(No Model.)

A. H. WORREST.

THILL COUPLING.

No. 542,671. Patented July 16, 1895.

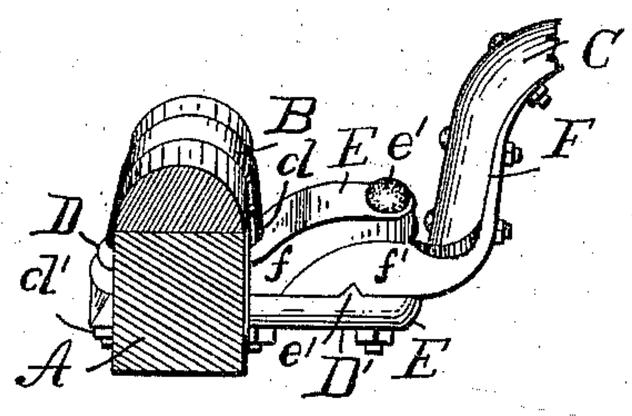

Fig. 1.

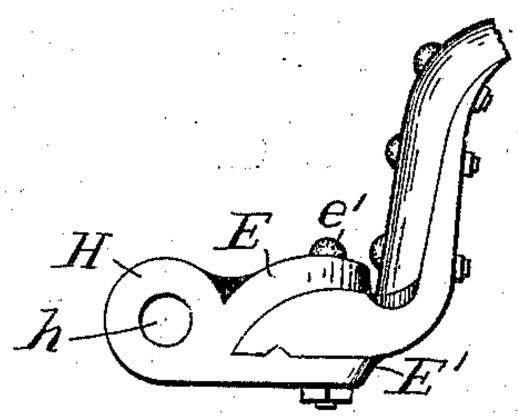

Fig. 3.

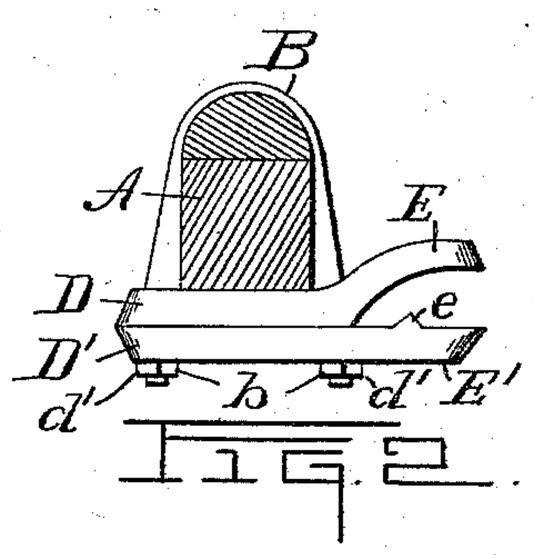

Fig. 2.

Fig. 4.

Witnesses
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ALFRED H. WORREST, OF LANCASTER, PENNSYLVANIA.

THILL-COUPLING.

SPECIFICATION forming part of **Letters Patent No. 542,671**, dated **July 16, 1895.**

Application filed July 16, 1894. Serial No. 517,697. (No model.)

To all whom it may concern:

Be it known that I, ALFRED H. WORREST, a citizen of the United States, residing in Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Thill-Couplings, of which the following is a specification.

This invention relates to improvements in that class of couplings connecting the thills with the axles of vehicles, and the objects of the invention are to prevent the separation of either of the thills from the coupling, because of the loss or breakage of the bolt securing it, so long as the bolt of the other thill remains securely in place, and, second, to form a rigid coupling between the thills and the axle.

In the accompanying drawings, illustrating my invention and forming a part of this specification, Figure 1 is a perspective view of the coupling, and Fig. 2 a side view of the parts with which the thill is connected. Fig. 3 is a side view of a modified form of the coupling, and Fig. 4 a side view of the part thereof with which the thill is connected.

Similar letters indicate like parts throughout the several views.

The coupling shown in Figs. 1 and 2 is intended for use with vehicles in which the axle is turned in the hubs of the wheels with the raising and lowering of the thills, as described in Letters Patent for a fifth-wheel, No. 488,231, issued to me December 20, 1892.

Referring to the details of the drawings, A indicates the axle, C the thill, and B the clip-strap embracing the axle and having the threaded ends *b* extending below said axle, preferably longer than those ordinarily used. A plate D extends transversely beneath and adjacent to axle A and has slots or openings *d* therein, through which threaded ends *b* pass. The front end of plate D is extended forwardly and upwardly to form a jaw E. Below and resting against plate D is the usual clip-plate D′ connecting screw-threaded ends *b*, and held in place by nuts *d′*, as is usual. The front end of this plate extends forward beneath jaw E and forms a jaw E′, having on its upper face a transverse rib *e*. One end of the thill-iron F is connected with the thill in the usual manner; but the upper surface of the other end *f* is curved to fit the inner face of jaw E, and there is a recess *f′* formed transversely in the under face of end *f* adapted to engage rib *e*. As will readily be understood from this construction, the thills can only be engaged with the axle by inserting the thill-irons sidewise between jaws E E′, where each is secured by a bolt *e′* passing down through the thill-iron and the jaws between which it rests. As the bolts *e′* have their heads resting on the upper jaws E they are less apt to become detached than when in the horizontal position occupied by them when connecting thill-irons and clips of the ordinary construction; and should one of said bolts be lost or broken the thill of which the connection was thus destroyed could not be detached sidewise so long as the bolt securing the other thill-iron remained in place unbroken, and neither could said thill-iron with the broken or lost bolt be drawn from between its inclosing jaws because of the engagement of its recess *f′* with the rib *e* of said jaws.

In Figs. 3 and 4 is shown a block H adapted to fit between the ordinary vertical jaws of a clip and having a bolt-hole *h*, through which it is secured between said jaws in the same way as any ordinary thill-iron would be. On the front of block H are formed horizontal jaws E and E′, precisely similar to those shown in Figs. 1 and 2, and adapted to be engaged by a thill-iron in the same way. This block is intended for use with the ordinary clip having vertical jaws.

I do not confine myself to the details of construction herein shown and described, as it is obvious that many changes may be made therein without departing from the principle of my invention.

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

1. The combination, with an axle, of horizontal jaws connected therewith and constructed to have a thill-iron inserted laterally between them, the upper jaw being curved both upward and forward, said jaws occupying a rigid position relative to each other, a thill-iron constructed to be engaged laterally between said jaws, and means for securing the thill iron between the jaws.

2. The combination, with an axle, of horizontal jaws connected therewith and con-

structed to have a thill-iron inserted laterally between them, said jaws occupying a rigid position relative to each other, a transverse rib formed on one of the jaws, a thill-iron constructed to be engaged laterally between said jaws and having a groove adapted to register with the transverse rib, and means for securing the thill-iron between the jaws.

3. The combination, with an axle, of horizontal jaws connected therewith and constructed to have a thill-iron inserted laterally between them, said jaws occupying a rigid position relative to each other, the top jaw curving both upward and forward, a transverse rib formed on the lower jaw, a thill-iron constructed to be engaged laterally between said jaws and having a groove adapted to register with the transverse rib, and means for securing the thill-iron between the jaws.

4. The combination, with an axle, of a clip, a plate disposed beneath the axle and engaging the ends of the clip, said plate having a forwardly projecting horizontal rigid jaw, a clip-plate located below the other plate and having a horizontal rigid jaw projecting beneath the other jaw, a thill-iron constructed to be engaged laterally between said jaws, and means for securing the thill-iron between the jaws.

5. The combination, with an axle, of a clip, a plate disposed beneath the axle and engaging the ends of the clip, said plate having a forwardly and upwardly projecting horizontal rigid jaw, a clip-plate located below the other plate and having a horizontal rigid jaw projecting beneath the other jaw, a transverse rib formed on the inner face of one of the jaws, a thill-iron constructed to be engaged laterally between said jaws and having a groove adapted to register with said transverse rib, and means for securing the thill-iron between the ribs.

ALFRED H. WORREST.

Witnesses:
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