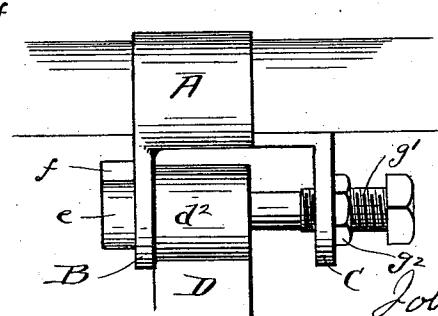
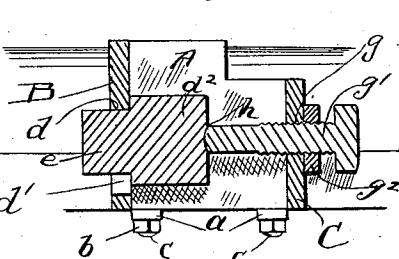
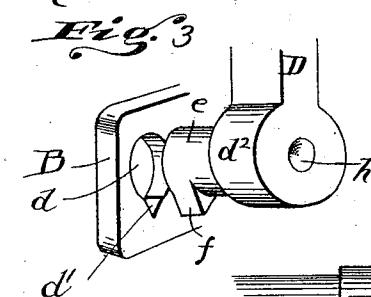
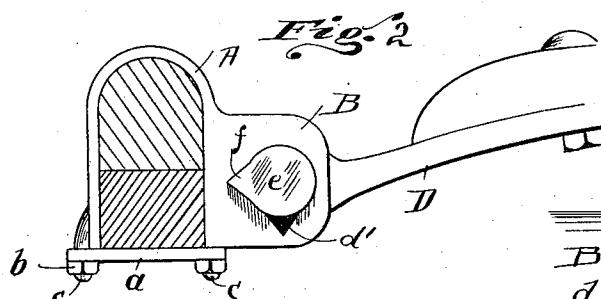
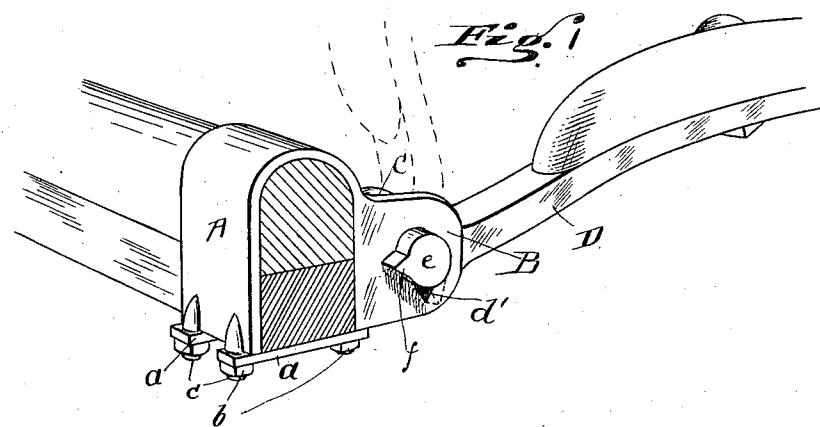


(No Model.)

J. W. BUCHANAN.
THILL COUPLING.

No. 577,417.

Patented Feb. 23, 1897.



Witnesses.
C. J. Cross
J. A. Jeffers

Inventor
John W. Buchanan
Fred W. Bond
By
Atty.

UNITED STATES PATENT OFFICE.

JOHN W. BUCHANAN, OF SMITHVILLE, OHIO.

THILL-COUPING.

SPECIFICATION forming part of Letters Patent No. 577,417, dated February 23, 1897.

Application filed May 21, 1896. Serial No. 592,378. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. BUCHANAN, a citizen of the United States, residing at Smithville, in the county of Wayne and State of Ohio, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, forming a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a view showing the coupler properly connected to a vehicle-axle. Fig. 2 is a side elevation showing a thill properly connected. Fig. 3 is a view showing the thill-iron detached from its connecting-flange. Fig. 4 is a longitudinal section showing the thill-iron properly connected and secured. Fig. 5 is a top view showing the location of the different parts.

The present invention has relation to thill-couplings; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claim.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, A represents the clip, which is placed upon the axle in the ordinary manner and is securely held in proper position by means of the cross-bars *a* and the screw-threaded nuts *b*, located upon the screw-threaded shanks *c*. With the clip A are preferably formed integral the flanges B and C, which flanges are located and arranged substantially as shown in Fig. 5. The flange B is provided with the aperture *d*, which aperture is provided with the opening *d'*, said opening being substantially of the form shown in Figs. 1, 2, and 3, and is for the purpose hereinafter described.

The thill-iron D is constructed in the ordinary manner, except that at its rear end it is provided with the integral head *d²*, from the side of which is extended the lateral arm or bar *e*, which lateral arm or bar is provided with the lip *f*, which lip is formed of a size and shape to correspond substantially with the size and shape of the opening *d'*, except that said lip is formed somewhat less in size,

so that it can be easily passed through the opening in either direction when it is brought in proper alinement with said opening. 55

The flange C is provided with the screw-threaded aperture *g*, through which screw-threaded aperture is passed the screw-threaded bolt *g'*. For the purpose of convenience in placing the bolt *g'* in proper position the inner end or portion of said bolt is formed somewhat less in diameter than the screw-threaded portion and is formed without screw-threads, thereby allowing the bolt *g'* to be passed through the aperture *g* without rotation until the screw-threads are reached, after which the bolt *g'* is rotated, so as to bring the inner end of said bolt against the inner face of the head *d²* and thereby securely hold said head, together with the thill-iron, in proper position. For the purpose of preventing the bolt *g'* from becoming accidentally detached or loosened the jam-nut *g²* is provided, which jam-nut is properly seated against the outer face of the flange C after the bolt *g'* 75 has been properly seated against the inner face of the head *d²*.

For the purpose of providing a means for detaching the thill-iron D, together with its head and the different parts belonging thereto, the flange C is located a sufficient distance away from the flange B to allow the desired amount of side movement to disconnect the head from the flange B. In use the bolt *g'* is removed from the flange C and the thill-iron 85 D elevated, as illustrated in the dotted lines, Fig. 1, thereby bringing the lip *f* in proper alinement with the opening *d'*, at which time the thill-iron, together with its different parts, is moved laterally until the lip *f* has 90 fully passed through the opening *d'*, after which the thill-iron D is lowered, thereby bringing the lip *f* upon the outer face of the flange B. For the purpose of securely attaching the thill-iron the bolt *g'* is placed in 95 the position illustrated in Fig. 4, thereby preventing any lateral movement of the thill-iron or its head. If desired, the inner end of the bolt *g'* may be rounded, as illustrated in Fig. 4, and said rounded end seated into the 100 socket *h*.

It will be understood that by my peculiar arrangement I am enabled to adjust and connect the thill-iron from time to time, so that

without the use of any antirattle blocks or cushions there will be no rattle.

For the purpose of providing a direct draft upon the axle of the vehicle the clip A is located directly behind the head d^2 , by which arrangement the draft will be in a direct line, thereby preventing any lateral strain and at the same time providing a means for setting the flange C far enough away to allow the head d^2 , together with the thill-iron D, to be removed from the flange B when the bolt g' has been removed.

It will be understood that the width of the head d^2 should be less than the space between the inner faces of the flanges B and C, thereby providing room to detach said head from the flange B.

It will also be understood that the entire draft or strain comes upon the flange B, and hence it is necessary to locate the clip directly behind the head d^2 when said head is properly adjusted.

Having fully described my invention, what

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

In a thill-coupling, the combination of a clip secured to an axle and located directly behind the head d^2 , and provided with the flanges B, and C, said flanges located a greater distance apart than the width of the head d^2 , the aperture d , located in the flange B, and provided with the opening d' , the thill-iron D, provided with the integral head d^2 , the arm or bar e , provided with the lip f , the screw-threaded bolt g' , formed of different diameters and provided with the jam-nut g^2 and the socket h , located in the side of the head d^2 , all arranged substantially as described and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN W. BUCHANAN.

Witnesses:

SOLOMON KAUFMAN,
M. K. METSKER.