L. W. Heelan,

Hame-Tug Buckle,

No. 57,899. Patented Sep. 11, 1866

Fig 1.

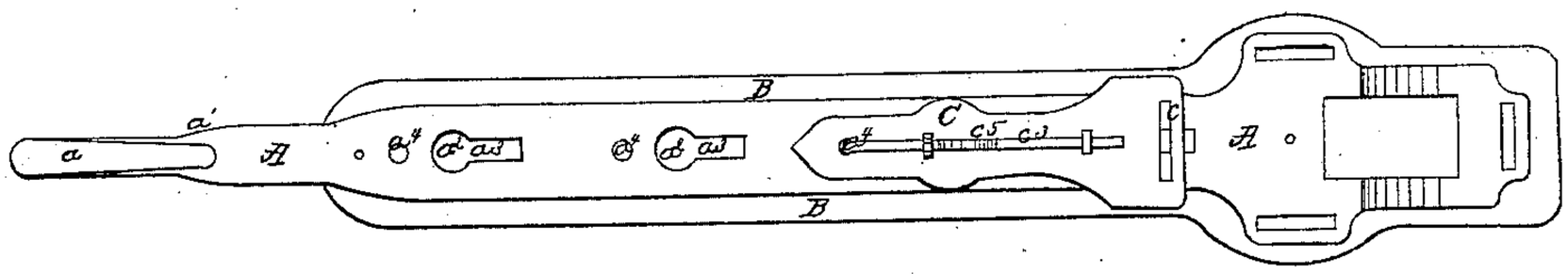

Fig 2.

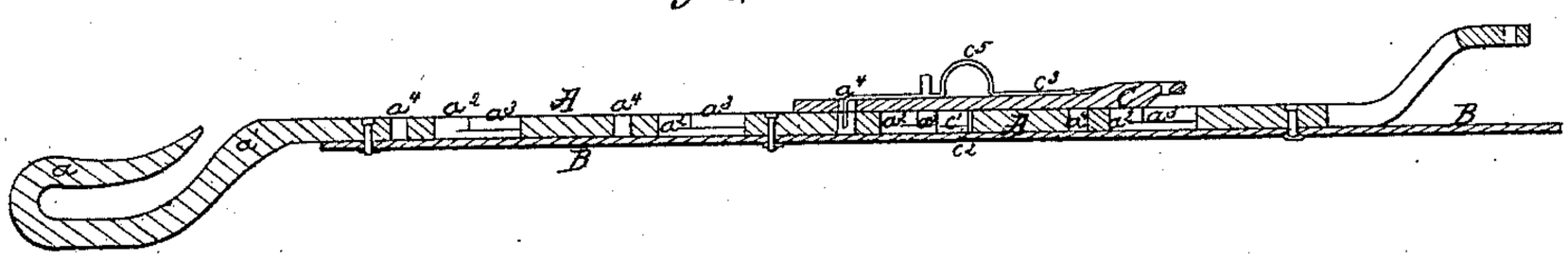

Fig 3.

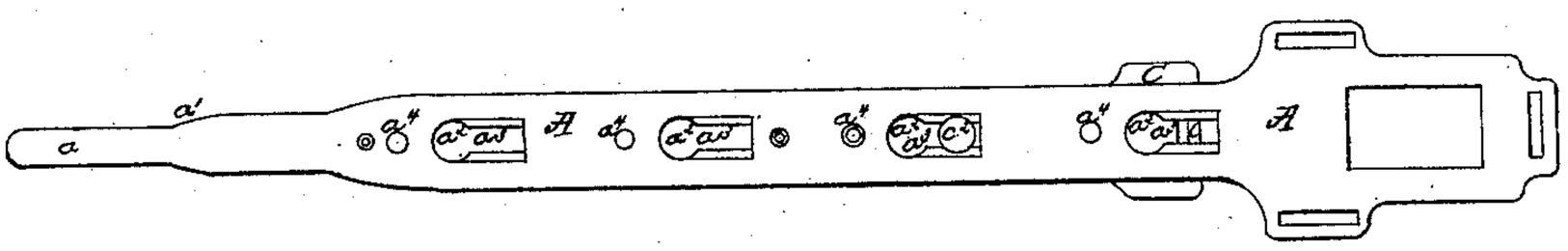

Fig 4.

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UNITED STATES PATENT OFFICE.

LAWRENCE W. HEELAN, OF PETERSBURG, ILLINOIS.

IMPROVED HAME TUG AND BUCKLE.

Specification forming part of Letters Patent No. **57,899**, dated September 11, 1866.

To all whom it may concern:

Be it known that I, LAWRENCE W. HEELAN, of Petersburg, in the county of Menard and State of Illinois, have invented a new Hame Tug and Buckle; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 of the drawings is a plan of the improved hame tug and buckle. Fig. 2 is a longitudinal section, bisecting the tug and buckle. Fig. 3 is a bottom plan of the tug. Fig. 4 is a plan of the buckle.

This invention relates, first, to the construction of the tug and the manner of attaching it to the hame; secondly, to the buckle, by means of which the trace is attached to the tug; and, thirdly, to mode of fastening the buckle to the tug.

To enable those skilled in the art to make and use my improved hame tug and buckle, I will proceed to describe its construction and operation.

A is the tug, the forward end of which terminates in a hook, *a*, by means of which it is to be attached to the hame. (Not shown.) A ring or ring-bolt, such as is usually employed for this purpose, is to be attached to the hame, and into the said ring or its equivalent the aforesaid hook *a* is to be inserted.

The usual device hitherto in common use for this purpose has been a metal strap formed into a loop for the reception of the hame-ring, and thence conducted back toward the trace, which was embraced between the two ends of the looped strap aforesaid, and the two parts of the strap were attached firmly to the trace by means of rivets passing through both the metal strap and the leather trace. This form of construction was often very disadvantageous, especially owing to breakages that were liable to occur in the trace at or near the back end of the metal strap, and to repair which damages it was necessary to cut out the riveting of the trace and tug above alluded to, preparatory to the reuniting of the severed parts. In this operation the metal straps were sometimes destroyed, and had to be replaced by new ones.

A more cheap, expeditious, and, in fact, beautiful mode of attaching the tug to the hame is by means of the hook *a* above described. This hook is connected with the tug proper by a curved necking, *a'*, which is curved outwardly, so as to embrace the shoulder of a full-breasted horse without touching or chafing it, even though no safe be used; but the safe B may, if desired, be riveted to the inside of the tug.

The buckle C is a metallic piece, constructed as shown in the drawings, and employed for the purpose of attaching the trace to the tug in lieu of the ordinary buckle used for that purpose. The back end of this buckle-piece has a loop, *c*, through which the trace is drawn, and there secured by sewing.

In the old method the trace was perforated with holes for the buckle-tongue, and as there were several of these holes, the trace was correspondingly weakened by them in proportion to their number. After the buckle had been used in one hole for a long time the trace was so thoroughly set in its bent position as to very often defy every effort to release it from the buckle, in order to lengthen or to shorten the trace, or to remove it for any purpose. If the trace could, even with some difficulty, be unloosed from the buckle, the strength of the material of the trace at the old bend in the buckle-seat would be very materially impaired by the long-continued bending it had received. All of these difficulties are remedied by the present invention, as the trace is permanently fastened to the buckle by means of its loop *c*, and the lengthening, shortening, or removal of the trace is accomplished by simply changing the relative positions of the buckle and the tug; and as both of these pieces are metal they are not liable to change of form from permanent set by any strain they are ever liable to receive.

There is a lug, c', projecting from and attached to the bottom side of the buckle-piece. The top part of this lug, or that part of it which is contiguous to the buckle-plate C, may be flat, square, or any rectangular form of section; but its bottom part, c^2, should be widened out into a cylindrical form of flange. There is a spring, c^3, fastened to the top or outside of the buckle-piece, and this spring is turned at c^4, so as to pass perpendicularly through the plate C, through a mortise cut therein, and the end of the spring will extend

beyond the back side of the plate C a quarter of an inch, more or less. A portion of this spring may be raised up or formed into a kind of handle, as at c^5, for the purpose of opening or detaching the said spring, as will be hereinafter described.

There are circular mortises a^2 cut through the tug at regular intervals, and a slot, a^3, is cut in the same piece a quarter of an inch, more or less, behind each of the said mortises a^2. The bottom side of the tug-piece is rabbeted out on each side of the slots a^3 sufficiently to receive the flanged part c^2 of the lug c^1.

When the buckle is to be attached to the tug, the lug c' will be inserted into the circular mortise c^2, and then slipped back into the slot a^3, in which last-named position the aforesaid flanges c^2 will enter the rabbeting prepared to receive them, and there hold against the bottom part of the tug-plate. When in this position the end of the spring c^3 which extends through and back of the buckle-plate C will enter the mortise a^4 cut through the tug-plate, and so hold the buckle from moving forward in its aforesaid slotted seat, and thereby prevent the buckle from becoming disengaged from its fastening to the tug.

When it is desired to change the position of the buckle, or to remove it from the tug, it can be easily done by seizing the spring at c^5, and raising it up, so as to disengage its lower end from its hold in its mortise a^4, when the lug may be moved forward, so as to permit it to rise through the mortise a^2.

By using the countersinking or rabbeting along the sides of the slots a^3 the end of the lug c' may be kept flush with the bottom side of the tug-piece, and this then will present a smooth surface next the horse; and in this shape this improved tug can be used without any safe-strap intervening between it and the horse, without chafing the animal.

The other portions of the harness may be attached to the loops $x\ x\ x$ on the back end of the tug-piece.

Having described my invention, what I claim is—

1. The tug A, when constructed with the necking a', hook a, and mortises a^2, a^3, and a^4, substantially as described.

2. The buckle C and its spring c^3, when constructed and employed substantially as herein described and set forth.

3. The combination of the tug A and the buckle C, for the purpose of attaching the trace of a harness to the hame thereof, substantially as herein described and set forth.

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Witnesses:
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