O. BROTHERS, Jr.
Horse-Detacher.

No. 206,222. Patented July 23, 1878

Fig. 1.

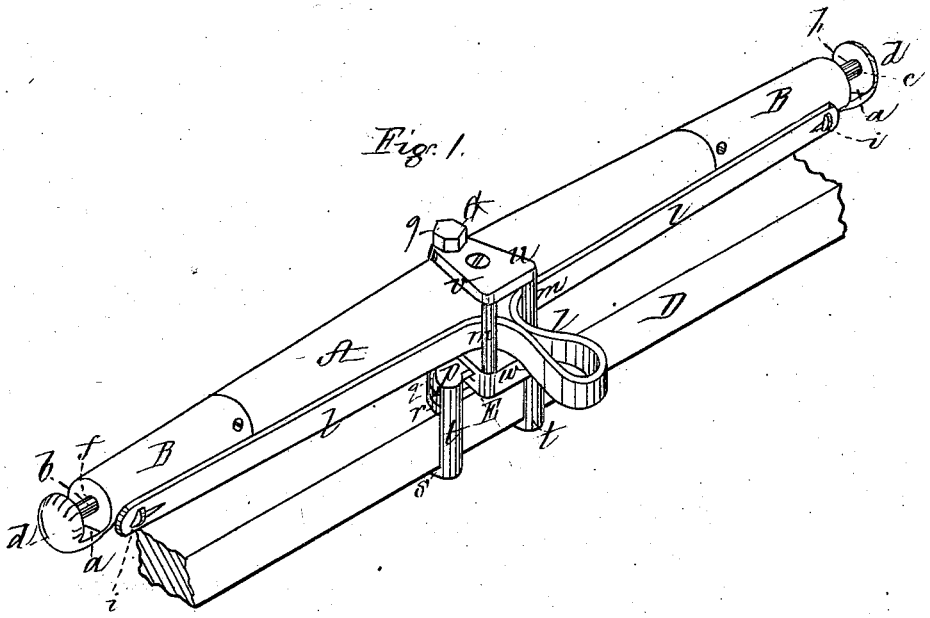


Fig. 2.

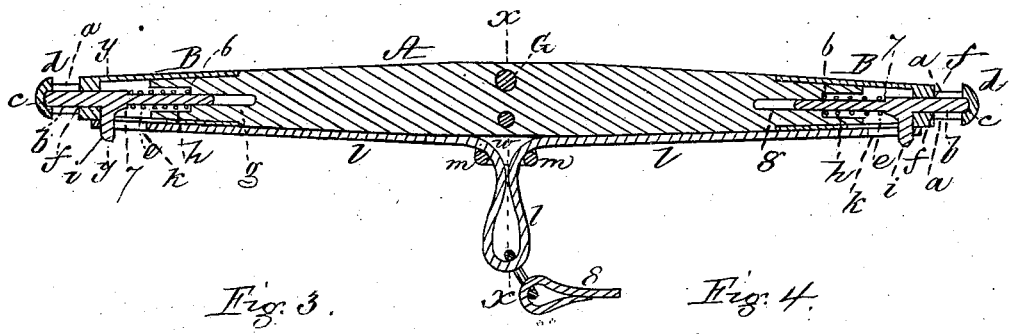


Fig. 3.

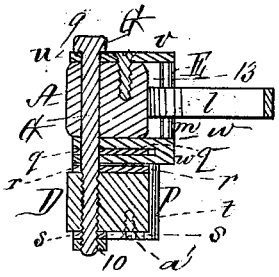


Fig. 5.

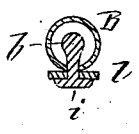
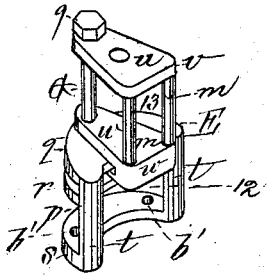


Fig. 4.



Witnesses,
W. J. Cambridge
J. E. Cambridge

Inventor,
Oliver Brothers Jr.
Per Teschemacher & Bearns,
Attorneys.

UNITED STATES PATENT OFFICE.

OLIVER BROTHERS, JR., OF NORTH HARTLAND, VERMONT, ASSIGNOR TO HIMSELF AND HENRY D. DUNBAR, OF SAME PLACE.

IMPROVEMENT IN HORSE-DETACHERS.

Specification forming part of Letters Patent No. **206,222**, dated July 23, 1878; application filed June 17, 1878.

To all whom it may concern:

Be it known that I, OLIVER BROTHERS, Jr., of North Hartland, in the county of Windsor and State of Vermont, have invented certain Improvements in Whiffletrees for Vehicles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a whiffletree constructed in accordance with my invention. Fig. 2 is a longitudinal section through the center of the same. Fig. 3 is a transverse section on the line *x x* of Fig. 2. Fig. 4 is a perspective view of the coupling which connects the whiffletree with the cross-bar. Fig. 5 is a transverse section on the line *y y* of Fig. 2.

My invention has for its object to provide a means whereby the traces of a harness may be readily detached from a whiffletree by the occupant of a vehicle when it is desired to liberate the horse therefrom; and my invention consists in the combination of devices hereinafter described and claimed.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents the whiffletree, each end of which is provided with a metallic tip or cap, B, which is provided with a deep notch or recess, *a*, for the reception of the end of the trace, and across this notch extends a bolt, *b*, which passes through the eye of the trace and holds it securely in place within the notch, the outer end of this bolt fitting into a cavity, *c*, in the outer portion, *d*, of the cap. This bolt *b* slides within the hollow portion *e* of the cap, and is guided at its front by the aperture *f* in the cap, through which it slides, and at its rear by the sides of a cylindrical aperture in the portion *g* of the whiffletree covered by the cap, the inner portion of the bolt being turned down and surrounded by a spiral spring, *h*, the inner end of which bears against a shoulder, 6, and the outer end against a shoulder, 7, on the bolt, by which means it is thrown out across the notch *a* into the cavity *c*, as seen in Fig. 2.

The bolt is provided with a T-shaped projection, *i*, which extends through a slot, *k*, in the side of the metal cap B, and to this projection is attached a strap or cord, *l*, which is led along the whiffletree and around the vertical guide-posts *m* of the whiffletree-coupling, to be hereinafter described.

To the bight of the strap *l* is connected another strap or cord, 8, which is intended to be led up into the vehicle to a position readily accessible to the driver, by which means a single pull of the strap 8 will cause the bolts *b* to be withdrawn simultaneously against the resistance of their springs entirely away from their notches *a*, thus liberating the traces from the whiffletree, as desired, suitable holdbacks being used in connection with my improved whiffletree, which will allow the holdback-straps to disengage themselves as the horse moves forward, and thus when the cord is pulled the horse is free to detach himself from the vehicle, a feature which insures safety in case of accident, while at the same time a convenient means of releasing the horse from the vehicle is afforded from one side, and the necessity of going around from side to side of the vehicle is avoided.

When a pole is used instead of shafts, the straps or cords from the spring-bolts of the two whiffletrees will be properly led to the center and connected to a strap led up into the vehicle.

The whiffletree A is secured to the cross-bar D by means of a metallic coupling, E, which consists of two separate portions, *u p*, pivoted together by the connecting-bolt G, which passes down through holes in the whiffletree and cross-bar, these holes being located near the front instead of at the center, as heretofore, whereby an additional thickness of wood is left behind the bolt G to resist the strain of the draft.

The lower portion, *p*, of the coupling is composed of three semicircular plates, *q r s*, united by two vertical portions, *t*, all formed of one piece of metal, the front of each of the plates *q r s* being provided with an aperture for the passage of the bolt G, which is provided at its top with a head, 9, and at its lower end with a screw-nut, 10, by which it is held se-

curely in place, the portion of the bolt G which passes through the cross-bar D being provided with a screw-thread.

The upper portion, *u*, of the coupling consists of a top plate, *v*, and a bottom plate, *w*, united by vertical posts *m*, around which the strap *l* passes, the plate *w* being bifurcated and embracing the upper semicircular plate, *q*, of the lower portion, *p*, of the coupling, on which it is free to swing on the bolt G as a center, the vertical portions *t* serving as stops to limit its lateral vibration.

It will be seen that the plates *r* and *s* of the lower portion, *p*, of the coupling fit squarely against the upper and lower surfaces of the cross-bar D, a socket, 12, being thus formed, through which the bar passes, and by which means the coupling is held firmly thereon, screws *a' a'*, passing through holes *b' b'* in the lower plate, *s*, serving to prevent the coupling from being moved out of its central position on the bar D when the bolt G is removed.

The space 13 between the plates *v w* of the upper portion, *u*, of the coupling constitutes the socket in which the whiffletree A is held, the plates *w r* serving as a parting to keep the whiffletree from contact with the cross-bar, which is thus prevented from being chafed thereby; and by the employment of the coupling E, with its sockets, for the cross-bar and whiffletree, the latter is effectually prevented from rocking or rattling, and consequently the hole therein for the bolt does not become enlarged, and the liability of the bolt G being thrown out in case of the loss of the nut 10 is avoided, while the bolt itself cannot be thrown up out of the coupling, even if it fits loosely in the hole of the whiffletree.

As the vertical portions *t* of the coupling serve as stops to limit the lateral swing of the whiffletree, the ordinary straps passing around it and the cross-bar are dispensed with, and in this manner a more extended movement can be given to the whiffletree, and the action of the horse thus rendered more free and unrestrained.

What I claim as my invention, and desire to secure by Letters Patent, is—

The coupling E, with its guides *m m* applied to the center of the whiffletree A, in combination with the strap or cord *l*, caps B B, with their recesses *a a*, and spring-bolts *b b*, substantially as and for the purpose specified.

Witness my hand this 12th day of June, A. D. 1878.

OLIVER BROTHERS, JR.

In presence of—
H. R. MILLER,
C. C. GRIFFIN.