

UNITED STATES PATENT OFFICE.

SAMUEL S. SARGEANT, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN TRACE-BUCKLES.

Specification forming part of Letters Patent No. 133,340, dated November 26, 1872.

To all whom it may concern:

Be it known that I, SAMUEL S. SARGEANT, of Newark, in the county of Essex and State of New Jersey, have invented an Improved Harness-Buckle; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this specification—

Figure 1 being an outer or top view of the frame part of the buckle; Fig. 2, an inner or top view of the pressure-plate of the buckle; Fig. 3, a top view of the ornament applied to the top plate of the buckle-frame; Fig. 4, a side view of the buckle complete, as applied to a hame-tug and the trace of a harness; Fig. 5, a top view of a modified construction of the buckle-frame; Fig. 6, a longitudinal vertical section of the part shown in Fig. 2; Fig. 7, a longitudinal vertical section of the part shown in Fig. 5.

Like letters designate corresponding parts in all of the figures.

My invention is designed to obviate various objections incident to the use of buckles which act on the compression principle; and it consists in a novel construction of the different parts of the buckle in relation to one another, whereby sufficient strength is secured at those places where they are subjected to the greatest strain, and the other portions are made light, so as to avoid the clumsy appearance of other buckles acting on this principle, as heretofore constructed, which, though effecting the main purpose intended, have accomplished the object by a complication of parts, and without a due regard to the appearance of the buckle produced. My invention further contemplates the ornamental appearance of the buckle in the highest degree attainable, in connection with the utmost perfection and simplicity of operation; and also the greatest facility of manipulation and non-liability of unbuckling or displacing the parts accidentally when the draft or tension is not upon the trace or strap. A desideratum in buckles of this class, perfectly accomplished by my invention, is to allow the trace or strap to be drawn straight in the buckle, as bending the leather when the pressure of the buckle is on it is injurious, and also to avoid marking or scarring the leather.

The trace-buckle is composed of two separate parts, the frame A and the pressure-plate

B. The frame A has a tongue, *a*, attached to the under side of a top or outward plate, *b*, thereof, and has or may have loops *c c c*, for attaching the usual straps to the buckle. The top plate *b*, together with the whole frame part, is of such a form as to be cast in one piece, so that the whole is a simple inexpensive casting. The upper or outer surface of this plate *b* has a raised edge or bead, *d*, so formed on the inside, with slightly overhanging surfaces, as to receive and hold securely in place, without liability to fall out, an ornament, *C*, which may be stamped out of thin sheet metal and shaped to fit, by springing in, the space within the said raised edge. It may be silvered for a japanned buckle, or be gilded or made of oroides, to fit in a silvered or nickel-plated buckle, or otherwise be prepared to form a contrast in appearance with the style of buckle to which it is applied. The top plate *b* may cover the whole or nearly the whole top of the buckle, as shown in Fig. 1; or it may be only of sufficient extent to attach the tongue *a* to, and give sufficient strength to that part of the buckle. For very cheap buckles the separate ornament *C* may be dispensed with, and instead an ornamental figure may be cast in the surface of the plate; but no nicety of finish could be given thereto, and it would add to the weight of the buckle. The cast ornament might be finished with dies, which, however, would again increase the cost somewhat; but when extreme cheapness is a desideratum, as for a "team"-harness, all the part of the plate *b* enlarged for the purpose of ornamentation may be dispensed with, as above set forth. The inner or bottom pressure-plate B is provided with a loop, *f*, by which to attach the hame-strap D, Fig. 4, thereto. This loop is curved down, as represented, in order to allow for the wrap of the hame-strap and bring the parts of the buckle properly in position together, so as not to offer an obstacle to their proper working. At the side edges of this pressure-plate are guides or sides *g g* projecting upward or inward from the surface of the plate. The office of these guides is twofold: First, to guide the pressure-plate along the inner surfaces of the sides of the buckle-frame A, and keep the plate in position therein; second, to hold the trace or strap E, Fig. 4, in place, and prevent its spreading lat-

erally when subjected to the compression of the buckle. From the rear projecting ends or corners of the side guides *g g* bearings *h h* project laterally outward, as represented, and hook or bear over the sides *i i* of the buckle-frame, performing also the double function of coupling the two parts of the buckle together, and of serving as the means of compression by sliding over the said sides *i i* of the buckle-frame, suitably inclined for the purpose, so as to produce the compression as the bearings *h h* approach a position opposite to the buckle-tongue *a* on the frame. The compression of the trace or strap being produced between the plates *b* and *B*, they should be formed and arranged at the proper angle, in order to bring their bearing-surfaces parallel with each other when the trace is subjected to draft, thereby distributing the strain over a large surface, and protecting the leather at the place of engagement with the tongue *a* and preventing any scarring or marking thereof. There is or may be a notch or slot, *l*, in the plate *B* opposite to the path of the tongue *a*, on the frame *A*, to prevent contact of the tongue with the said plate.

In attaching the buckle to the harness, the pressure-plate *B*, having been secured to the hame-tug, is then introduced into the frame part *A* by placing its bearings *h h* over the lowest points of the inclined sides *i i* of the frame, in which position there is sufficient space between the end of the tongue *a* and plate *B* to introduce the trace, which is drawn into position, and one of its holes receives the said tongue, where it will remain without liability to separate or displace either part of the buckle when the harness is handled or in use. Then, when the draft is applied to the trace in the ordinary way, the hame pressure-plate *B* remains stationary, while the buckle-frame

A around the trace moves backward therewith, causing the bearings *h h* of the hame-plate to slide over its inclined sides and compressing the trace with a force proportionate to the power of the draft. When it is desired to shorten or lengthen the trace the buckle-frame *A* is moved forward till the bearings *h h* again reach the lowest points on the inclined sides *i i* in the same position as above specified for introducing the trace into the buckle. The rear end of the buckle-frame is then pressed inward, which causes the tongue *a* to be lifted out of the hole in the trace, when it may be changed to any other hole desired. This ready and easy adjustment of the buckle, and its freedom from accidental shifting or displacement when the draft is slackened or ceases, are valuable qualities of the buckle.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The buckle-frame *A*, constructed with the tongue *a* and top plate *b* more or less extended, with or without the ornament *C* and loops *c c c*, substantially as herein specified.

2. The flexible ornament plate *C* attached to the frame *A* of the buckle by springing it within the raised edge *d* thereof, substantially as herein specified.

3. The pressure-plate *B*, constructed with the side guides *g g* and bearings *h h*, substantially as herein specified.

4. The combination of the frame *A* and its tongue *a* and top plate *b*, and inclined sides *i i* with the pressure-plate *B* and its side guides *g g* and bearings *h h*, constituting a harness-buckle, substantially as herein specified.

SAMUEL S. SARGEANT.

Witnesses:

A. V. SARGEANT,
HENRY JOHNSON.