Sept. 29, 1953 P. D. BECKER 2,653,364

GRIPPING SLIDER TYPE BUCKLE WITH FASTENER ELEMENT ON SLIDER

Filed Jan. 13, 1950

FIG. 1.

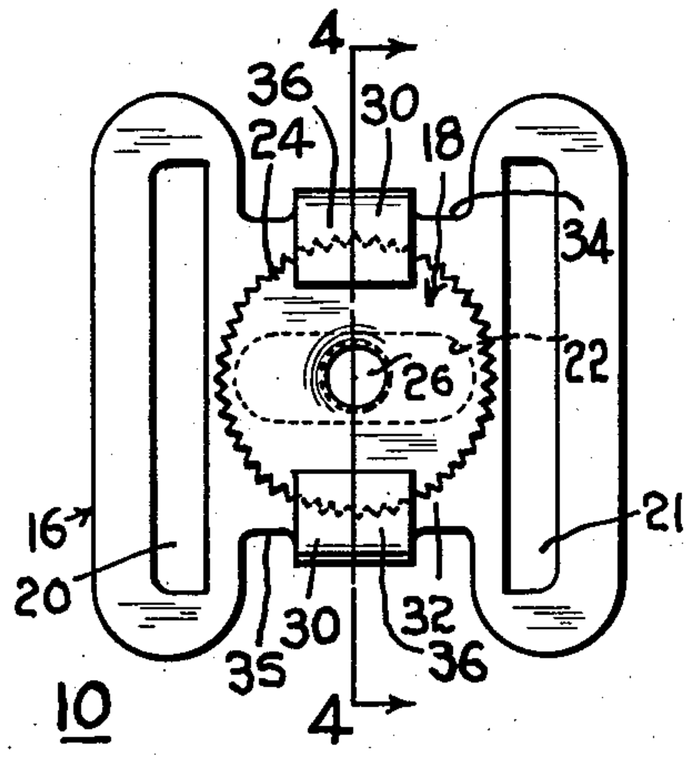


FIG. 2.

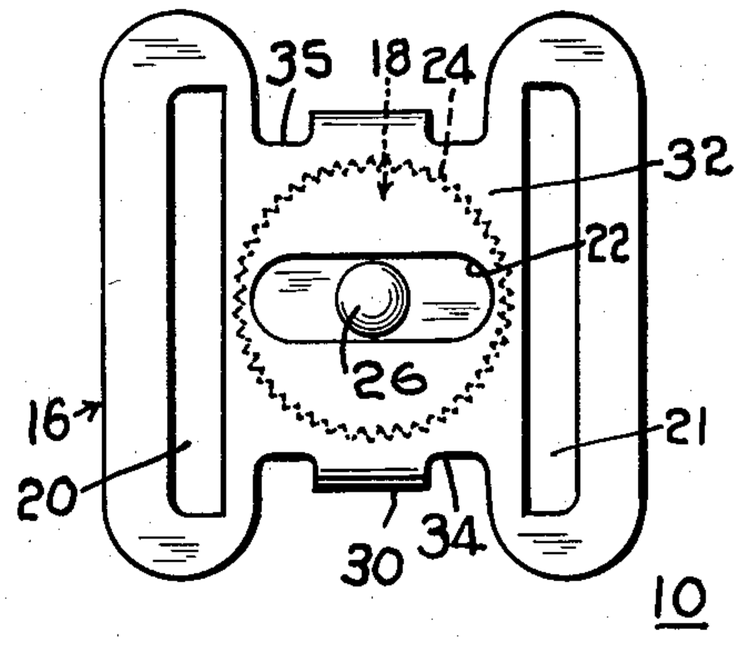


FIG. 3.

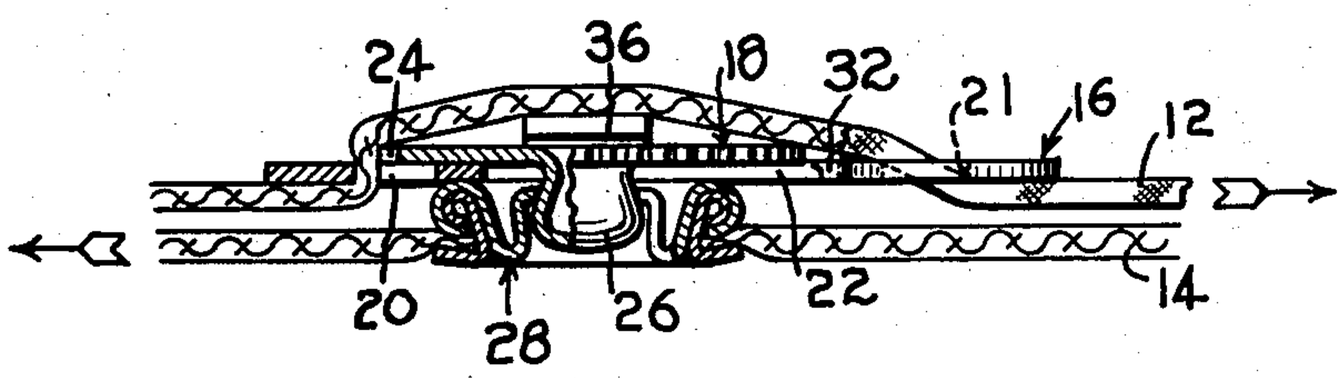
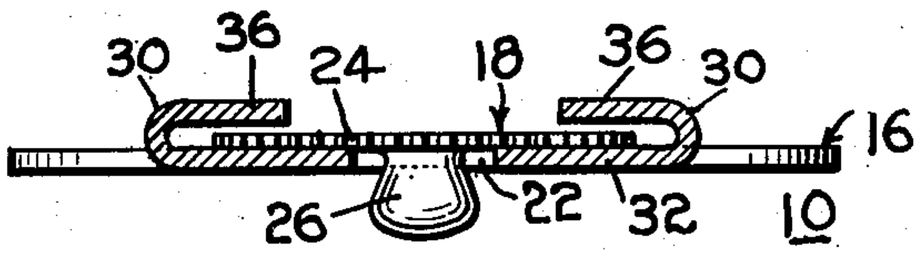


FIG. 4.



INVENTOR:
PHILIP D. BECKER,
BY Philip E. Parker
ATTORNEY.

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GRIPPING SLIDER TYPE BUCKLE WITH FASTENER ELEMENT ON SLIDER

Philip D. Becker, Hingham, Mass., assignor to United-Carr Fastener Corporation, Cambridge, Mass., a corporation of Massachusetts

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3 Claims. (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, in which a strap-receiving frame and a movable support-engaging member are maintained in assembly by means disposed on the frame to cover a portion of the strap-engaging member.

A further object of the invention is to provide a buckle assembly comprising a frame and a slider member having means for attaching the assembly to a supporting member in which the slider member is retained in assembly with the frame solely by means disposed on the frame.

A still further object of the invention is to provide a buckle assembly in which a buckle frame has a gripper element retained on one side thereof by gripper-retaining means which is integral with the base, and the gripper element has means thereon extending through an intermediate opening in the frame to permit the other side of the assembly to be attached to a supporting member.

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 secured 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 adjustably engage a strap 12 and to be attached to a supporting member 14.

The buckle assembly 10 comprises a buckle frame 16 and a slider member 18 which are assembled so as to allow relative movement of the slider and the frame in a direction longitudinally of an assembled strap. The buckle frame 16 is provided with transverse strap-receiving openings 20 and 21 at the ends thereof, and an

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intermediate longitudinal slot 22. The slider 18 comprises a strap-gripper element 24 and an attaching member 26 disposed thereon which may be conveniently formed of the metal of the central portion of the gripper element. In the illustrated embodiment the attaching member 26 is in the form of a snap fastener stud for snapping engagement with a snap fastener socket 28 disposed on the supporting member 14.

To retain the slider 18 in assembly with the buckle frame, the frame is provided with a pair of slider-retaining members 30 which are preferably formed of the metal of the medial portion 32 of the frame, and in the illustrated embodiment are attached to opposite edges 34 and 35 of the frame and have inwardly extending free end portions 36 and 37 which are spaced apart from the plane of the medial portion 32 of the frame.

The gripper element 24 is disposed on the frame beneath the free ends 36 and 37, with the attaching member 26 disposed in the intermediate slot 22 and extending therethrough to project from the frame on the opposite side. The slider is so assembled on the frame as to be freely slidable back and forth between the strap-receiving openings 20 and 21, and the movement of the slider is limited by the attaching member contacting the frame at the ends of the slot 22. The gripper element 24, at the extreme limits of the movement of the slider, is capable of at least partially obstructing the strap-receiving openings 20 and 21 to engage a strap disposed therethrough as will be hereinafter described.

The operation of the device is illustrated in Fig. 3. The strap 12 is assembled on the buckle frame, through the openings 20 and 21 and across the face of the buckle having the slider-retaining members 30. The attaching member 26 is then snapped into engagement with the socket 28 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, being securely 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 20, and prevent slippage of the strap through the buckle frame.

Although the attaching member illustrated is integral with the gripper element, making it possible to form the slider of a single piece of metal, this construction may be modified to suit requirements of a particular case, it being within the scope of the invention to provide an attaching

member of any desired form which may be secured to the gripper element by any convenient method. Similarly the slider-retaining members 30 may be provided by other means than illustrated, it only being essential that the slider be capable of free longitudinal movement relative to the frame. In some cases the attaching member may be disposed on the same side of the frame as the gripper element, in which case other means may be provided for limiting the longitudinal movement of the slider.

Since certain other 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:

1. A buckle assembly, comprising a buckle frame having elongated strap-receiving openings and an elongated opening intermediate the strap-receiving openings extending laterally thereof, and a strap-gripper element, retaining means integral with the frame and spaced from the gripper element retaining the gripper element on one side of the frame in longitudinal slidable relationship thereto, said gripper element having a snap fastener stud formed thereon and extending through the intermediate opening and protruding from the other side of the frame to permit the assembly to be attached to a supporting member disposed on said other side and to limit longitudinal movement of the gripper element, the dimensions of said stud in any plane parallel to the frame being substantially equal to the width of the intermediate opening.

2. A buckle assembly, comprising a buckle frame and a slider member assembled thereon, said buckle frame having elongated strap-receiving openings at the end thereof, an elongated opening intermediate the strap-receiving openings extending laterally thereof, said slider comprising a strap-gripper element disposed on one side of the frame for movement longitudinally

of the intermediate opening, means on the medial portion of the frame spaced from the gripper element for retaining the slider in assembly with the frame, and a drawn snap fastener stud extending from the gripper element through the intermediate opening and protruding from the other side of the frame for engagement with a supporting member disposed on the other side of the frame, and to limit longitudinal movement of the gripper relative to the frame, the dimensions of said stud in any plane parallel to the frame being substantially equal to the width of the intermediate opening.

3. A buckle assembly comprising, a buckle frame and a slider member assembled thereon, said buckle frame having elongated strap-receiving slots in the ends thereof, an elongated slot intermediate the strap-receiving slots extending laterally thereof, said slider comprising a strap-gripper element disposed on one side of the frame, a pair of slider-retaining members integral with the frame extending inwardly from opposite sides thereof toward the intermediate slot overlying the gripper in spaced relation thereto, and a drawn snap fastener stud member extending from the gripper through the intermediate slot for engagement with a support on the opposite side of the frame and to limit the longitudinal movement of the gripper relative to the frame, the dimensions of said stud in any plane parallel to the frame being substantially equal to the width of the intermediate opening.

PHILIP D. BECKER.

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