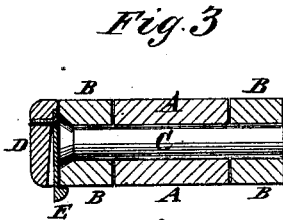
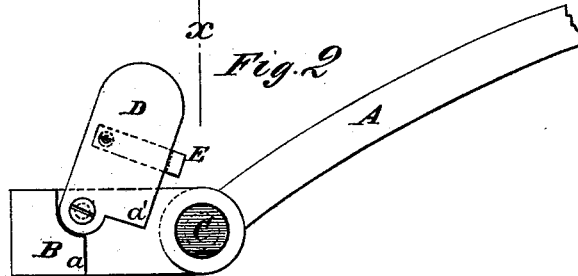
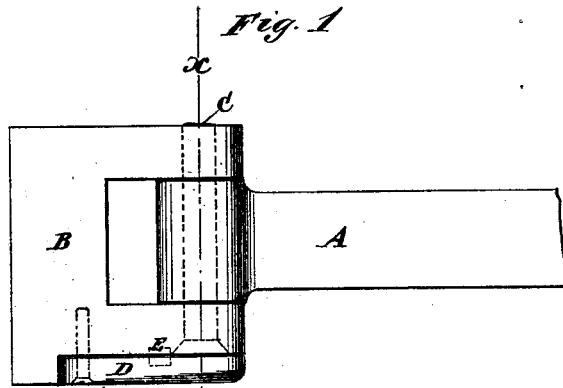


J. KITZMILLER.
THILL COUPLING.

No. 191,599.

Patented June 5, 1877.



WITNESSES:

A. W. Almqvist
J. H. Scarborough.

INVENTOR:

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BY *Wm. H. [Signature]*
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UNITED STATES PATENT OFFICE.

JOSIAH KITZMILLER, OF KEEDYSVILLE, MARYLAND.

IMPROVEMENT IN THILL-COUPINGS.

Specification forming part of Letters Patent No. **191,599**, dated June 5, 1877; application filed April 23, 1877.

To all whom it may concern:

Be it known that I, JOSIAH KITZMILLER, of Keedysville, in the county of Washington and State of Maryland, have invented a new and useful Improvement in Thill-Coupling, of which the following is a specification:

Figure 1 is a top view of my improved thill-coupling closed. Fig. 2 is a side view of the same open. Fig. 3 is a cross-section of the same, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention relates to an improvement upon that form of thill-coupling in which a pivoted cap is employed to slide over the end of the bolt or pin which secures the eye of the thill-iron to the lugs or ears of the axle-clip, the said cap serving to prevent the said pin from becoming accidentally displaced without the use of a screw nut or other securing device.

The improvement consists in the particular construction and arrangement of a spring-catch for holding said pivoted cap down to its place against any tendency to rise accidentally, the said spring-catch being located in a transverse groove or recess in the cap and between the cap and the adjacent lug, and being provided with a beveled head and square shoulder, which engages with the under side of the lug to hold the cap down.

The merit of this arrangement is that the catch is concealed from sight by the complete inclosure of the spring and the position of the beveled head beneath the coupling, and hence the exterior of the coupling presents a plain, smooth, and neat appearance, free from catches or projections, which would be liable to hook into the clothing in getting into or out of the carriage.

A represents the thill-iron, the eye of which fits into the space between the lugs B of the axle-clip, where it is secured in place by a pin, C. The head of the pin C is countersunk into the lug B, and is covered by the cap D, which is fitted to the side of the lug B, and is pivoted to the side of said lug at its rear end, so that it may be turned up out of the way, as shown in Fig. 2.

In applying this pivoted cap the lug or ear of the clip is recessed or rabbeted upon its

side in such a manner as to leave a shoulder, *a*, while the cap D is formed with a corresponding shoulder, *a'*, which abuts against *a*, so as to form a knuckle-joint, which permits the raising of the cap, but limits its downward movement.

When the cap is in its proper or closed position over the head of the pin it is then held by a concealed spring-catch.

E is the concealed spring-catch, which is placed in a groove in the inner side of the cap D in such a way that its beveled head may project a little below the lower edge of the cap D for convenience in disengaging it. The upper end of the spring-catch E is secured to the cap D by a small screw.

With this construction, when the cap D is shut down the head or shoulder of the spring-catch E catches upon the lower edge of the lug B, and holds the cap D securely in place, and preventing the pin C from coming out until the catch E is drawn back and the cap D is raised.

By means of the particular construction and arrangement of the spring-catch it will be seen that the adjacent faces of the pivoted cap and lug are kept flush, and the spring-catch is entirely concealed from view, its beveled head being allowed to project sufficiently to permit it to be readily disengaged, but such projection being kept upon the under side of the coupling in the position which is most unnoticed and most out of the way. The transverse arrangement of the catch with respect to the pivoted cap also preserves the beveled head in a line with the radial movement of the cap, which position is the one that affords the least friction and the best holding effect when engaged.

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

The combination, with the pivoted cap D and the clip-lug having their adjacent edges flush, of the concealed spring-catch E arranged between the pivoted cap and the lug, substantially as and for the purpose described.

JOSIAH KITZMILLER.

Witnesses:

D. H. WYAND,
W. H. SPIELMAN.