D. W. THOMAS.

Thill-Coupling.

No. 161,913. Patented April 13, 1875.

Fig. 5.

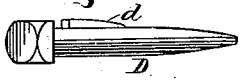


Fig. 3.

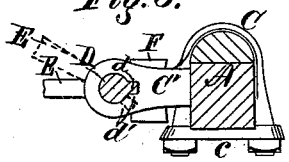


Fig. 4.

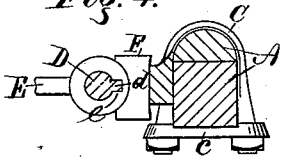


Fig. 2.

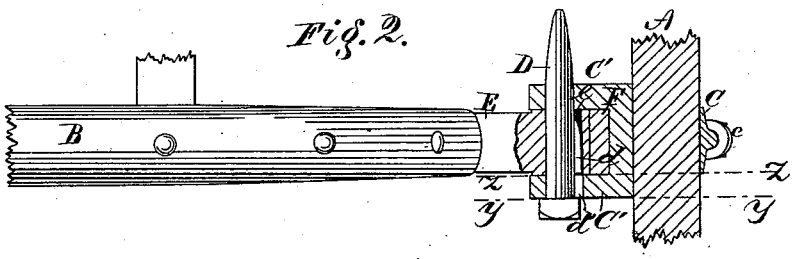


Fig. 1.

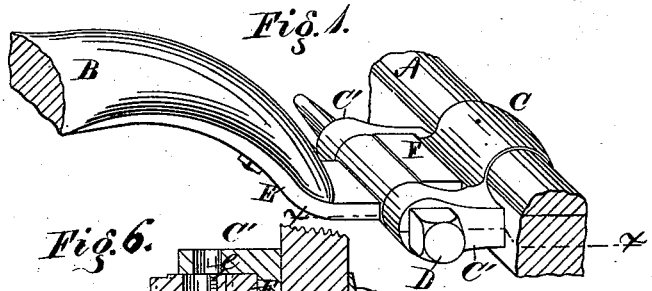
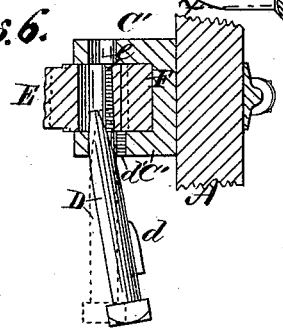


Fig. 6.



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UNITED STATES PATENT OFFICE.

DAVID W. THOMAS, OF GALESBURG, ILLINOIS.

IMPROVEMENT IN THILL-COUPLINGS.

Specification forming part of Letters Patent No. **161,913**, dated April 13, 1875; application filed August 10, 1874.

To all whom it may concern:

Be it known that I, DAVID W. THOMAS, of Galesburg, county of Knox and State of Illinois, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a specification:

This invention relates to improvements in the couplings of thills or poles to vehicles; and consists in constructing the coupling-bolt with a conical-shaped or tapering end, which may be utilized in compressing the india-rubber block ordinarily interposed between the rear end of the thill-iron and the clip, and with a spline, for the purpose hereinafter set forth.

To enable those skilled in the art to make and use my invention, I will now proceed to describe the manner in which the same is or may be carried into effect, by reference to the accompanying drawing, in which—

Figure 1 is a perspective view of a coupling embodying my invention, and showing one end of an ordinary thill and a section of an axle of an ordinary vehicle. Fig. 2 is a top view of Fig. 1, the coupling proper—a sectional view in the line *x x* of said Fig. 1. Fig. 3 is a sectional view on the line *y y* of Fig. 2. Fig. 4 is a sectional view on the line *z z* of Fig. 2. Fig. 5 is a perspective view of the coupling-bolt alone, and Fig. 6 is a sectional view in the same plane as Fig. 2.

Referring to the parts by letters, the similar letters used as marks of reference apply to the like parts in all of the figures.

Letter A represents the axle, and B one end of a thill, of an ordinary carriage or wheeled vehicle. C is a clip, secured on the axle A by a bridle-bar, *c*, and provided at its forward end with jaws C′ C′, having holes for the reception of the coupling-bolt D. E is the thill-iron, its rear end perforated, also, for the reception of the bolt D. F is a rubber, seated between the rear end of the thill-iron E and the adjacent side of the clip C.

The parts hereinbefore described are the ordinary coupling.

My improved bolt is slightly elongated, has a head on one end, and its other end tapered somewhat, so that it can be used, as plainly indicated by full and dotted lines at Fig. 6, to compress the rubber F between the thill-iron and clip, as is necessary, with considerable force, and without the use of other implement than, probably, a light hammer to force in the bolt.

d is a spline on one side of the bolt D, of a length somewhat shorter than the distance between the jaws C′ C′, as shown in the drawings. One of the jaws C′ has a groove, *d′*, cut in the side of the pivot-bolt hole, which corresponds in its cross-section with a cross-section of the spline *d*. The hole through the thill-iron E has a groove, *e*, similar to the groove *d′*. The grooves *d′* and *e* are relatively situated so that when the forward ends of the thills are dropped to the ground, as shown by the full lines in all of the figures, the grooves *d′* and *e* will coincide in position, and the bolt D may be inserted until the spline *d* occupies a position between the jaws C′ C′, when, by turning up or raising the ends of the thills to position in which they are carried by the draft animals, (position shown by dotted lines at Fig. 3,) the spline *d* will be turned thereby away from the groove *d′*, as shown by dotted lines at same figure, and thus prevent the bolt D from being withdrawn.

It will be evident that by making the spline nearly the exact length of the distance between the jaws C′ C′ a headless bolt may be used; and, further, that instead of a spline a bolt with a triangular or rectangular central part may be used, a similarly-shaped hole being formed in one jaw to allow of its passage, in the obvious manner.

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

In a thill-coupling, the tapering bolt D, having spline *d*, arranged to operate in combination with the shaft-iron E, jaws C′, clip C, and rubber F, substantially as and for the purpose specified.

DAVID W. THOMAS.

Witnesses:
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