

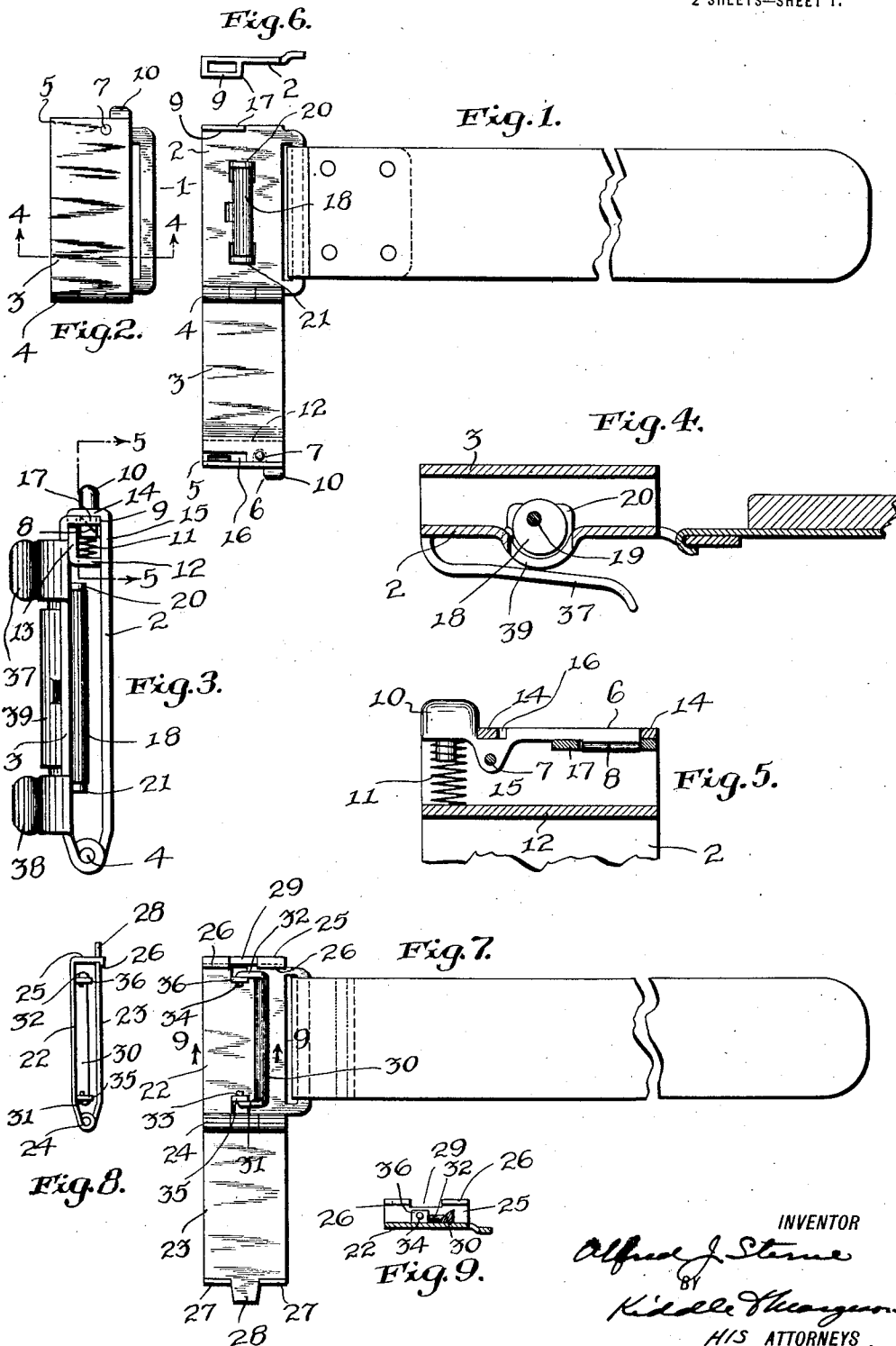
A. J. STERNE.
BUCKLE.

APPLICATION FILED AUG. 29, 1918.

1,340,302.

Patented May 18, 1920.

2 SHEETS—SHEET 1.



INVENTOR

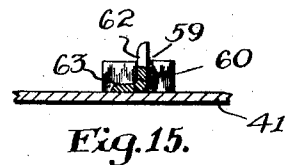
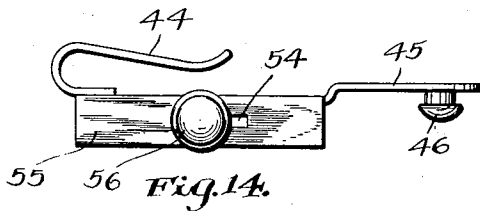
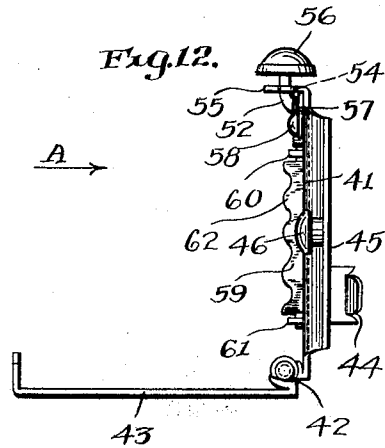
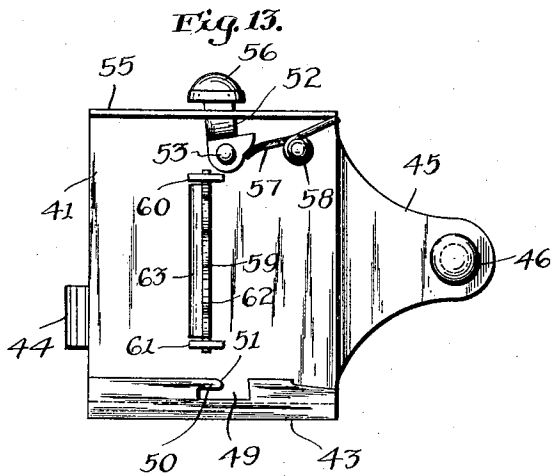
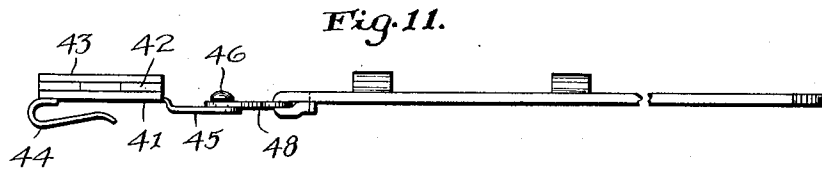
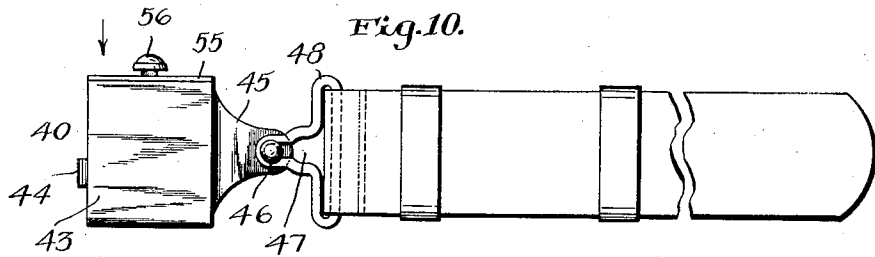
Alfred J. Sterne

Kidd & Thompson
HIS ATTORNEYS.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ALFRED J. STERNE, OF SCARSDALE, NEW YORK.

BUCKLE.

1,340,302.

Specification of Letters Patent.

Patented May 18, 1920.

Application filed August 29, 1918. Serial No. 251,868.

To all whom it may concern:

Be it known that I, ALFRED J. STERNE, a citizen of the United States, residing at Scarsdale, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Buckles, of which the following is a specification.

The invention relates to buckles used with flexible straps and particularly with belt straps.

According to my invention the buckle is constructed so as to have a vertically extending back or body member to which there is connected, as by means of a hinge located at the lower edge of the body member, a front member which can be swung to folded position, or from the folded or closed position to an extended position.

The buckle is also provided with a vertically-extending, movable, gripping member which serves to grip or seize the belt strap and hold said belt strap in place against longitudinal movement in one direction between said gripping member on the one hand and one of the hinged members on the other. The construction, however, is such that the belt strap can be easily moved longitudinally in the reverse direction without being seized or gripped.

In the preferred form of the invention this vertically-extending, movable, gripping member is in the form of a roller having an eccentric shaft or bearing whereby the roller is carried on the vertically extending back or body member of the buckle. As will hereinafter more fully appear this roller is constructed so as to grip a portion of the flexible belt strap and clamp it or grip it against longitudinal movement in one direction between the roller on the one hand and the front member of the buckle on the other. The roller construction is such, however, as to permit a comparatively free longitudinal movement of the belt strap in an opposite direction.

As showing specific embodiments of the invention reference is made to the accompanying drawing forming a part of this specification, in which drawing,

Figure 1 is a vertical, front, elevational view of a buckle with the belt strap, part of which is broken away, connected to the buckle. The buckle shown in this figure has

a vertically-extending back or body member with a front member hinged to the lower part of said body member and the front member is shown in extended or unfolded position. In this view there is also shown a gripping roller having a vertically-extending axis.

Fig. 2 is a front view of the buckle shown in Fig. 1 but in Fig. 2 the front member of the buckle is shown in its closed or folded position.

Fig. 3 is an edge view or side elevation of the buckle shown in Fig. 1 and in Fig. 2.

Fig. 4 is a sectional view taken as on the plane indicated by the line 4—4 of Fig. 1 or of Fig. 2 looking in the direction of the arrows. Fig. 4, it will be observed, is a section taken as on the line 4—4 when the front is in closed or folded position relative to the back of the buckle. In this figure it will also be seen that the gripping roller is mounted upon an eccentrically located shaft or bearing.

Fig. 5 is a view taken as on the plane indicated by the line 5—5 of Fig. 3. Fig. 5 shows the construction of the catch which is employed to hold the front member in closed or folded position relative to the back or body member. In Figs. 3, 4 and 5 the buckle is shown on a somewhat larger scale than in Fig. 1 or Fig. 2.

Fig. 6 is a view looking downwardly at the upper end of the back or body member shown in Fig. 1.

Fig. 7 shows a form of buckle in which the vertically-extending gripping member in the form of a bar that is triangular in cross-section is mounted at the free end of arms hinged upon the back or body member of the buckle. In Fig. 7 the buckle parts are shown in extended or unfolded position.

Fig. 8 is an edge view or side elevational view of the buckle shown in Fig. 7 when the parts are in closed or folded position. In Fig. 7 the belt strap, partly broken away, is also shown as attached to the back or body member of the buckle.

Fig. 9 is a view taken as on the plane indicated by the line 9—9 of Fig. 7 looking in the direction of the arrows.

Fig. 10 is a front view of a buckle and a portion of a belt strap attached to the buckle.

Fig. 11 is a bottom view of the belt strap and buckle shown in Fig. 10.

Fig. 12 is an edge or side elevational view of the buckle shown in Fig. 10 but on a larger scale than that shown in Fig. 10. The buckle shown in Figs. 10 and 11 has a vertically extending back or body member and a front or face member hinged thereto, and in Fig. 12 the front or face member is shown in an extended or open position.

Fig. 13 is a view of the buckle shown in Fig. 12 but looking in the direction of the arrow A which appears in Fig. 12.

Fig. 14 is a view looking downwardly, in the direction of the arrow, at the buckle shown in Fig. 10.

Fig. 15 is a detail view showing the construction of a movable gripping member mounted on the back or body member of a buckle.

It will be observed that in Figs. 12 to 15 inclusive the parts are shown on a larger scale than in Figs. 10 and 11.

Referring now to the drawings in detail the buckle illustrated in Figs. 1 to 6 inclusive is designated by 1 and comprises a vertically-extending back or body member 2 and a movable front or face member 3, hinged at 4 to the lower edge of the back or body member 2. The free end 5 of the front or face member 3 carries a catch 6 pivotally mounted upon transversely-extending pivot pins 7. The catch portion proper, as 8, of the catch 6 engages a ledge or shelf 9 (see Fig. 6) on the back or body member 2 so that the catch can serve to hold the front or face member 3 in closed or folded position relative to the back or body member 2. This ledge or shelf 9 is also clearly indicated.

The catch construction used in the buckle shown in Figs. 1 to 6 inclusive has been designed with a view of providing a strong, neat catch and one which is readily operated to perform its catching or holding function and also to permit a ready disengagement or unlocking of the catch. In order that the catch may be readily opened by pressure, applied as by the thumb or finger pressing against a member, the catch 6 has been made in the form of a lever which, as previously indicated is fulcrumed or mounted upon the pivot pins 7. One end of the lever carries a button or finger engaging portion 10 and from an inspection of Fig. 5 it will be apparent that downward pressure applied upon this button 10 effects an upward movement of the catch portion 8 at the other end of the lever whereby the catch is released, due to the catch portion 8 disengaging the ledge portion 9, the latter of which is on the back or body member 2. Normally, however, a spring 11 presses upwardly against the under side of the button 10 in a manner to maintain the catch 6 in its closed position.

This spring 11 is mounted upon a horizontally and longitudinally extending ledge 12 that is carried at the upper end of the front or face member 3—considering the front or face member in its closed position. In fact this ledge 12 constitutes a part of a box or box-construction within which a portion of the catch 6 and the whole of the spring 11 are located. The rest of the members of the box-construction may be designated as 13, 14 and 15 (see Fig. 3). One part of this box-construction is slitted, as at 16, to receive the loop or projecting portion 17 that is located at the upper end of the back or body member 2 and it will here be noted that this loop or projecting portion 17 provides the ledge or shelf 9 heretofore referred to. The buckle is provided with a vertically-extending, movable, gripping member 18 in the form of a roller mounted upon an eccentrically located shaft or bearing 19 that is carried on the inwardly projecting lugs 20 and 21 which are struck-up from the material providing the back or body member.

Considering one end of the belt strap as having been placed over or in front of the gripping member 18 and the front or face member 3 thereafter having been moved to closed position and maintained in said position by the catch, then it will be apparent that an attempt to move that portion of the belt strap between the gripping member on the one hand and the front or face member on the other in a longitudinal direction to the left will result in a seizing or gripping of that portion of the belt strap between the eccentric gripping roller 18 on the one hand and the face member of the buckle on the other. An attempt, however, to move the belt strap to the right will meet no resistance because of the particular location of the eccentric shaft or bearing 19. In other words, this shaft or bearing is located so that when the belt strap is in position to be gripped a movement in one direction effects the gripping and so that a movement in the reverse direction is not resisted and no gripping is encountered. The shaft or bearing 19 is located so that the longer radial arms of the roller first come forward and thereafter move from the holding loop which is shown at the right hand side of the back or body member 2.

The buckle shown in Figs. 7, 8 and 9 has a vertically-extending back or body member 22 and a movable front or face member 23 hinged at 24 along the lower edge of the back or body member 22. The upper part of the back or body member 22 is bent forwardly, as at 25, and thence downwardly to provide ledge portions 26, 26 that are engaged by the free edges 27, 27 of the front or face member 23 and thus provide a catch between the upper ends of the front and back members. The front or face member

has a tang or tab 28 that enters a slot 29 in the forwardly bent portion 25 and this tang or tab can be relied upon to move the free or front portion of the buckle to and from closed position.

The buckle shown in Fig. 7 has a vertically-extending clamping bar 30 carried at the free ends of arms 31 and 32 that are in turn pivotally mounted at 33 and 34 upon ears or lugs 35 and 36 struck-up from the material in the back or body member 22.

In Fig. 9 the cross-section of this clamping bar 30 is clearly shown. When a portion of the belt strap is being gripped it occupies a position between the clamping bar on the one hand and one of the hinged members of the buckle on the other; for example, the swinging front member; and it will be noted that the shape of this gripping member is such as to oppose a pull toward the left but so as to permit a comparatively ready pull of the belt strap in a longitudinal direction toward the right. In the construction shown the securing of the belt strap to the buckle is enabled to be realized due to the loop or slotted portion which appears at the right hand side of the back or body member of the buckle.

In the construction shown in Fig. 4 there is provided a pair of horizontally-extending catches or springs 37 and 38 for holding the buckle in proper position relative to the garment with which it is worn. One of these springs or catches is located at the upper end of the back or body member while the other is located at the lower end of the back or body member.

It will also be observed from an inspection of Figs. 3 and 4 that the back member is "cupped" or bent backwardly, at 39, so as to provide a receiving space for the gripping roller 18 and the springs just referred to can cooperate with the portion which has been bent backwardly in a manner to effectually perform the function of holding the belt buckle in proper position. The form of buckle shown in Figs. 7 and 8 can be provided with these springs or holding members that are used in connection with the buckle shown in Figs. 1 to 6.

Another buckle is shown in Figs. 10 to 15 inclusive. The buckle shown in said figures is designated by 40 and has a vertically extending back or body member 41 in the lower portion of which there is hinged, at 42, the front or face member 43. On the back of the body member 41 there is secured a holding loop or catch 44 that is utilized to maintain the buckle in place in respect to the clothing. At the right hand side of the back there is provided an extension or tang 45 carrying a stud 46. This stud is received into a notched portion 47 of a belt loop 48. By the construction just referred to and which is clearly shown in Figs. 10 and 11, it will be

manifest that the belt strap is firmly secured to the belt buckle in a manner to permit a ready disengagement of the belt strap or a substitution of one strap for another. A catch construction is also employed with this buckle which differs in detail from the catches heretofore described. The free edge of the front or face member, to wit, the upper edge when the front or face member is in closed or folded position is notched at 49 so as to provide a catch member or ledge 50. One edge of this catch member or ledge 50 is beveled at 51 so as to automatically move a companion catch member 52 to the right during the operation of closing the buckle member. This catch member 52 is pivotally mounted at 53 upon the back member, extends through a slot 54 in an upper forwardly extending ledge 55 on the back member and is provided with a knob or hand-engaging portion 56 that is pressed toward the right when the catch is to be opened. The catch 52 is normally spring pressed toward the left by a spring 57 that is held in place by a pin 58 on the back member, as will be manifest from an inspection of Fig. 13. The pressing of the knob or hand-engaging portion 56 to the right causes the catch 52 to disengage the catch member 50 that is on the front member and thereby permits the front member to move from the back member, for example, to the position shown in Figs. 12 and 13.

From an inspection of Figs. 12, 13 and 15, it will be observed that a vertically extending gripping member 59 is pivotally mounted in ears 60 and 61 in a manner to permit the gripping member 59 to swing about a vertically extending axis, depending upon the manner in which a force is applied to the gripping member. When in use the gripping member 59 engages the rear side of a belt strap and if the belt strap passing through the space between the front and back members of the buckle is pulled toward the right it meets little resistance because a toothed portion 62 of the gripping member is forced toward the right allowing a comparatively smooth unresisting portion 63 to move against the rear portion of the belt strap. When, however, the belt strap is pulled in the reverse direction the smooth portion 63 swings toward the back member and the toothed portion 62 comes into play to seize or grip the rear portion of the belt strap and in this manner oppose the movement of the belt strap toward the left. The ears 60 and 61 are provided on the back member in any suitable manner, as by soldering to the back member, their principal function being to provide a neat construction which will maintain the movable gripping member in place on the back or body member.

It will be manifest that the invention

herein described can be embodied in various forms and modifications without departing from the spirit and scope thereof, and it will also be manifest that the buckle construction shown and described herein has a general application for use with flexible straps that constitute part of other wearing apparel or devices, for example, suspenders, garters, harnesses or the like.

10 What I claim is:

1. A buckle having a vertically-extending back or body member, a front or face member hinged to the back or body member at the lower edge thereof and provided with a catch mechanism for holding the front and back members in closed or folded position relative to each other, and a movable vertically-extending gripping member located between said hinged members of the buckle when they are in closed position and co-operating with said face member to grip a strap.

2. A buckle having a back or body member provided with a part of a catch construction at its upper portion, a front or face member hinged to the lower edge of the back or body member, the free end of which front or face member is provided with a catch member that engages the catch member on the back or body member and serves to secure the front and back members in closed or folded position, and a movable vertically-extending gripping member pivotally mounted upon bearings which are carried on lugs that are struck-up from the back or body member, which movable gripping member is constructed so as to permit the belt strap to move freely in one direction when a portion of the belt strap is between the gripping member and one of the hinge members of the buckle but so as to grip or seize the belt strap and oppose its movement in a reverse direction when similarly located.

3. A buckle comprising a vertically-extending back or body member provided with a loop at the right hand side thereof, a front or face member hinged to the back or body member and provided with a movable catch which engages a cooperating ledge or shelf on the back or body member, and a gripping roller having a vertically-extending axis and held in place by an eccentric shaft or bearing, which gripping roller is mounted so as to permit a free movement of a portion of a belt that is between the gripping roller on the one hand and one of said hinged members of the buckle on the other in a direction to the right but so as to oppose a movement of the same portion of the belt in a reverse direction.

4. A buckle comprising a vertically-extending back or body member, a front or face member which is detachably secured in closed or folded position relative to the back or body member, and between said members

a vertically-extending gripping member in the form of a roller having an eccentrically located shaft or bearing for cooperating with the face member to give a strap.

5. A buckle comprising a vertically-extending back or body member, a front or face member hinged to the back or body member, the buckle being provided with a catch for holding said members in closed or folded position relative to each other and so as to permit them to be moved to assume an open or unfolded position, and an eccentric roller cooperating with the face member to grip a strap, said roller being mounted in members which are struck-up from the material in the back or body member.

6. A buckle comprising a vertically-extending back or body member having at its upper edge a forwardly extending loop construction which provides a ledge or shelf, a vertically-extending front or face member hinged at its lower edge to the back or body member, said front or face member being provided with a box-like construction that is slotted so as to receive the loop construction that is upon the back member of the front or face member and which box-like construction is located at the upper edge when the latter is in a closed or folded position, said front or face member also being provided with a catch member in the form of a lever which is pivotally mounted upon a transversely-extending pin located so that a part of the lever extends into the box-like construction and so that the catch portion of the lever can engage the ledge or shelf of said loop construction, said lever having at the end opposite the catch portion a button which can be pressed downward so as to release the catch portion from the ledge or shelf, and a compression spring located between the button on the one hand and a part of the box construction on the other.

7. In combination, a buckle comprising a vertically-extending back or body member, a front or face member hinged to the back or body member, a catch mechanism for holding the front and back members in closed or folded position relative to each other, and a vertically-extending, gripping member rotatable about a fixed axis, said gripping member being located between said hinged members of the buckle when they are in closed position and cooperating with said face member to grip a strap.

8. A buckle comprising in combination a body member, a front member hinged thereto, and a gripping member between said body member and said front member movable independently of said front member and cooperating therewith for gripping a strap.

9. A buckle comprising in combination a gripping member for engaging a strap, and

bearings for said member located between opposite edges of said buckle whereby the gripping member and the bearings therefor are confined wholly within the buckle.

body member and said front member for engaging a strap, said gripping member being wholly within said buckle. 10

5 10. A buckle comprising in combination a body member, a front member hinged thereto and a gripping member between said

This specification signed this 28th day of August, A. D., 1918.

ALFRED J. STERNE.