

(No Model.)

E. G. LATTA.

TRACE BUCKLE.

No. 305,938.

Patented Sept. 30, 1884.

Fig. 1.

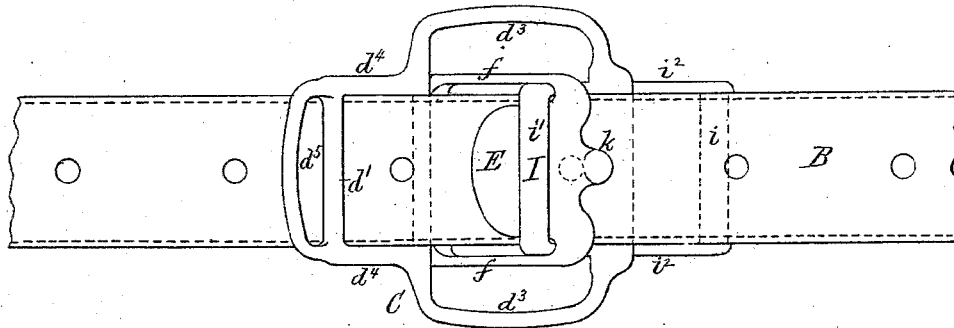


Fig. 2.

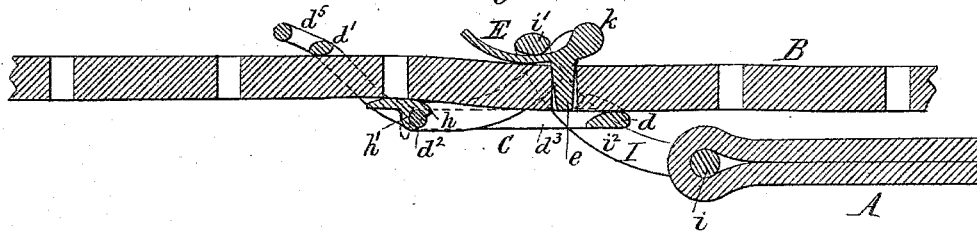


Fig. 3.

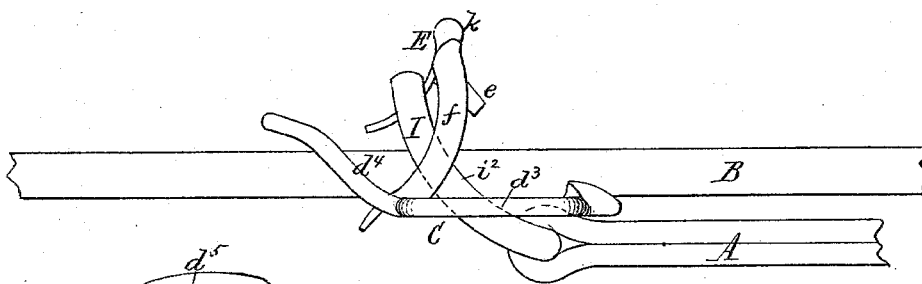


Fig. 4.

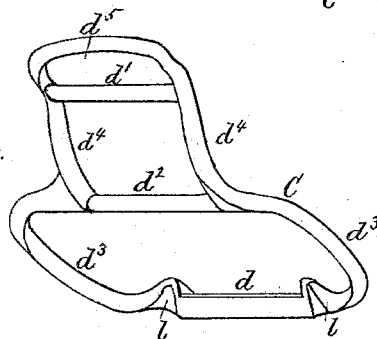
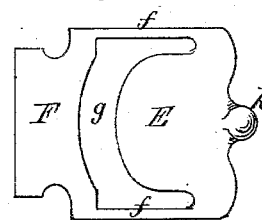


Fig. 5.



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Witnesses.

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# UNITED STATES PATENT OFFICE.

EMMIT G. LATTA, OF FRIENDSHIP, NEW YORK.

## TRACE-BUCKLE.

SPECIFICATION forming part of Letters Patent No. 305,938, dated September 30, 1884.

Application filed February 2, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EMMIT G. LATTA, of Friendship, 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 a tongue-plate hinged to the buckle-frame is employed in connection with a bail or loop which is attached to the hame-tug, and which bears upon the hinged tongue-plate.

The object of my invention is to produce a buckle which can be used in traces varying in thickness, and which will securely hold the trace without throwing an undue strain upon the tongue, and in which the trace can be readily adjusted. The object is also to construct the buckle of several simple parts each of which can be cast complete, and which can be put together to complete the buckle with very little labor and expense.

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

In the accompanying drawings, Figure 1 is a plan view of the buckle. Fig. 2 is a longitudinal section thereof. Fig. 3 is a side elevation thereof, with the tongue disengaged from the trace. Fig. 4 is a perspective view of the buckle-frame. Fig. 5 is a plan view of the tongue-frame.

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

A represents the hame-tug, and B the trace.

C represents the buckle-frame, provided with a front cross-bar,  $d$ , a rear cross-bar,  $d'$ , and an intermediate cross-bar,  $d''$ . The front cross-bar,  $d$ , is connected with the cross-bar  $d''$  by side bars  $d^3$ , and the cross-bar  $d''$  is connected with the rear cross-bar,  $d'$ , by side bars  $d^4$ . The cross-bars  $d$ ,  $d''$  and side bars  $d^3$  are arranged in the same plane, and form a bed substantially rectangular in form. The cross-bar  $d'$  is elevated above the cross-bar  $d''$ , so that the trace can pass through the opening between these cross-bars, the side bars  $d^4$  standing in an inclined position. The rear cross-bar,  $d'$ , is provided with a loop,  $d^5$ , for the attachment of a side strap.

E represents the tongue-plate, and  $e$  the tongue, formed on the under side thereof. The tongue-plate is provided with side bars  $f$ , which are arranged on the outer sides of the trace, and which are connected at their rear ends by a plate, F, which is arranged below the trace, while the tongue-plate E is arranged above the trace, so that the trace passes through the opening  $g$  between the tongue-plate E and the plate F. The plate F is provided on its under side with shoulders or projections  $h$ ,  $h'$ . The shoulder  $h$  bears against the front of the cross-bar  $d''$ , and the lip or shoulder  $h'$  against the rear side of the cross-bar  $d''$ . The lip  $h'$  is cast on the plate F in a straight position, as represented in dotted lines in Fig. 2, and after the tongue-plate has been applied to the buckle-frame the lip  $h'$  is bent around the cross-bar  $d''$ , whereby the tongue-plate is pivoted to the buckle-frame.

The tongue-plate is cast of malleable iron in order to permit of its attachment to the cross-bar  $d''$ , as described.

The tongue-plate E, pivotal plate F, and side bars  $f$  form together a tongue-frame which has its pivotal point on the buckle-frame below the trace.

I represents the tug loop or bail, composed of a front bar,  $i$ , to which the tug is attached, a rear bar,  $i'$ , and curved connecting side bars  $i''$ , all cast in one piece in a well-known manner. The side bars  $i''$  of the bail pass through the opening or recess between the side bars  $f$  of the tongue-plate and the sides of the plate E, and the rear cross-bar,  $i'$ , of the bail bears upon the plate E, as clearly shown. The plate E is preferably made concave on its upper side in order to hold the bail in place.

$k$  represents a knob or thumb-piece, formed at the front end of the tongue-plate E.

$l$  represent recesses formed in the under side of the front cross-bar,  $d$ , of the buckle-frame, for guiding the side bars  $i''$  of the bail I, and preventing lateral displacement of the bail. These recesses are curved to correspond with the curvature of the side bars of the bail, and the cross-bar  $d$  is raised above these recesses, so that the cross-bar is not weakened by the same.

When the draft is applied to the tug A, the bail I, pressing upon the tongue-plate E and

against the under side of the cross-bar *d* of the buckle-frame, causes the trace to be depressed into the space between the front bar *d* of the buckle-frame and the plate *F* of the tongue-frame. The rear end of the plate *E* projects rearwardly beyond the pivot of the tongue-frame, and rises as the tongue-plate *E* is depressed by the bail, thereby clamping the trace between the plate *F* and the elevated rear cross-bar, *d'*. The trace is thus clamped at the front end of the buckle between the cross-bar *d* and the tongue-plate *E*, and at the rear end between the plate *F* and the cross-bar *d'*, whereby the tongue is almost entirely relieved from the strain.

When it is desired to adjust the trace in the buckle, it is only necessary to push the buckle-frame forward, when the tug-bail slides back and the tongue-plate rises and withdraws the tongue from the trace. If a very thick trace is used, there will not be sufficient room under the rear bar of the tug-bail to raise the tongue out of the trace, and in this case the rear bar of the bail is removed from the tongue-plate, when the tongue can be withdrawn from the trace, and after the trace has been adjusted the bail is again placed against the tongue-plate.

If desired, the rear plate, *F*, may be omitted, and the side bars *f f* may be pivoted directly to the buckle-frame, but it is desirable that the point at which the tongue-plate is pivoted to the buckle-frame should be located below the trace.

The side bars *f f* may be connected with the tongue-plate *E* at its rear end instead of at its front end, as shown.

Heretofore the tongue-plate has been hinged to the rear cross-bar of the buckle-frame on the front side of the trace. By hinging the tongue-plate to a cross-bar on the rear side of the trace the hinge and the rear portions of the side arms of the tongue-plate are placed out of sight, and do not, therefore, require the high finish which is necessary when the hinge is in sight, and the rear part of the buckle-frame can be made lighter than when

the tongue-plate is hinged to it, the unsightly bent piece which connects the tongue-plate with the rear bar of the frame in the older buckles is avoided, thereby improving the appearance of the buckles, and permitting them to be more closely packed for shipment.

I claim as my invention—

1. In a buckle, the combination, with a buckle-frame, of a tongue-plate adapted to bear against one side of the trace, and pivoted to the buckle-frame at the opposite side of the trace, and a tug-bail adapted to bear upon the tongue-plate, substantially as set forth.

2. In a buckle, the combination, with a buckle-frame, of a tongue-frame composed of a tongue-plate, *E*, side bars *f f*, and a pivotal plate, *F*, the tongue-plate *E* being arranged above the plate *F*, and a tug-bail bearing upon the plate *E*, substantially as set forth.

3. The combination, with a buckle-frame having a front cross-bar, *d*, and a raised rear cross-bar, *d'*, of a tongue-frame composed of a tongue-plate, *E*, side bars *f f*, pivotal plate *F*, and having an opening, *g*, formed between said parts of the tongue-frame, and a tug-bail having its rear cross-bar resting upon the tongue-plate *E*, and its side bars passing through the opening *g*, substantially as set forth.

4. The combination, in a buckle, of a tongue-plate, *E*, provided with side bars *f*, and a plate or bar, *F*, connecting the ends of said side bars, and a tug-bail bearing upon the tongue-plate *E*, and having its side bars arranged between the side bars *f*, whereby the bail is prevented from being drawn from the tongue-plate, substantially as set forth.

5. The combination, with a buckle-frame having recesses *l l* formed in the under side of its front cross-bar, of a tug-bail having its side bars guided in the recesses *l l*, and a tongue-plate hinged to the buckle-frame, substantially as set forth.

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Witnesses:

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