

G. W. LADD.  
Thill-Coupling.

No. 164,845.

Patented June 22, 1875.

Fig. 1.

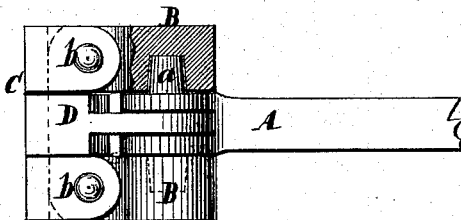


Fig. 2.

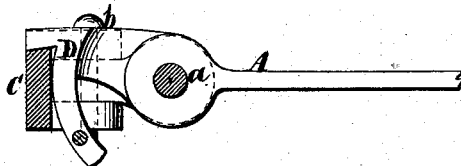
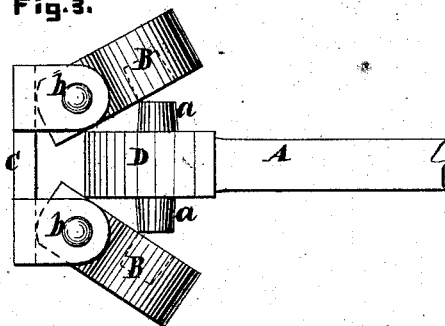


Fig. 3.



Witnesses.

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Inventor.

*George W. Ladd*  
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# UNITED STATES PATENT OFFICE.

GEORGE W. LADD, OF NEW YORK, N. Y.

## IMPROVEMENT IN THILL-COUPINGS.

Specification forming part of Letters Patent No. **164,845**, dated June 22, 1875; application filed November 28, 1874.

*To all whom it may concern:*

Be it known that I, GEORGE W. LADD, of the city, county, and State of New York, have invented a certain new and Improved Shaft-Coupling for Vehicles, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a plan or top view. Fig. 2 is a longitudinal central section. Fig. 3 is a plan of the eyes detached.

Similar letters indicate corresponding parts.

My invention relates to improvements in thill-couplings, in which the clip is provided with a hinged arm and the thill with journals, which engage with the fixed and hinged arm in such a manner that, by turning the hinged arm outward, the shaft can be introduced between them and then confined in place.

My invention consists in combining with arms on the clip, one or both of which is hinged and provided with eyes for receiving gudgeons on the shaft, a stop for locking the hinged arm or arms in place, as will be hereinafter described.

In the drawing, the letter A designates the inner end of the shaft, in which are firmly secured two gudgeons, *a*, which project from its sides, and be made to engage with eyes B B, which are connected to the clip C by pivots *b*, so that they can be swung out to the position shown in Fig. 3, or that they can be turned in to the position shown in Fig. 1. When the eyes are swung out the end of the shaft A, with its gudgeons *a*, can be introduced between them, and by closing the eyes said gudgeons are made to engage with them, so that the shaft is connected to the axle.

In order to prevent the eyes B from spreading open spontaneously, a stop, D, is applied,

and in the example shown in the drawing this stop is hinged to the end of the shaft, so that when the eyes B have been closed over the gudgeons *a* of the shaft said stop can be dropped between the inner ends of the eyes, and thereby the eyes are locked. But, if desired, the stop D might be made to catch over the outside of the eyes, and it may be hinged to the axle, or to any convenient part of the coupling.

By this arrangement I am enabled to couple and uncouple a shaft or thill at any moment with little trouble, and when the hinged eyes are locked the coupling is absolutely safe, and no part thereof can drop out or become detached and get lost.

The sockets in the eyes B B do not extend clear through, so that the gudgeons are protected against dirt.

If desired, the gudgeons *a* and the sockets in the eyes can be made slightly tapering, so that they fit closely in each other, and all rattling of the coupling is avoided.

If desired, one of the eyes can be made rigid and the other hinged without losing any of the advantages of my coupling.

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

The combination of the stop D with the eyes B, one or both of which are hinged, and with the shaft A, having gudgeons *a* at its inner end, substantially in the manner and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

GEO. W. LADD. [L. S.]

Witnesses:

W. HAUFF,  
CHAS. WAHLERS.