(No Model.) 2 Sheets—Sheet 1.

E. S. SMITH.

BUCKLE.

No. 303,548. Patented Aug. 12, 1884.

Fig. 1.

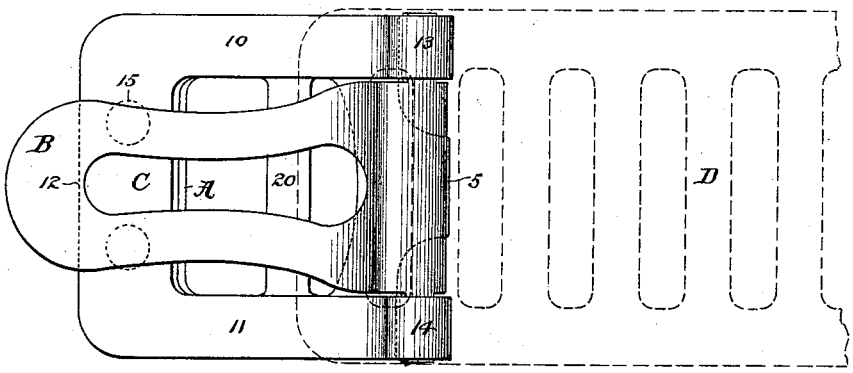


Fig. 2.

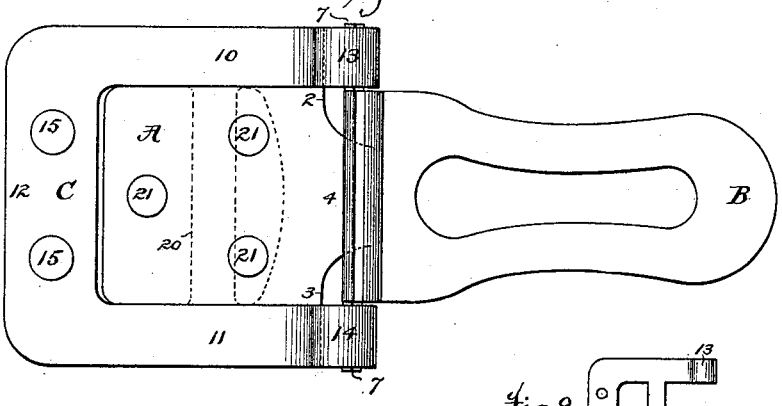


Fig. 9.

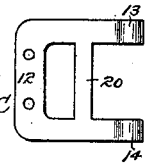


Fig. 3

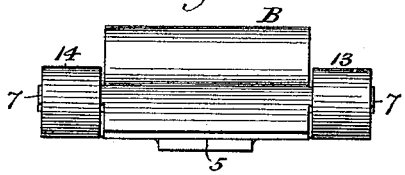
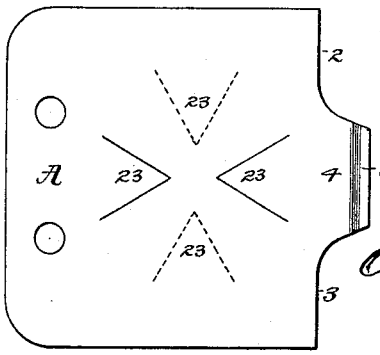


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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BUCKLE.

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Fig. 5.

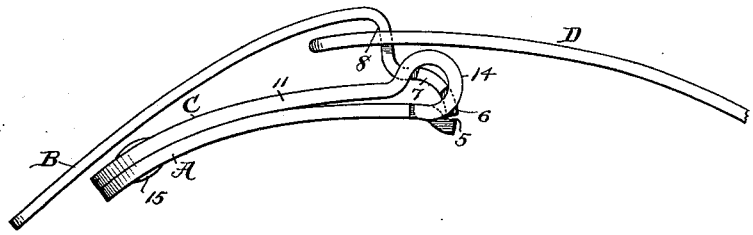


Fig. 6.

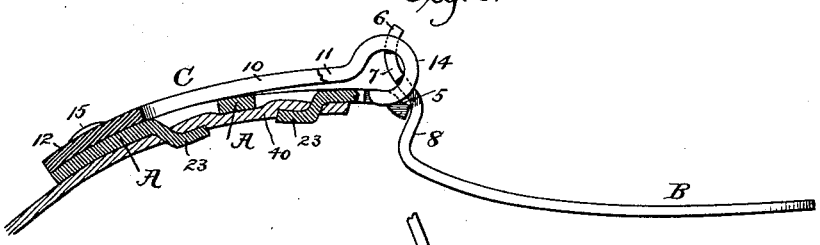


Fig. 7.

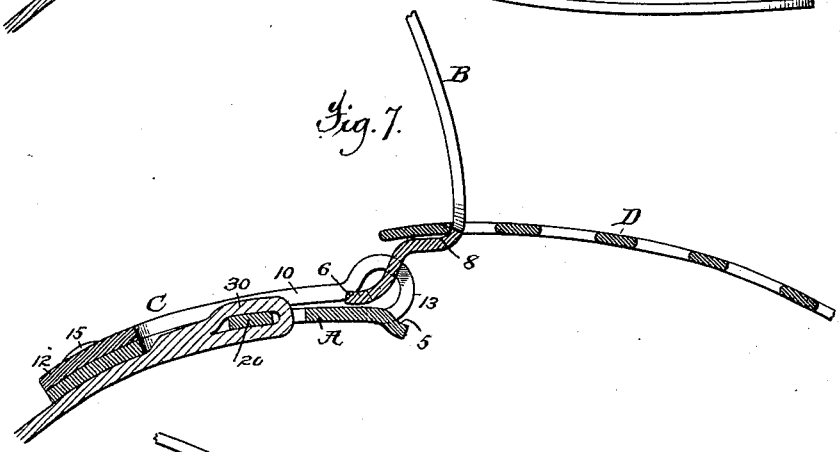
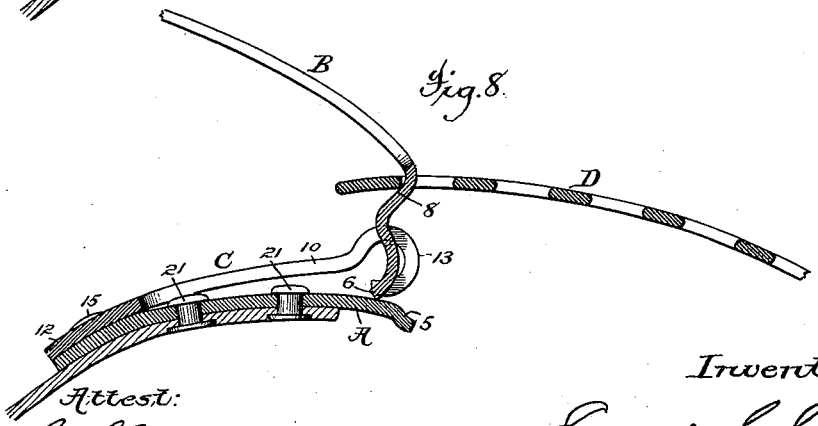


Fig. 8.



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UNITED STATES PATENT OFFICE.

EDWARD S. SMITH, OF WATERBURY, CONNECTICUT.

BUCKLE.

SPECIFICATION forming part of Letters Patent No. 303,548, dated August 12, 1884.

Application filed June 3, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. SMITH, a citizen of the United States, residing in the city of Waterbury, county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Buckles, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The present invention relates to that class of spring-clasps which embody a base-plate and a spring-seated swinging holding-lever, which parts are secured together and adapted to operate in conjunction with a looped device or slotted plate for connecting and securing the separable parts of a garment, as a shoe, glove, and the like, or the parts of an article, as carriage-curtains, pocket-books, cartridge-boxes, and the like. In most if not all of these cases one desideratum is that the separable parts of a garment or article shall, when fastened, be drawn snugly together in order to produce a close fitting. Another is that when so fastened the holding-lever shall be retained in its closed position against any tendency to ready displacement. Another is that provision shall be made for connecting the means for fastening the clasp to the article to which it is to be attached in such manner as not to make the same bulky and unsightly. All of these desirable qualities are embraced in the article embodying the present improvements, and the same is illustrated in the accompanying drawings, as follows:

Figure 1 shows by a plan view the spring-clasp with its parts closed and as connected with a looped fastening-plate. Fig. 2 shows by a plan view the clasp opened. Fig. 3 is a front end elevation of the clasp. Fig. 4 is a plan view of a base-plate therefor. Fig. 5 is a side elevation of the parts as shown in Fig. 1. Fig. 6 is a partial side elevation and longitudinal section of the parts as shown in Fig. 2. Figs. 7 and 8 are longitudinal sectional elevations of the parts shown in Figs. 1 and 5, the holding-lever being in different positions it occupies during the opening and closing operations. Figs. 6, 7, and 8 also show different methods of securing the clasp to an article to which it is attached. Fig. 9 shows a modification of the top plate.

One of the features of this invention is found in constructing the holding-lever with a holdback or shank at a considerable distance in the rear of and above the pivots of said lever, whereby said lever may, when opened, be extended in substantially the same plane as the body of the clasp, and its convenient entrance into an appropriate fastening-loop thus be provided for, and this without the provision of an opening through said lever to admit the protrusion therein of the bearing-point of the base-plate, and whereby the holdback or shank of said lever will, after engaging the fastening-loop while opened, act during its closing movement to carry said loop so far rearward as to draw the parts together to such an extent as to make a tighter adjustment of the attached parts of the article being fastened than is accomplished by clasps as heretofore made.

Another feature of the invention is found in the provision of a depressed seat for the end of the holding-lever, whereby it is locked closed, and all danger of accidental displacement is avoided.

A further feature of the invention is found in the U form, or such as is provided by a removal of the central portion of one of the plates, whereby fastenings connecting the plate to the article to which the clasp is to be applied may be protected from protrusion above the surface of such articles.

The invention also includes combinations of parts fully hereinafter described and claimed.

The base-plate A of the clasp is of a suitable size, determined by the dimensions to be given to the body of the clasp. It is a plate of metal properly curved (or made straight) to fit the contour of the article to which it is to be attached, and terminates at its front edge in straight shoulders 2 3, between which projects a slight distance a supporting-tongue, 4, that is provided with a depressed seat, 5, for the bearer 6 of the holding-lever B. The top plate, C, is of a U or similar form, which provides a removed central portion and yet forms side arms, 10 11, that are connected at their rear ends by a cross-bar, 12, and whose forward ends are bent to form curved sockets 13 14, to receive the pivots of the holding-lever B. Either the base or the top plate or both may

be made of spring metal, (preferably the top plate,) and both are of such simple form that they may be made from sheet metal and shaped by ordinary swaging operations. These plates are permanently secured together, it may be, by rivets 15, uniting their rear portions, as shown, or by any other means, whereby their forward portions are adapted to spring apart and close together as the holding-lever is manipulated, and preferably the curved sockets of the arms 10 11 will normally abut with the forward edge of the base-plate, or lie in a common plane therewith. The holding-lever B is likewise formed from sheet metal by the common cutting and swaging operations. Its long arm is slightly curved to give the clasp symmetry when the lever is closed, as in Fig. 5, and to properly project to enter the fastening plate or loop when opened, as in Fig. 6. At its forward end it is bent nearly at right angles to form the holdback or shank 8, and a projecting arm that provides the bearer 6, said arm being somewhat curved to enable the bearer 6 to rest within the depressed seat 5. This bearing-arm is provided at the rear of its bearer 5, and between the said bearer and the shank 8 with lateral projections that form pivots 7, which rest in the sockets 13 14 of the arms 10 11. The clasp will preferably be secured to the article to which it is to be attached by means connected with the base-plate. In one form these means may be a bar, 20, (see Figs. 1 and 7,) which is provided by removing proper portions of said base-plate. This base-plate may, however, be perforated, so as to provide holes 21, as in Fig. 2, through which rivets, as 21, Fig. 8, may be passed to secure the clasp in place. It may also be incised, as shown in Figs. 4 and 6, to provide a suitable number of legs or prongs, 23, that will pass through the material of which the article to which the clasp is to be attached is composed, and which legs or prongs may be bent in a proper direction to secure the clasp. In all of these modes of fastening it will be observed that, by reason of making the top plate in U form, or removing the greatest part of its body, sufficient space above the base-plate is provided to admit a fastening-strap, as 30, the rivet-heads 21 or the fabric 40 without the same protruding above the plane of the surface of said top plate. This feature is most important, as any protrusion of the fastening means above the face surface of the clasp is a most serious objection to the use of such clasps in connection with all articles, and more especially with gloves and shoes; but the advantage resulting from the removal of the central part of one of the plates to accommodate the fastening means may be attained in some uses of the clasp by thus constructing the lower plate and providing the upper plate with the bar 20, as in Fig. 9, for the reason that one ply of a fastening-strap is accommodated within the space provided in the base-plate by such removal, and hence reduces the thickness which otherwise would be given to the article to which the clasp is secured.

By constructing the holding-lever with its holdback or shank 8 a considerable distance rearward of its pivots 7 many advantages are gained over former constructions. Thus when the lever is thrown forward or opened, as in Fig. 6, said shank 8 is projected beyond the extremity of the seat 5, and does not require a perforation for the entrance of said projecting bearing-seat 5 in order to permit the said lever to lie in a plane forming a substantial prolongation of that occupied by the other parts of the clasp, which position is the most favorable one for the entrance of said lever into a fastening-loop, as the looped or slotted plate D, which is a member commonly secured to one part of the article to be fastened by the clasp. Furthermore, such construction brings said holdback or shank 8 so far forward of the pivotal points of the lever when the latter is projected forward to enter the fastening-loop or looped plate that when said fastening-loop is entered as far as may be upon said holding-lever the shank 8 of the latter will, when the lever is swung backward, bear upon said loop and draw it backward beyond said pivotal point, and so far to the rear thereof as to cause the two parts of the article thus secured together to be tightly and snugly held. This operation is well shown in Figs. 7, 8, and 5, which illustrate three positions of the parts in their relative order of occurrence during the closing operation of the holding-lever, and said construction also provides a bearing of the pivots of the lever in such relation to the shank 8 that the strain of the plate C thereon is transmitted almost in a direct line through the pivots of the lever onto the sockets, whereby little or no force is executed by the bearer 6 in the seat 5. When the holding-lever is closed, as in Fig. 5, its bearer 6, which is forward of the pivots, rests in the depressed seat 5 of the tongue of the base-plate, and is sustained against any tendency to open or accidental displacement by the conjoint resistance of the depressed seat and the spring-pressure exerted by the top and base plates, which are relieved, as before stated, from undue strain, by the peculiar construction of the holding-lever. When, however, the holding-lever is swung upon its pivots by the act of lifting its free end, but slight power will be necessary to enable the bearer 6 of the lever to escape out of the depressed seat 5, press the plates apart, and ride over the surface of the lower plate, as in Fig. 8. Thus moved the bearer 6 of the lever will, after forcing the plates apart, enable them to close together again as it reaches the position shown in Fig. 7, and thereafter it may swing freely forward unresisted until it assumes the position shown in Fig. 6, where it rests loosely against the forward end of the lower or base plate, in which position the looped plate D may be readily detached or attached, as before explained.

The depressed seat 5 may be omitted in some constructions, and a simple protruding tongue serve the purpose of a seat for the bearer of the holding-lever.

What is claimed is—

1. A spring-clasp consisting of two plates, one having sockets for the pivots of the holding-lever and the other operating as a supporting-tongue for the bearer of said lever, and of a pivoted holding-lever provided with a holdback or shank projecting above and rearward of its pivots, substantially as described.

2. A spring-clasp consisting of two plates, one having sockets for the pivots of the holding-lever and the other operating as a supporting-tongue for the bearer of said lever, and of a pivoted holding-lever, said supporting-tongue having a depressed seat within which the bearer of the holding-lever is locked closed, substantially as described.

3. In spring-clasps, a spring-seated holding-lever and a plate operating to support said lever in its swinging movement, said plate being provided with a depressed seat and said lever with a bearer adapted to engage with said seat and lock the lever in its closed position, substantially as described.

4. A spring-clasp consisting of two plates, substantially as described, between which a swinging holding-lever is pivoted, one of which plates has a central portion removed, whereby space is provided to accommodate the means for securing the clasp to the article, substantially as described.

5. A spring-clasp consisting of two plates, one of which is provided with sockets for the pivots of the holding-lever and the other with a forwardly-projecting tongue, and of a pivoted holding-lever provided with a holdback or shank rearward of its pivots, said tongue and holdback or shank being so constructed that when swung open said lever will extend outward parallel with the main body of the clasp and its shank rest against and be sustained by said tongue, substantially as described.

6. A spring-clasp consisting of two plates, one provided with sockets and the other with a projecting tongue, and of a holding-lever provided with a holdback or shank above and rearward of its pivots, and a bearer in front of the same, substantially as described.

7. The combination, with the base-plate having the forwardly-projecting tongue and the means of fastening the clasp to the garment or article, of the U-shaped top plate providing sockets for the pivots of the holding-lever and a removed center to accommodate the protruding parts of the fastenings, substantially as described.

8. A spring-clasp consisting of two plates and a swinging holding-lever, one of which plates is adapted for the fastenings that secure the clasp to the garment or article and the other with a removed central portion to receive the protruding parts of said fastening, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDWARD S. SMITH.

Witnesses:
H. T. MUNSON,
T. H. PALMER.