UNITED STATES PATENT OFFICE.

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WROUGHT-METAL BUCKLE.

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To all whom it may concern:

Be it known that we, CHARLES S. HUNTINGTON and ARTHUR S. HUNTINGTON, citizens of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have jointly invented certain new and useful Improvements in Wrought-Metal Buckles, of which the following is a specification.

This invention relates to improvements in buckles; and it has for its object objects to provide a strong, sightly buckle which can be more economically manufactured than could be done by previously-known methods, to provide a buckle of such construction that the metal may be worked cold, thus avoiding the expense and objectionable effects due to heating the metal, to provide a construction which lends itself to ready formation by automatic machinery, and in general to provide improvements in devices of the character referred to.

To the above ends the invention consists in the matters hereinafter described, and more particularly pointed out in the appended claims.

The description will be better understood by reference to the accompanying drawings, in which—

Figure 1 is a plan view of a blank bent into shape to form a buckle and ready to be struck with the swaging-dies. Fig. 2 is an edge view of the same. Fig. 3 is a plan view of the finished buckle. Fig. 4 is a transverse sectional view taken on line 4 4 of Fig. 3. Fig. 5 is a perspective view showing one side of the buckle seen in Figs. 3 and 4 forced asunder, so as to show more clearly the form of joint by which the parts are united.

In carrying out our invention we preferentially utilize drawn wire or rod metal, although the blanks may be formed of wrought metal cut into suitable strips. These blanks are so formed that when the buckle-frame has been brought to its approximate shape or outline the terminal portions of the blank overlap or overlap other portions of the frame in such manner that the ends may be united by a single stroke of a suitable swaging-die. For example, in forming the buckle-frame shown in the drawings, which buckle is of that type having a double loop and cross-bar, the blank 1, provided with obliquely cut off or beveled ends 2 2', is shaped into an approximately S form and the terminal portions extended so as to overlie and extend slightly beyond the angles 3, formed at the junction of the cross-bar portion 4 with the side-bar portions 5 and 6, respectively. The blank is so cut that the inclined ends 2 2' are substantially parallel both when the blank is straight—i.e., before shaping—and also after being brought into shape in readiness to be struck with the die, from which it results that the extreme points of the blank lie in planes coincident with the inner boundary of the outer frame. The blank having been thus preliminarily shaped on a suitable former, it is placed between dies and struck with sufficient force to crush the overlapping portions together, so that the side members of the buckle-frame are united to form a continuous ring-frame of substantially uniform and uninterrupted continuity. The parts are so crushed into each other that they are actually interlocked and rigidly united independently of molecular union—that is to say, the metal is cold-swaged together in the preferred construction and accordingly the joints are not welded.

By reference to Figs. 4 and 5 it will be seen that the obliquely-cut-off points 2 2' are swaged into the angle portions 3, and the extremities of these points lap around the inner side of the ring-frame so as to both hook over the cross-bar 4 and merge into the side-bar portions 5 and 6. Subsequent metal coating, such as nickelizing or galvanizing, completely conceals the presence of the joints when it is desired to furnish a buckle more finished in appearance. Of course the swaging together of the parts in the manner described cannot result in a joint the parts of which are of uniform cross-sectional area, but the slight enlargement of the frame at the points of union is almost imperceptible and not at all objectionable. The tongue, which is indicated in position in dotted lines in Fig. 3, is subsequently fastened to the cross-bar in the usual manner. Various minor changes may be made in the structure illustrated and described herein without departing from the substance of our invention, as will be obvious to those skilled in the art.

We claim as our invention—

1. A buckle-frame comprising a strand of wrought metal, having its central portion arranged to form a cross-bar and its end portions formed into reversely-disposed loops united with the ends of the cross-bar portion,
the terminal portions of the blank and the intersecting portions of the cross-bar and outer frame portions being provided with inter-formed and positively-interlocking parts, rigidly uniting said parts to form a continuous ring-frame and an integral cross-bar.

2. A buckle-frame composing a strand of wrought metal, having one portion arranged to form a cross-bar and other portions formed into loops united with the ends of the cross-bar portion, the terminal portions of the blank and the intersecting portions of the cross-bar and outer frame portions being provided with interfitting parts, rigidly uniting said parts to form a continuous ring-frame and an integral cross-bar.

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