(No Model.)

G. E. ADAMS.

CAST-OFF BUCKLE.

No. 491,630. Patented Feb. 14, 1893.

Fig. 1.

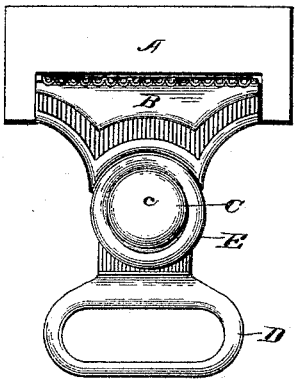


Fig. 2.

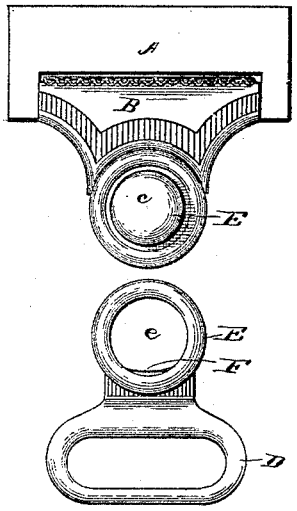


Fig. 3.

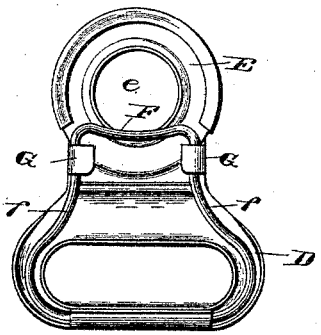
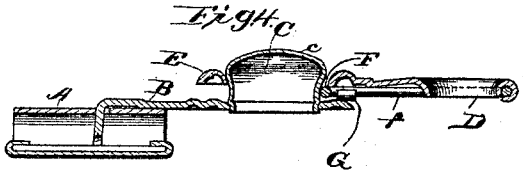


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CAST-OFF BUCKLE.

SPECIFICATION forming part of Letters Patent No. 491,630, dated February 14, 1893.

Application filed December 8, 1892. Serial No. 454,523. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. ADAMS, of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Cast-Off Buckles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in cast-off buckles, particularly of the kind illustrated in my prior patent No. 487,690 issued on the 6th day of December, 1892, and has for its object to provide a stronger and cheaper device than heretofore constructed, with which objects in view, the invention may be said to consist in an improved form of spring tongue projecting into or across the opening for co-operating with the concave flange or headed stud to retain the parts in engagement.

Further, the invention consists in certain novel details of construction and combinations and arrangements of parts all as will be now described and pointed out particularly in the appended claims.

Referring to the accompanying drawings: Figure 1 is a face view of a buckle having a cast-off device constructed in accordance with my present invention. Fig. 2 is a similar view with the parts separated. Fig. 3 is a rear elevation of the cast-off proper. Fig. 4 is a central vertical section through Fig. 1.

Like letters of reference in the several figures indicate the same parts.

The letter A indicates the buckle of ordinary construction, preferably having a depending tongue or lever B to which the cast-off devices are applied, although it will be understood that this buckle is shown simply for convenience, as the invention resides in the cast off mechanism and the latter may be applied to any other buckle or similar device if desired. In the form shown, the depending tongue is provided with a concave flange, or more properly speaking a rather large, headed stud C, which may be struck up from the body of the tongue, but is preferably formed separate and attached thereto. The top *c* of the stud is preferably rounded to facilitate the engagement of the cast-off or co-operating member, and in every instance, the top or outer portion of the stud is made slightly larger than the body, or the wall of the body is concaved forming a rounded head as shown clearly in Fig. 4.

The cast-off or as I may term it the member co-operating with the headed stud, is composed of a loop D or any equivalent means for the attachment of a suspender end, and a substantially circular upper portion E having a central circular opening *e* large enough to allow the head of the stud to pass readily through it. A spring tongue or projection is arranged to cross one side of this opening *e* and thereby reduce its size somewhat, but said tongue or projection being yielding, allows the head of the stud to pass when a slight pressure is brought to bear thereon, hence the cast-off may be readily coupled or detached by a direct pressure, but cannot be detached by a downward or upward pull. In the preferred form, the spring tongue or projection is formed of wire with a substantially horizontal and slightly curved portion F crossing the bottom of the opening, and downwardly extending and diverging portions *f* passing around the loop D, to the lower portion of which they are united by the edges of the loop being turned in to form a round cross bar as shown in Figs. 2 and 3. Just below the opening *e* the wire is held and guided by flanges G on the cast-off which are bent over or around the said wire on each side, allowing the same to move slightly up or down, whereby not only is the spring of the wire in the substantially horizontal portion utilized, but the springiness or elasticity of the diverging portions passing around the loop is also utilized to give the horizontal portion a wider range of movement and greater elasticity as will be readily understood.

The device as thus constructed is simple, strong and cheap, the direct pull of the suspender is borne by the top of the circular portion of the cast off and does not tend to loosen the device in the least, as the holding spring is at the bottom of the opening and is unaffected by strains in such direction.

Having thus described my invention what I claim as new is:—

1. In a cast-off such as described, the combination with the member having the headed stud thereon, of the co-operating cast-off member having the circular opening for the reception of the stud and the wire spring tongue or projection crossing the lower portion of the opening and secured rigidly to the body of the cast-off member; substantially as described.

2. In a cast-off, such as described, the combination with the member having the headed stud thereon, of the co-operating cast-off member having the circular opening for the reception of the stud, the wire spring having the substantially horizontal portion crossing the bottom of the circular opening, diverging portions secured rigidly to the body of the cast-off portion at the ends and the flanges bent over the diverging portions adjacent to the circular opening; substantially as described.

3. The combination with the buckle A having the depending tongue B and the headed stud C on said tongue, of the cast-off portion having the loop D, circular upper portion E with the circular opening *e*, the spring wire having the substantially horizontal and slightly curved portion F, the downwardly extending divergent portions *f* passing around the loop and secured rigidly to the cross piece and the flanges G bent around the diverging portions adjacent to the circular opening; substantially as described.

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