J. IVES.

Whiffletree.

No. 108,357. Patented Oct. 18, 1870.

Fig. 1

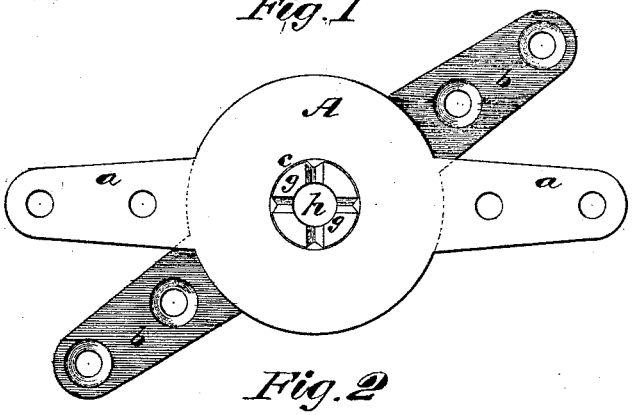



Fig. 2

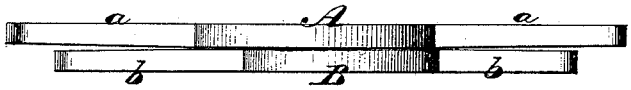



Fig. 3


Fig. 4

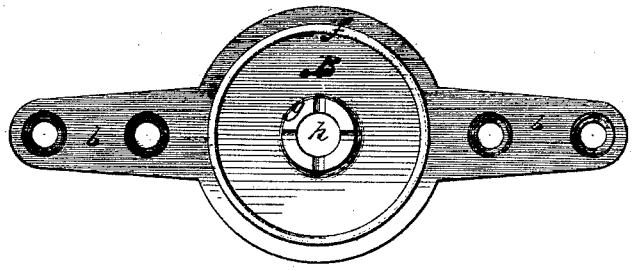
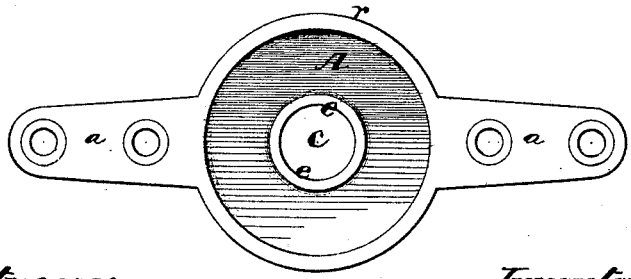



Fig. 5




Witnesses.

T. J. Campbell

J. N. Campbell

Inventor.

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# United States Patent Office.

JAMES IVES, OF MOUNT CARMEL, CONNECTICUT.

Letters Patent No. 108,357, dated October 18, 1870.

## IMPROVEMENT IN WHIFFLETREE-COUPLINGS.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern:*

Be it known that I, JAMES IVES, of Mount Carmel, in the county of New Haven and State of Connecticut, have invented an Improved Whiffletree-Coupling; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a plan view of the coupling complete.

Figure 2 is an edge view, projected from fig. 1.

Figure 3 is a section, taken centrally through the coupling, before it is finished.

Figures 4 and 5 show the inner sides of the two plates.

Similar letters of reference indicate corresponding parts in the several figures.

The improvement which I have made on whiffletree-couplings consists in casting the two parts constituting the coupling, in such manner that when they are fitted together, and the end of a hollow journal, which is formed on one of the parts, is expanded, a permanent connection will be effected.

I am aware that, prior to my invention, whiffletree-couplings were made, which resemble mine in some respects, when finished, but such couplings were made by first casting one part with a countersunk hole through it, and then placing such part "into a flask, and casting the other part onto it, so that the central part of the last extends into and fills the circular space left in the first." Couplings of this kind are expensive to make, and are otherwise objectionable.

The following is a description of my mode of producing whiffletree-couplings:

A represents one of the plates or parts of the improved coupling, which is constructed circular, with two arms, *a a*, radiating from it, and with a circular rim, *r*, and with a central hub, *e*.

Through the center of this hub is formed a flaring hole, *c*.

The other part, B, of the coupling, like the first, is circular, and has two arms, *b b*, radiating from it.

It has a circular depression made into one side, which is surrounded by a flanch, *f*; and rising from the center of this depression is a cylindrical hollow journal, *g*, the end of which I prefer to notch, as shown in figs. 3 and 4, for a reason hereinafter explained.

The circular hole *h*, through the center of this journal is tapered, so that the notched end of the hub is the thickest.

The notches which are across the end of the journal *g*, may be made by means of a file, or in any other desirable manner.

Having thus produced the two parts constituting the whiffletree-coupling of malleable iron, I adjust them together, as shown in fig. 3, and with a steel pin of proper size, I spread the notched end of the journal *g*, in the flaring hub *e*, thus forming a rivet-head on the journal, and uniting the two plates together permanently, so that they have free articulation.

The notches in the journal *g* permit it to expand more freely, without liability of fracture.

When the coupling is in use, a bolt passes through the hole which is through the journal, which bolt will prevent the expanded end of the latter from closing again.

It will be seen, from the above description, that one part, B, of the coupling has the journal *g* cast on it, by which the two parts are connected together by a subsequent process of spreading the end of this journal. I thus accomplish the permanent connection of the two parts, which are cast separately.

This mode of connecting whiffletree-plates will be found very useful for connecting together the blades of large shears, as the joint can be set up very readily, should it at any time become loose.

The same process may also be applied connecting many other articles of manufacture.

Having described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The two parts A and B, cast separately, and jointed by means of the hub *g* on one part, which has its end expanded into a flaring hole through the other part, substantially as described.

JAMES IVES.

Witnesses:

L. A. IVES,

L. U. IVES.