E. M. KINNE.

TUG-BUCKLE.

No. 192,516. Patented June 26, 1877.

Fig. 1.

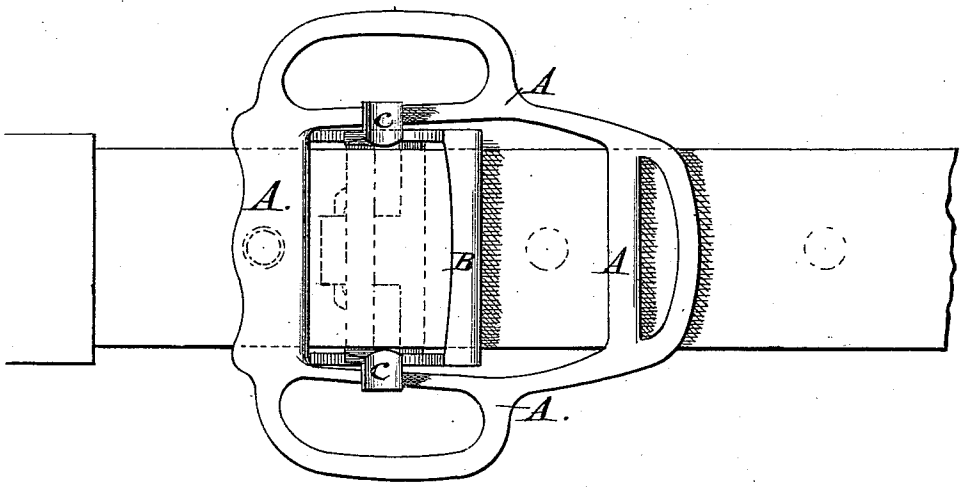


Fig. 2.

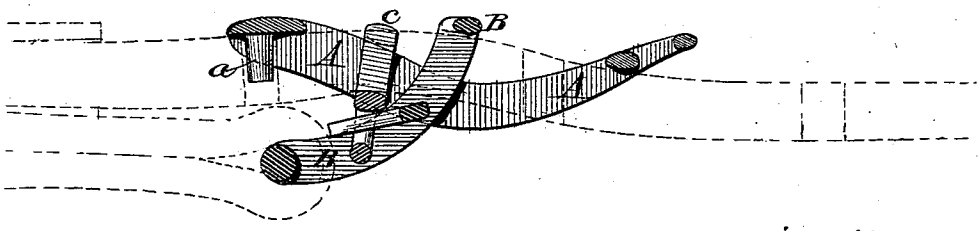


Fig. 3.

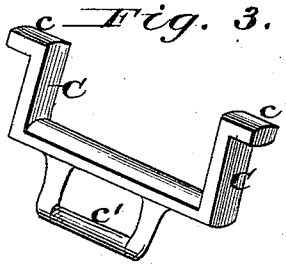
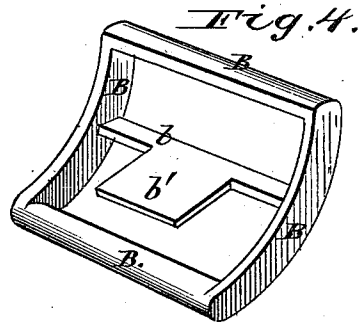


Fig. 4.



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IMPROVEMENT IN TUG-BUCKLES.

Specification forming part of Letters Patent No. **192,516**, dated June 26, 1877; application filed May 10, 1877.

To all whom it may concern:

Be it known that I, ERASTUS M. KINNE, of Cuba, Allegany county, New York, have invented an Improvement in Tug-Buckles; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a top view of my invention. Fig. 2 is a longitudinal section; Fig. 3, a view of the open bail; and Fig. 4, a view of the clamping-bail.

My invention relates to that class of buckles known as "tug-buckles," used in harness to adjust the length of the traces; and it consists of a buckle composed of three pieces, viz., a frame provided with a tongue, a clamping-bail, and an auxiliary or open bail. By these parts the trace is clamped and held, greatly relieving the tongue of the strain.

In the drawings, A represents the frame, having the usual top, bottom, and rear loops, and upon the front cross-bar a tongue, *a*. The curvature of the frame, between the two end bars, which rest upon the trace, is nearly the thickness of the trace, and forms an inclined plane, upon which the other parts may ride in clamping the trace.

B in the drawing is the clamping-bail, with its upper cross-bar resting on the top of the trace, and its lower cross-bar secured to the tug. Between the upper and lower cross-bars is an additional cross-bar, *b*, passing freely below the trace, bearing a lug, *b'*.

C in the drawing is a small bail, open at its upper side, and provided with lugs or ears *c c* at the top, and a loop, *c'*, at the bottom.

The bails B and C are of the same width, and move freely between the side bars of the frame A. To prevent the two bails C and B from separating, the lug *b'* on the bar *b* of the bail B, passes into the loop *c'* beneath the bail C, and locks the two bails together.

The operation of my improved buckle is as follows: The bail B having been properly secured to the tug, and the bails B and C locked together, as described, and placed between the sides of the frame A, the ears *c c* resting upon the frame, the end of the trace is then admitted below the rear end cross-bar of the frame A, through the bail B, between the upper cross-bar and the cross-bar *b*, through the open bail C, and underneath the front cross-bar of the frame A, until the tongue *a* enters one of the holes in the trace, when the buckle is ready for use. As force is applied to the tug, and the frame A is prevented from moving by reason of the tongue *a*, the lugs or ears *c c* will slide up the inclined sides of the frame by the bail B pressing against it. As the bail C rises it, of course, lifts the trace, but the forward end bar of the frame A on the one side, and the top bar of the bail B on the other side, resisting the upward tendency of the bail C, the trace will be clamped between them in proportion to the power applied to the tug. The clamping power of the bails B and C is very great, as the bail B acts as a lever pressing upon the top of the trace, using the bottom of the bail C as a fulcrum, which in turn rides up the inclined sides of the frame A upon the ears *c c*, and presses upon the bottom of the trace.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A tug-buckle, consisting of the frame A, clamping-bail B, and open bail C, having lugs or ears *c c*, the whole constructed and operating substantially as described.

2. The bail B, provided with the lug *b'*, in combination with bail C, provided with the loop *c'* and frame A, as and for the purpose set forth.

The above specification of my said invention signed and witnessed, at Cuba, this 25th day of April, A. D. 1877.

ERASTUS M. KINNE.

Witnesses:
S. N. MORGAN,
H. C. MORGAN.