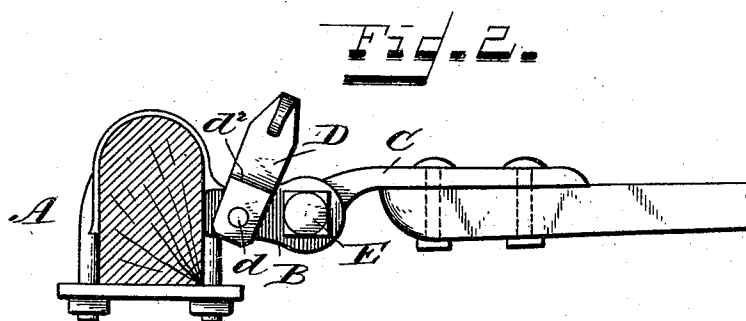
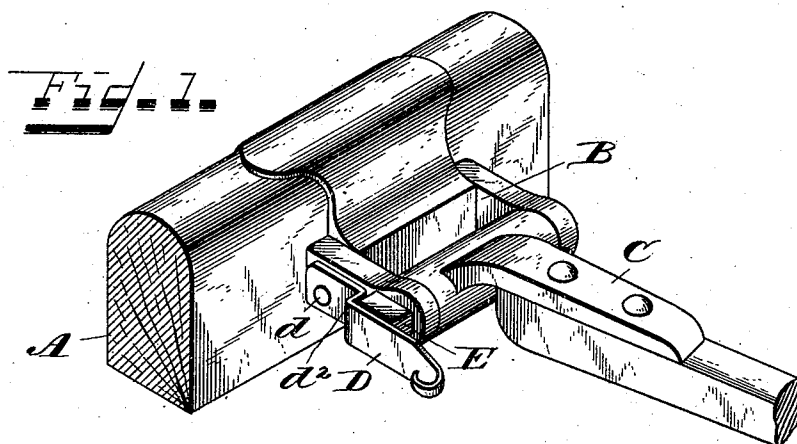


(No Model.)

W. J. TONE.
THILL COUPLING ATTACHMENT.

No. 501,812.

Patented July 18, 1893.



Witnesses.
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Harry F. Rokling.

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UNITED STATES PATENT OFFICE.

WILLIAM J. TONE, OF LOCUST CORNER, OHIO.

THILL-COUPPLING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 501,812, dated July 18, 1893.

Application filed April 10, 1893. Serial No. 469,671. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. TONE, a citizen of the United States, residing at Locust Corner, Clermont county, State of Ohio, have invented certain new and useful Improvements in Thill-Coupling Attachments of which the following is a specification, reference being had to the accompanying drawings.

The object and nature of my invention will be fully apparent from the description hereinafter set forth.

In the accompanying drawings:—Figure 1, is a perspective view of a thill coupling provided with my improved attachment in an operative position. Fig. 2, is a side elevation of said coupling with my improved attachment in a raised or elevated position.

A, represents a vehicle axle, B, the shackle of the thill coupling and C, the thill.

My invention consists of a spring latch, D, pivotally connected to one of the side shackles, B, of the thill coupling, said latch being adapted to vibrate or revolve upon its pivot point, d , and in such a manner as that the outer free end portion of said latch will vibrate in front of and impinge against the head of bolt E.

The larger portion of all the shaft vehicles now in use are provided with a square-headed bolt, the opposite end of said bolt being screw threaded and provided with a suitable nut to hold said bolt in position. My improved attachment, consisting of the aforesaid spring latch attached to the shackle as specified, is designed to dispense with cutting a thread on the coupling bolt and also dispenses with the nut for same.

A very serious objection has been found to the use of nuts on thill coupling bolts, as said nuts are liable to work loose, thus permitting the bolt to drop out of its shackle, in which event the shaft will drop from place; and, if the vehicle be going down-hill a serious accident is often the result of said nut working loose. A further objection to nut-bolts for thill couplings is that, in storing the vehicles in livery stables, the shafts occupy considerable space; and, to remove and replace the shafts, by the use of nut-bolts, would require

considerable time. My improved spring latch attachment will meet and overcome the aforementioned objections, and others that might be enumerated.

When constructed as shown, the spring latch, D, is formed of a flat strip of spring metal, pivoted to one shackle, as shown; and is designed to operate in connection with a square headed bolt, said latch being bent upon itself to form the angular portion, d^2 , thereon, as shown. The object of this shoulder or offset d^2 is to provide a stop for said latch, as said portion rests against the rear portion of the head of the bolt, in which position said latch can not work downward.

As shown in Fig. 2, the spring latch is pivoted at a point below the center of the bolt, which permits said latch to be raised or elevated without said angular shoulder, d^2 , striking the head of said bolt. This spring latch, D, is also pivoted to the shackle in such a manner as that its free end portion will impinge with considerable force against the head of the bolt, thus answering, to a certain degree, the purpose of an anti-rattler.

The operation of my invention is very simple and effective. To remove the shaft, all that is required is simply to elevate the latch, as shown in Fig. 2, when the bolt and shaft may be removed in a moment's time; and, to replace the shaft the reverse movements are required, which are accomplished in an equally expeditious manner.

The advantages of my invention are apparent and have been partially set forth.

The attachment is cheap of construction, reliable in operation and can readily be attached to thill couplings now in use.

I am aware that attempts have been made, heretofore, to provide means for retaining thill coupling bolts in place without the use of nuts, and lay no claim to any broad feature for accomplishing this object; but

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

1. A thill coupling having the shackles B and headed bolt, E, in combination with the spring latch, D, pivotally connected to one of said shackles, said latch having the bent angular portion d^2 adapted to rest against the

rear portion of the head of said bolt, the forwardly projecting portion of said latch being adapted to impinge laterally against the face of said headed bolt, as set forth.

- 5 2. In combination with the shackles B and headed bolt, E, the spring latch D having an offset d^2 , said latch being pivotally connected to one of said shackles at a point below a

plane central with said bolt, said latch and its offset being adapted to spring and impinge against the head of said bolt, as and for the purposes set forth.

WILLIAM J. TONE.

Witnesses:

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