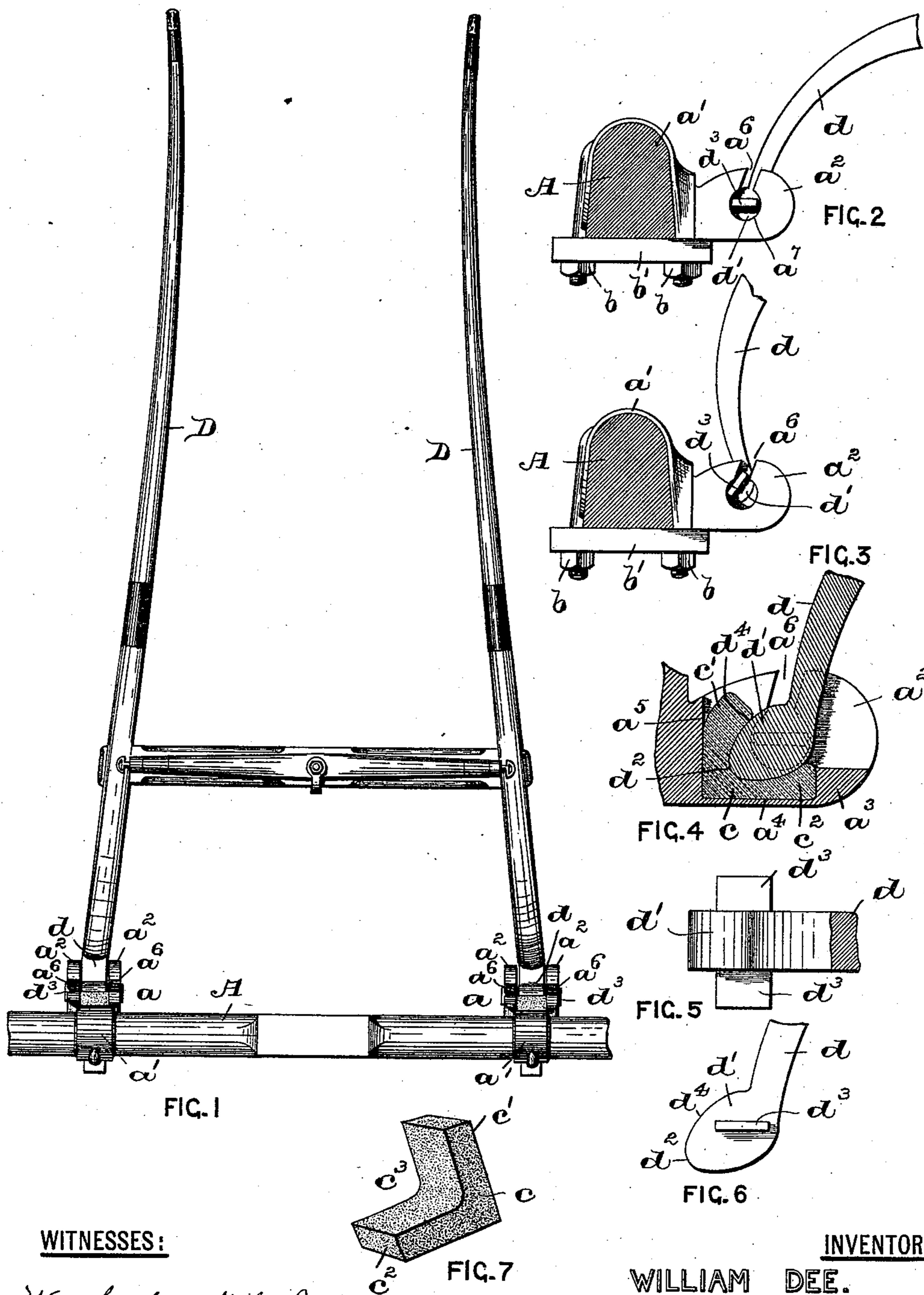


(No Model.)

W. DEE.
THILL COUPLING.

No. 539,120.

Patented May 14, 1895.



WITNESSES:

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WILLIAM DEE, OF CHESTER, NEW JERSEY.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 539,120, dated May 14, 1895.

Application filed February 11, 1895. Serial No. 537,847. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DEE, a citizen of the United States, residing at Chester, in the county of Morris and State of New Jersey, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has reference to certain new and useful improvements in thill couplings and has for its primary object to provide a cheap and convenient method of coupling the shafts or pole to a wagon or other vehicle, so that the same can be easily secured or coupled to the axle or readily uncoupled.

A further object of my present invention is to provide a thill coupling having suitable holding means, which shall be secure and reliable in its operation; will allow of the gentle lowering of the shafts or pole when the horse or horses are detached; will automatically retain the shafts or pole in a raised position, out of the way, when arranged at a certain angle to the coupling; and finally, dispensing with the use of the ordinary coupling pin and draft eye which are liable to wear and loss.

To these ends the invention consists in the improved construction and combinations of parts, such as will be hereinafter fully described and finally embodied in the clauses of the claim.

In the accompanying drawings, in which I have illustrated my invention, Figure 1 is a plan view of the axle of a vehicle and a shaft coupled thereto by means of thill-couplings embodying the principles of my present invention. Fig. 2 is a cross-section of the axle and a side elevation of my improved form of thill-coupling with the thill-iron in position. Fig. 3 is a similar view of the said parts with the thill-iron illustrated in its raised position while being coupled or uncoupled with the thill-coupling. Fig. 4 is a vertical section of the several parts of the thill-coupling embodying the principles of my invention. Figs.

5 and 6 are a top view and a side view, respectively, of the thill-iron detached from the coupling. Fig. 7 is a perspective view of a rubber or other suitable cushion adapted to be used in connection with the thill-coupling.

Similar letters of reference are employed in each of the above described views to indicate corresponding parts.

In said drawings, A represents the axle of any suitable vehicle, and *a* my novel form of thill coupling.

The thill coupling *a* is provided with an axle clip *a'* which forms part of the coupling and which embraces the axle in the usual manner being secured thereto by means of the bolts and nuts *b* and the plate *b'*, as will be clearly evident from an inspection of Figs. 1, 2 and 3. Said clip *a'* is provided with the forwardly extending ears *a²*, which are separate from each other at the top but are solid at the bottom, as at *a³*, and are formed with a recessed portion *a⁴*, as will be clearly seen in Fig. 4. The portion at the back, as at *a⁵*, between the two ears is considerably thickened in order to give sufficient strength to the coupling. Each ear *a²* is provided with a slot *a⁶*, inclining slightly upwardly and forwardly, and which terminates in a circular opening *a⁷*, preferably centrally arranged in each of said ears. In the said recessed portion *a⁴* in the lower part connecting the two ears *a²* of the coupling I have arranged a suitable cushion *c* of rubber or any other suitable material, which is molded or made in the form illustrated more particularly in Fig. 7, being provided with the two arms *c'* and *c²* arranged at a right angle to each other or approximately so, forming the space *c³* between them.

The shafts or pole of the wagon are represented by the letter D, and *d* represents the thill iron, which is bolted to the shafts or thill or secured thereto in any suitable manner. Said thill iron is formed at the bottom or lower end with an enlarged or expanded head *d'* of an oval shape, being formed with a cam-shaped end *d²*, at the rear, as will be clearly seen from Fig. 4. Said head is also provided on its opposite sides with elongated ears or projections *d³*, as will be more clearly seen from Figs. 5 and 6. When the two thill irons, connected with the shafts or pole are to be connected or coupled with the thill couplings

5 a , said elongated head on each iron is placed
 between the two ears a^2 , in such a manner,
 that the elongated projections or ears d^3 can
 be passed through the slots a^6 in the manner
 10 illustrated in Fig. 3, and by forcing the cam-
 shaped end d^2 of the oval heads of the thill-
 irons into the parts c^3 between the arms c' and
 c^2 of the cushion c , said projections or ears d^3
 will be operatively retained in the circular
 15 recesses a^7 of the ears a^2 of the thill couplings.
 At the same time said cam-shaped ends e^2 of
 the head of the thill iron will firmly compress
 the arm c^2 of the cushion c down into the
 chambered portion a^4 , while the arm c' of said
 20 cushion will be forced upwardly and exert a
 binding pressure on the curved surface d^4 of
 the oval head of the thill-iron, as will be clearly
 evident from an inspection of Fig. 4.

20 From the construction hereinbefore de-
 scribed, it will be seen that all the parts of
 my improved form of thill coupling are at-
 tached in such a manner, that, when the parts
 are coupled they cannot become separated,
 but can be easily separated when the horse
 25 or horses are detached, as will be understood.

The rubber or other like cushion c is se-
 curely held in place in the retaining recessed
 portion a^4 in the coupling and cannot become
 lost when the parts are separated but may be
 30 replaced by a new cushion when the old cush-
 ion becomes worn out.

35 Owing to the binding or clamping pressure
 exerted by the two arms c' and c^2 on the oval
 heads of the thill-irons, when coupled in place
 in the thill coupling, the shafts or pole can be
 readily raised and held in such raised posi-
 tion, out of the way, without the further use
 of any other appliance and without danger of
 falling.

40 Another advantage is, that by the use of my
 improved construction of thill coupling, I dis-
 pense with the ordinary form of coupling bolts
 or pins and draft eyes on the thill irons, which
 are liable to wear and abrasion, and the in-

45 vention results in a perfectly operative de-
 vice and results in an anti-rattling thill coup-
 ling.

Having thus described my invention, what
 I claim is—

1. In a thill-coupling, a pair of ears a^2 hav- 50
 ing slots a^6 and circular openings a^7 , said ears
 being connected at the back, and at the bot-
 tom by a portion a^3 having a recess a^4 there-
 in, a cushion c in said recess a^4 , provided with
 arms c' and c^2 , in combination with a thill 55
 iron, as d , having a head d' , elongated projec-
 tions on opposite sides of said head, adapted
 to be arranged in said circular openings a^7 ,
 and a cam-shaped end d^2 on said head, adapt-
 ed to be placed between the two arms c' and 60
 c^2 of the cushion c and cause said arms to ex-
 ert a binding pressure on the head of the thill
 iron, substantially as and for the purpose set
 forth.

2. In a thill-coupling, a clip a' , and means 65
 for securing said clip to the axle of a vehicle,
 a pair of ears a^2 extending from said clip, said
 ears having slots a^6 and circular openings a^7 ,
 and connected at the back, as at a^5 , and at
 the bottom by a portion a^3 having a recess a^4 70
 therein, a cushion c in said recess a^4 , provided
 with arms c' and c^2 , in combination, with a
 thill-iron, as d , having a head d' , elongated
 projections on opposite sides of said head
 adapted to be arranged in said circular open- 75
 ings a^7 , and a cam-shaped end d^2 on said head,
 adapted to be placed between the two arms
 c' and c^2 of the cushion c and cause said arm
 to exert a binding pressure on the head of the
 thill-iron, substantially as and for the purpose 80
 set forth.

In testimony that I claim the invention set
 forth above I have hereunto set my hand this
 6th day of February, 1895.

WILLIAM DEE.

Witnesses:

JOSEPH B. BERRY,
J. C. KENNEDY.