E. JARRELL.

Thill-Coupling.

No. 160,681. Patented March 9, 1875.

Fig 1

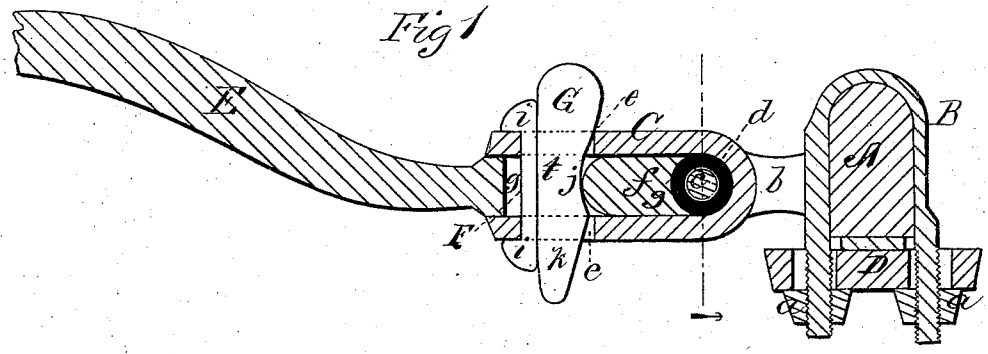


Fig 2

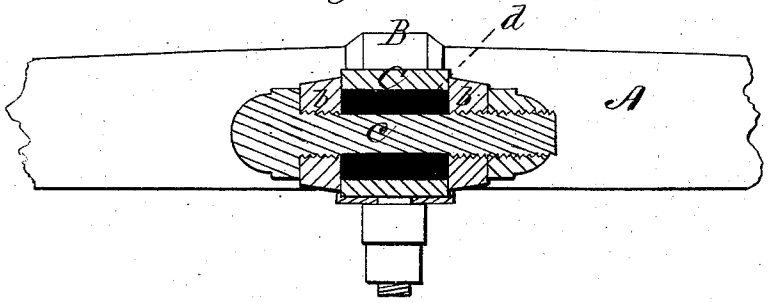
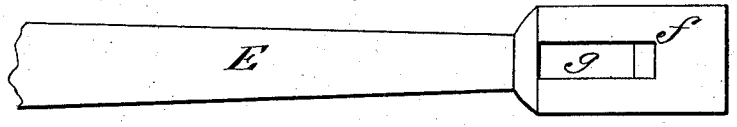


Fig 3



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWIN JARRELL, OF THORNTOWN, INDIANA.

IMPROVEMENT IN THILL-COUPLINGS.

Specification forming part of Letters Patent No. **160,681**, dated March 9, 1875; application filed February 20, 1875.

To all whom it may concern:

Be it known that I, EDWIN JARRELL, of Thorntown, in the county of Boone and State of Indiana, have invented a new and valuable Improvement in Thill-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a longitudinal vertical section of my thill-coupling. Fig. 2 is a horizontal sectional view of the same, and Fig. 3 is a detail view.

This invention has relation to improvements in thill-couplings; and the nature of the invention consists in a recessed key adapted to be passed through registering-slots in the coupling-straps and the end of the shaft, and to hold a second key arranged in front of the first to its engagement in the said slots, whereby the shaft is held rigidly united to the coupling-strap and to the clip.

It also consists in a cylindrical rubber sleeve applied over the bolt, upon which the coupling-strap and shaft have vertical vibration in relation to the clip, which sleeve is compressed in the act of forcing the key home, and, by its reaction, causes the rear end of the slot in the shaft to become engaged in a recess or notch in the said key, whereby the latter is prevented from casually escaping from the slots, and the shaft is prevented from rattling, as will be hereinafter more fully explained.

In the annexed drawings, A designates the axle of a vehicle; B, the usual well-known clip, and D the clip-plate, by means of which the said clip is detachably secured to axle A, nuts *a*, applied upon the lower screw-threaded ends of the former, being used for the purpose. The front end of clip B has the usual well-known bifurcation, between the arms *b* of which is applied a U-shaped coupling-strap, C, the same being pivoted to vibrate vertically in the said bifurcation by means of a coupling pin or bolt, *c*, which passes through registering perforations in arms *b*, and thus holds the coupling-strap to its engagement with the clip. A tubular rubber sleeve, *d*, fitting snugly in the end of the strap, is also applied upon the said bolt, as shown in Figs. 1 and 2, for a purpose hereinafter explained. Strap C is provided with registering-slots *e*, cut longitudinally in its arms, between which arms the rectangular shank *f* of a shaft, E, is snugly received, as shown in Fig. 1, the said shank being provided with a longitudinal slot, *g*, of slightly greater length than slots *e* of the strap, but registering therewith, and also with a concave rear end, *g'*, corresponding with the convexity of sleeve *d*.

Shaft E is rigidly but removably secured to the coupling-strap in the following manner, to wit: A key, F, having lugs *i* adapted to engage over the arms of the coupling-strap, is passed into and through slots *e* and *g*, as shown in Fig. 1. A locking-key, G, is then applied in rear of key F, and is forced through slots *e g* by a few strokes of the hammer. Locking-key G has a straight edge, *t*, its lower end being in the nature of a wedge. It is also provided with a notch or recess, *j*, so that when key G is forced into position its lower wedge-shaped end *k* will strongly compress rubber sleeve *d*, and when such compressure is removed by the engagement of the recess *j* with the correspondingly-shaped rear edge of slot *g*, the reaction or springing back of the said rubber will hold key G in place and force it against key F, holding the latter with its lug *i* engaged, as above described, with coupling-strap C, thus effectually holding the shaft to its union with the said strap and its clip.

It will also prevent the disagreeable rattling so common in clips by holding the keys in close contact with the shaft and coupling-strap. Lugs *i* of key F will also hold strap C from spreading, which would have the effect to disengage the locking-key G from the same, allowing key F to fall out of its slots, when the shaft and the clip would be disconnected.

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

1. In a thill-coupling, the locking wedge-key G and the key F, having lugs *i*, in combination with the coupling-strap C and shaft E, substantially as specified.

2. The combination, with the key F and

locking-key G, of the rubber sleeve or spring *d*, substantially as and for the purpose set forth.

3. The shaft E, having slot *g*, the coupling-strap C, having slots *e*, keys F G, bolt *c*, and its encircling rubber *d*, combined substantially as specified.

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

EDWIN JARRELL.

Witnesses:

WILSON TALBERT,

O. P. MAHAN.