No. 706,080. Patented Aug. 5, 1902.

J. E. MITCHELL.

BUCKLE.

(Application filed Mar. 19, 1901.)

(No Model.)

Fig. 1.

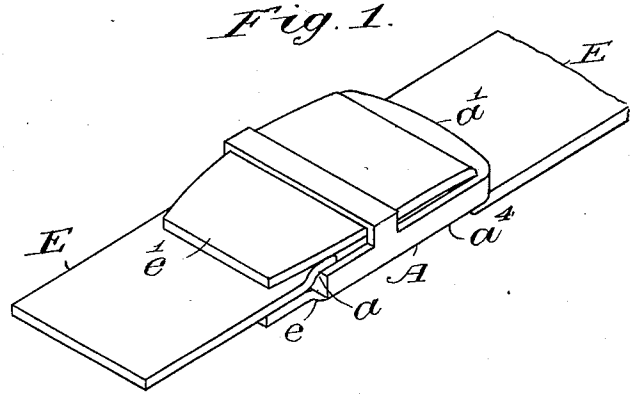


Fig. 2.

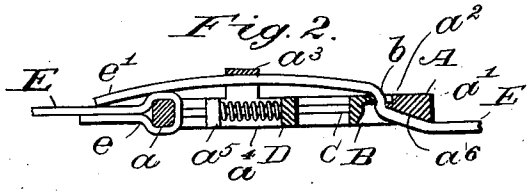


Fig. 3.

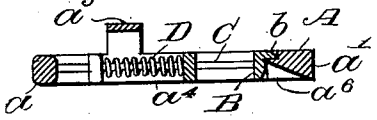


Fig. 4.

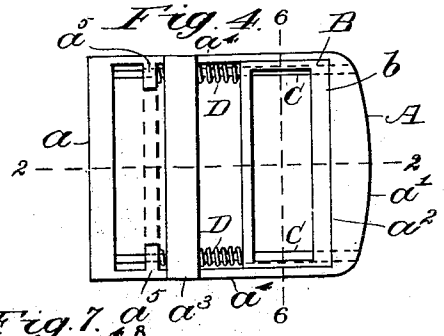


Fig. 5.

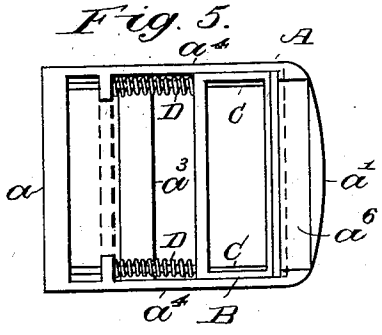


Fig. 7.

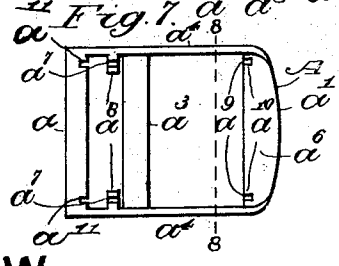


Fig. 6.

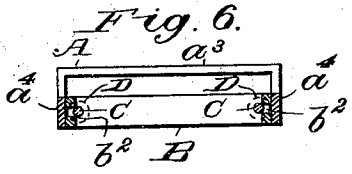
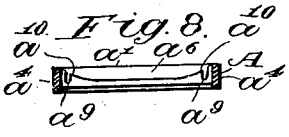


Fig. 8.



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UNITED STATES PATENT OFFICE.

JAMES E. MITCHELL, OF LOWELL, MASSACHUSETTS, ASSIGNOR OF THREE-FOURTHS TO GEORGE B. MEVIS, GEORGE F. STILES, AND CHARLES FREDERICKS, OF LOWELL, MASSACHUSETTS.

BUCKLE.

SPECIFICATION forming part of Letters Patent No. 706,080, dated August 5, 1902.

Application filed March 19, 1901. Serial No. 51,821. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. MITCHELL, a citizen of the United States, residing in Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Buckles, of which the following is a specification.

My invention relates to buckles; and it consists in the devices and combinations hereinafter described and claimed.

This buckle comprises a rim or frame, a slide or binder, between which and the front bar of said rim the belt or strap is held, said slide being guided in said frame and crowded toward said front bar by spring-pressure, and a keeper to receive the unattached end of the belt or strap.

This buckle is easily operated, closing automatically upon the strap and opening readily when the sliding binder is withdrawn by the finger from the front bar of the frame.

In the accompanying drawings, Figure 1 is an isometric perspective view of my improved buckle attached to one strap end and engaging another strap end; Fig. 2, a longitudinal vertical section of said buckle attached on the line 2 2 in Fig. 4 and of the strap ends in the same plane; Fig. 3, a similar section of the buckle detached; Fig. 4, a plan of the buckle; Fig. 5, a plan of the buckle inverted; Fig. 6, a vertical transverse section of said buckle on the line 6 6 in Fig. 2; Fig. 7, a plan of the bottom of the frame as it appears before the guides are inserted; Fig. 8, a vertical cross-section of the same on the line 8 8 in Fig. 7.

The rim or frame A has a chape or rear bar a, a front bar a', and sides a^4 a^4, connecting said bars in substantially the usual manner. Within the frame A is suitably guided a sliding binder B, represented as a rectangle and for lightness made in the form of a skeleton. The adjacent faces of the front frame-bar a' and of the binder B are made transversely parallel to press equally throughout the width of the strap E upon that portion of said strap which in use is arranged between said faces, and the front of said binder is preferably provided with a nose b, which slides over a ledge a^2 on the inner side of said front frame-bar when the strap is not between these parts and in use causes the strap to be held firmly between the adjacent edges of said nose and ledge. The under side of the front frame-bar a' is preferably beveled upwardly and inwardly on the under side at a^6 to prevent the strap from projecting from the back of the buckle or forming a bunch against the body of the wearer.

The guides for the binder B are represented as two parallel wires C C, the ends of which are secured in the back and front frame-bars a a' and in abutments a^5 a^5, cast or otherwise formed on the inner faces of the side frame-bars a^4 a^4, which abutments may obviously be continued to meet each other, as indicated by dotted lines in Figs. 4 and 5, and thus form a continuous bar connecting and stiffening said side bars. The guide-wires C C may also be extended, as shown, to meet or pass through the rear frame-bar a, and this will conveniently be done if said wires are to be inserted through holes formed in said rear bar. I prefer, however, to cast notches or recesses a^7, Figs. 7 and 8, in the under side of the abutments a^4 a^4 and other recesses a^9 a^9 in the front frame-bar a', in which the guide-wires may be laid and in which guide-wires may be retained by hammering or pressing in over said wires the sides a^8 a^{10} of said recesses in said abutments and front bar, respectively. In a similar manner the rear ends of said wires C C may be secured in the chape or rear bar by means of the recesses a^{11} a^{11}. The sides of the binder B are grooved at b^2 to receive and run on said guide-wires, and springs, represented as helical wire springs D D surrounding said guide-wires, are compressed between said binder and the abutments a^4 a^4 to force said binder toward the front frame-bar a' and grasp the strap. When the guide-wires are secured in the recesses, (shown in Figs. 7 and 8 and above described,) the springs and the binder must be put in place before the guide-wires are secured in their recesses.

In practice one end e' of a strap E is passed around the chape or rear frame-bar a and secured in any usual manner, and the other end e' of said strap or an end of another similar strap is passed between the binder B and the

front frame-bar, the binder being drawn away from said front bar by the fingers inserted in said binder, and the last-named end of the strap is passed under the keeper a^3, as shown in Figs. 1 and 2.

The forward edge of the front bar of the binder-plate is thinned, as is also the rear edge of the front bar of the main frame, by inner bevels of such bars, which, in connection with the fact that such edges are adapted to overlap or slide upon one another, as shown in Fig. 3 of the drawings, effects a secure engagement with or lock of the strap to prevent slippage thereof. The skeleton-form binder-plate lies entirely within the plane of the main frame of the buckle, being thereby prevented from injury or displacement, this feature being especially valuable in the case of a trunk-strap. Also the skeleton form of the binder-plate admits of the insertion of a finger for convenient operation thereof. My binder-plate has no parts projecting beyond the plane of the buckle for operation thereof or other purpose and which are likely to catch upon clothing, get out of order, destroy the simplicity of the device, and increase its cost of manufacture. The guide rods or wires and their springs lie close to the side bars of the buckle-frame, being partly hidden and protected thereby. The binder-plate has a central opening wherein the finger is adapted to be inserted for operation of said plate.

I claim as my invention—

1. In a buckle, the main frame, having the bracing cross-bar or keeper at the outside, the guide rods or wires adjacent to the side bars of the frame, the skeleton-form binder-plate engaging said guide-rods, lying in the plane of the main frame, and having the opening adapted for the insertion of a finger for convenient operation, and the compression-springs between main frame and binder-plate, and surrounding said guide-rods, substantially as specified.

2. In a buckle, the main frame having the bracing cross-bar or keeper at the outside, the guide rods or wires adjacent to the side bars of the frame, the skeleton-form binder-plate engaging said guide-rods, and lying entirely within the plane of the buckle, the compression-springs between main frame and binder-plate, and surrounding said guide-rods, the front bars of binder-plate and buckle-frame being adapted to slide upon one another and the forward edge of the front bar of the binder-plate, and the rear edge of the front bar of the main frame, being thinned for better locking effect, substantially as specified.

In testimony whereof I have affixed my signature in presence of two witnesses.

JAMES E. MITCHELL.

Witnesses:

SUSIE M. HANNAFORD,

ALBERT M. MOORE.