

(No Model.)

H. K. PORTER.
WHIFFLETREE PLATE.

No. 511,796.

Patented Jan. 2, 1894.

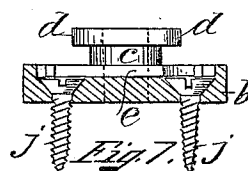
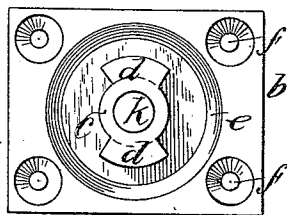
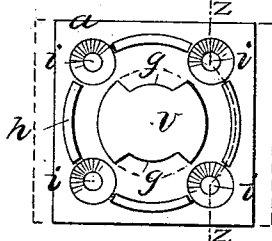
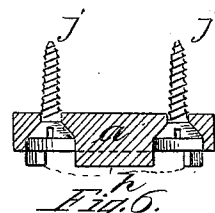
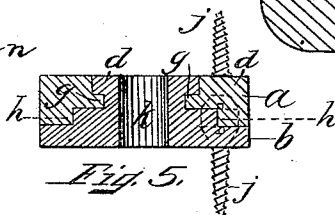
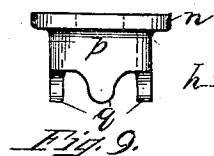
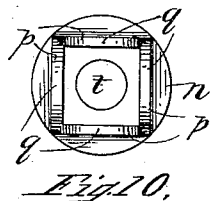
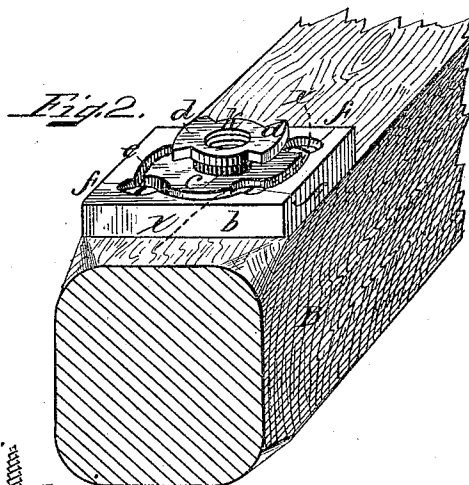
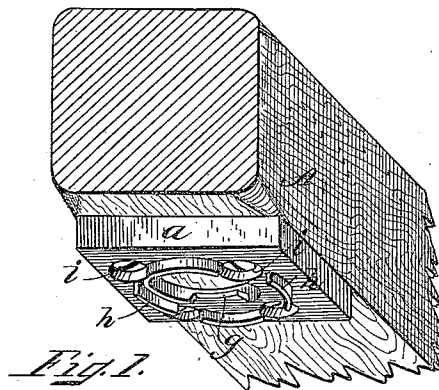
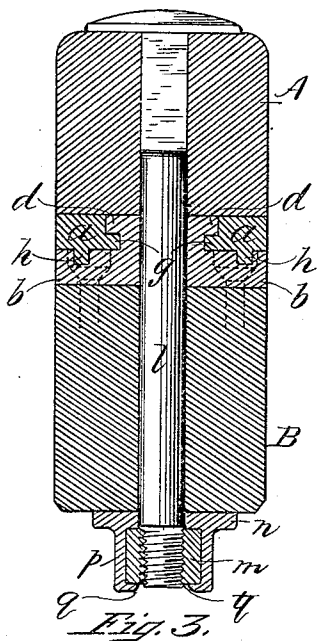


Fig. 4.

Fig. 8.

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UNITED STATES PATENT OFFICE.

HENRY K. PORTER, OF BOSTON, MASSACHUSETTS.

WHIFFLETREE-PLATE.

SPECIFICATION forming part of Letters Patent No. 511,786, dated January 2, 1894.

Application filed July 15, 1891. Serial No. 399,590. (No model.)

To all whom it may concern:

Be it known that I, HENRY K. PORTER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Whiffletree-Plates, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

In said drawings Figure 1 is an under side perspective view of a section of the whiffletree with its half of the plate thereto secured. Fig. 2 is an upper side perspective view of a section of the cross-bar with its half of the plate thereto secured. Fig. 3 is a vertical transverse section through the cross-bar, whiffletree, plate and nut, with the pivot bolt shown in elevation. Fig. 4 is a top plan view of the half of the plate shown in Fig. 1 as attached to the whiffletree. Fig. 5 shows the plate in central transverse section, as in Fig. 3, but with a modification in its construction. Fig. 6 is a section on line $z z$, Fig. 4, through the half of the plate shown in Fig. 1. Fig. 7 is a section on line $x x$, Fig. 2. Fig. 8 is a top plan view of the plate shown in Fig. 2, with a modification of the same. Fig. 9 is a side elevation of the nut casing. Fig. 10 is an under side plan view of Fig. 9.

This invention relates to the coupling, usually termed the whiffletree plate, by which the whiffletree of vehicles is, at its lineal center, pivotally attached to the cross-bar; and it consists in features of novelty and the combination thereof, as will be next hereinafter described, and then specified in the appended claims.

Referring again to said drawings, A represents the whiffletree and B, the cross-bar.

a is the half of the plate secured to the whiffletree and b is the half of the plate secured to the cross-bar. Part b is formed with a tubular neck c , from which on each side the fan-tailed wings or flanges d, d , project; and the bolt hole h , in the axis of said neck extends entirely through b , as shown in Figs. 3 and 5. A concentric groove e is formed in the upper face of b , as shown in Figs. 2, 3, 7, and 8, and the holes f for reception of the securing screws j are arranged in the path of said groove e ; being counterbored, with parallel walls, to

the bottom of said groove, then duly counter-sunk to receive the conical heads of screws j , and with a hole, below the counter-sink, for the bodies of the screws. From the lower face of part a , the concentric rib h projects; which is adapted to fit within groove e , in part b . There is also formed directly through part a , the circular passage v of a size to receive the wings d of part b , but the sections or flanges g, g , project within said passage v as shown in Figs. 1, 4, and 5, for the purpose of interlocking the wings d as shown in Fig. 3, and as already referred to. The screw holes i , for screws j , are formed to intersect the rib h and are necessarily counterbored through the same to the base thereof; and preferably to a depth so that the conical counter sink will reach nearly but not entirely through the plate as shown in Fig. 6. By thus forming one part of the plate with a concentric groove and the other half with a corresponding rib, the two halves always remain centered relatively to each other; which is not the case when as heretofore the bearing of neck c , against the inner faces of flanges g , and the bearing of wings d , against the wall of passage v , constituted the sole means of holding the two halves central to each other; and the only resistance to the lateral strain and consequent friction due to the draft strain of the horse upon the whiffletree.

To obviate the constant tendency to twist off the threaded portion of the pivot bolt l , due to the adhesion of its nut m , to an iron washer as usually arranged between the nut and bar B; I provide a bronze shell or casing having a circular base n , the walls p , to receive nut m , and points q , found on said walls, so that when the nut is placed in the shell, as shown in Fig. 3, said points q , are clinched down upon the nut as shown, thus firmly securing the two together, so that when the parts are in use the base n of the shell forms the bearing upon bar B, and by reason of its non-corrosive and non-adhesive nature, moves freely on the bar, and thus relieves bolt l , of the usual torsional strain resulting from the corrosion of the iron nut and washer.

By arranging the holes for screws j , within the circle of groove e , and rib h and counter-

boring the same, the plate may be provided with the rib and the groove and yet be what is termed a "square" plate; that is, a plate having no greater length than width; a form
5 much desired for certain classes of vehicles; but when preferred, the ends of the plate may be extended as indicated by dotted lines in Fig. 4, and as shown in Fig. 8, so that the screw holes need not bisect the concentric
10 groove and rib.

In Fig. 5, all the metal from the outer wall of groove *e* to the outline of the plate is removed, to the depth of the groove, and the rib *h* is extended to the outline of its plate;
15 so that the same bearing to resist lateral force is provided as when the groove and rib have both walls concentric; but the halves of the plate have at their outlines an unequal thick-

ness which is objectionable, as an equal thickness is much preferred.

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I claim as my invention—

1. In combination with the pivot bolt of a whiffletree coupling, arranged to turn with the coupling, a nut threaded to said bolt and a bronze shell therefor having the bearing
25 base *n* substantially as specified.

2. A whiffletree plate having in one part, neck *c*, wings *d*, *d*, and concentric groove *e*, and in the other part passage *v*, flanges *g*, *g*, and concentric rib *h*, all substantially as
30 specified.

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Witnesses:

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