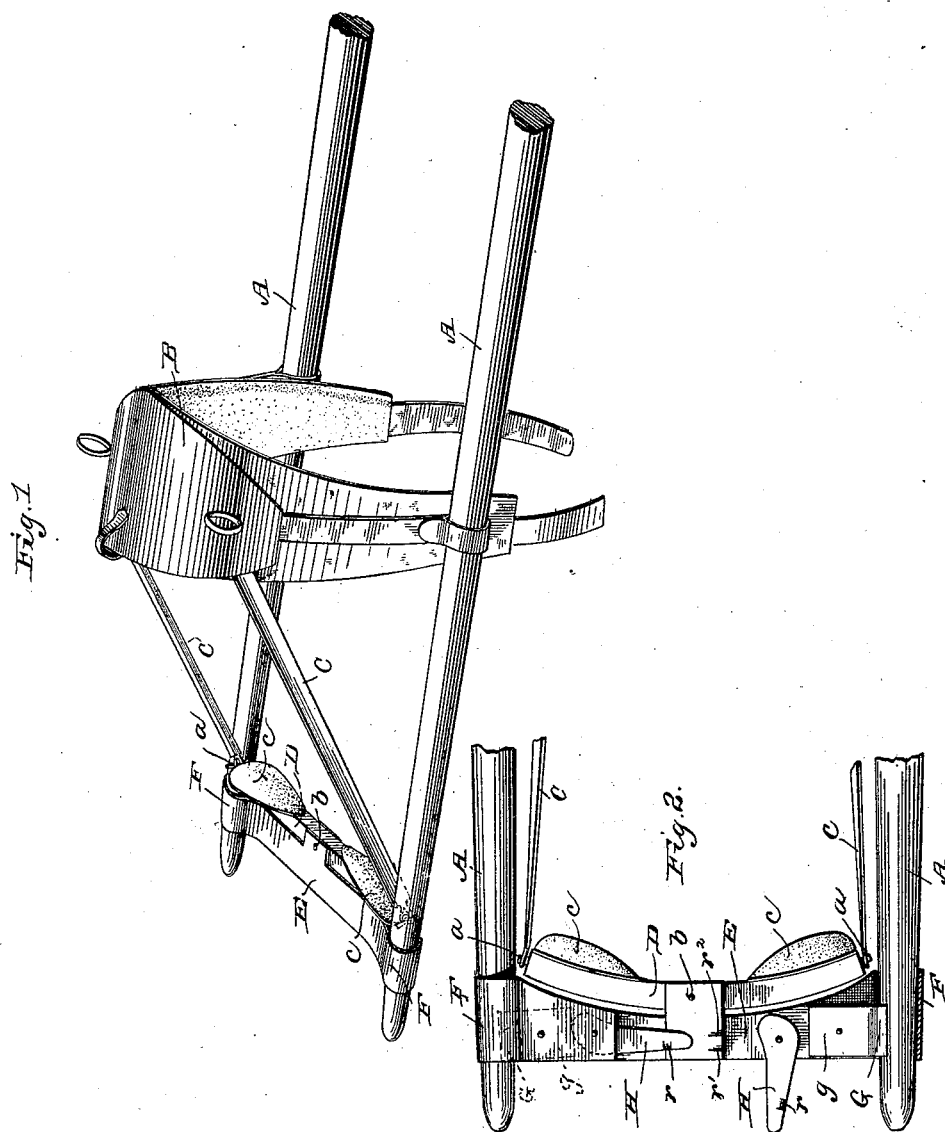


Patented June 8, 1886.



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UNITED STATES PATENT OFFICE.

WILLIAM D. HILL, OF NORTHWOOD, NEW HAMPSHIRE.

HARNESS.

SPECIFICATION forming part of Letters Patent No. 343,315, dated June 8, 1886.

Application filed March 29, 1886. Serial No. 197,004. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. HILL, a citizen of the United States, residing at Northwood, in the county of Rockingham and State of New Hampshire, have invented certain new and useful Improvements in Harness, of which the following is a specification.

The object of my invention is to provide means in front of the draft-animal whereby the latter can draw or back a cart or any suitable vehicle by pushing or pulling on the outer ends of the thills, thus dispensing with the ordinary traces and the holdback, and requiring only the simple parts of the harness shown during the operation, and allowing the animal to better and more quickly utilize the force of his weight.

To this end my invention consists in combining with the outer or tapering ends of the thills a draft cross-bar having end loops gripping the thill ends, and a whiffletree from which straps or traces extend back to a suitable portion of the harness-saddle.

My invention further consists in combining with the cross-bar loops semicircular or concave thill-clamps, which are actuated by cam-levers bearing against their flat shanks, as shown, and described below.

In the drawings, Figure 1 is a perspective view showing my improvement applied to the thills and the harness-saddle. Fig. 2 is a plan view of the under side of the cross-bar and whiffletree, the thills and one of the loops being partly broken away.

Like letters refer to like parts.

A A represent the thills, and B the harness-saddle, which may be of ordinary construction. At a suitable elevation on the saddle the somewhat short straps or traces C C are fastened. These incline downward and are attached in the usual way, at *a*, to a whiffletree, D, in front of the draft-animal. This whiffletree is pivoted at *b* to the draft cross-bar E, and should be padded, as at *c c*, to prevent chafing when the animal pushes against it to draw the vehicle. The said bar E is provided with end loops, F F, surrounding the thill ends, as shown. By the use of these alone the vehicle could easily be backed when the loops had slipped rearward far enough to grip on the thicker portion of the thills; but it is preferable that the forward or back draft should commence at once and be under the control of the driver. To this end each loop

F is provided with a concave clamp, G, the flat shank *g* of which is pivoted on the under side of the cross-bar E and operated by the cam-levers H, similarly pivoted. When the driver pulls the levers out in front of the cross-bar, the loops G ease off or fit loosely against the thills; but when the levers are pushed in so that the cam end bears against the shank *g*, the latter is instantly rocked to one side, causing the clamps G to grip the thill tightly between them and the opposite bend of the loops, and the draft force will at once draw or back the vehicle. Both positions of the lever are shown in Fig. 2. In order to lock the levers during the forward or back draft, they are provided with an upwardly-projecting catch, *r*, which engages with either of the notches *r'* in the cross-bar when the levers are pushed sufficiently back under said bar.

I do not limit myself to applying my improvement in connection with a harness-saddle, as the traces could be easily attached to a hame.

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

1. The combination, with the thills, of the cross-bar having loops surrounding the outer ends of the former, the thill-clamps operating in conjunction with said loops, and the cam-levers actuating the clamps, whereby the vehicle may be drawn forward as the draft-animal pushes against the cross-bar, as set forth.

2. The combination with the thills, of the cross-bar engaging with the outer ends of the former, substantially as shown, the whiffletree pivoted to the rear side of said bar, the short supporting and backing straps, and the harness-saddle, as set forth.

3. The combination, with the thills, of the cross-bar having loops surrounding the outer ends of said thills, the thill-clamps operating in conjunction with said loops, the cam-levers attached to the cross-bar and actuating the said clamps, the padded whiffletree, the upwardly-inclined straps, and the harness-saddle, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM D. HILL.

Witnesses:

J. B. THURSTON,
NATHANIEL E. MARTIN.