

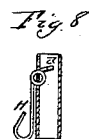
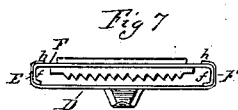
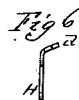
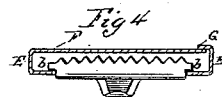
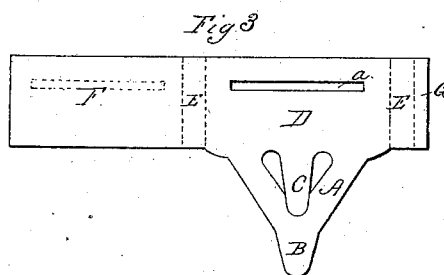
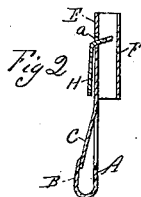
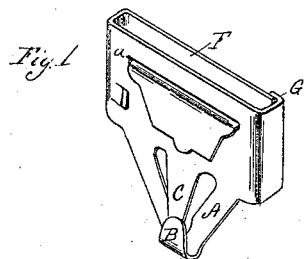
(No Model.)

E. A. SMITH.

BUCKLE.

No. 307,345.

Patented Oct. 28, 1884.



Witnesses  
J. C. Earle  
L. B. Tucker

Earl A. Smith  
Inventor  
By Atty  
John C. Earle

# UNITED STATES PATENT OFFICE.

EARL A. SMITH, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE  
WATERBURY BUCKLE COMPANY, OF SAME PLACE.

## BUCKLE.

SPECIFICATION forming part of Letters Patent No. 307,345, dated October 28, 1884.

Application filed August 18, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, EARL A. SMITH, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new Improvement in Buckles; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view; Fig. 2, a vertical central section; Fig. 3, the blank from which the frame is made; Fig. 4, a longitudinal section through the slot; Fig. 5, the blank from which the cam-lever is formed; Fig. 6, an end view of the cam-lever; Fig. 7, a modification; Fig. 8, a modification.

This invention relates to an improvement in that class of buckles for suspenders and like purposes which are made to substantially surround the suspender, the clamping being upon one side to engage the material against the opposite side, the object being to construct the back or resisting side of the frame rigid and firm against the pressure of the clamping-lever, in contradistinction to the yielding of that surface, as in the more general construction of this class of suspender-buckles; and the invention consists, essentially, in a frame constructed to surround the suspender and form a tube through which the suspender will pass, both the front and back of the frame being rigid and continuous throughout, combined with a clamping-lever arranged to clamp the strap against the opposite side, and as more fully hereinafter described.

In the best construction of buckle the frame is made in one continuous piece. A blank for such a construction is seen in Fig. 3. From the lower edge of this strip a downward projection, A, is made, the lower end constructed to be turned upward and forward and form the hook B, and above the hook the spring-tongue C is cut, to be bent out against the hook, as seen in Figs. 1 and 2, and so as to form a snap-hook connection for the suspender-end. The length of the blank corresponds to the front D, two ends, E E, the back F, and with an extension at one end to form the overlap G. The frame is bent to turn the ends

E E at substantially right angles to the front D, and to bring the back F into a plane parallel with the front D, the flap G turned over upon the end of the back, as seen in Fig. 4, and there secured, thus forming a frame in shape of a flat tube, its front provided with means for attaching the suspender-end. In one side, here represented as the front, is a narrow longitudinal slot, *a*. Through this slot a clamping-lever is introduced. This clamping-lever is constructed, as seen in Fig. 5, from sheet metal, less in thickness than the depth of the slot *a*, its edge provided with teeth or not, as may be desirable, its edge end longer than the length of the slot *a*, but reduced back of the end to a width substantially the length of the slot, as shown in Fig. 5. At the offsets *b*, back of the toothed edge, the lever is bent as seen in Fig. 6, the toothed end, *d*, bent at substantially right angles to the body portion H, and so that the body portion H may be introduced through the slot *a* from the inside outward, and until the offsets or shoulders *b* come to a bearing against the inside of the frame at the ends of the slot *a*, and as seen in Fig. 4. In that condition the body portion or handle H hangs downward, as seen in Fig. 2, the cam portion projecting toward the opposite surface of back F. The offsets or shoulders *b* prevent the lever from coming out forward, and as soon as the back is secured in its position at the flap G the back itself prevents the lever from slipping inward through the slot; hence the shoulders *b b*, bearing upon the inner surface at the ends of the slot, form, substantially, a hinge upon which the lever will turn—say, as to the position seen in broken lines, Fig. 2—which brings the cam portion *d* into a plane parallel with the front, and so that the strap or suspender may pass down through the frame over the cam, and when at the proper position the lever is turned downward to force the cam into engagement with the strap, the back F resists such turning of the cam, and so as to force engagement between the back and the toothed edge of the cam. By making the back continuous—that is, solid—I avoid the yielding which necessarily follows this class of frame when the back is made by a flange turned in from each end and disconnected at the center, and also avoid

the liability of derangement of the buckle by those ends catching upon the garments of the wearer. The frame is rigid and strong, and of the most durable character.

5 Instead of introducing the lever through the front, it may be through a slot in the back F. (Indicated by broken lines, Fig. 3.) In that case the front becomes the resisting surface; but the back still possesses sufficient strength  
10 to support such resistance.

While I prefer to make the solid tubular frame in a single piece, it may be made as seen in Fig. 7, the front D, two ends, E E, made in one piece, the back F in an independent piece of sufficient length to form two  
15 ends, *f f*, which set within the ends E, the ends E having extensions *h* to be turned in onto the back, as seen in Fig. 7, and thereby secure the parts together. In this construction there is the same rigidity to the frame  
20 and capacity to resist the clamping operation of the buckle.

I have represented the frame as provided with a snap-hook at its lower end; but it will  
25 be understood that it may be constructed with any of the known devices for making engagement with the suspender-end.

I have also represented and prefer the arrangement of the clamping-lever through the  
30 slot *a*; but the lever may be otherwise arranged—say, as hinged to a bar formed in one side of the frame, as seen in Fig. 8; or the cam-lever may be applied to the frame by any known device, it only being essential to my  
35 frame that there shall be some kind of a clamping-lever, the essential feature of my invention being the rigid tubular frame.

The hook for the attachment of the suspender-end may be made as a part of the cam-lever, as indicated in Fig. 8.

I claim—

1. The herein-described buckle, consisting of the frame composed of the front D and the back F, the said back being continuous from end to end, and rigidly attached at its ends  
45 to the front, and so as to form a close tubular non-elastic frame, combined with a clamping-lever, H *d*, hinged to the frame, substantially as described.

2. The herein-described buckle, consisting of the frame composed of the front D and back F, said back extending from end to end of the frame, the front and back rigidly attached at the ends, and so as to form a non-elastic tubular frame, one of the sides constructed with  
55 a longitudinal slot, combined with a cam-lever, H *d*, through said longitudinal slot, substantially as described.

3. A buckle-frame consisting of the front D, two ends, E E, and back F, formed in a continuous piece, the back extending from one end and connected to the opposite end, whereby the back and front are rigidly united at both ends and form a non-elastic tubular frame, one of the sides constructed with a longitudinal  
65 slot, *a*, combined with the cam-lever H *d*, arranged to work through said slot, and so as to clamp the strap against the opposite side.

EARL A. SMITH.

Witnesses:

H. J. FABRIQUE,  
E. A. HIGGINS.