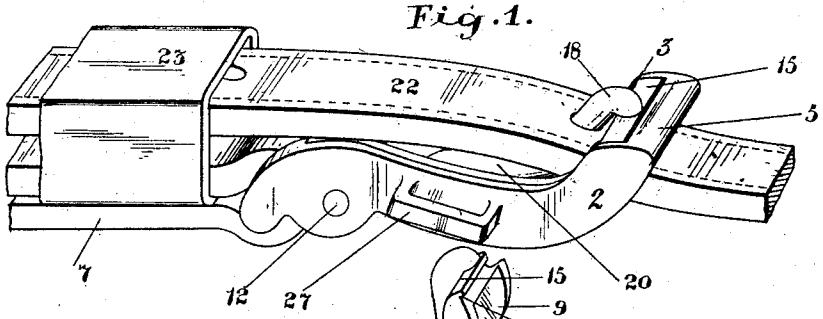
R. WARREN.

HARNESS BUCKLE.

APPLICATION FILED AUG. 13, 1907.

905,775. Patented Dec. 1, 1908.

Fig. 1.



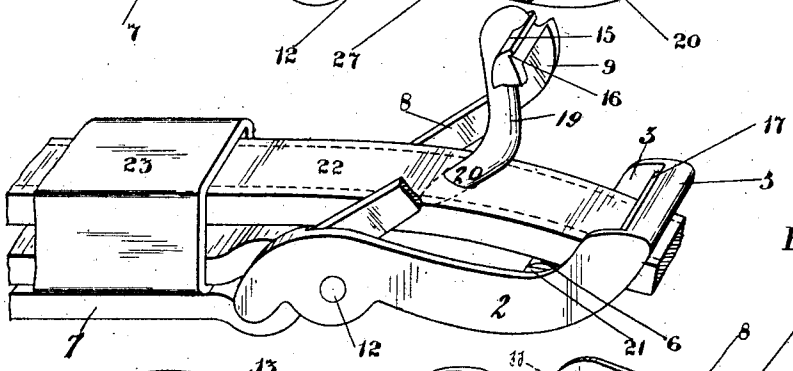


Fig. 2.

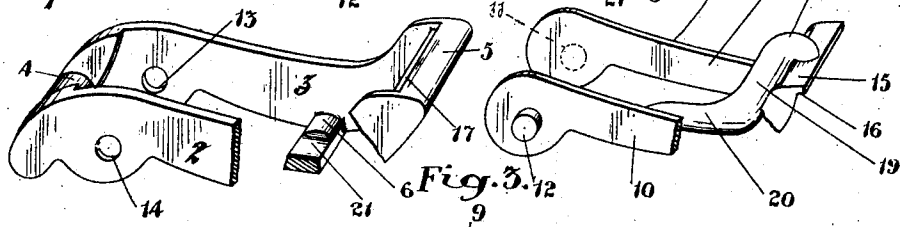


Fig. 3.

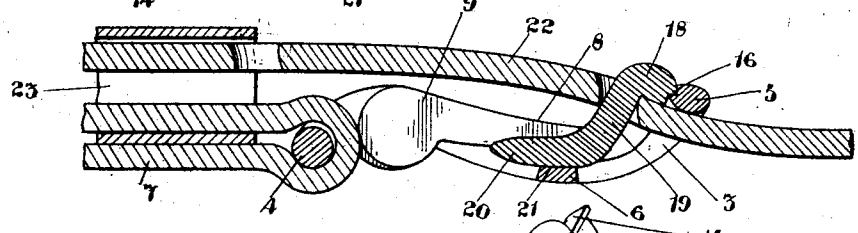


Fig. 4.

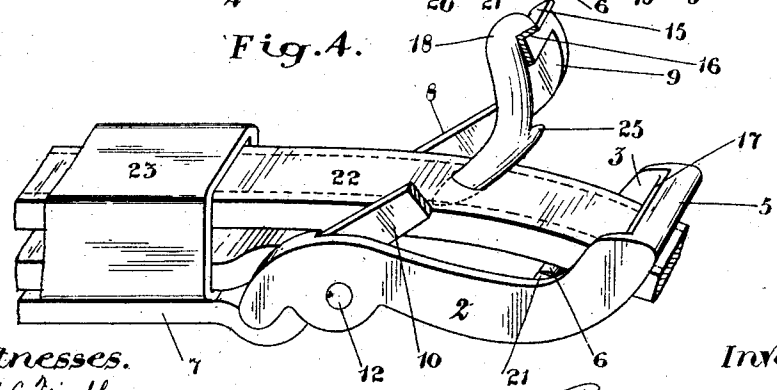


Fig. 5.

Witnesses.

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HARNESS-BUCKLE.

No. 905,775. Specification of Letters Patent. Patented Dec. 1, 1908.

Application filed August 13, 1907. Serial No. 388,336.

To all whom it may concern:

Be it known that I, ROBERT WARREN, of the village of Kearney, in the district of Parry Sound and Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Harness-Buckles; and I hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to certain new and useful improvements in that class of harness buckle employed to secure the trace to the trace tug, and the object of the invention is to so arrange the harness buckle that it will securely hold the trace when the draft upon the trace is in the direction of the load, and automatically release the trace when the latter is manually moved in the direction of the trace tug, as hereinafter set forth and particularly pointed out in the claims.

For an understanding of the invention reference is to be had to the following description and to the accompanying drawings in which:—

Figure 1, is a perspective view of a trace buckle and a portion of a trace tug and trace showing the parts of the trace buckle positioned to secure the trace to the trace tug. Fig. 2, is a similar view to Fig. 1, with the parts of the trace buckle positioned to release the trace. Fig. 3, is a perspective view of the trace buckle showing the parts separated from one another. Fig. 4, is a longitudinal section of the parts shown in Fig. 1. Fig. 5, is a view showing a modified form of the trace buckle illustrated in the preceding figures.

Like characters of reference refer to like parts throughout the specification and drawings.

The main frame of the trace buckle consists of two substantially **S**-shaped side plates 2 and 3 rigidly connected at one end by a cross bar 4, and at the opposite end by a cross bar 5. Secured to the side plates 2 and 3 between the cross bars 4 and 5 is a cross bar 6. To the cross bar 4 is attached the trace tug 7, formed with a trace tug keeper 23 to receive the projecting end of the trace 22 and engaging the trace 22 is the tongue of the pivoted frame 8. The pivoted frame 8, consists of two side plates 9 and 10, and a cross bar 15, connected to the side plates at one end thereof. The side plates 9 and 10 are pivotally connected to the adjacent side plates of the main frame by pivots 11 and 12 which enter the pivot holes 13 and 14 in the side plates 2 and 3 of the main frame at the end thereof adjacent to the cross bar 4. The cross bar 5 is formed with a lip 17, which projects inwardly from the inner edge thereof, below its top surface, and the outer edge of the cross bar 15 is formed with a projecting lip 16 to engage with the lip 17 and form a support for the free end of the pivoted frame 8, when in the position shown in Fig. 1.

Extending from the center of the cross bar 15 and rigidly attached thereto is a tongue 18, to enter the apertures in the trace 22. The tongue 18 may be described as being of a substantially **L**-shape, one part 19 extending inwardly towards the back of the buckle and the other part 20 extending from the part 19 towards the pivotal connection between the main and pivoted frames. In the cross bar 6, is a groove 21 to receive the elbow formed by the parts 19 and 20 of the tongue 18. The distance between the inner faces of the side plates 9 and 10 of the pivoted frame 8 is greater than width of the trace, and to attach the trace to the trace tug the pivoted frame 8 is moved into the position shown in Fig. 2, and the trace is then passed between the cross bars 5 and 6 of the main frame and between the side plates 9 and 10 of the pivoted frame 8 into the trace tug keeper 23. When the pivoted frame 8 is lowered into the position shown in Fig. 1, the tongue 18 extends through the tongue aperture in the trace. The draft on the trace draws the pivoted frame tightly against the main frame, and the greater the draft the tighter the pivoted frame is held in contact with the main frame, the engagement of the lips 16 and 17 preventing the pivoted frame being drawn through the main frame. When it is desired to release the trace, the movement of the trace in the direction of the trace tug raises the pivoted frame into the position shown in Fig. 2 and displaces the tongue wholly or partly from the trace aperture so that the pivoted frame can be easily moved into a position to completely release the tongue from engagement with the trace.

In the modification shown in Fig. 5, the **L**-shaped tongue is provided with a heel or projection 25 extending from the elbow formed by the parts 19 and 20 in the direc-

tion of the cross bar 5. The purpose of the projection 25 is to prevent the tongue 18 accidentally slipping out of the aperture in the trace when the draft on the trace is removed particularly when the said aperture has become enlarged by use. The draft on the trace when in the direction of the load increases the holding power of the buckle in proportion to the increase of the draft, and the movement of the trace in the direction of the trace tug keeper 23 automatically opens the pivoted frame and permits of the removal of the trace from the trace buckle. It is not desired, however, to confine the use of the buckle to trace purposes as it can be adapted for other harness and strap purposes without any modification of the construction above described, but it is possible however without departing from the nature of the invention, to modify the construction of the buckle within the scope of the claims and provide any suitable means of permanently or temporarily attaching it to the harness, such means being specifically arranged for the particular purpose or application of the modified buckle.

The outer face of each of the side plates 2 and 3 of the main frame of the trace buckle may be provided with a metallic band or strap 27, by which the trace buckle may be connected to the harness saddle and girth.

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

1. A harness buckle consisting of a main frame comprising two side plates, a cross bar connecting them together at one end, a second cross bar connected to the side plates remote from the first mentioned cross bar, a pivoted frame contained between the side plates of the main frame and articulatingly connected thereto at the opposite end of the side plates to the first mentioned cross bar, a cross bar connecting the side plates of the pivoted frame and adapted to engage with the first mentioned cross bar of the main frame, and a tongue extending from the cross bar of the pivoted frame.

2. A harness buckle consisting of a main frame comprising two side plates, a cross bar connecting them together at one end, a second cross bar connected to the side plates remote from the first mentioned cross bar, a pivoted frame contained within the side plates of the main frame and articulatingly connected thereto at the opposite end of the side plates to the first mentioned cross bar, a cross bar connecting the side plates of the pivoted frame and adapted to engage with the first mentioned cross bar of the main frame, and a tongue extending from the cross bar of the pivoted frame, said tongue being substantially L-shaped with one part extending inwardly from the last mentioned cross bar and the other part extending from the elbow of the tongue towards the place where the pivoted frame is articulatingly connected to the main frame.

3. A harness buckle consisting of a main frame, comprising two side plates, a cross bar at one end of the side plates by which the harness buckle is fastened to the harness, and a cross bar at the free end of the side plates, said cross bars being separated to receive a harness strap, a second cross bar secured to the side plates between the ends thereof, a pivoted frame comprising two side plates, contained between and pivotally connected to the side plates of the main frame and near the same end thereof as the first mentioned cross bar, a cross bar connecting together the side plates of the pivoted frame and adapted to engage with the second mentioned cross bar of the main frame, and a tongue projecting from the cross bar of the pivoted frame of a substantially L-shape, one part of which extends inwardly from the cross bar of the pivoted frame, and the other part of which extends from the elbow of the tongue towards the place where the pivoted frame is articulatingly connected to the main frame.

4. A harness buckle consisting of a main frame comprising two side plates, a cross bar at one end of the side plates by which the harness buckle is fastened to the harness, and a cross bar at the free end of the side plates, said cross bars being separated to receive a harness strap, a second cross bar secured to the side plates between the ends thereof, a pivoted frame comprising two side plates, contained between and pivotally connected to the side plates of the main frame and near the same end thereof as the first mentioned cross bar, a cross bar connecting together the side plates of the pivoted frame and adapted to engage with the second mentioned cross bar of the main frame, and a tongue projecting from the cross bar of the pivoted frame of a substantially L-shape, one part of which extends inwardly from the cross bar of the pivoted frame, and the other part of which extends from the elbow of the tongue towards the place where the pivoted frame is articulatingly connected to the main frame, the tongue having a projection extending from the first mentioned tongue part in the opposite direction to the second mentioned tongue part.

Toronto, July 16th, A. D. 1907.

ROBT. WARREN.

Signed in the presence of—
H. C. GREEN,
E. PIRIE.