Aug. 15, 1939. P. W. WHITE 2,169,402

BUCKLE

Filed June 4, 1937 2 Sheets-Sheet 1

Fig. 1.

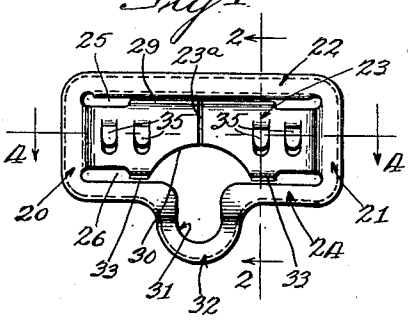


Fig. 5.

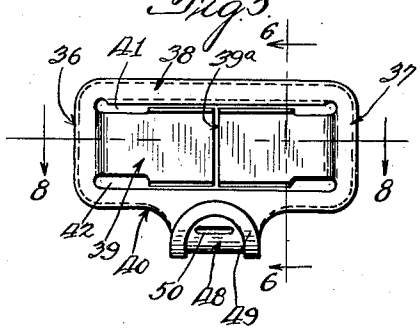


Fig. 2.

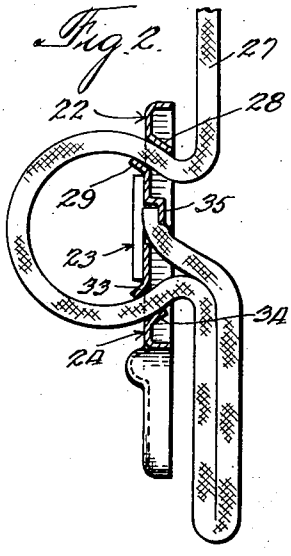


Fig. 3.

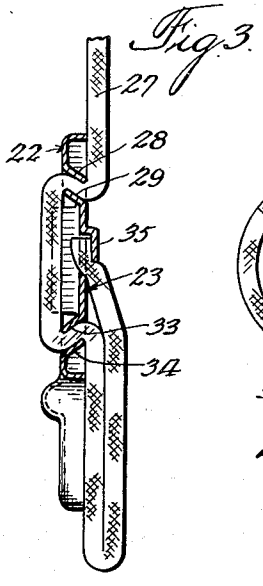


Fig. 6.

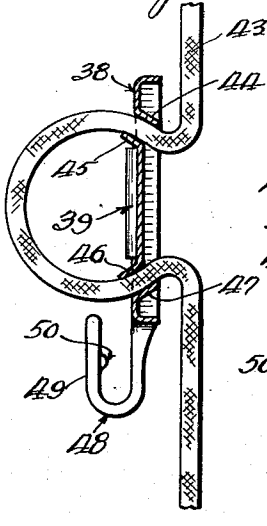


Fig. 7.

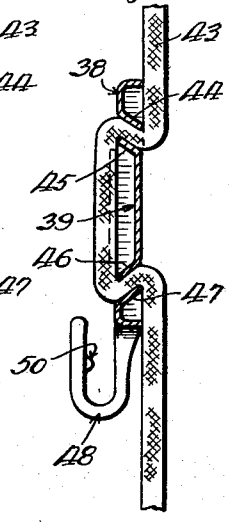


Fig. 4

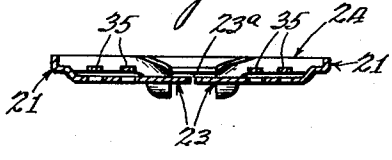
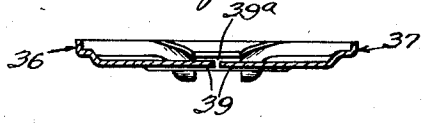


Fig. 8.



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BUCKLE

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Fig. 9.

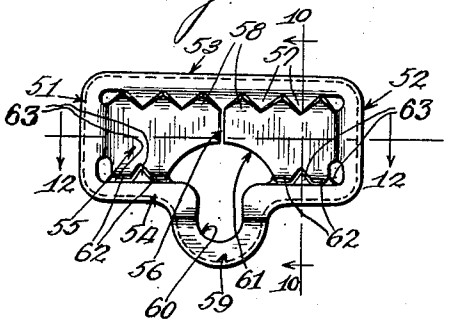


Fig. 13.

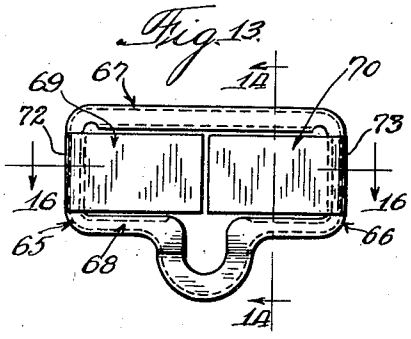


Fig. 10.

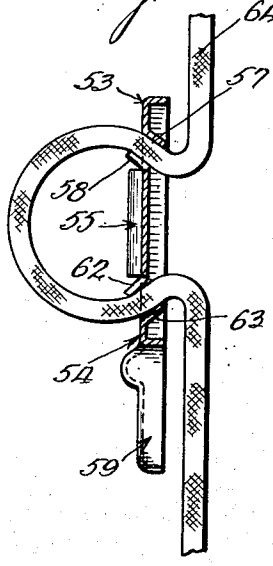


Fig. 11.

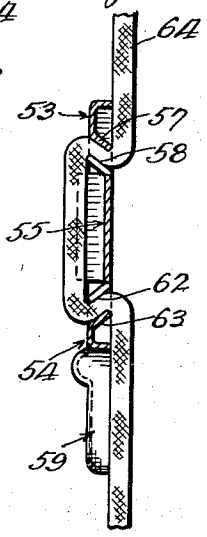


Fig. 14.

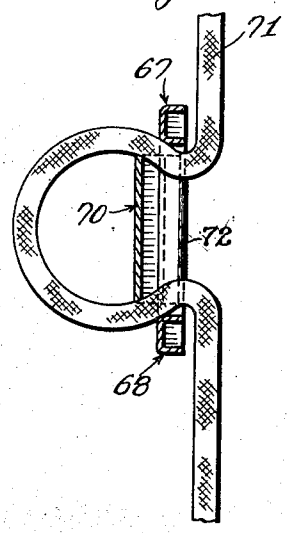


Fig. 15.

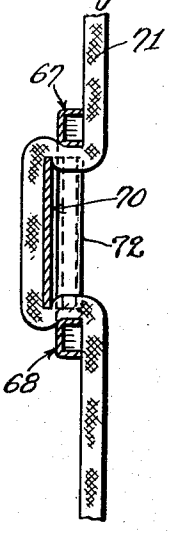


Fig. 12.

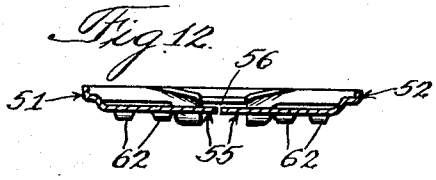
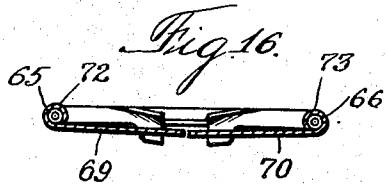


Fig. 16.



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UNITED STATES PATENT OFFICE

2,169,402

BUCKLE

Paul W. White, Chicago, Ill., assignor to Parva Products Company, Chicago, Ill., a corporation of Delaware

Application June 4, 1937, Serial No. 146,346

11 Claims. (Cl. 24—200)

This invention relates to a buckle and has special reference to a buckle adapted to be adjustably associated with straps, bands and the like for the support of garments or other objects on the person.

More particularly this invention relates to a slide buckle formed of sheet metal constituting a frame having side bars and spaced cross bars connecting the side bars, and a centrally disposed divided cross bar secured to the side bars between the spaced cross bars, the divided cross bar being provided with a gripping portion on one or both sides thereof that subtends in close proximity a portion of an adjacent cross bar to form a slot or slots through which a strap, band or the like is threaded and gripped. It is preferable to provide one of the outer cross bars with an outwardly extending loop for receiving a button or ring attached to the bib of an overall or the like to be supported.

It is contemplated by the present invention to adopt this construction for use with various types of objects particularly on a person. However, in the drawings and in the following description the buckle will be shown and described in connection with a shoulder strap of an overall, the strap being threaded through the upper slot and passing downwardly through the lower slot with the free end pointing downwardly or as an alternative being secured to the central cross bar. It is readily apparent, of course, that various other uses could be mentioned in connection with buckles and fasteners generally of the type adapted to be adjustably associated with straps and that this invention, therefore, is not to be limited to the specific use herein described and illustrated.

In a buckle of the above noted type it is highly desirable to provide for the utmost simplicity in the threading of the strap through the buckle, and to provide an ease in the adjustment of the strap through the buckle when in use on the wearer. In the present invention, the arrangement and nature of the two slots and the flexibility of the gripping means when the buckle is formed of a single piece or when the central cross bar is pivotally secured to the buckle frame, cooperate to accomplish the above desired results. Further, the construction and arrangement of the elements of the buckle are such as to minimize the weight and expense from a standpoint of material used. The compactness of the buckle necessitates only a measurement and weight such as will provide a material savings in plating, packing, freight, storage and handling cost in comparison with present commercially exploited stamped buckles of the same type or for use on the same size strap.

The central cross bar is preferably divided midway the length thereof and is either resiliently connected to the side bars or pivotally connected thereto which permits of easy threading and a very positive grip on the strap by reason of the long effective length of the supporting arms which in some instances are shown as being tortuous in their length and yield mainly in torsion. In threading the bar the thumb may be used to press against the central cross bar midway of the length thereof in a direction outwardly of the buckle frame whereby the upper and lower slots are widened to a desired extent for the insertion of the strap. As a matter of fact, the extent to which the divided cross bar may be moved outwardly of the plane of the buckle is only limited by the resiliency of the material since it is not desired to pass the point of maximum resiliency to effect a set of the divided cross bar out of its normal position. Such a condition is not probable since the usual thumb pressure would not be sufficient to disturb the fibers of the metal.

The upper and lower slots provided by the cooperating cross bars are defined by oppositely directed portions of the material of the cross bars forming in cross section a truncated V-shape, or in other words, the displaced portions of the material bounding the slots extend in a converging direction with respect to each other. A strap passing through both slots in normal use is operated upon either by the pressure exerted by the strap on the divided cross bar, or by the resiliency of the spring material of the buckle, or by both, to wedge the strap in position in the slots and effect a distortion such as will positively prevent displacement of the strap out of the buckle. As a matter of fact, the greater the tension on the strap the greater is the resistance to the movement of the strap out of the slots.

In one of the embodiments disclosed in the drawings the tension on the strap actually effects a tortuous binding of the strap and in another modification the resiliency of the material assists in effecting this relation.

By reason of the above characteristics, the present buckle may preferably be formed of a comparatively thin spring material into which has been imparted highly physical properties by thermal heat treatment after all stamping and forming operations involved have been performed although, of course, it is to be understood that relatively light gauge material of any character may be employed as compared with buckles of

the same character for the same use. In some instances the cross bars defining the slots are provided with straight edges and depend upon the threading of the strap in a tortuous manner to effect the necessary gripping action to prevent displacement of the strap. In other forms the edges of the cross bars defining the slots are in themselves undulated and effect a further distortion of the strap other than the distortion accompanying the peculiar directional threading of the strap through the slots.

One of the objects of this invention is to provide a buckle of the character indicated above in which it is comparatively easy to thread a strap, in which it is relatively easy to adjust the strap after it is threaded therein and while on a wearer, and which is of a minimum weight and size to be relatively inexpensive to plate, pack, freight and store.

Another object of this invention is to provide a buckle of the type above noted which is formed of a divided central cross bar which may be moved out of the plane of the frame to provide relatively large strap receiving slots for purposes of adjustment, and which in normal position of use distort the strap so as to effectively prevent displacement thereof from and within the buckle.

Other objects and advantages will hereinafter be more particularly pointed out and for a more complete understanding of the characteristic features of this invention, reference may be had to the following description when taken together with the accompanying drawings, in which latter—

Figure 1 is a front elevational view of a buckle incorporating the features of this invention;

Fig. 2 is an enlarged vertical sectional view taken on the line 2—2 of Figure 1, showing the central divided cross bar in a position directed outwardly of the plane of the frame to loosely accommodate a strap threaded through the slots of the buckle;

Fig. 3 is a view similar to Fig. 2, showing the divided cross bar in a normal position of use with the strap grippingly engaged therein;

Fig. 4 is a plan sectional view taken on the line 4—4 of Fig. 1;

Fig. 5 is a front elevational view of a modified form of buckle construction incorporating the features of this invention;

Fig. 6 is an enlarged vertical sectional view taken on the line 6—6 of Fig. 5, showing the central divided cross bar in a position directed outwardly of the plane of the frame to loosely accommodate a strap threaded through the slots of the buckle;

Fig. 7 is a view similar to Fig. 6 showing the divided cross bar in a normal position of use with the strap grippingly engaged therein;

Fig. 8 is a plan sectional view taken on the line 8—8 of Fig. 5;

Fig. 9 is a front elevational view of another modified form of buckle construction incorporating the features of this invention;

Fig. 10 is an enlarged vertical sectional view taken on the line 10—10 of Fig. 9 showing the central divided cross bar in a position directed outwardly of the plane of the frame to loosely accommodate a strap threaded through the slots of the buckle;

Fig. 11 is a view similar to Fig. 10 showing the divided cross bar in a normal position of use with the strap grippingly engaged therein;

Fig. 12 is a plan sectional view taken on the line 12—12 of Fig. 9;

Fig. 13 is a front elevational view of a still further modified form of buckle construction incorporating the features of this invention;

Fig. 14 is an enlarged vertical sectional view taken on the line 14—14 of Fig. 13 showing the central divided cross bar in a position directed outwardly of the plane of the frame to loosely accommodate a strap threaded through the slots of the buckle;

Fig. 15 is a view similar to Fig. 14 showing the divided cross bar in a normal position of use with the strap grippingly engaged therein; and

Fig. 16 is a plan sectional view taken on the line 16—16 of Fig. 13.

Referring now to the drawings and more particularly to Figs. 1 to 4, inclusive thereof, the buckle of this invention comprises a frame preferably crowned or embossed having a continuous flange around the outer edge thereof and having side bars 20 and 21 and three cross bars 22, 23 and 24, connecting the side bars 20 and 21. The buckle is formed of a single piece of sheet metal with the central cross bar 23 divided, as at 23*a*, substantially centrally of the length thereof and being resiliently connected to the side bars and preferably formed from the material within the confines of the frame. The central cross bar 23, together with the upper and lower cross bars 22 and 24, are so arranged as to provide slots 25 and 26 respectively therebetween through which a strap 27 may be threaded and gripped. The width of the divided cross bar 23 is preferably a major portion of the overall width of the cross bars 22, 23 and 24. The cross bar 23 is of sufficient width to permit torsional movement about a longitudinal axis thereof so that the slots 25 and 26 may be enlarged independently of each other for facilitating the passage of the strap therethrough.

Gripping portions 28 and 29 are formed respectively on the inner side of the upper cross bar 22 and on the upper side of the divided central cross bar 23 by directing the material bounding the slot 25 in opposite directions angularly with respect to the plane of the frame. The gripping portion thus formed extends over a major portion of the slot 25 with the slot preferably having enlarged portions adjacent the side bars 20 and 21 to receive the edges of the strap in a relatively loose engagement. Ordinarily the strap 27 is greater in thickness at the side edges thereof, there being in some instances a double thickness on one edge and four thicknesses on the opposite edge, or in some cases, four thicknesses on one edge and twice as many on the other edge. By reason of the variance in the thickness of the strap at opposite edges thereof, it is preferable to grip the strap over an intermediate portion where the thickness of the strap is uniform permitting the edges of the strap to have substantial freedom of movement through the slot or at least not enough pressure to affect materially the adjustability of the strap through the buckle. However, due to the flexibility and independence of the divided cross bar, the gripping portions thereof will accommodate a non-uniform thickness of the strap although, as above stated, it is desirable in accommodating the full width of the strap in the slot to limit the width of the gripping portions to extend over a major portion of the width of the strap and over only that portion thereof which is of uniform thickness.

The lower portion of the central divided cross bar 23 is preferably provided with a recess 30

opposite an opening 31 in a button receiving loop 32. The lower cross bar 24 is shaped to define the loop 32 for receiving the shank of a button attached to the bib of an overall, the opening 31 thereof opening into the slot 26 within the frame. The recess 30 is preferably semi-circular in formation and of such a width as will receive the head of the button as the button is inserted therethrough with the shank thereof extending into the opening of the button loop.

The material of the central and lower cross bars bounding the slot 26 is directed in opposite directions angularly with respect to the plane of the frame to define gripping portions 33 and 34 which are relatively short and cooperate with the gripping portions 28 and 29 of the upper slot 25 to prevent displacement of the strap 27 therebetween when tension is applied to the strap. The angular directions of the cooperative gripping portions 28 and 29 and the other pair of cooperative gripping portions 33 and 34 when viewed in cross section converge and form a wedge to effect a distortion of the strap such that effectively locks the strap upon application of tension on the strap and the normal tension of the resilient material of the buckle. The free end of the strap is prevented from creeping upwardly by the gripping members 33 and 34 which, as above stated, also serve to so distort the strap as to prevent slippage.

It may be desirable to secure the free end of the strap to the buckle and illustrative of one means for accomplishing this is shown in the provision of lips 35 which are cut and deformed from the material of the central cross bar 23, the end of the strap being inserted between the lips 35 and the body portion of the cross bar 23 to be pinched therebetween and held securely thereby. The strap should be somewhat loosely secured across the width thereof so as not to interfere with the flexing of the divided cross bar.

In adjusting the strap through the buckle, the divided cross bar may be moved outwardly beyond the plane of the frame of the buckle with the thumb or forefinger as shown more particularly in Fig. 2, to provide sufficient room for sliding movement of the strap, the separation of the slot being such as to substantially clear the width of the strap although, of course, actual clearance is not necessary. When the strap has been adjusted to a desired degree the looped free end of the strap may be pulled downwardly to take up the slack occasioned by the adjustment whereafter the divided cross bar may be released and seek its normal position within the confines of the plane of the frame, as shown in Fig. 3. A tension on the strap 27 will effect a further wedging of the divided cross bar against the frame to evenly compress the material of the strap which is shown in an exaggerated condition in Fig. 3. The lower end of the strap is prevented from creeping and the strap is held in a wedged condition in the buckle frame against slipping.

Referring now more particularly to Figs. 5 to 8, inclusive, the buckle therein shown comprises a modified form of construction having a frame preferably embossed with a flange extending around the outer confines thereof. The buckle is formed of a single piece of sheet metal having side bars 36 and 37 and cross bars 38, 39 and 40 connecting the side bars 36 and 37. The central cross bar is preferably formed from the material within the confines of the frame and is divided as at 39a, substantially centrally of the width thereof.

The central cross bar 39, together with the upper and lower cross bars 38 and 40, form slots 41 and 42 respectively through which a strap 43 may be threaded and gripped in various adjusted positions. The material of the cross bars immediately bounding the slot 41 is directed angularly with respect to the frame in opposite directions to form gripping portions 44 and 45, the gripping portion 45 being in close proximity to the cross bar 38 and extending over a major portion thereof, the termination of the gripping portion at both ends permitting an enlargement of the slot 41 thereat to receive the ordinarily greater thickness of the edge portions of the strap, the intermediate portion of the strap being uniform in thickness and the edge portions usually being of varying thicknesses relative to each other. As in the previously described embodiment, the cross bar 39 is preferably of sufficient width to permit enlarging the slots 41 and 42 independently of each other through torsional movement of the cross bar about a longitudinal axis thereof.

The material of the cross bars 39 and 40 bounding the slot 42 is directed angularly of the plane of the frame and in opposite directions to form gripping portions 46 and 47 which, together with the gripping portions 44 and 45 previously described, converge when viewed in cross section. The converging relation of the gripping portions effects a wedging action when in use and tension is applied to the strap, the greater the tension the greater being the wedging action.

The lower cross bar 40 is provided with a hook-shaped portion 48 for detachably receiving a ring or other attachment secured to the bib of an overall. In the particular embodiment shown, the embossing of the frame is flattened as at 49 and a detent 50 extending inwardly into the loop of the hook is provided for the purpose of preventing accidental displacement of the ring or attaching means on the bib of the overall.

In this embodiment the free end of the strap 43 may be readily threaded through the slots 41 and 42 of the buckle by exerting a pressure with the thumb or forefinger centrally of the cross bar 39 and moving the divided portions thereof outwardly of the plane of the frame of the buckle to provide a substantial space between the cooperating gripping portions 44—45 and 46—47. After the strap is threaded through the slots in this manner the pressure against the central divided cross bar is released and, by reason of the resilience of the preferably spring material of the buckle, the cross bar seeks its normal position within the confines of the frame, thus clamping the strap between the gripping portions. By reason of the wedging action of the gripping portions, when a tension is had on the strap 43 the gripping normally obtained by the resiliency of the material is augmented and a greater resistance is obtained against slipping.

Another modified form of buckle construction is illustrated in Figs. 9 to 12, inclusive, to which reference is now had. The buckle therein shown comprises a frame preferably embossed having a flange about the outer periphery thereof, the buckle being formed of a single piece of sheet metal of relatively thin hardened spring material. Side bars 51 and 52 are connected by means of spaced cross bars 53 and 54, there being a central divided cross bar 55 formed from the material within the confines of the frame and integral with the side bars.

The central cross bar, divided preferably midway of the width thereof, as at 56, is provided on

the upper edge thereof with a serrated or toothed edge conforming to a like edge on the adjacent cross bar 53. These serrated or toothed edges form gripping portions 57 and 58 which extend angularly with respect to the plane of the frame and in opposite directions. The teeth are cut in such a manner that the peak of one tooth is taken from the material of the hollow between the peaks of the teeth of the opposite cross bar.

The lower cross bar 54 is formed with a depending loop 59 having an opening 60 communicating with the interior of the frame. The central cross bar 55 is provided with a recess 61 opposite the opening 60 of the loop 59 to permit the passage of the head of the button as the shank thereof passes into the opening of the button loop 59. The lower edge of the cross bar 55 adjacent the recess 61 is provided with a plurality of teeth 62 which cooperate with similarly formed teeth 63 on the lower cross bar 54. The teeth 62 and 63 extend angularly with respect to the plane of the loop in opposite directions to cooperate with the gripping portions 57 and 58 to hold the strap against slipping when in a position of use. The direction of inclination of the gripping portions 57—58 and 62—63 are such as when viewed in cross section they converge to obtain a wedge-like gripping action on a strap 64 threaded therethrough.

In this embodiment of the invention the strap is threaded through the buckle frame in the manner contemplated with reference to the previously described figures, the divided cross bar being moved outwardly of the plane of the frame by pressure applied by the thumb or forefinger to obtain slot openings of sufficient width to readily accommodate the threading of the strap therethrough, the slots being enlarged independently of each other by torsional movement of the cross bar 55 about the longitudinal axis thereof. After an adjustment to a desired condition the pressure on the divided cross bar is released and the resiliency of the material tends to return the divided cross bar to a normal condition within the confines of the buckle, thereby pinching or wedging the strap between the gripping portions of the buckle which wedging action is augmented by any tension which may be applied to the strap.

Referring now more particularly to Figs. 13 to 16, inclusive, the construction therein shown is still a further modification embodying the features of this invention wherein the buckle frame is substantially rectangular in shape and formed of a single piece of material with the frame being reinforced by the provision of a flange about the outer periphery thereof so as to effect an embossed construction. The frame comprises side bars 65 and 66 connected together by cross bars 67 and 68, the side bars 65 and 66 being formed into cylindrical posts, as shown more particularly in Fig. 16, of less diameter over that portion between the interior of the cross bars 67 and 68 than the remaining portion of the side bars to form shoulders for the location of pivotally mounted members 69 and 70 forming a central divided cross bar. The pivotally mounted members 69 and 70 are shown as being flat strips of sheet metal having looped end portions 72 and 73 acting as bearings for receiving the cylindrical formed portions of the side bars 65 and 66 on which the members are pivotally mounted. The width of the central cross bar, or in other words, the width of the pivotally mounted members 69 and 70, is determined by the space between the inner edges of the cross bars 67 and 68, there being sufficient space therebetween to accommodate a strap in a compressed condition when in use, or in other words, the space between adjacent edges of the cross bars is less than the thickness of the strap.

The threading of the strap through the buckle frame is very readily accomplished, the pivotally mounted members 69 and 70 being moved out of the plane of the frame to provide a substantial clearance between the inner edges of the cross bars of the frame and the adjacent edges of the central cross bar as shown more particularly in Fig. 14. When tension is applied to the strap 71, the pivotally mounted members 69 and 70 are moved back into a position closely adjacent to the frame with the tendency being for the pivotally mounted members to pass through the space between the upper and lower cross bars. This, of course, is not possible because of the fact that the strap is substantially greater in thickness than the space between the central edges of the cross bar and adjacent edges of the frame so that a pinching or wedging action is had on the strap to prevent creeping or slipping of the strap. The greater the tension on the strap, of course, the greater will be the gripping action on the strap. Of course, if it is desired to adjust one portion of the strap while tension is had on another portion, the cross bar 69—70 is of sufficient width to permit torsional movement thereof about its longitudinal axis to enlarge the openings between adjacent cross bars.

While several embodiments of this invention are herein shown and described, it is to be understood that various modifications thereof may be apparent to those skilled in the art without departing from the spirit and scope of this invention and, therefore, the same is only to be limited by the scope of the prior art and the appended claims.

I claim:

1. A buckle constituting a frame having side bars and spaced cross bars connecting said side bars, and a divided cross bar connected to said side bars and provided with a gripping portion that normally subtends in close proximity a major portion of one cross bar to form a slot through which a strap is threaded and gripped and to form a second slot with another cross bar for receiving the free end of the strap, said divided cross bar being movable with respect to the frame to enlarge the slots independently of each other for relatively free adjustment of the strap therethrough and being of a width extending over a major portion of the overall width of said spaced cross bars.

2. A buckle constituting a frame having side bars and spaced cross bars connecting said side bars, and a divided cross bar resiliently connected to said side bars and provided with a gripping portion that normally subtends in close proximity a major portion of one cross bar to form a slot through which a strap is threaded and is automatically gripped and to form a second slot with another cross bar for receiving the free end of the strap, said divided cross bar being movable against the resiliency of the connection and with respect to the frame to enlarge the slots independently of each other for relatively free adjustment of the strap therethrough and being of a width extending over a major portion of the overall width of said spaced cross bars.

3. A buckle formed of a single piece of resilient sheet metal constituting a frame having side bars and spaced cross bars connecting said side

bars, and a divided cross bar integrally formed with said side bars and provided with a gripping portion that normally subtends in close proximity a major portion of one cross bar to form a slot through which a strap is threaded and is automatically gripped and to form a second slot with another cross bar for receiving the free end of the strap, said divided cross bar being movable against the resiliency of the material thereof and with respect to the frame to enlarge the slots independently of each other for relatively free adjustment of the strap therethrough and being of a width extending over a major portion of the overall width of said spaced cross bars.

4. A buckle constituting a frame having side bars and a pair of spaced cross bars connecting said side bars, and a divided cross bar connected to said side bars and provided with a gripping portion extending in one direction and angularly to the plane of the frame, a cooperating gripping portion on an adjacent cross bar lying in close proximity and extending in an opposite direction to and substantially parallel with said first mentioned gripping portion to form a slot through which a strap is threaded and gripped, said divided cross bar also forming another slot adjacent the other cross bar for receiving the free end of the strap, said divided cross bar being movable with respect to the frame to enlarge the slots for relatively free adjustment of the strap therethrough.

5. A buckle constituting a frame having side bars and spaced cross bars connecting said side bars, and a divided cross bar connected to said side bars and provided with an undulated gripping portion that normally subtends in close proximity a corresponding undulated gripping portion of one cross bar to form a slot through which a strap may be threaded and gripped and to form a second slot with another cross bar for receiving the free end of the strap, said divided cross bar being movable with respect to the frame to enlarge the slots for relatively free adjustment of the strap therethrough.

6. A buckle constituting a frame having side bars and spaced cross bars connecting said side bars, and a divided cross bar pivotally connected to said side bars and provided with a gripping portion in normal use cooperating with one cross bar to form a slot through which a strap may be threaded and to form a second slot with another cross bar for receiving the free end of the strap, said divided cross bar being movable on the pivotal connections thereof to enlarge the slots for relatively free adjustment of the strap therethrough, a tension applied to the strap moving said divided cross bar into position such that said gripping portion cooperates with said adjacent cross bar to grippingly hold said strap against movement relative to said frame.

7. A buckle constituting a frame which comprises side bars and spaced cross bars connecting said side bars, and a divided cross bar connected to said side bars and provided with gripping portions on each side thereof that normally subtend in close proximity the adjacent cross bars to form slots through which a strap is threaded and gripped, said divided cross bar being of sufficient width to have torsional movement about a longitudinal axis thereof and to have movement in a direction outwardly of the plane of the frame to enlarge said slots independently for relatively free adjustment of the strap therethrough.

8. A buckle constituting a frame which comprises side bars and spaced cross bars connecting said side bars, and a divided cross bar resiliently connected to said side bars and provided with gripping portions on each side thereof that normally subtend in close proximity the adjacent cross bars to form slots through which a strap is threaded and is automatically gripped, said divided cross bar being movable against the resiliency of the connection and with respect to the frame and being of sufficient width to have torsional movement about a longitudinal axis thereof to enlarge said slots independently for relatively free adjustment of the strap therethrough.

9. A buckle formed of a single piece of resilient sheet metal constituting a frame which comprises side bars and spaced cross bars connecting said side bars, and a divided cross bar formed integrally with said side bars and provided with gripping portions on each side thereof that normally subtend in close proximity the adjacent cross bars to form slots through which a strap may be threaded and is automatically gripped, said divided cross bar being movable against the resiliency of the material thereof and with respect to the frame and being of sufficient width to have torsional movement about a longitudinal axis thereof to enlarge said slots independently for relatively free adjustment of the strap therethrough.

10. A buckle constituting a frame which comprises side bars and spaced cross bars connecting said side bars, one of said cross bars having an outwardly formed loop, and a divided cross bar connected to said side bars and provided with gripping portions on each side thereof that normally subtend in close proximity the adjacent cross bars to form slots through which a strap is threaded and gripped, said divided cross bar being movable with respect to the frame to enlarge said slots for relatively free adjustment of the strap therethrough and having a cut-away portion opposite said outwardly formed loop.

11. A buckle constituting a frame which comprises side bars and spaced cross bars connecting said side bars, a divided cross bar connected to said side bars and provided with gripping portions on each side thereof that normally subtend in close proximity the adjacent cross bars to form slots through which a strap may be threaded and gripped, and means on said divided cross bar for holding the free end of said strap, said divided cross bar being movable with respect to the frame and being of sufficient width to have torsional movement about a longitudinal axis thereof to enlarge said slots independently for relatively free adjustment of the strap therethrough.

PAUL W. WHITE.