(No Model.)

R. F. RICE.

TRACE FASTENING.

No. 342,265. Patented May 18, 1886.

Fig. 1

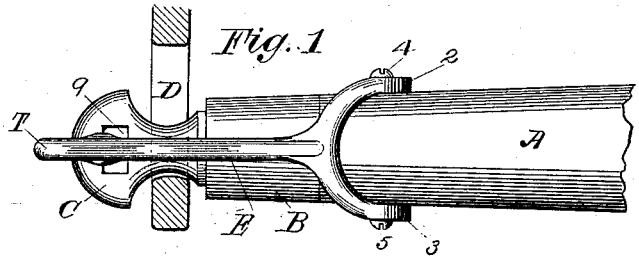


Fig. 3

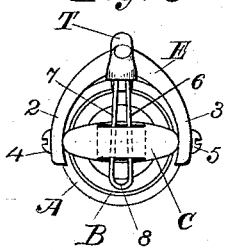


Fig. 2

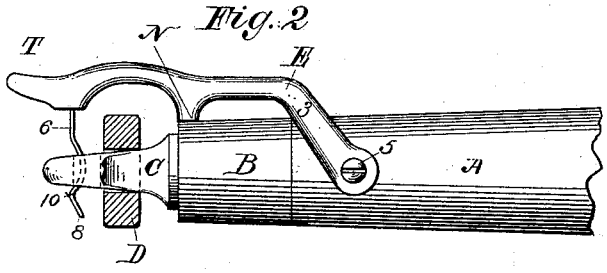


Fig. 4

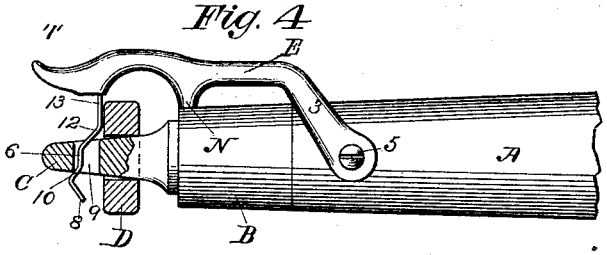
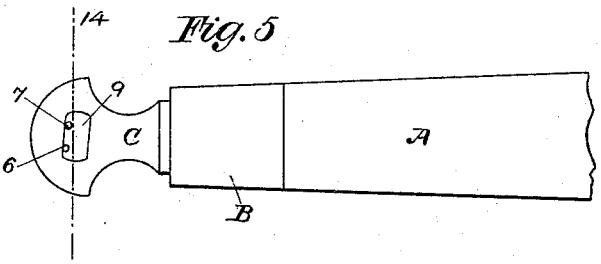


Fig. 5



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UNITED STATES PATENT OFFICE.

R. FREDRICK RICE, OF HARTFORD, CONNECTICUT, ASSIGNOR TO CHARLES L. BEACH, OF SAME PLACE.

TRACE-FASTENING.

SPECIFICATION forming part of Letters Patent No. 342,265, dated May 18, 1886.

Application filed October 19, 1885. Serial No. 180,370. (No model.)

To all whom it may concern:

Be it known that I, R. FREDRICK RICE, a citizen of the United States, residing at Hartford, in the county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Trace-Fastenings, of which the following is a specification.

This invention relates to improvements in devices or fastenings for preventing the trace or tug-strap of a harness from accidentally slipping off from the end of a carriage-whiffletree, the object being to furnish such a fastening having the improved construction hereinafter described and claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 is a plan view of a trace-fastening embodying my invention. Fig. 2 is a side elevation of the same, including a section of the trace. Fig. 3 is an end view of the fastening drawn in projection with Fig. 2. Fig. 4 is a view similar to Fig. 2, showing an additional improvement. Fig. 5 is an explanatory diagram.

Similar characters designate like parts in all the figures.

One end of an ordinary whiffletree is designated by A. This has the usual ferrule, B, and perforated hook C, over which the slotted trace D is placed.

E designates a rigid lever, usually made of cast metal, (iron.) This part is bifurcated at its inner (right hand) end, and the two arms 2 and 3 are pivoted to the side of the whiffletree about in line with hook C by screws 4 and 5. The lever has in its middle a stop, N, Figs. 2 and 4, to limit its downward movement, and at its outer end a thumb-piece, T, whereby it is operated. Near the outer end and in the under side thereof said lever has fixed therein the two ends of a loop-shaped wire detent-spring, comprising the two sides 6 and 7 and the connecting curve 8. The sides and the curved point of the spring are bent substantially as in Figs. 2 and 4, to form the inclined catch 10, which passes down through opening 9 in hook C and rests with its outwardly-inclined surface on the under corner of said hook, as shown best in Fig. 4. The point 8 being bent in, as shown, allows the spring to enter properly, when, after the trace has been hooked on, the lever is pushed down again into place.

In Fig. 4 I have shown the spring having, as I prefer to make it, another bend, 12, which carries its upper end, 13, to the right, so as to stand close to the trace when this is drawn out against the hook, the object being to gain by this means additional security.

My improved fastening is especially designed for use in connection with whiffletrees somewhat old and worn, in which the holes 9 are out of shape, as shown, for instance, in Fig. 5 by contrast with line 14. This I find to be the case with the larger proportion of those in use, and besides the corners are nearly always rounded off, either in making or by wear, so that they are unfit for holding the old forms of spring-catches which have been proposed for fastening traces. My fastening, however, is applicable to all such whiffletrees by simply setting screws 4 and 5 more or less up or down, so as to bring (stop N serving for the moment as a fulcrum) the inclined part 10 about centrally against the lower outer corner of opening 9, as in Fig. 4. This mode of setting produces a tension between the several parts which makes the fastener anti-rattling, so that a very fine adjustment of it on the whiffletree is unnecessary, and its proper application is readily made by persons not skilled in mechanics; and since most of this class of fastenings are in practice applied by farmers, hostlers, and others having little acquaintance with mechanical operations, that is an important advantage.

I have described above the spring as having the two sides 6 and 7 connected by curve 8, which forms the rounded entering-point. One object of this construction is to provide a spring, which, though short, shall have sufficient elasticity for the purpose, and especially which can be manufactured for a very small cost.

Another important object is to furnish a spring for the purpose which shall operate properly in connection with the misshapen and worn whiffletrees to which the fastenings are more generally applied. This object is fully accomplished by the specified construction. The two sides 6 and 7 of the spring, when entering an opening which, as in Fig. 5, stands obliquely, act practically as two independent springs, each one bearing properly on its side

of the opening. Of course the wire comprising the spring must in this case twist a little to permit that action of the spring. In practice the wire does twist very readily to a greater extent than required for the purpose. Trace-fasteners (or the "spring-catch" above mentioned) comprising an arm or lever pivoted to the whiffletree, and provided with a hook or spring entering or engaging with hook C are, as I am aware, old and well known, therefore I do not claim the same, broadly, but limit myself to the improvements herein set forth.

Having thus described my invention, I claim—

1. As an article of manufacture, the improved trace-fastening herein described, it comprising the rigid lever E, formed at one end, substantially as described, for attachment to a whiffletree, and having at the other end a two-sided wire detent-spring depending therefrom, substantially as set forth, and for the purpose specified.

2. The combination, in a trace-fastening and with the whiffletree A, having hook C, of lever E, pivoted to said whiffletree and having stop N, and the loop-shaped wire spring comprising sides 6 and 7 and point 8, and having the inclined hook 10, all constructed and arranged to operate substantially as set forth.

R. FREDRICK RICE.

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