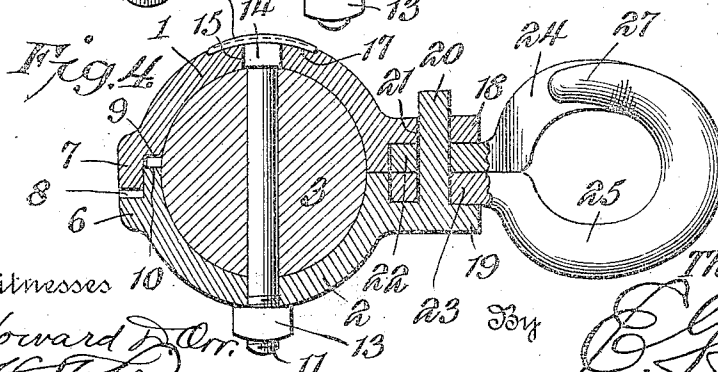
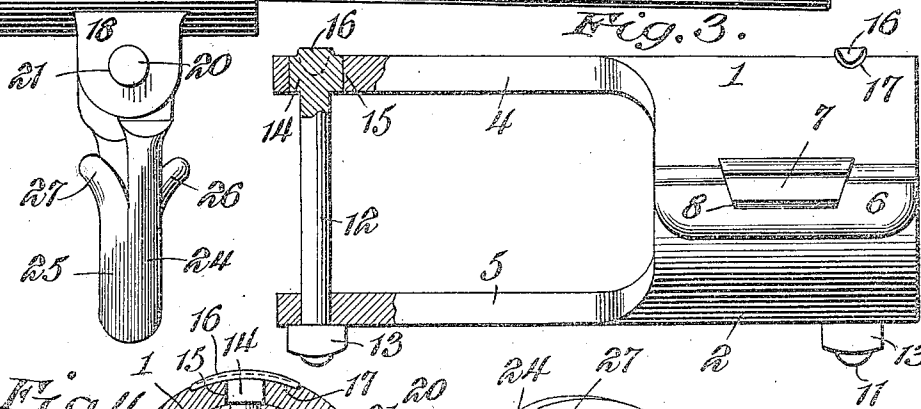
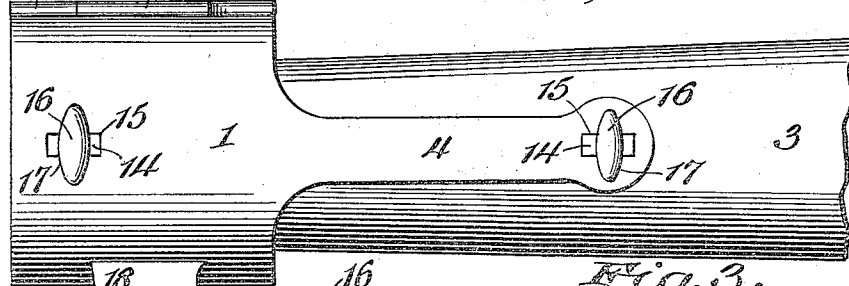


962,422.



Witnesses

Howard D. Orr.
H. F. Riley

Inventor,
Thomas E. Ewer,

By
E. G. Siggers.
Attorney

UNITED STATES PATENT OFFICE.

THOMAS E. EWER, OF FORT DES MOINES, IOWA.

TRACE-FASTENER.

Specification of Letters Patent. Patented June 28, 1910.

962,422.

Application filed March 15, 1909. Serial No. 483,484.

To all whom it may concern:

Be it known that I, THOMAS E. EWER, a citizen of the United States, residing at Fort Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Trace-Fastener, of which the following is a specification.

The invention relates to improvements in trace fasteners.

10 The object of the present invention is to improve the construction of trace fasteners, and to provide a simple, inexpensive and efficient trace fastener, adapted to be readily applied to a swingletree without heating and capable of being readily removed when desired.

20 A further object of the invention is to provide a trace fastener of this character, capable of enabling a trace to be readily connected to and disconnected from it, and at the same time of effectually preventing a trace from becoming accidentally unfastened when the same is slackened while going down hill.

25 Another object of the invention is to provide a trace fastener in which any of the parts when worn may be readily replaced.

30 With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims here-
35 to appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

40 In the drawing:—Figure 1 is a perspective view of one end of a swingletree, equipped with a trace fastener, constructed in accordance with this invention. Fig. 2 is a plan view of the same. Fig. 3 is a rear elevation partly in section. Fig. 4 is a transverse sectional view.

45 Like numerals of reference designate corresponding parts in all the figures of the drawing.

50 1 and 2 designate upper and lower substantially semi-cylindrical sections of a metallic cuff, which is adapted to be arranged on the ends of a swingletree 3, as clearly illustrated in Fig. 1 of the drawing. The upper and lower sections of the cuff are provided at their inner edges with narrow arms
55 or extensions 4 and 5, disposed longitudi-

nally of the swingletree and adapted to reinforce the same. The sections 1 and 2 are interlocked at the back of the cuff by means of a boss or enlargement 6 and a tapered or wedge-shaped lug 7, the boss or enlargement 60 being provided with a tapering recess 8 to receive the lug 7, as clearly illustrated in Fig. 3 of the drawing. The contiguous edges of the upper and lower sections are arranged in corresponding vertical planes, and the 65 boss or enlargement 6 and the lug 7 are located in rear of the vertical plane of the rear edges 9 and 10. The recess 8, which receives the lug, is provided at its ends with inclined side walls, and the side edges of the lug are also inclined and engage the side walls while 70 the lower edge of the lug 7 is in spaced relation with the bottom of the recess, whereby the sections of the sleeve are wedged together and are firmly held against horizontal 75 movement on each other. Although in Fig. 3 of the drawing, the lug 7 is formed integral with the upper section 1 and the boss 6 is carried by the lower section 2 of the cuff, it will be readily apparent that the parts 80 may be reversed if desired.

The sections of the cuff are secured to the swingletree by means of outer and inner vertical bolts 11 and 12, piercing the sections and the swingletree near the end of 85 the latter and also at the terminals of the longitudinal arms, which are preferably enlarged adjacent to the bolt 12, as clearly illustrated in Figs. 1 and 2 of the drawing. The bolts, which are equipped at their 90 threaded ends with nuts 13, are provided at the other end with an oblong head 14 of rectangular form, extending longitudinally of the whiffletree and arranged in oblong 95 openings 15 of the upper section 1, whereby the bolts are effectually prevented from rotating while the nuts are being screwed on or off their threaded ends. The oblong openings extend entirely through the upper section 1 of the cuff, and the bolts are provided 100 with transversely disposed supplemental heads 16, forming lateral extensions and fitted in recesses 17, located in advance and in rear of the openings 15. The supplemental heads are rounded at their outer 105 faces to present a smooth exterior, and as they project beyond the sides of the openings 15 they prevent the bolts from being drawn through the same.

The sections of the trace fastener are pro- 110

vided at the front with forwardly projecting spaced longitudinal lugs 18 and 19; the lower lug 19 is provided with an upwardly extending integral pivot 20, and the upper
 5 lug 18 has a perforation 21 through which the pivot extends. The lugs 18 and 19, which are spaced apart, receive ears 22 and 23 of split ring members 24 and 25. The
 10 ears 22 and 23 are arranged horizontally, and the pivot extends through the openings thereof and permits the split ring members to swing horizontally. The split ring members, which consist of curved hooks, are provided at their inner or rear ends with the
 15 said ears, and they have flat inner side faces and are adapted to form a ring for the reception of a trace (not shown). The bills or ends 26 and 27 of the split ring sections extend laterally in opposite directions.
 20 These laterally extending bills confine the trace on the front or outer portion of the sections or members, and while the trace may be readily engaged with and disengaged from the split ring members, the latter effectually prevent the trace from becoming accidentally unfastened when the
 25 same is slackened in going down hill. The trace-engaging device formed by the split ring members is movable laterally on the
 30 pivot 20.

The trace fastener, which may be cheaply applied to a swingletree without heating or shrinking the sleeve on the same, is adapted to be cheaply manufactured and any one
 35 of the parts when worn may be readily removed and replaced by a new piece.

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

40 1. A trace fastener including separable cuff sections conforming to the configuration of a whiffletree and having front and rear abutting edges fitted together at the front and back of the whiffletree, said sections being
 45 provided at their front portions with spaced lugs, one of the lugs having a pivot piercing the other lug, a trace-engaging device mounted between the said lugs and connected with the same by the said pivot, and
 50 a fastening device piercing the sections and arranged to pass through the whiffletree and retaining the edges of the cuff sections in abutting relation and securing the lugs and the pivot in engagement with the trace-engaging device.
 55

2. A trace fastener including separable cuff sections conforming to the configuration of a whiffletree and having front and rear edges fitted together at the front and back
 60 of the whiffletree, said sections being provided at their front portions with spaced lugs, one of the lugs having a pivot piercing the other lug, a trace-engaging device composed of split ring members provided with
 65 ears arranged on the pivot and fitting be-

tween and engaged by the lugs of the cuff sections, and a fastening device piercing the cuff sections and arranged to pass through the whiffletree and retaining the edges of the sections in abutting relation and securing the lugs and the pivot in engagement with the trace engaging device.

3. A trace fastener including separable cuff sections arranged to embrace a whiffletree and having front and rear edges fitted together, said sections being also provided with horizontal forwardly projecting front lugs having flat inner faces and spaced from each other by the front edges of the sections, one of the lugs being provided with a pivot, and a trace-engaging device composed of split ring members having ears arranged between the said lugs and mounted on the pivot, and a fastening device piercing the cuff sections beyond the lugs thereof.
 85

4. A trace fastener including cuff sections arranged to embrace a swingletree, one of the sections being provided at the back with a tapered recess having inclined side walls and the other section having a tapered lug extending into the recess and engaging with the inclined walls thereof and wedging the sections in interlocked relation, a trace-engaging device connected with the sections at the front of the trace fastener, and a fastening device connecting the sections and maintaining the tapered lug in engagement with the inclined edges of the said recess.
 95

5. A trace fastener including cuff sections adapted to embrace a swingletree, one of the sections being provided at the back with a boss located beyond the edge of the section and having a tapered recess forming inclined walls, and the other section being provided beyond its adjacent edge with a projecting tapered lug having inclined side edges arranged to engage the inclined side walls of the recess, means for connecting the sections for holding the lug in engagement with the recess, and a trace-engaging device connected with the sections at the front of the cuff.
 100

6. A trace fastener including cuff sections adapted to embrace a swingletree, one of the sections being provided with an oblong opening and having notches at opposite sides of the opening, a bolt extending through the sections and provided with an oblong head arranged in the said opening, said bolt being also provided with a superimposed transverse head extending from the oblong head and engaging with the said notches, and a trace-engaging device connected with the sections of the cuff.
 115

7. A trace fastener including separable cuff sections adapted to embrace a whiffletree and having front and rear meeting edges and provided at their inner side edges with upper and lower relatively narrow integral arms extending longitudinally of the whiffle-
 125
 130

tree and centrally of the upper and lower
faces thereof, an outer fastening device
piercing the cuff sections midway between
their front and rear edges, an inner fasten-
5 ing device piercing the terminals of the up-
per and lower arms, and a trace engaging
device detachably held by the cuff sections.

In testimony, that I claim the foregoing as
my own, I have hereto affixed my signature
in the presence of two witnesses.

THOMAS E. EWER.

Witnesses:

ROBERT W. REID,
JOSEPH J. QUINN.