# L. A. Sprague,

# Buckle.

No. 46,719 Patented Mar. 7, 1865.

Fig 1

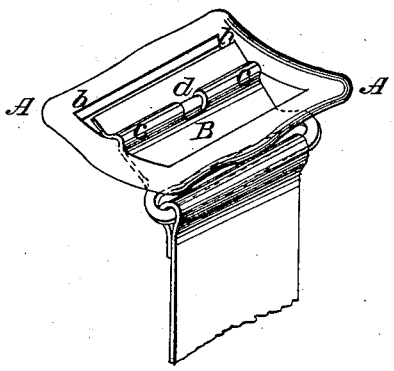


Fig 2

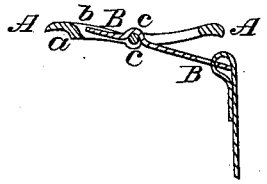


Fig 3

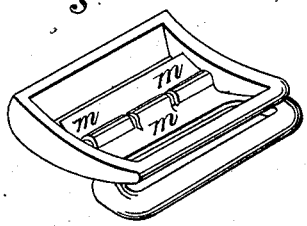


Fig 4

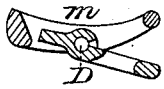


Fig 5

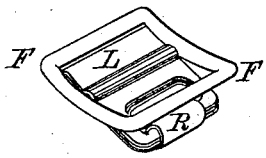


Fig 6


Witnesses:

Jos. d. Coombs
John F. Ennis

Inventor

L. A. Sprague

by D. Hollock

his atty.

# UNITED STATES PATENT OFFICE.

LEONARD A. SPRAGUE, OF NEW YORK, N. Y.

## IMPROVED LEVER-BUCKLES.

Specification forming part of Letters Patent No. 46,719, dated March 7, 1865.

*To all whom it may concern:*

Be it known that I, LEONARD A. SPRAGUE of New York, in the county and State of New York, have invented certain new and useful Improvements in Lever-Buckles; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figures 1, 3, and 5 are isometical perspective views of buckles constructed in accordance with this my invention, and Figs. 2, 4, and 6 sectional views of the same.

Lever-buckles were heretofore made of iron or brass exclusively. In those made of iron the lever was liable to break unless made of such bulk as to admit of an aperture being bored through for the purpose of fastening to such aperture the hinge-bar. This, it will be understood, produced a very clumsy and expensive buckle. Those made of brass entirely were defective in the frame, because of their liability to bend under the pressure of the lever upon the strap. I have remedied this by combining the two metals in one buckle—that is to say, by making the frame of iron and the lever of brass. The frame I make in one piece, with the hinge-bar of cast-iron rendered malleable, and the lever I make of a strip of brass doubled and bent over the hinge-bar. In this way I am enabled to produce in the most economical manner the strongest form of buckle, having an inflexible iron frame and a light yet strong lever, the whole having a pleasing appearance, and being altogether a more merchantable article than any heretofore made. The lever need not necessarily be made of a double-folded strip. Being made of a flexible material, it may be made of a single strip corrugated at the hinge-bar so as to inclose wholly or partially the hinge-bar, as hereinafter more fully explained. Instead of corrugating the metal strip of which the lever is composed, portions of the lever may be cut out and the part or parts thus cut may be bent or looped over and around the axis, or the lever may be secured to the axis by means of independent staples riveted or otherwise fastened to the lever. If the frame be made of sheet-metal—that is to say, struck up from brass or other sheet-metal—the impinged surface, viz., the interior front of the frame—should be made by turning down the edge of the metal, the object being to give strength and lightness to the buckle while it is made to hold straps of various thicknesses. For greater economy of and neatness in construction, I prefer to make the frame in one piece with the hinge-bar, whether the same be cast or cut and stamped, by this means avoiding the necessity of drilling or boring holes into the side of the frame, and riveting the hinge-bar in and to the frame. Certain kinds of buckles I provide with a roller made of a bent piece of sheet-metal, around which the strap is secured, and thus avoid friction and prevent wear upon the loop of leather or other material by which the buckle is fastened to the article upon which it is intended to be used.

To enable others to make and use my invention, I shall now proceed to describe the manner in which the same is or may be carried into effect, and referring to the drawings, Figs. 1 and 2 show a buckle composed of two parts—that is, a frame, A, and a lever, B. They are both made of sheet-metal cut and struck up by means of suitable machinery, out of a sheet of brass or other ductile material. The frame A is made in or cut out of one piece with the hinge-bar C. The front bar, or the bar which is impinged by the lever, is corrugated at *a*, so as to present to the front edge, *b*, of the lever a bevel-edge, for the purpose hereinbefore mentioned. The lever is provided in the rear with a loop, within which is held the strap whereby it is fastened to the article to which the buckle is applied, and it is fastened to the frame by being corrugated at *c*, in a line parallel with the edge *b b*, folding over and partially around the hinge-bar C. To prevent its becoming detached, a small tongue is cut at *d*, which is bent downward so as to pass under and partially around the hinge-bar, and thus firmly close upon it. Figs. 3 and 4 represent a buckle made in a similar manner, the frame of which may be of cast-iron or wrought in sheet metal. The lever is shown to be corrugated inversely to the former, it passing under and half way around the hinge-bar D. It is provided on either side of the corrugation with projecting lips, *m m m*, two of which are on one side of the corrugation and the middle one on the other side. These lips, being made of a flexible substance, are bent over and around the bar D, as shown.

In Figs. 5 and 6 I have represented a small buckle made of brass and iron combined. The frame F is cast in one piece with the hinge-bar H, and annealed in order to give the metal the necessary toughness. Upon the hinge-bar is fixed the lever L, which is composed of a folded strip of brass. The tail-piece is punched out, leaving a bar in the rear which is surrounded by a roller, R, made of a bent sheet of brass.

Having thus described my invention and the manner in which the same is or may be carried into effect, I claim—

1. A lever-buckle in which the lever is composed of a single strip and secured to the hinge-bar by means of staples cut out of the body of the lever, substantially as set forth.

2. In lever-buckles operating as described, forming the frame of sheet metal and corrugating or bending the front or impinged bar thereof so as to present a bevel surface to the front edge of the lever, substantially as set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

LEONARD A. SPRAGUE.

Witnesses:

CHAS. T. DE FOREST,

JOHN R. MORHOUS.