





# UNITED STATES PATENT OFFICE.

JAMES THORNTON, OF WELLSVILLE, NEW YORK, ASSIGNOR OF ONE-FOURTH  
TO HORACE G. DOBBINS, OF SAME PLACE.

## TRACE-BUCKLE.

SPECIFICATION forming part of Letters Patent No. 274,849, dated March 27, 1883.

Application filed December 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES THORNTON, of Wellsville, in the county of Allegany and State of New York, have invented new and useful Improvements in Trace-Buckles, of which the following is a specification.

This invention relates to an improvement in that class of trace-buckles in which the trace is clamped between the bed of the buckle and the tongue-plate pivoted to the buckle-frame by means of a bail which is attached to the hame-tug, and which bears against the pivoted tongue-plate.

The object of my invention is so to construct the buckle that it will permit the easy adjustment of the trace and admit traces of different thicknesses with equal ease and safety, and that it shall be simple in construction and possess great strength and durability.

My invention consists of the particular improvements in the construction of the buckle, which will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a front view of the buckle. Fig. 2 is an edge view thereof. Fig. 3 is a longitudinal section, and Fig. 4 is a rear elevation, of the buckle. Fig. 5 is an end elevation of the buckle with the strap and bail removed.

Like letters of reference refer to like parts in the several figures.

A represents the hame-tug, and B the trace. C represents the bed of the buckle-frame, provided on both sides with curved bars *c c*, to which the straps of the harness are attached, and which form loops or openings on both sides of the bed C, in which the bail D of the hame-tug plays.

*e e* represent two curved arms which rise from the rear end of the bed C, and which are connected by an elevated cross-piece, *f*. The arms *e e* are provided near the cross-piece *f* with concave depressions or seats *g g*, and the cross-piece *f* is provided near its middle with a forwardly-projecting lip, *h*.

I represents the tongue-plate, and *i* the tongue formed on the under side of the same.

J is an oval opening formed in the bed C of the buckle, underneath the tongue *i*. The

tongue-plate I is provided at its rear end with two laterally-projecting pivotal lugs, *k k*, which are seated in the depressions *g g* of the arms *e e*. The tongue-plate I is also provided at or near the middle of its rear end with a pivotal bar, *l*, which is arranged in line with the lugs *k k*, and which engages under the lip *h* when the lugs *k k* rest in the bearings *g g*. In order to attach the tongue-plate to the buckle-frame, it is only necessary to close the lip *h* down over the bar *l* of the tongue-plate, the latter being provided with an opening, *m*, which permits the application of a proper tool to effect the bending of the lip *h*. The tongue-plate I is provided at its front end with a loop, *n*, and the cross-piece *f* is provided with a loop, *o*. The tongue-plate is made straight from its pivot to the tongue, and is turned up slightly at its front end beyond the tongue to permit the tongue-plate to be easily taken hold of when the buckle is to be withdrawn from the trace.

The bars *c c*, forming loops on both sides of the bed C, are provided on their under sides, near the rear end of the bed C, with grooves or depressions *p p*, in which the side bars of the bail D engage, and whereby the bail is guided and held against lateral displacement. The bail is attached to the hame-tug by means of a screw-bolt, *q*, which connects the rear ends of the side bars with the bail.

Instead of securing the tongue-plate to the buckle-frame by closing the lip *h* down over the bar *l* of the tongue-plate after annealing the buckle-frame, the lip *h* may be cast in the shape of a hook opening downwardly, so as to permit the tongue-plate to be slipped into place under the lip when its front end is dropped down upon the bed of the buckle, so that the tongue projects through the hole J in the bed. The tongue-plate will then be securely attached to the buckle-frame when it is in its operative position. The lugs *k k* give the tongue-plate a wide bearing against the buckle-frame, and enable the tongue-plate to resist the strains to which it is subjected without requiring the plate to be made very heavy. The bail D straddles the bed C of the buckle, and is thereby permanently attached to the buckle when



the screw-bolt *q* is in place, while the bail is at the same time permitted all necessary freedom of movement.

I claim as my invention—

5 1. The combination, in a buckle, of a frame having a bed-plate, *C*, side bars, *c c*, connected at both ends to said bed-plate, a tongue-plate pivoted to the buckle-frame, and a bail, *D*, constructed with a removable bolt, *q*, and passing,  
10 ing, with its side bars, through the openings between the outer sides of the bed-plate *C* and the side bars, *c c*, whereby the bail is permanently attached to the buckle when the bolt *q* is in place, substantially as set forth.

15 2. The combination, in a buckle, of a bail, *D*, a buckle-frame provided with recesses *g g*,

and a lip, *h*, and a tongue-plate provided with lugs *k k*, seated in the recesses *g g*, and a bar, *l*, engaging under the lip *h*, substantially as set forth.

20 3. The combination, with a buckle, of a frame provided with a bed, *C*, having an opening, *J*, and side loops, *c c*, a tongue-plate, *I*, provided with lugs *k k*, and a bar, *l*, held respectively in the recesses *g g* and under the lip  
25 *h*, and a bail, *D*, attached to the hame-tug and guided in recesses *p p* on the under side of the buckle, substantially as set forth.

JAMES THORNTON.

Witnesses:

W. E. MINNELEY,

W. T. THORNTON.