

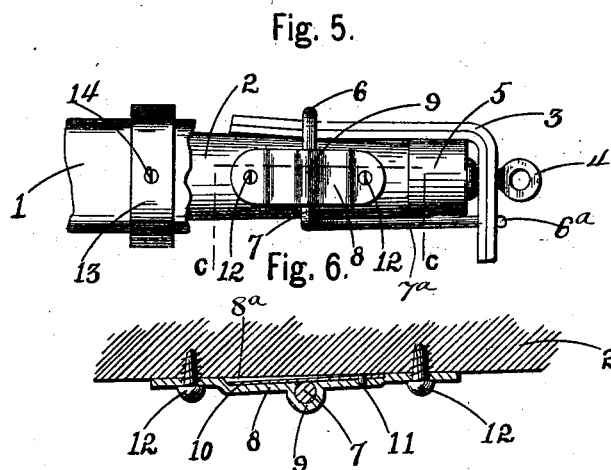
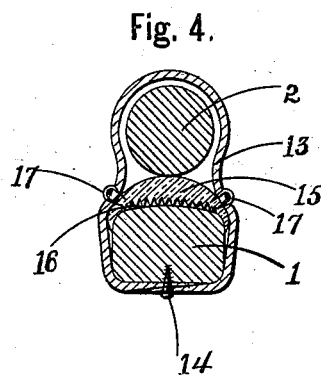
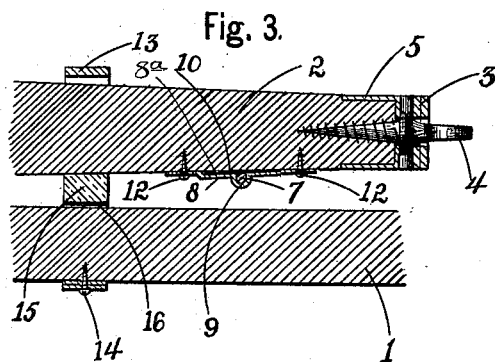
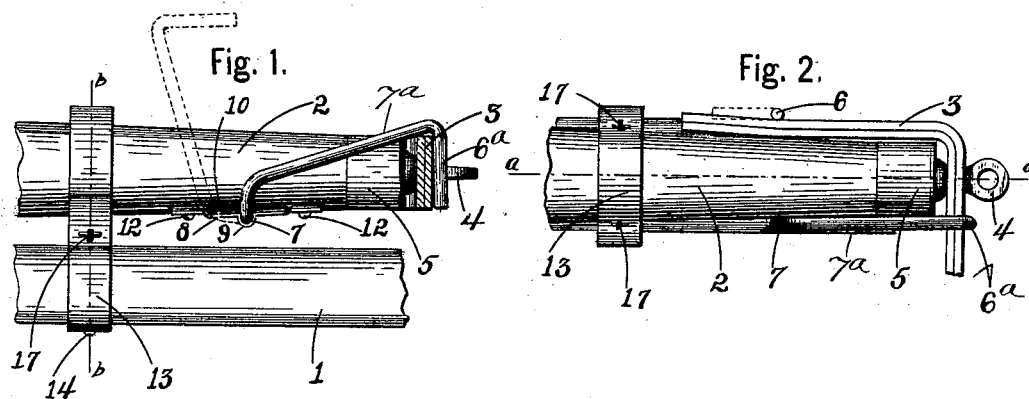
No. 649,208.

Patented May 8, 1900.

H. MICHAEL.
TUG RETAINER.

(Application filed Sept. 12, 1899.)

(No Model.)



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY MICHAEL, OF HAMBURG, NEW YORK.

TUG-RETAINER.

SPECIFICATION forming part of Letters Patent No. 649,208, dated May 8, 1900.

Application filed September 12, 1899. Serial No. 730,217. (No model.)

To all whom it may concern:

Be it known that I, HENRY MICHAEL, a citizen of the United States, residing at Hamburg, in the county of Erie and State of New York, have invented certain new and useful Improvements in Tug-Retainers, of which the following is a specification.

My invention relates to an improved tug holding or retaining device; and one object of the invention is to pivot or otherwise movably secure simple and cheap attachments to the ends of the whiffletree that are adapted to be hooked over the ends of the traces to secure them in place.

Another object of my invention is to interpose a portion of spring rubber or equivalent material between the whiffletree and the adjacent portion of the carriage to prevent rattling and form a spring-cushion for the whiffletree when pressed or moved backward.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The invention is susceptible to various changes in the form, proportion, and minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 represents a side elevation of a portion of a whiffletree and its support having my improved attachment secured thereto. Fig. 2 is a top plan view of the same. Fig. 3 is a longitudinal section on or about line *a a*, Fig. 2. Fig. 4 is a transverse section on or about line *b b*, Fig. 1. Fig. 5 is a bottom plan view, a portion of the shaft or thill cross-bar being broken away to expose the attachment. Fig. 6 is an enlarged section on or about line *c c*, Fig. 5.

In referring to the drawings in detail like numerals designate like parts.

1 represents the cross-bar of the thills or shafts of a vehicle, which has the whiffletree 2 attached thereto in the usual manner.

The trace 3 is provided with the usual opening in its end, through which is passed the metallic projection 4 in the end of the whiffletree. Over each end of the whiffletree a metal cap 5 is fitted to give additional strength to

the ends. The metallic projections 4 are preferably screw-threaded at one end and are inserted in an opening in the metal caps and firmly screwed into the ends of the whiffletree.

The trace fastening or locking attachment is preferably formed of a wire or metal bar bent to the desired angular formation and is pivoted to the whiffletree 2. The ends 6 and 6^a of said bar are bent at an angle from the intermediate portions 7 and 7^a and hook over the ends of the trace 3 to secure or lock it against displacement from the whiffletree, the end 6 bending upward at substantially a right angle from one end of the intermediate portion 7 and the opposite end of said portion bending vertically upward and then diagonally forward and upward to form the angular portion 7^a, which bends downward at its forward end to form the end 6^a. This metallic bar is preferably pivoted to the under side of the whiffletree by means of a metal plate 8, having a socket or depression 8^a, which enlarges at or near its center to form a journal-seat 9 for the horizontal portion 7 of the angular bar, and one side of the portion 7 is slightly flattened, as shown in Fig. 6, to allow a strip of spring material 10 to press against and hold the fastening or locking attachment in a raised position, as shown in dotted lines in Fig. 1, when detached from the trace 3. The strip of spring material 10 is fastened at one end to the metal plate 8 by a rivet 11 or similar fastening device, the other end being unfastened to provide an easy means for removing the angular bar from its seat in the plate when said plate is detached from the whiffletree. The metal plate 8 is secured to the whiffletree 2 by screws 12 or similar means. The socket or depression 8^a in the plate is made deeper at one end, preferably the rear end, to afford movement to the free end of the spring under the rotation of the portion 7. (See Figs. 3 and 6.) The whiffletree 2 and the cross-bar of the thills are secured together at each end by a strap 13, of leather or similar material, both ends being fastened together and to the cross-bar, preferably on the under side, by means of a small screw 14. Interposed between the whiffletree and the cross-bar is an antirattling device, which preferably consists of a cres-

cent-shaped cushion of spring-rubber 15 or equivalent material of suitable size and formation, having its lower edge 16 serrated or notched to render the cushion more elastic or yielding; and its upper surface is convex to allow greater freedom to the whiffletree within the limited range of lateral movement permitted by the restraining-strap 13. The cushion is held in position by staples 17, which pass through the strap 13 and into the cushion at or near its ends and also serve to retain the strap in position.

To attach a trace to the end of a whiffletree provided with my improved attachment, the trace is slipped over the end, with its outer end bent longitudinally to the whiffletree, and the pivotal attachment is turned into locking position, bringing the hooked ends 6 and 6^a over the trace, substantially as shown in Figs. 1, 2, and 5. The angular portion 7^a extends closely along the surface of the whiffletree when the device is in its locked position, (see Figs. 2 and 5,) and the bar is thus materially strengthened and held rigidly against movement independent of the whiffletree other than a vertical turning movement in its journal-bearing to unlock the tug.

It is obvious that this attachment can be pivoted to any of the well-known forms of whiffletrees, and I therefore reserve the right to attach it to any to which it may be adapted.

I claim as my invention—

1. A trace-holding device bent into form from a single metal bar or wire and having an inner vertical hook end 6, which bends at its lower end to form a horizontal portion 7,

the opposite end of which bends vertically upward and then diagonally forward and upward from an angular portion 7^a, which in turn bends down to form a second vertical hook end 6^a, and a plate attached to a whiffletree and having an enlargement in which the horizontal portion 7, journals, as set forth.

2. The combination with a whiffletree and its support, of an antirattling cushion of rubber having a convex top surface and a notched or serrated bottom surface interposed between said whiffletree and support, as set forth.

3. The combination with a whiffletree, its support and a leather strap encircling said whiffletree and support, and sufficiently loose to allow a limited range of movement to said whiffletree independently of said support, of a cushion of spring-rubber interposed between said whiffletree and support and having a convex top surface and a notched lower surface, and staples passed through the straps and into the ends of the cushion, as set forth.

4. The combination with a whiffletree, its support, and a leather strap encircling said whiffletree and support, and sufficiently loose to allow a limited range of movement to said whiffletree independent of said support, of a cushion of spring-rubber interposed between said whiffletree and support, said cushion having a notched lower surface to increase its elasticity, as set forth.

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