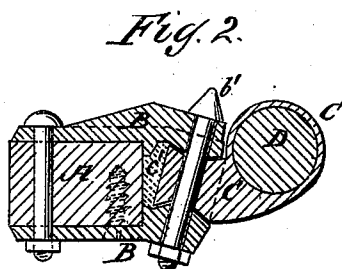
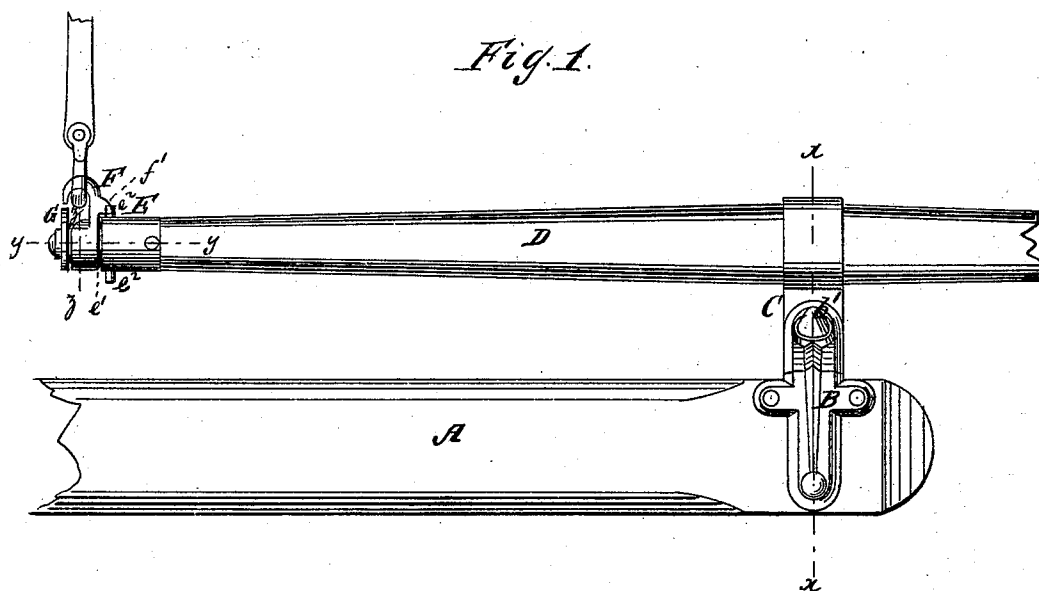


G. W. INGERSOLL & H. L. FISHER.

WHIFFLETREE CONNECTIONS.

No. 180,238.

Patented July 25, 1876.



WITNESSES:

E. Wolff.
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UNITED STATES PATENT OFFICE.

GEORGE W. INGERSOLL AND HARVEY L. FISHER, OF TOLEDO, IOWA.

IMPROVEMENT IN WHIFFLETREE-CONNECTIONS.

Specification forming part of Letters Patent No. **180,238**, dated July 25, 1876; application filed April 10, 1876.

To all whom it may concern:

Be it known that we, GEORGE W. INGERSOLL and HARVEY L. FISHER, of Toledo, in the county of Tama and State of Iowa, have invented a new and useful Improvement in Whiffletree-Connections, of which the following is a specification:

Figure 1 is a top view of a part of a whiffletree and double-tree to which our improvement has been applied. Fig. 2 is a detail section taken through the line *xx*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention consists in an inclined whiffletree-coupling, composed of two unequal bars connected by an eye-bar, as hereinafter more fully described.

A represents a double-tree or a cross-bar of a pair of thills, and D represents a whiffletree connected with it. To the double-tree A are bolted two arms, B, the forward ends of which project to unequal distances, and have an inclined hole formed through them to receive the bolt *b'*, by which they are connected with the arm of the band or eye-bar C, through which the whiffletree D passes, and to which it is secured. The rear end of the arm or bar C projects into such a position as to pass between the ends of the bars B. The inner sides of the arms B are convexed, and the opposite

sides of the arm or bar C are concaved, to fit and work between the said convex surfaces. The inclination of the coupling B C causes either end of the whiffletree that may swing back to pass above or below the double-tree or cross-bar A, according as the longer arm B is placed above or below the shorter arm, so that there can be no rubbing and wear between said double-tree and whiffletree. All rattling in the coupling B C may be prevented by a rubber block, *c'*, interposed between the end of the eye-bar C, the bars B, and the forward side of the double-tree or cross-bar A. The bolt *b'* may be replaced by some other fastening, if desired; but we prefer to use the bolt, as it enables the wear to be readily taken up.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The inclined coupling or connection, formed of the two unequal bars B and the eye-bar C, pivoted to each other, for connecting a whiffletree with its double-tree or cross-bar, substantially as herein shown and described.

GEORGE W. INGERSOLL.
HARVEY L. FISHER.

Witnesses:

WALTER BRODBROOK,
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