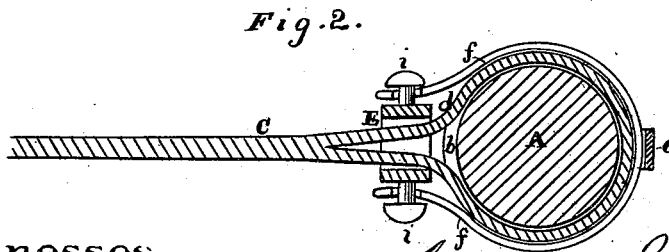
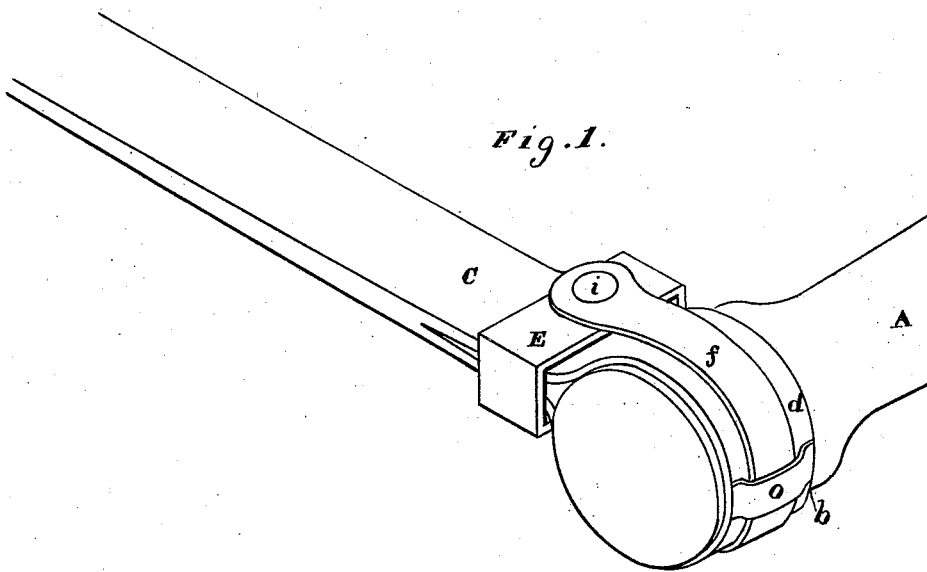


C. S. CRITTENDEN.  
TRACE FASTENER.

No. 190,473.

Patented May 8, 1877.



Witnesses  
*Geo. H. Strong.*  
*Jno. L. Boone*

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# UNITED STATES PATENT OFFICE

CHARLES S. CRITTENDEN, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN TRACE-FASTENERS.

Specification forming part of Letters Patent No. **190,473**, dated May 8, 1877; application filed March 1, 1877.

*To all whom it may concern :*

Be it known that I, CHARLES S. CRITTENDEN, of the city and county of San Francisco and State of California, have invented an Improved Trace-Fastener; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My improved trace-fastening is more especially intended for coaches and hacks, although it can be used on all classes of vehicles which are drawn by horses.

The object of my invention is to provide a cheap, simple, and more durable trace-fastener than those heretofore in use.

Referring to the accompanying drawings, Figure 1 is a perspective view of my device. Fig. 2 is a section of the same.

Around each end of the whiffletree A I make a groove, *b*, as heretofore used in some classes of fastenings. This groove is as wide as the trace that is to be fastened upon it. The end of the trace C I form into a loop, *d*, which is large enough to slip easily over the end of the whiffletree and seat itself in the groove *b*.

Upon a trace I place a metal or other loop, E, which can be slipped up against the whiffletree after the trace-loop has been placed in the groove, and thus, by reducing the size of the trace-loop, it is made to clasp the reduced portion of the whiffletree, so that it cannot get out of the groove.

To keep the sliding loop E in place, I employ a strap, *f*, of leather or other material, one end of which is fastened to the upper side of the sliding loop, while the strap passes around the trace-loop, and has its opposite end fastened to the opposite side of the sliding loop, thus holding the sliding loop up against

the whiffletree, and preventing the trace-loop from coming out of the groove.

For convenience, I have used buttons *i i* for fastening the ends of the strap *f* to the sliding loop; but any other convenient fastening could be used.

The strap *f* passes through a small leather loop, *o*, which is secured on the trace-loop at about its middle, the object of which is to prevent the strap from shifting from its position.

This trace-fastener is not only simple and convenient, but it allows the pull upon the trace to come straight from the whiffletree, without cramping or straining any particular part of the trace, so that it will last as long as any other part of the harness without repairs, whereas in the ordinary fastening now in use on this class of harness the trace is cramped by the fastening, so that it soon becomes broken and destroyed at that point, thus requiring it to be frequently repaired. Besides, my trace-fastening presents a more sightly appearance, and is much more easily attached to and detached from the whiffletree.

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

The trace A, with its loop *d*, in combination with the sliding loop E, provided with suitable fastening devices for the strap *f*, substantially as and for the purpose described.

In witness whereof I have hereunto set my hand.

CHARLES S. CRITTENDEN.

Witnesses:

O. T. STACY,  
FRANK A. BROOKS.