(No Model.)

J. COOK.

THILL COUPLING.

No. 456,019. Patented July 14, 1891.

Fig. 1.

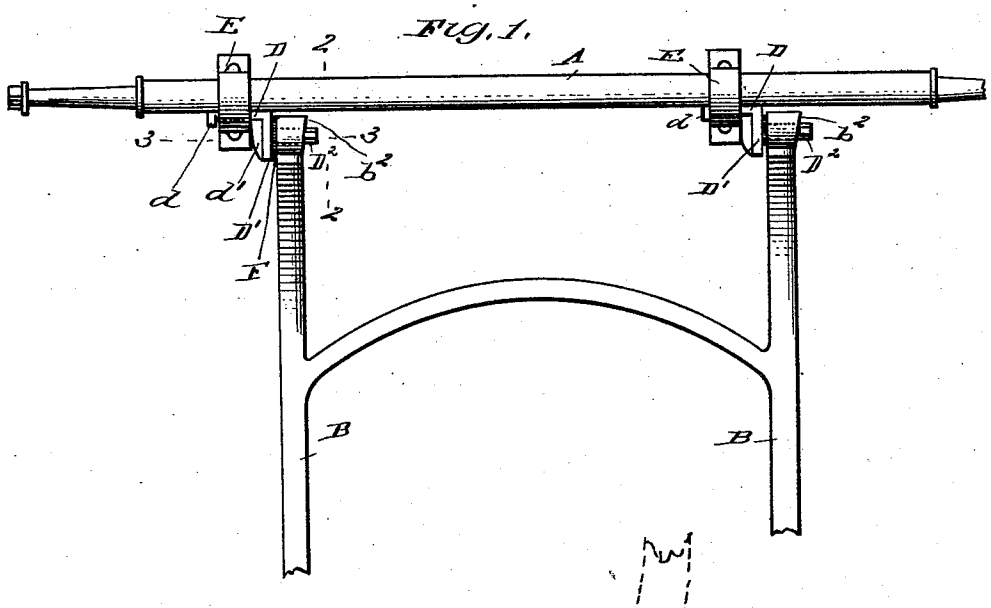


Fig. 2.

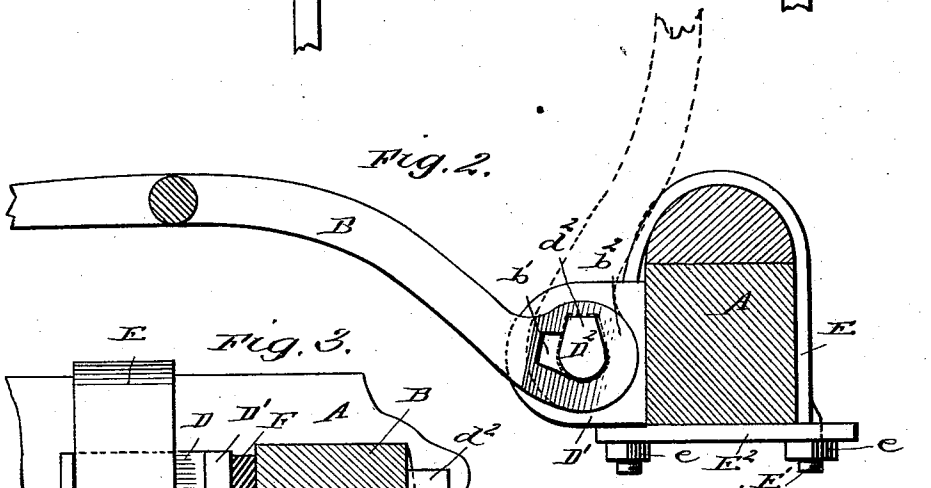


Fig. 3.

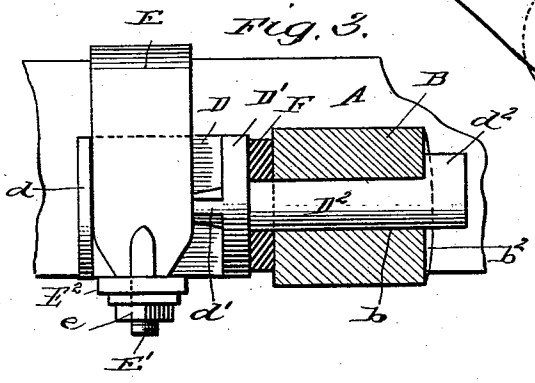
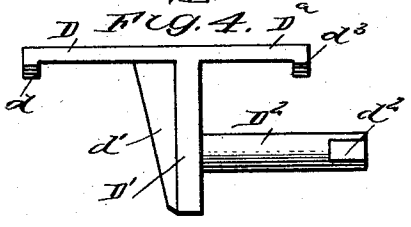


Fig. 4.



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JOHN COOK, OF TRENTON, NEW JERSEY.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 456,019, dated July 14, 1891.

Application filed November 14, 1890. Serial No. 371,422. (No model.)

To all whom it may concern:

Be it known that I, JOHN COOK, of Trenton, in the county of Mercer and State of New Jersey, have invented a new and Improved Thill-Coupling, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of couplings which are used to connect wagon thills, shafts, or poles with the axle; and the object of my invention is to produce a strong, durable, and inexpensive coupling, by means of which the thills may be quickly and easily attached or removed, which will also hold the thills in an elevated position, and which will prevent the thills from rattling.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a broken plan view of a pair of thills attached to the axle of a vehicle by means of my coupling. Fig. 2 is an enlarged view on the line 2 2 of Fig. 1. Fig. 3 is an enlarged section on the line 3 3 of Fig. 1, and Fig. 4 is a detail plan view of a modified form of the coupling-piece.

A represents a vehicle-axle, and B a pair of ordinary thills, which are thickened at the ends next the axle, and are provided with transverse holes b to enable them to be attached to the coupling, the holes having on their front sides elongated recesses b', and the rear ends of the shafts are thickened on one side, as shown at b^2, thus forming a cam, which prevents the thills and coupling-pieces from rattling, as described below.

Each coupling-piece comprises a plate D, which is adapted to be held against the front side of the axle, a rib d at one end of the plate, a projecting flange D′ at the other end of the plate, and which is connected with the plate by a strengthening-rib d', and a coupling-bolt D^2, which projects from the flange D′ at right angles to the same and parallel with the axle, the said bolt having on its outer end and upper side a lug d^2, which is adapted to fit the recesses b' in the ends of the shafts. The coupling-piece is held against the axle by means of an ordinary axle-clip E, which is placed over the axle and between the flange D′ and the rib d of the plate D, so as to hold the plate against the axle, the lower ends of the clip being formed into bolts E′, which project through the cross-plate E^2 on the under side of the axle, and the cross-plate being held securely to the axle by the nuts e. The clip E is of the usual construction and forms no part of my invention.

To attach the shafts or thills to the coupling-piece, they are raised into a vertical position, as indicated by dotted lines in Fig. 2, so that the recesses b' in the ends of the thills will align with the lugs d^2 on the ends of the coupling-bolts, and the thills are then pushed sidewise, so that they will slide onto the coupling-bolts when they are lowered into their normal position, and the act of lowering them brings the thickened portion b^2 of the thills against the lugs d^2 of the coupling-bolts, thus crowding the ends of the thills against the washers F, which are placed on the coupling-bolts D^2 next the flanges D′, and preventing the thills from rattling on the coupling-bolt.

When the carriages are stored and it is desired to hold the thills in an elevated position, they may be raised until the recesses b' align with the lugs d^2, and then by sliding the thills slightly on the coupling-bolts the lugs will enter the recesses and will prevent the thills from dropping down.

In Fig. 4 I have shown a modified form of the coupling-piece, which is like that already described, except that the plate D has a prolongation D^a, which extends beyond the flange D′ and terminates in a rib d^3. This enables the coupling-piece to be attached to the axle by means of two clips instead of one, thus giving additional strength, and this form of coupling-piece is adapted to be used on heavy vehicles.

I have not shown a pole connected with the axle; but the poles are usually attached in the same manner as the thills, so that the coupling may be used to connect poles as well as a pair of thills.

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

1. In a thill-coupling, the coupling-piece comprising a plate having a rib at one end and a projecting flange at the other, and a

coupling-bolt extending from the flange parallel with the axle and terminating in a laterally-projecting lug, substantially as described.

2. In a thill-coupling, the combination, with a coupling-piece having a coupling-bolt extending parallel with the axle and terminating in a laterally-projecting lug, of thills having transverse holes in the ends to fit the coupling-plates, said holes having recesses in one side to fit the lugs of the coupling-bolts, substantially as described.

3. The combination, with the coupling-piece having the projecting flange, the horizontal coupling-bolt, and the terminal lug on the bolt, of the thills having holes to fit the coupling-bolt, and having cams thereon to engage the lugs, substantially as described.

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