A. J. STERNE.

BUCKLE.

APPLICATION FILED MAR. 19, 1919.

**1,340,303.** Patented May 18, 1920.

Fig. 1.

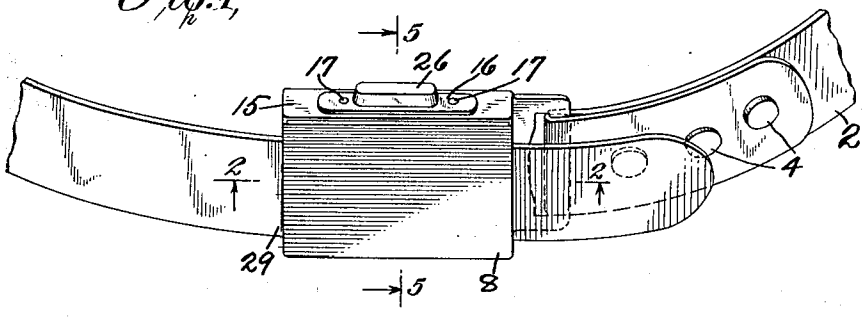



Fig. 2.

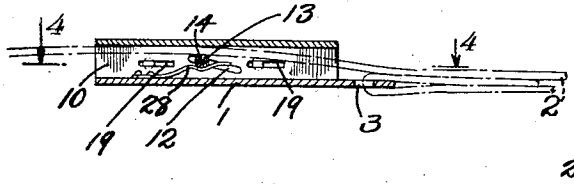



Fig. 3.

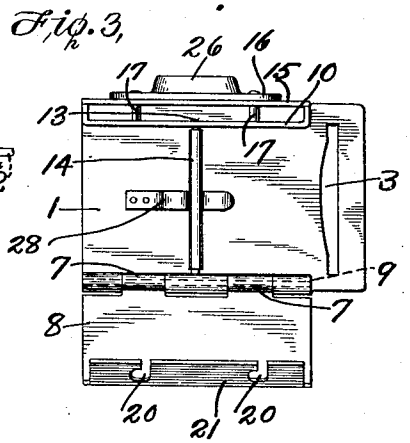



Fig. 4.

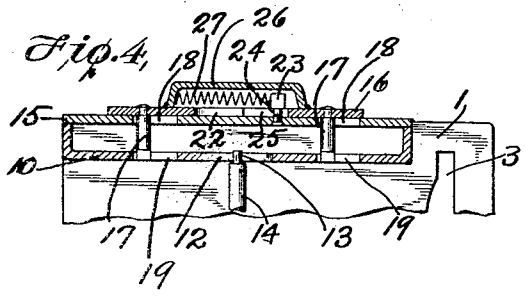



Fig. 5.

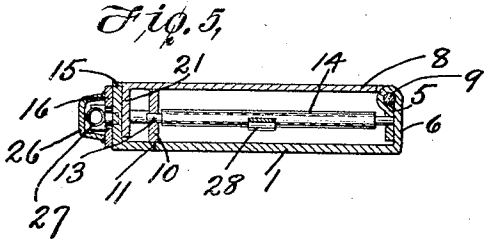
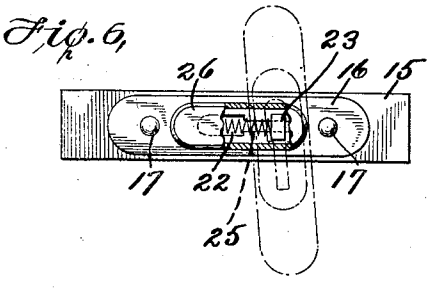



Fig. 6.




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# UNITED STATES PATENT OFFICE.

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## BUCKLE.

1,340,303. Specification of Letters Patent. Patented May 18, 1920.

Application filed March 19, 1919. Serial No. 283,561.

*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.

This invention relates to an improvement in buckles, and it is an object thereof to provide a buckle which will be simple to manufacture, easy to assemble, reliable and efficient in operation, and capable of use with straps of varying thicknesses; another object of the present invention is the provision of a buckle which when in use may be readily applied to the strap or belt with which it is to be used; and a still further object is the provision of a buckle in which the strap may be readily adjusted.

Briefly my invention comprises a buckle having a back or body member carrying a gripping member which coöperates with a front member hinged to the body member to hold a strap or belt in adjusted position when the front member is held in closed position by locking means which have been provided. The gripping member above mentioned is mounted at one end in an inclined cam slot formed in a turned over edge of the body member, the other end of the gripping member being mounted in a similar cam slot formed in a member secured to the body member near the opposite edge thereof, means being provided for automatically urging the gripping member toward the high end of the slot, thus insuring that the gripping member will always contact with the strap when the buckle is in use, and facilitating the maintenance of the strap in adjusted position.

Having thus briefly outlined my invention, I will now proceed to a detailed description thereof; a specific though not necessarily a preferred embodiment of the invention being illustrated in the accompanying drawings, wherein—

Figure 1 shows in elevation my improved buckle applied to a belt strap;

Fig. 2 is a section taken on the line 2—2 of Fig. 1 looking in the direction of the arrows;

Fig. 3 is a plan view of my improved buckle removed from the belt strap of Fig. 1 and with the front member in open position.

Fig. 4 is a view taken through the buckle on the line 4—4 of Fig. 2 looking in the direction of the arrows.

Fig. 5 is a section through Fig. 1 taken on the line 5—5 looking in the direction of the arrows; and

Fig. 6 is a plan partly in section of the locking means.

1 designates what I shall term a body member to which one end of a belt strap 2 is secured by passing the same through a slot 3 cut in the end of the body member, folding over and securing in place by snap fasteners 4. It will be understood, of course, that instead of using the fasteners 4 the belt strap may be sewn in place.

The lower edge of the body member, as the buckle is viewed when in position on the body of the wearer, is bent over as shown in Fig. 5 to form two flanges 5 and 6, cut out portions having been provided for the reception of rolled over lugs 7 on the front member 8, which together with a pin 9 forms a hinge for the last named member.

Adjacent the upper edge of the body member and secured thereto by any suitable means, is a member 10, here shown provided with a reduced portion 11 set into a slot cut into the body member. This member 10 is provided with a cam slot 12 set at an angle inclining toward that end of the buckle in which the slot 3 already referred to is formed. This cam slot forms a bearing for one end of a pin 13 carrying a gripping member 14, this pin passing through the gripping member, its other end having a bearing in a cam slot formed in the flange 5. It is to be understood, of course, that if desired the gripping member 14 might be a solid member with turned-down ends corresponding to the ends of the pin 13.

From this it will be seen that the ends of the gripping member 14 are between the upper edge of the buckle and the opposite edge or flange 6. In other words, the ends of the gripping member do not project to the exterior of the buckle.

The upper edge of the body member 1 is turned up to form a flange 15, which, as will be observed from Fig. 5, is beyond or outside the member 10, this flange carrying the locking means, which holds the front member 8 in the locked position shown in Fig. 1, and which locking means I shall now describe.

A plate 16 is provided at the outer side of the flange 15, this plate carrying locking

pins 17 secured thereto and passing through elongated longitudinal slots 18 and 19 in the flange 15 and member 10 respectively. The locking pins coöperate with a pair of slots 20 formed in a flange 21 of the front member 8, and if desired may act also in the capacity of guides for movement of the plate 16 longitudinally of the flange 15 of the body member 1.

Formed in the plate 16 is a longitudinal slot, the enlarged end 22 of which, when the plate is swung to the dotted line position of Fig. 6, may be slipped over the head 23 of a stud 24, mounted in the flange 15 of the body member. The head of the stud is set crosswise of the flange and forms a lock for the plate 16 when the latter is swung around to its normal position such as shown in full lines in Fig. 6, the slot in this plate being reduced as designated at 25 to prevent removal of the plate but permitting of the plate being reciprocated longitudinally of the flange 15, for the purpose of moving the locking pins 17 into and out of locking position relative to the slots 20 in the front member 8.

Secured to the lock plate 16, by welding, soldering or other suitable means is a button 26, within which is a coil spring 27, one end of which abuts the head 23 of the stud 24, which spring acts to return the plate 16 to its extreme left hand position, as shown in Fig. 1 for example, to maintain the locking pins 17 in position to lock the front member 8 in closed position.

In operation, the belt strap with the buckle attached is placed about the body of the user, with the front member in open position as shown in Fig. 3. The gripping member 14 at this time is at the high end of its cam slots, being urged to and maintained in that position automatically by the action of a spring 28. The free portion 29 of the belt strap is then laid upon the gripping member 14 and the front member 8 closed and locked. The belt strap will then be maintained in position and may not be loosened except the front member 8 be opened again to relieve the gripping action on the belt strap due to the gripping member 14 and the inside of the front member. However, should it be desired to tighten the belt strap, this may be done very readily inasmuch as the free end thereof may be pulled to the right as viewed in Fig. 1, the gripping member 14 traveling toward the lower end of its cam slots to relieve the friction on the strap. Inasmuch as this movement of the gripping member increases the tension of the spring 27, the gripping member will snap back toward the high part of its cam slots again so soon as movement of the belt strap to the right has ceased, thus effectually preventing loosening of the belt strap after adjustment. In other words by providing the gripping member with a spring normally urging the member to operative position, manual adjustment of this gripping member is unnecessary, the gripping or locking of the belt strap taking place automatically.

To remove the belt strap, it is merely necessary to unlock and open the front member of the buckle.

If desired the buckle may be formed in one piece, omitting entirely the hinged front member 8; and in such case the edges of the buckle could be turned up to provide flanges in which cam slots similar to the slot 12 could be provided and the spring 27 could be retained to urge the gripping member to the upper part of the cam slots, the belt strap in such a construction being gripped between the gripping member and the underside of the flanged member.

It will thus be seen that I have provided a buckle which is simple to manufacture, easy of assembly, efficient in operation and which may be used with belt straps of varying degrees of thickness within a range likely to be met with in practice. It will be obvious also that with my improved buckle a belt strap may readily be applied to the body of the user, adjusted thereon and removed therefrom.

It is to be understood that I am not to be confined solely to the use of my buckle with belt straps, nor that I am to be limited to the exact details of construction of my buckle, as there are many uses to which my buckle may be put, and there are many changes which may be made in the details of its construction within the spirit and scope of my invention.

What I claim is:

1. A buckle comprising in combination a body member, a front member hinged thereto, a gripping member between said body member and said front member and coöperating with the latter for gripping a strap, and means independent of the strap for automatically moving the gripping member into operative position.

2. A buckle comprising in combination a gripping member for engaging a strap and inclined bearings for said gripping member which bearings are located between opposite edges of said buckle and wholly confined within the buckle.

3. A buckle comprising in combination a body member, a front member hinged thereto, a gripping member between said body member and said front member for engaging a strap, and inclined bearings forming a guideway for said gripping member which bearings are located between opposite edges of said buckle and wholly confined within the buckle.

4. A buckle comprising in combination a body member, one edge of which is turned

over to form two flanges, the inner flange being provided with a cam slot one side of which slot is closed by the outer flange, a gripping member, one end of which has a bearing in said cam slot, and means located between opposite edges of said body member and having a cam slot therein to form a bearing for the opposite end of said gripping member.

5. In a buckle, the combination of a body member having one edge thereof turned over to form two flanges, a front member having portions coöperating with said flanges on the body member to form a hinge, and a gripping member, one end of which has a bearing in a cam slot in the inner of said body flanges, and means located between opposed edges of said buckle for supporting the other end of said gripping member.

6. In a buckle, the combination of a body member, a gripping member sustained thereby which gripping member comprises a tubular member and a pin which passes through said tube and extends beyond the ends thereof, and bearings for each end of said pin, said bearings and said tubular member and pin being located between opposed edges of said buckle and wholly confined within the same.

7. A buckle comprising a body member, a gripping member, a front member coöperating with said gripping member, a member mounted on said body member between opposed edges thereof forming a bearing for one end of said gripping member, and locking pins having one end thereof engaging openings in said hearing member and guided thereby into and out of locking position relative to said front member.

8. A buckle comprising a body member, a gripping member, a front member coöperating with said gripping member, a flange at one edge of said body member, a locking plate mounted thereon, means for preventing removal of the plate from said flange but permitting the said plate to be reciprocated, locking pins carried by said locking plate, and a member for supporting one end of said gripping member, and guiding the inner ends of said locking pins as the same are moved to position to lock and unlock said front member.

9. A buckle comprising a body member, a front member hinged thereto, a gripping member mounted on the body member and coöperating with said front member to hold a strap in adjusted position, a flange on one edge of said body member, a locking plate thereon and movable longitudinally thereof, locking pins carried by said locking plate, a member carried by said flange preventing removal of said locking plate, and a flange on said front member having openings therein coöperating with said locking pins when the said front member is in closed position, and a concealed spring mounted on said locking plate for maintaining said locking pins in operative relation to the openings in the flange of said front member, to maintain said member in closed and locked position.

10. In a buckle, the combination of a body member, a gripping member comprising a tubular member and a pin passing therethrough and extending beyond the ends thereof, said gripping member being supported by said body member, and a front member hinged to said body member cooperating with said gripping member.

This specification signed this 17th day of March, A. D., 1919.

ALFRED J. STERNE.