

J. CUMMINGS.
THILL COUPLING.
APPLICATION FILED JAN. 14, 1905.

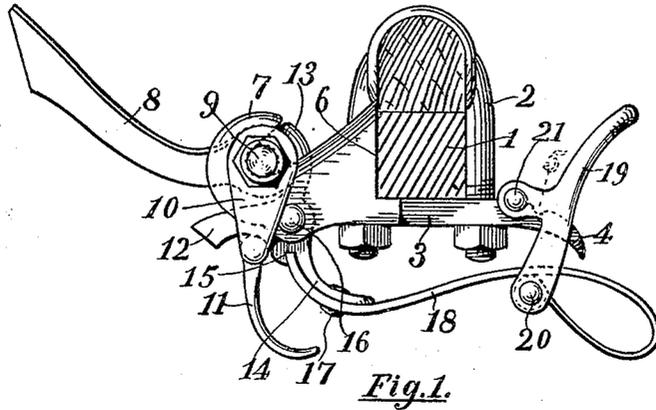


Fig. 1.

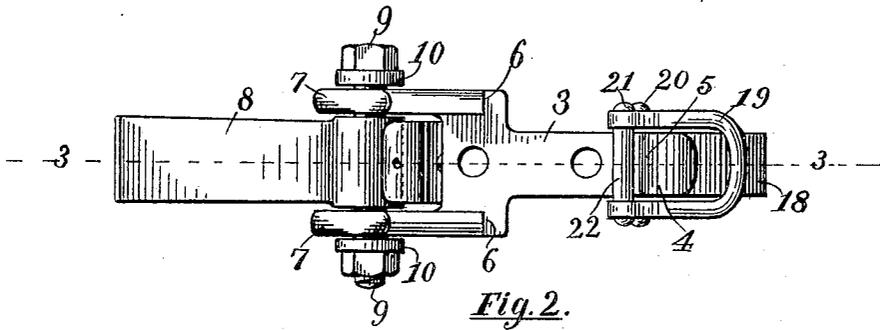


Fig. 2.

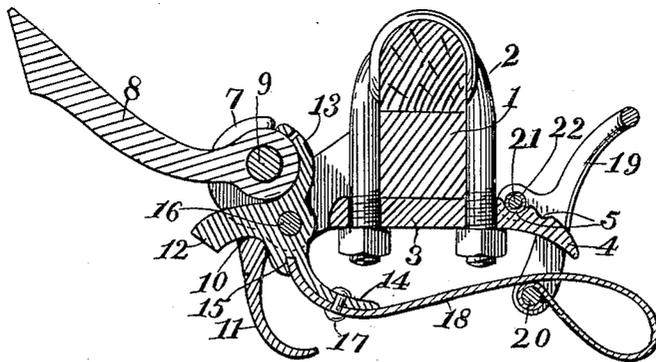


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN CUMMINGS, OF GRAND RAPIDS, MICHIGAN.

THILL-COUPLING.

No. 800.989.

Specification of Letters Patent.

Patented Oct. 3, 1905.

Application filed January 14, 1905. Serial No. 241,117.

To all whom it may concern:

Be it known that I, JOHN CUMMINGS, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to thill-couplings; and its object is to provide means whereby the thills may be quickly attached to or detached from the vehicle without use of any wrench or tool, to insure against accidental detachment, to prevent rattling or looseness of the parts, and to provide the device with various new and useful features hereinafter more fully described, and particularly pointed out in the claims.

My device consists, essentially, of a clip provided with hooks to engage a bolt or lateral projections in the eye of thill-iron, a spring-actuated gripper to yieldingly engage the eye of the thill-iron and hold it in the hooks and prevent rattling therein, means for detachably securing the spring, and a safety-loop pivoted on the bolt and engaging a lug on the gripper to prevent accidental detachment of the thill, as will more fully appear by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a device embodying my invention; Fig. 2, a plan view of the same, and Fig. 3 a vertical section of the same on the line 3 3 of Fig. 2.

Like numerals refer to like parts in all of the figures.

1 represents the vehicle-axle, shown in cross-section.

2 is a clip of the usual construction; 3, the clip-bar provided with a rearward and inclined extension 4, having depressions 5 in its upper side to engage and detachably retain a latch, as hereinafter described. The bar 3 is also extended laterally at its front end and provided with upwardly-projecting shoulders 6 to engage the front of the axle and take the backward thrust of the thill-iron. Extending forward of these shoulders are upwardly-open hooks 7 to receive a bolt 9 or other laterally-projecting members in the eye of the thill-iron 8. Depending from the bolt 9 is a loop 10, pivoted on the bolt and provided with a downwardly-projecting finger-piece 11 for manually releasing the loop from a lug 12,

normally projecting within the lower part of the loop to prevent the accidental removal of the bolt 9 from the hooks 7. This lug 12 projects from and is integral with a gripper 13, engaging the rear of the eye of the thill-iron and pivoted at 16 between the lower parts of the hooks 7. This engagement is maintained by a flexible lever 18, secured to a curved and rigid extension 14 of the gripper by a rivet 17 and further secured by inserting its end in a recess 15 at the base of said extension. This lever is vertically flexible, extends rearward beneath the bar 3, and is held flexed and under tension by means of a latch 19, having arms embracing the spring and rear extensions 4 and pivoted to the lever, as at 20. This latch is provided with a cross-bar 21, on which is a rotative sleeve 22 to reduce friction and detachably engages one of the depressions 5 in the extension 4. The tension of the lever thus forces the gripper 13 against the eye of the thill-iron and securely holds it in place and also takes up all slack and prevents any rattling. It also effectually retains the cross-bar 21 of the latch in the depression 5. Should this latch by any mischance become detached, the lug 12 will remain in the loop 10 and the bolt 9 cannot come out of the hooks 7. Accidental detachment of the thills is thus effectually prevented, and at the same time they may be instantly detached without use of tools of any kind by manually releasing the latch from the projection 4 and the loop 10 from the lug 12.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a thill-coupling, hooks spaced apart, a thill-iron, lateral projections on the thill-iron, a loop pivoted on the said projections, a pivoted lug engaging the loop, a spring to hold the lug in engagement with the loop, and means for holding the spring under tension.

2. In a thill-coupling, hooks spaced apart, a gripper pivoted between the hooks and having a recess and a rigid extension, a flexible lever inserted in the recess at one end and secured to the extension, and a latch to hold the other end of the lever.

3. In a thill-coupling, a clip-bar having a curved rear extension, hooks on the front end of the clip-bar and spaced apart, a gripper pivoted between the hooks, a flexible lever attached to the gripper, a latch pivoted to the lever, and a cross-bar on the latch to engage the said extension.

4. In a thill-coupling, a clip-bar having a curved and recessed rear extension, hooks on the front of said bar and spaced apart, a gripper pivoted between the hooks and having an extension and a recess, a flexible lever inserted at one end in the recess, and secured to the extension, a latch embracing the lever and pivoted thereto, and a cross-bar on the latch to engage the rear extension of the clip-bar.
5. In a thill-coupling, in combination with a thill-iron and lateral projections in the eye thereof, hooks to embrace the eye and engage the projections, a pivoted gripper to engage the eye, a lever on the gripper, a latch to hold the lever, a loop on the projections and a lug on the gripper to engage the loop.
6. In a thill-coupling, in combination with a thill-iron having an eye, a bolt in the eye, a clip-bar having a curved and recessed rear extension, hooks on the front of said iron and spaced apart to embrace the eye and engage the bolt, a gripper pivoted between the hooks and engaging the eye, a flexible lever attached at one end to the gripper, a latch embracing

the lever and pivoted thereto, a cross-bar on the latch to engage the extension of the clip-bar, a loop pivoted on the bolt, and a lug on the gripper to engage the loop.

7. In a thill-coupling, a thill-iron having an eye, a bolt in said eye, a clip, a clip-bar having a downwardly-curved and recessed rear extension, lateral extensions and shoulders on the front of the bar, upwardly-open hooks on the bar to embrace the eye and engage the bolt, a gripper to engage the eye and pivoted between the hooks, a flexible lever attached to the gripper, a latch having arms embracing the lever and pivoted thereto, a cross-bar on the latch to engage the recess in the said rear extension, a loop pivoted on the bolt and having a finger-piece, and a lug on the gripper to engage and hold the loop.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN CUMMINGS.

Witnesses:

LUTHER V. MOULTON,
GEORGIANA CHACE.