheet metal, with the support-engaging member 36 formed integrally thereon by a drawing operation which may be accomplished during the forming of the slider in an automatic machine from a continuous strip of sheet metal. With this construction it is possible to both form and assemble the component parts of the buckle by means of automatic machinery, which greatly increases the speed of manufacture and reduces the cost of the completed device.

The operation of the buckle is illustrated in Fig. 3. The strap 12 is assembled on the buckle frame through the openings 22 and 23 and across the arched strap support portion 28. The attaching member 36 is then snapped into engagement with the socket 40 on the supporting member. When tension is applied to the device as indicated by the arrows, the pull of the strap 12 tends to move the frame 16 to the right. However, the slider 18, being attached to the supporting member, cannot move, and consequently relative movement of the slider and the frame causes the gripper element to engage the strap 12 at the opening 22 and prevent slippage of the strap through the buckle frame. Since the gripping force applied to the strap is only as great

as the frictional pull imparted to the frame by the strap, the provision of the arched strap support portion not only increases the friction of the strap against the buckle, by providing contact therebetween throughout the entire length of the medial portion, but also lifts the strap sufficiently to prevent interference between the strap and the frame-engaging tabs **38**, so that all frictional force from the strap is applied to the frame and none to the slider.

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 comprising a buckle frame for receiving a strap and a slider assembled thereon for movement longitudinally of an assembled strap, said frame having end portions with strap-receiving slots extending transversely of said frame and a medial portion including longitudinal slider support portions and a strap support portion, said slider support portions and said strap support portion integrally connecting said end portions, said slider support portions being disposed in substantially the same plane as said end portions, said slider being formed from one piece of sheet material and having a body portion with strap-gripping elements at the opposite ends disposed in sliding relation with one face of said frame and with the opposite ends adjacent the end portions of said frame and frame-engaging tabs extending integrally from the side edges of said body portion around the opposite outer edges of said slider support portions and overlying said slider support portions securing said slider to said frame in longitudinally sliding relation, said strap support portion of said frame being smoothly arched upwardly from adjacent the end portions to space a strap which may be threaded through said frame away from the portions of the frame-engaging tabs overlying said slider support portions and to provide a smooth upwardly rounded strap bearing surface, said slider having a snap fastener stud member drawn therefrom centrally of the body portion and opposite said strap support portion for cooperating engagement with a complementary fastener member on a support.



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