C. ROBINSON.

Thill-Coupling.

No. 161,826. Patented April 6, 1875.

Fig. 1.

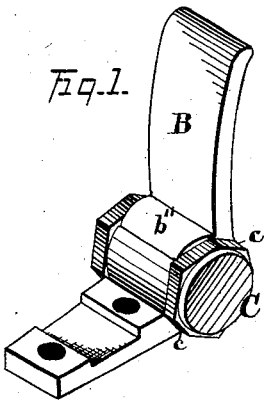


Fig. 2.

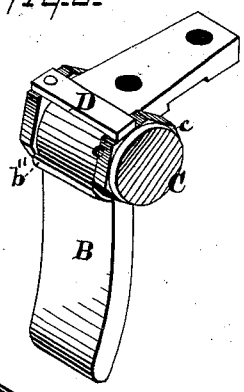


Fig. 3.

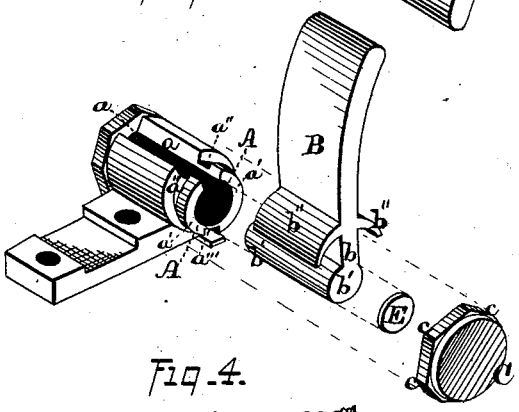
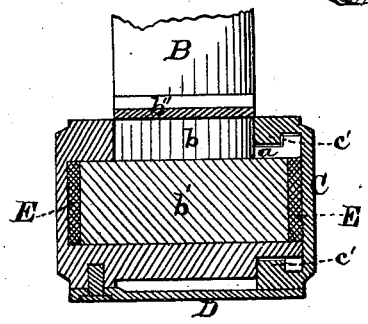


Fig. 4.



WITNESSES:

Jas. E. Hutchinson

John R. Young

INVENTOR.

Clark Robinson, by

Prindle and Lockie Attys

UNITED STATES PATENT OFFICE.

CLARK ROBINSON, OF EAU CLAIRE, WISCONSIN, ASSIGNOR OF ONE-FOURTH HIS RIGHT TO CHARLES DESILETS, OF SAME PLACE.

IMPROVEMENT IN THILL-COUPLINGS.

Specification forming part of Letters Patent No. **161,826**, dated April 6, 1875; application filed January 23, 1875.

To all whom it may concern:

Be it known that I, CLARK ROBINSON, of Eau Claire, in the county of Eau Claire and in the State of Wisconsin, have invented new and useful Improvements in Tongue and Thill Couplings to Wagons and Buggies; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the upper side of my improved coupling. Fig. 2 is a like view of the lower side of the same. Fig. 3 is a perspective of the parts composing said coupling, separated from each other; and Fig. 4 is a horizontal central section of said parts as combined.

Letters of like name and kind refer to like parts in each of the figures.

The design of this invention is to increase the strength and efficiency of a shaft-coupling, to render its accidental detachment impracticable, and at the same time enable the separation of parts easy when desired; to which end it consists, principally, in the means employed for inclosing the open end of the socket, substantially as and for the purpose hereinafter specified.

It consists further in the means employed for locking in position the detachable socket end, substantially as is hereinafter shown.

It consists farther in the means employed for covering the radial slot in the socket, through which the thill-iron passes, substantially as is hereinafter shown and described.

It consists, finally, in the device as a whole, its several parts being constructed and combined to operate in the manner and for the purpose hereinafter specified.

In the annexed drawing, A represents the socket of my coupling, which has the form of a hollow cylinder, is open at one end, and at its upper side is provided with a longitudinal slot, *a*, through which the neck *b* of the thill-iron B passes. The thill-iron B is provided with a head, *b'*, which corresponds to and is fitted within the socket A by being passed endwise into the same. The slot *a* has such lateral dimensions as to afford to said thill-iron the required motion upon its head or pivotal bearing. The open end of the socket A is inclosed by means of a detachable cover, C, which is provided with a flange, *c*, that fits over a reduced portion, *a'*, of the exterior of said socket, and is held in place by means of two lugs, *c'* and *c'*, that extend radially inward from said flange and engage with a groove, *a''*, which is formed within said socket end. From the groove *a''*, at a point directly opposite to the slot *a*, is provided a notch, *a'''*, through which one of the lugs *c'* may pass into or from said groove, while the opposite lug passes inward through said slot until in position to engage with said groove. As thus arranged the thill-iron head *b'* is placed within the socket A, and the cap C then placed upon the end of the latter and turned until its lugs have engaged with their groove. In order that the cap C may be prevented from becoming accidentally detached, its periphery is made six or eight square, and a flat spring, D, secured upon the lower side of the socket A in such a position as to cause its free end to bear upon the lower face of said cap with sufficient force to prevent the latter from moving, except when turned with a wrench, in which case said spring yields in the same manner as a spring-pawl. A rubber disk, E, is placed within a recess between each end of the head *b'* and the ends of the socket A, and when the cover C is placed in position, are sufficiently compressed to prevent all jar or rattle of parts. To prevent dust and dirt from entering the slot *a*, a flange, *b''*, is secured to each side of the neck *b*, and projecting laterally outward in a curved line, which is concentric with the pivotal center of the thill-iron, bears lightly upon the periphery of the socket A, and forms a sliding cover for said slot.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. In combination with the socket A, provided with the neck *a'*, groove *a''*, and notches *a'''*, the cover C, having the flange *c*, and lugs *c'* and *c'*, substantially as and for the purpose set forth.

2. In combination with the cover C, having the periphery formed of a series of plane faces, the spring D attached to the socket A and

pressed against said faces, substantially as and for the purpose set forth.

3. In combination with the thill-iron B and the slot *a*, of the socket A, the concentric flanges secured to the neck *b* to inclose said slot, substantially as and for the purpose shown and described.

4. The combination of socket A, having slot *a*, neck *a'*, groove *a''*, and notch *a'''*, the thill-iron B, provided with neck *b*, head *b'*, and flanges *b''* and *b''*, the cover C, having flange *c* and lugs *c' c'*, the spring D, and the rubber disks E and E, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 4th day of December, 1874.

CLARK ROBINSON. [L. S.]

Witnesses:
C. S. SEELY,
J. RAMSEY.