H. KEYES.
Whiffletree-Plate.

No. 212,803. Patented Mar. 4, 1879.

Fig. 1.

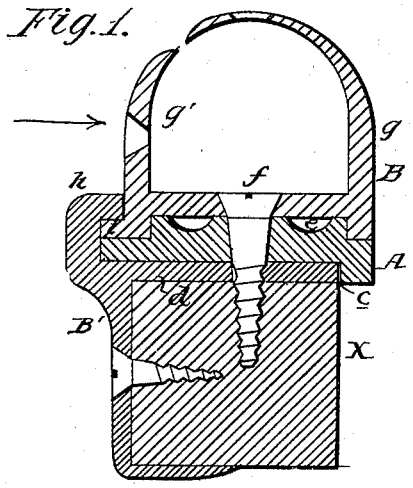


Fig. 4.

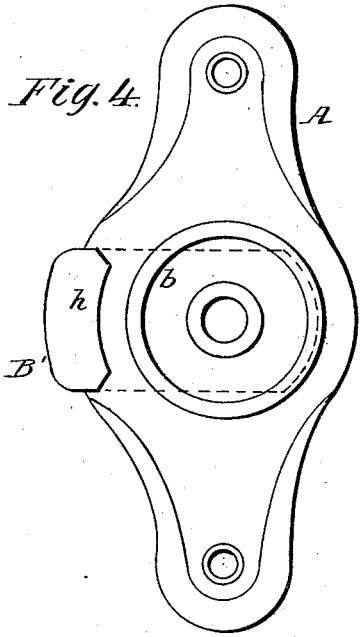


Fig. 3.

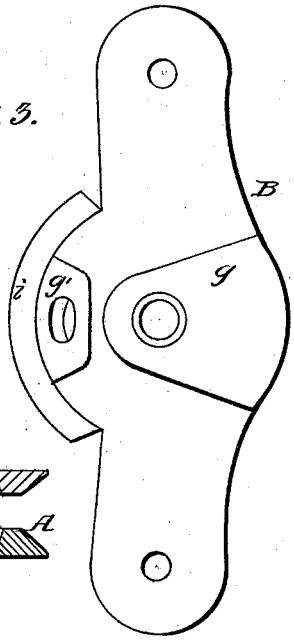
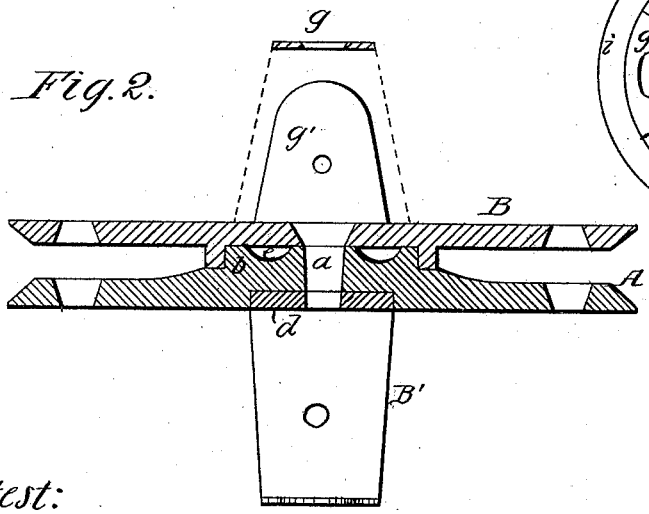


Fig. 2.



Attest:
J. Benjamin.
E. A. Welsh

Inventor
H. Keyes
By his attorney
Charles E. Foster

UNITED STATES PATENT OFFICE.

HORATIO KEYES, OF TERRE HAUTE, INDIANA.

IMPROVEMENT IN WHIFFLETREE-PLATES.

Specification forming part of Letters Patent No. **212,803**, dated March 4, 1879; application filed February 4, 1879.

To all whom it may concern:

Be it known that I, HORATIO KEYES, of Terre Haute, Vigo county, Indiana, have invented Improvements in Connections for Whiffletrees, of which the following is a specification:

My invention is a whiffletree-coupling constructed as fully described hereinafter, so as to permit a free movement of the tree, yet hold it securely in contact with the double-tree without the entire strain being resisted by the connecting-bolts.

In the drawings which form a part of this specification, Figure 1 is a transverse section through the coupling; Fig. 2, a longitudinal section, and Figs. 3 and 4 plan views of parts of the coupling.

A is the base-plate of the coupling, consisting of a plate having rivet-holes at the ends, a central opening, *a*, a surrounding annular rib, *b*, and a recess, *c*, at its under face, to receive the horizontal tongue *d* of a clamp-plate, B′, bolted to the back of the double-tree X.

On the plate A rests the movable plate B, having a recess, *e*, to receive the annular rib *b*, and a central opening for the passage of a screw or bolt, *f*, which extends also through the plate A and tongue *d* into the tree.

In the wings of the plate B are openings for bolts or screws, by which the plate is attached to the single-tree, and from opposite sides of the plate extend lips *g g′*, which clasp the tree at the center and are bolted thereto.

At the back edge of the plate B is a curved rib, *i*, which extends beneath a lip, *h*, of the clamp B′. The screw or bolt *f* secures the clamp-plate B′ in its place, while the annular projection *b* of the plate A, which is secured by bolts to the double-tree, effectually resists the draft upon the single-tree tending to pull the plate B in the direction of the arrow.

The bolt *f* holds the plate B down upon its bearing; but should this bolt break, the lip *h* of the clamp B′, which in operating prevents the plate B from being lifted up by the forward draft, will effectually prevent the separation of the plate B from the plate A without interfering with the free vibration of the former.

By this construction the screws or bolts which secure the plates A B′ in place all aid in retaining the entire coupling in connection with the single-tree; but little strain, however, can come upon any of the bolts, owing to the bearings of the plates one upon the other, as shown, while the breaking or removal of the bolt *f* would not allow the withdrawal of the plate B, which would be retained in its place by the lips *h i* and projection *b*.

I claim—

1. The combination of the stationary plate A, plate B, vibrating on the bolt *f*, and annular rib *b*, curved rib *i*, and overhanging lip *h* of plate B′, all arranged to retain the plate B in place independently of the bolt, as set forth.

2. The combination, in a coupling for whiffletrees, of the plate A, secured to the double-tree, its annular rib *b*, the plate B, turning on a bolt, *f*, secured to the single-tree, and having a recess, *e*, and a rib, *i*, overhung by a lip, *h*, of a clamp-plate, all as set forth.

3. The combination of the plates A and B and the clamping-plate B′, having a tongue, *d*, fitting a recess, *c*, of the plate A, and a lip, *h*, overhanging a rib, *i*, of the plate B, as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HORATIO KEYES.

Witnesses:

ISAAC H. ROYSE,

JAY H. KEYES.