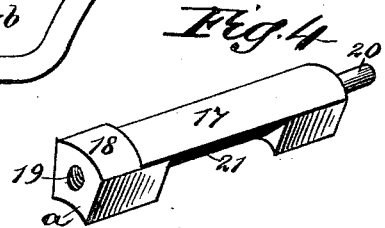
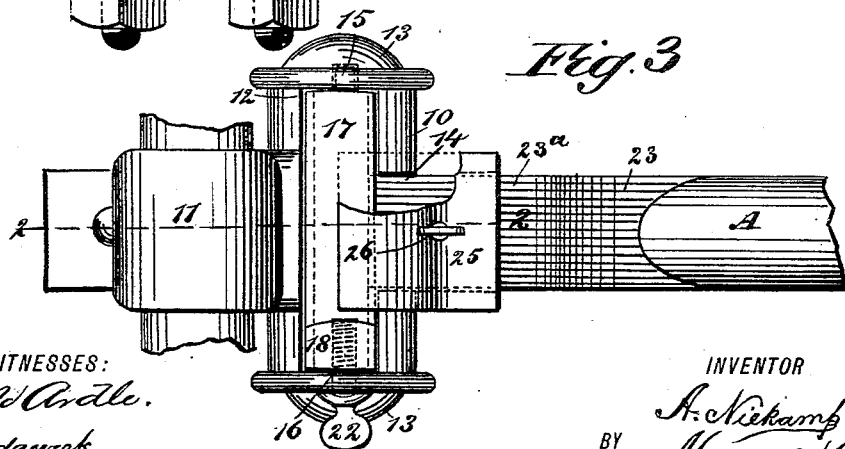
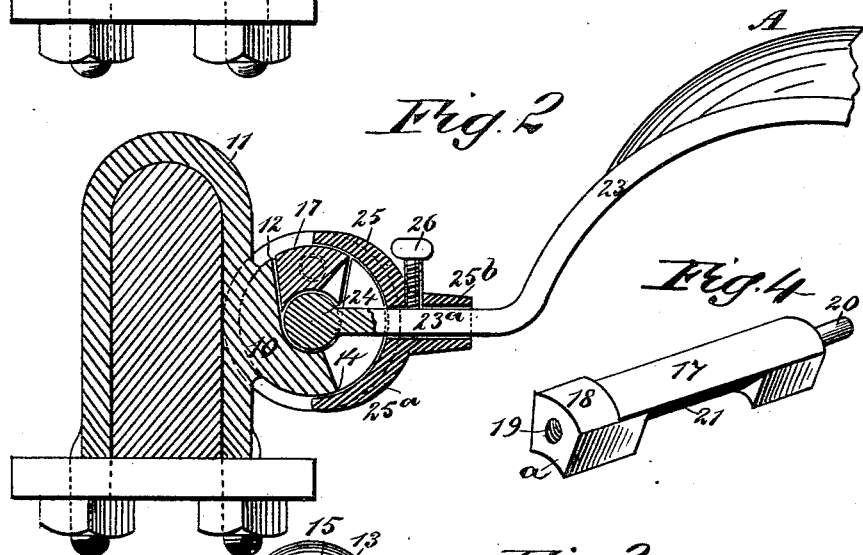
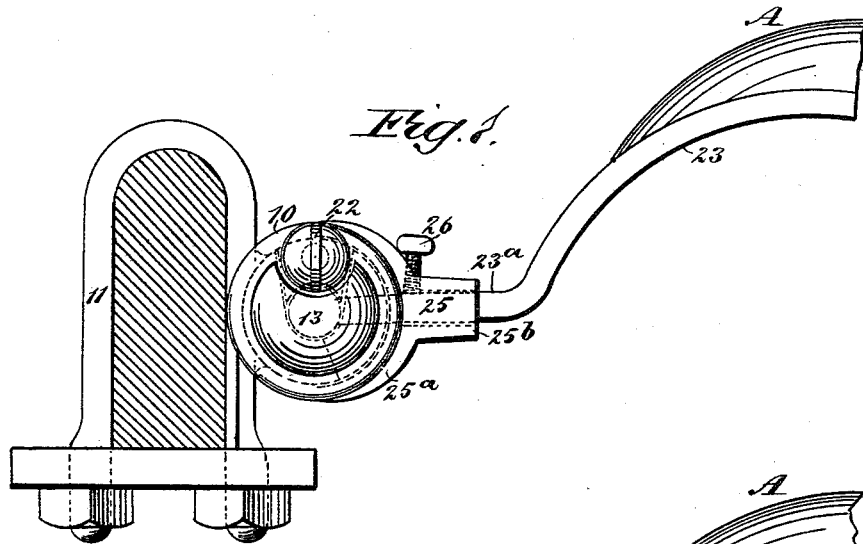


(No Model.)

A. NIEKAMP.
THILL COUPLING.

No. 457,662.

Patented Aug. 11, 1891.



WITNESSES:
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THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 457,662, dated August 11, 1891.

Application filed May 8, 1891. Serial No. 392,084. (No model.)

To all whom it may concern:

Be it known that I, ANTON NIEKAMP, of Maria Stein, in the county of Mercer and State of Ohio, have invented a new and useful Improvement in Thill-Couplings, of which the following is a full, clear, and exact description.

My invention relates to an improvement in thill-couplings, and has for its object to provide a coupling of exceedingly simple and durable construction in which rubbers or springs are not employed, and wherein the parts comprising the coupling are so constructed that when properly grouped the coupling will be an anti-rattling one.

A further object of the invention is to provide a coupling constructed in a manner to admit of the fastening devices being readily loosened and tightened by hand, thus dispensing with the necessity of a wrench.

The invention consists in the novel construction and combination of these several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is an end view of the coupling, the axle being shown in section. Fig. 2 is a central vertical section taken upon the line 2 2 of Fig. 3. Fig. 3 is a plan view of the coupling, a portion thereof being broken away, and Fig. 4 is a detail perspective view of a lock-bar constituting a portion of the coupling.

The body of the coupling consists of a cylinder or a circular tubular casting 10, having a clip 11 of any approved construction integral with or attached to its rear side face at or near the center thereof. In the upper face of the cylindrical body a longitudinal slot 12 is produced, extending ordinarily from end to end of the body, but not through said ends, and the end portions of the body are preferably quite thick, as illustrated at 13 in Figs. 1 and 3. The slot 12 in the body is intersected by a circumferential opening 14, produced in the center of the front face of the body, as shown in Figs. 2 and 3. In the ends of the slotted portion of the body, two aper-

ertures 15 and 16 are produced. The aperture 16 is made to extend through the end; but the aperture 15 partakes of the nature of a recess and does not extend through the end, as shown in dotted lines, Fig. 3.

In connection with the body portion of the coupling a lock-bar 17 is employed. (Shown in detail in Fig. 4.) The lock-bar is adapted to fit snugly in the slot 12 of the body. Its upper outer surface is convexed, and a rib 18 is formed upon the upper convexed surface at one end, the end carrying the rib having a threaded aperture 19 formed therein, and a stud 20 is produced upon the opposite end. The under face of the lock-bar is concaved, as illustrated at *a* in Fig. 4, and in the outer face of said bar at its center a beveled recess 21 is made, and when the lock-bar is placed in position in the slot of the body the base-wall of its recess 21 constitutes the upper wall of the opening in the side of the body. The lock-bar is held in position in the body by entering the stud 20 into the recess 15 and by passing a set-screw 22 through the opposite aperture 16 into the threaded opening 19 of the bar, as is shown in Fig. 3. The thill A, employed in connection with the body, has its iron 23 curved downward in the usual manner; but the lower portion of the iron is horizontal, as shown at 23^a, and terminates in a head 24, extending beyond the sides of the iron at a right angle thereto, preferably an equal distance. The head 24 is round in cross-section, and is adapted to fit and turn in the interior of the body, the base-wall of the interior chamber being circular or concaved, as illustrated in Fig. 2.

A locking-sleeve 25 is held to slide upon the horizontal member of the thill-iron. The locking-sleeve comprises a rear semicircular section 25^a and a forward collar-section 25^b. The rear curved section 25^a of the locking-sleeve is apertured in alignment with the opening in the collar-section 25^b to admit of the horizontal member of the thill-iron extending rearwardly beyond the curved section, as is best shown in Fig. 2.

The locking-sleeve may be readily attached to the thill-iron whenever desired, which is accomplished through the medium of a set-screw 26.

In operation the coupling is effected by sliding the locking-sleeve forward upon the thill-iron, and the lock-bar 17, having been removed from the slot 12 in the body of the coupling, the head 24 of the thill-iron is passed downward into the interior chamber of the body, the thill-iron being located when this is accomplished in the slot 14 of the body. The lock-bar is then placed in position and secured through the medium of the set-screw 22, and the sleeve 25 is slid rearward to an engagement with the forward side of the body and is held in this position by manipulating its set-screw 26. The sleeve 25, when adjusted to the body in this manner, extends over the lock-bar 17, and the coupling may be raised or lowered in the usual manner as the horizontal member of the thill-iron is capable of vertical play in the opening 14 of the body.

When it is desired to disengage the thills from the axle of a vehicle, it is only necessary to loosen the set-screw 26, slide forward the sleeve 25, and unscrew the set-screw 22 from the lock-bar 17. By lifting upward upon the thills, the heads of the thill-irons may be carried out of the body of the coupling, the lock-bar 17 passing out with the head. It will be observed that springs or rubber washers are not employed, and that the locking devices of the coupling may be conveniently manipulated by hand, thus dispensing with the necessity of a wrench, which tool is not always conveniently at hand when required.

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

1. In a thill-coupling, the combination, with a hollow body provided with a longitudinal

slot in its upper face and a diametrical opening in its front face intersecting the upper slot and a clip secured at the rear of the body, of a thill having its rear end horizontal and provided with a head extending beyond the sides of the iron and adapted to enter the chamber of the body, a lock-bar closing the slot in the body above the head of the thill-iron, a sleeve held to slide upon the thill-iron to an engagement with the body, and locking devices, substantially as described, for securing the lock-bar in place and likewise the sleeve, as and for the purpose set forth.

2. In a thill-coupling, the combination, with a tubular body having a clip secured to its rear side having a longitudinal slot in its outer face and a circumferential opening in its front face leading into said slot, of a thill the outer end whereof is horizontal and provided with a head circular in cross-section extending beyond opposite sides of the iron and adapted to enter and turn in the interior of the body, a lock-bar adapted to close the outer slot of the body, the said bar being provided with a recess in its forward edge constituting the upper wall of the body-opening, a sleeve held to slide upon the horizontal member of the thill-iron having its rear section curved to correspond to the radius of the body, said section being adapted for engagement with said body, a set-screw carried by the sleeve, and a similar screw carried by the body and adapted to enter the lock-bar, as and for the purpose set forth.

ANTON NIEKAMP.

Witnesses:

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