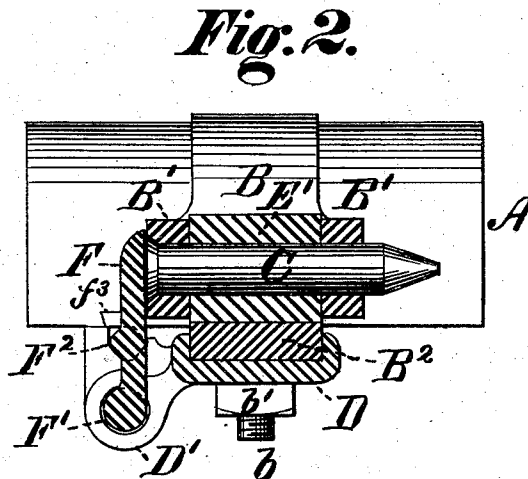
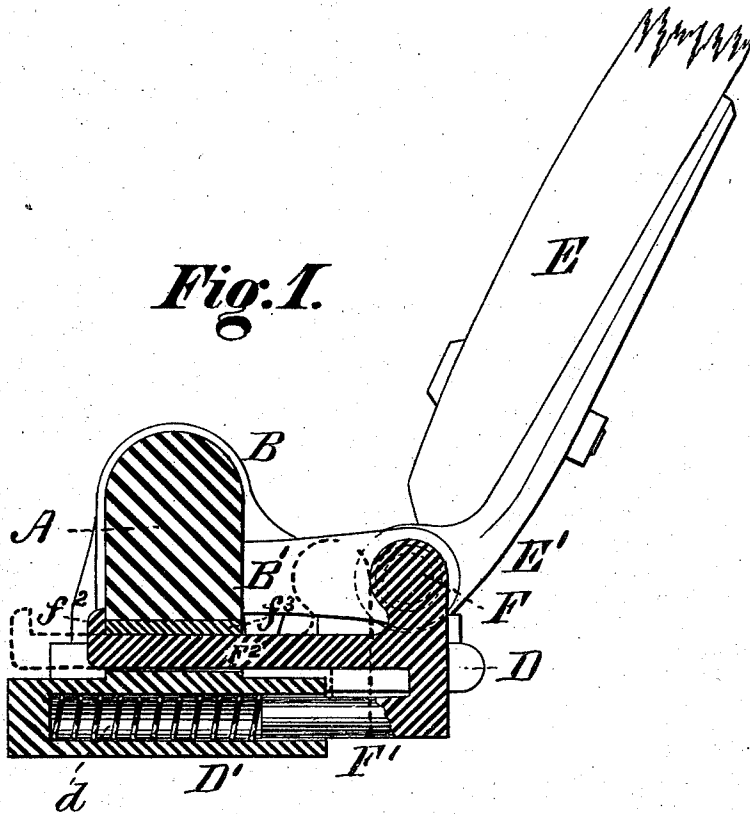


A. B. CROWELL.
Thill-Couplings.

No. 156,544.

Patented Nov. 3, 1874.



Witnesses.

J. L. Collier
H. I. Harding.

Inventor.

Abner B. Crowell,
by J. Snowden Bell
att'y.

UNITED STATES PATENT OFFICE.

ABNER B. CROWELL, OF RICHMOND, VIRGINIA.

IMPROVEMENT IN THILL-COUPPLINGS.

Specification forming part of Letters Patent No. 156,544, dated November 3, 1874; application filed September 26, 1874.

To all whom it may concern:

Be it known that I, ABNER B. CROWELL, of the city of Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Thill-Couplings for Vehicles, of which the following is a specification:

The object of my invention is to provide means for securing the connection of the thills and axle of a vehicle in such manner as that, while admitting of the ready and convenient removal and replacement of the former when required, the accidental displacement of the coupling-pin shall be effectually guarded against; to which ends my improvement consists in combining, with the coupling-pin which unites the thills to the axle, a sliding guard and a spring and guide-piece, as hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a side view, partly in elevation and partly in section, of a thill-coupling embodying my improvements; and Fig. 2 a vertical transverse section of the same, taken through the center of the coupling-pin.

The clip B has lugs B¹ formed upon it for the reception of the coupling-pin C, and is firmly united, by downwardly-projecting bolts b and nuts b', to the axle A, the bolts b passing through a clip-plate, D, which serves both as a washer-plate and a receptacle for a rubber-block, B², to prevent rattling of the thills. The thill-iron E' is securely united to the thill E, and has an eye formed in its end, which fits neatly between the lugs B¹ of the clip, and is secured thereto by a coupling-pin, C, having a countersunk head.

My invention being designed to prevent the accidental displacement of the pin C, I provide, for that purpose, a guard, F, having an arm, F¹, and a guide and stop piece, F², formed upon it. The arm F¹ enters a spring-case, D', formed upon, or secured to, the clip-plate D, within which case is a spiral spring, d, which bears against the end of the arm F¹, and retains the guard F in position to cover the head of the coupling-pin C.

A rubber spring may be employed instead of the spiral spring shown, if preferred.

A detent, f², upon the guide and stop piece F² limits the movement of the guard, and prevents the spring from driving it beyond its proper position.

The guide and stop piece F² slides in a channel formed in the upper portion of the spring-case D', and insures the rectilineal movement of the guard F.

When it is desired to remove the thill, it is only necessary to apply the pressure of the thumb to the guard F, and push it back into the position shown in dotted lines in Fig. 1, when the pin C can be backed out, and the thill detached.

A plate, f³, may be inserted beneath the axle, to serve as a bearing for the detent f². The guide-piece and detent, as shown, could be dispensed with, if desired, and a stop, attached to the clip-plate immediately in front of the guard F, be substituted therefor; but such an arrangement, while sufficient to limit the range of movement of the guard, would not provide the facilities for guiding it which the guide-piece affords, and I, therefore, prefer to use the latter.

I am aware that the Patent of Newman, Whitcomb & Co., No. 11,074, dated June 13, 1854, shows a pivoted "spring-button" or arm, to cover the head of the coupling-pin, and prevent its displacement; and that sundry patents have since been issued embodying, among other things, the same device, or the equivalents. I do not, therefore, broadly claim a guard for the coupling-pin; nor do I claim a spring for holding the guard in position to cover the coupling-pin.

I claim as my invention and desire to secure by Letters Patent—

The combination, with the coupling-pin C, of a sliding guard, F, provided with an arm, F¹, held in position by a coiled spring, d, and a guide-arm, F², and detent f², to guide and limit its range of movement, as set forth.

A. B. CROWELL.

Witnesses:

JNO. J. BINFORD,
W. D. CROWELL.