H. K. PORTER.
Whiffletree-Coupling.

No. 221,471. Patented Nov. 11, 1879.

FIG. 1

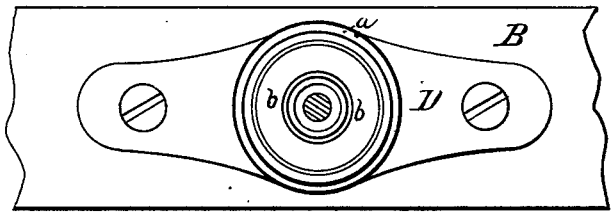


FIG. 2

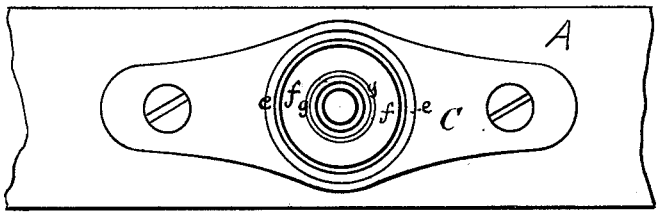


FIG. 3

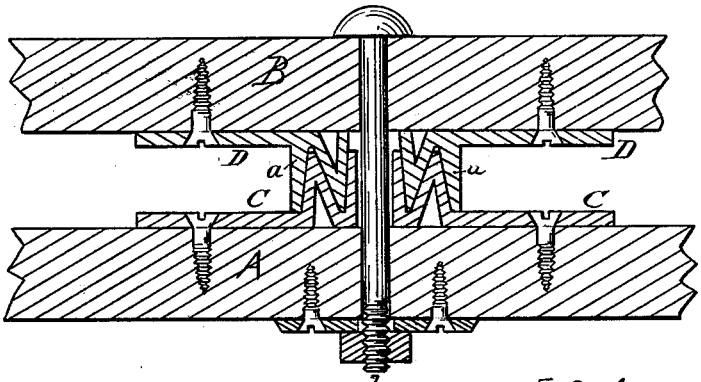


FIG. 5

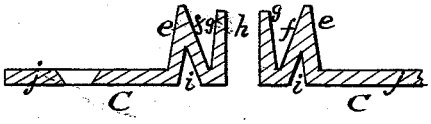
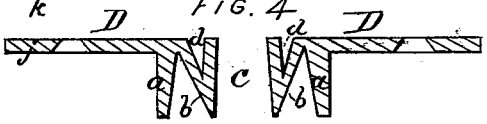


FIG. 4



Witnesses.

Herbert F. Whitman.

J. W. Porter

Inventor.

Henry K. Porter

UNITED STATES PATENT OFFICE.

HENRY K. PORTER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN WHIFFLETREE-COUPLINGS.

Specification forming part of Letters Patent No. **221,471**, dated November 11, 1879; application filed March 14, 1879.

To all whom it may concern:

Be it known that I, HENRY K. PORTER, of the city of Boston, State of Massachusetts, have invented an Improved Whiffletree-Center, of which the following is a specification.

The object of my invention is to produce a whiffletree center or coupling at a minimum of cost which shall have the largest possible bearing and wearing surface within a given area of cross-section, and which shall not by wearing become loose, but shall by such wearing tend to more perfectly fit the corresponding faces together; and the invention consists in a coupling formed of two members, to be respectively secured in the usual manner to the cross-bar and whiffletree, each of said members having formed thereon a circular rim or wall of such respective diameter that one rim or wall fits within the other, while within the larger or outer wall is formed a hollow truncated cone, and within the smaller or interior rim or wall is formed a chamber corresponding with the said cone in the other half, while from the center of such chamber, and surrounding the pivotal bolt-hole, is formed a thimble, which fits into the aperture in the said truncated cone, all as will by the aid of the accompanying drawings be fully described.

Figure 1 is an under-side or inverted-plan view of the member which is secured to the whiffletree. Fig. 2 is a plan or top view of the member which is secured to the cross-bar. Fig. 3 is a central vertical section taken longitudinally through the cross-bar and whiffletree and through the coupling. Fig. 4 is a detached section, showing the upper or whiffletree member of the coupling taken as in Fig. 3; and Fig. 5 is a similar section of the under or cross-bar member of the coupling.

In these views, A is the cross-bar. B is the whiffletree. C is the member of the coupling attached to the cross-bar, and D is the member secured to the whiffletree. These members may be formed with the ears *j*, for connection with the whiffletree and cross-bar, or with any desired means for attachment to such parts.

a a represent the circular rim formed on member D. *b b* show the wall of the cone. *c* is the hole through the cone, and *d d* a circular groove in the back of the plate to obviate superfluous metal. *e e* show the outer wall of the circular rim on plate C, which fits into rim *a*, formed on plate D. *f f* show the wall of the conical chamber formed inside the wall *e e*. *g g* show the thimble which surrounds the hole *h*, which receives the whiffletree-bolt *k*.

The hole *c* in plate D receives the thimble *g*, as shown.

The wall or face *e* retiring or slanting back as it rises, with a corresponding line inside rim *a*, and the thimble *g*, with the walls of hole *c*, being similarly formed, therefore the wear by use upon all parts of the center, and especially upon the cones, tends constantly to improve or maintain the contact and fitting together of the corresponding faces of the two parts of which the center is composed.

I claim as my invention—

1. In a whiffletree-center having two parts or members, C D, the cone *b* in one of such members and the corresponding concentric wall *f* in the other member, and both outside of the inclosing-walls of the respective center passages, *c h*, substantially as specified.

2. In a whiffletree-center having two parts or members, C D, the combination, with cone *b* in one part and the corresponding wall *f* in the other part, of the concentric rim *a*, and the corresponding wall *e*, to fit within rim *a*, substantially as specified.

3. In a whiffletree-center having two parts, C D, the combination, with a cone, *b*, in one part, and having a passage, *c*, through its center, and the concentric wall *f* in the other part, of the thimble *g*, to fit the passage *c* in such cone, substantially as specified.

4. In a whiffletree-center having two parts, C D, the combination of concentric rim *a*, wall *e*, cone *b*, wall *f*, and thimble *g*, all substantially as specified.

HENRY K. PORTER.

Witnesses:

EUGENE HUMPHREY,

T. W. PORTER.