D. W. COPELAND.
Thill-Coupling.

No. 214,553. Patented April 22, 1879.

Fig. 1.

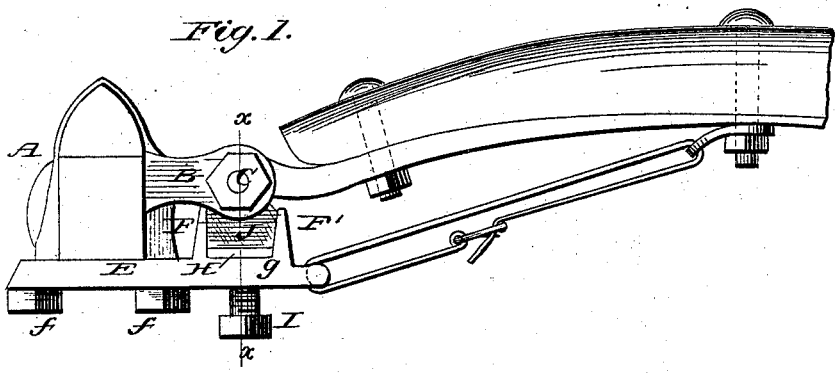



Fig. 2.

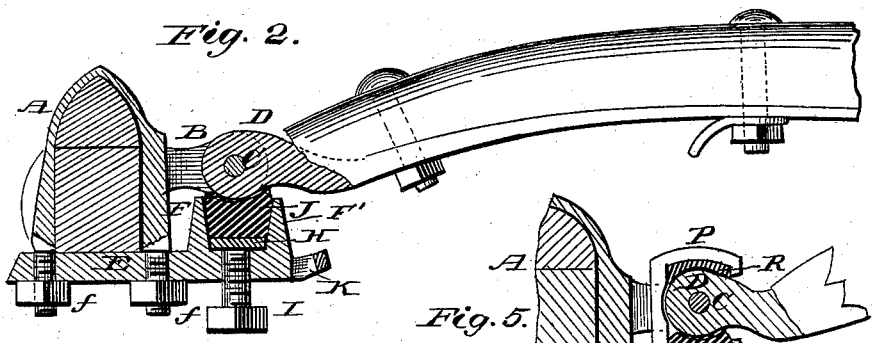



Fig. 5.

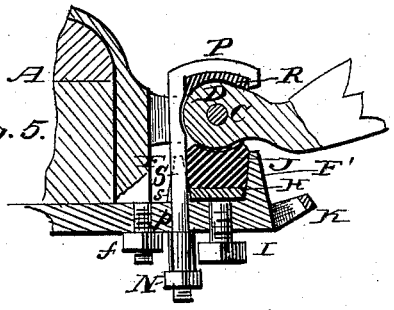



Fig. 3.

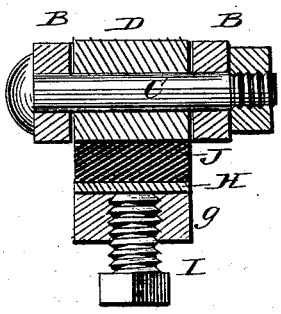
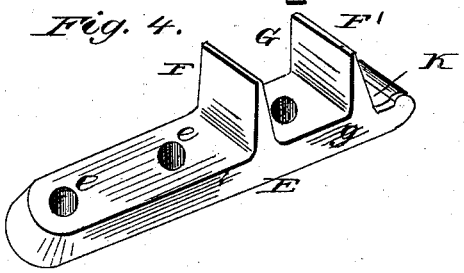



Fig. 4.

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# UNITED STATES PATENT OFFICE.

DAVID W. COPELAND, OF THERESA, NEW YORK.

## IMPROVEMENT IN THILL-COUPLINGS.

Specification forming part of Letters Patent No. **214,553**, dated April 22, 1879; application filed November 29, 1878.

*To all whom it may concern:*

Be it known that I, DAVID W. COPELAND, of Theresa, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side view. Fig. 2 is a longitudinal section. Fig. 3 is a cross-section on the line *x x;* and Fig. 4 is a perspective view of the tie-plate detached. Fig. 5 is a sectional view illustrating a modification of my invention.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to thill-couplings for vehicles; and it consists, essentially, in the construction and arrangement of an improved tie-plate having an open box for packing, to prevent rattling, and provided, at its forward end, with a slot for a safety-strap, by which it may be connected with the thill, substantially as hereinafter more fully described, and particularly pointed out in the claims.

In the drawings, A represents an ordinary clip having the ears B B, between which the thill is hinged upon a bolt, C, passing through the head D of the thill-iron. E is the tie-plate, which is provided with openings *e e* for the threaded ends of the clip, to which it is secured by the nuts *f f*. The plate E projects forwardly, as shown at *g*, under the ears B B, and it is provided with two parallel upward-projecting flanges, F F′, arranged crosswise upon it to form a box, G, in which slides a follower, H, operated by a set-screw, I, passing through the plate.

Upon the follower H, I place a piece of rubber, leather, or other suitable packing, J, which, by the set-screw I, may be forced upward against the head of the thill-iron, thus preventing rattling.

In the plate E, in front of flanges F F′, I form a slot K, which, by a leather strap, may be connected with the thill, which should, of course, be provided with a slotted plate or other suitable means for such connection.

This strap, it will be seen, will hold the thill safely in case of accident to the coupling proper.

In Fig. 5 of the drawings I have illustrated a modification of my invention, which consists in arranging a box or plate, P, provided with a shank, S, above the head D of the thill-iron. The shank S passes through a slot, *s*, cut for it in the rear flange, F, and through a perforation, *p*, in plate E. Its lower end is threaded and provided with a nut, N, by which the packing R, interposed between the plate P and the thill-head D, may be tightened down upon the thill-head.

As will be seen by reference to the drawings hereto annexed, my improved tie-plate may be applied to any ordinary clip-coupling for the purpose of preventing rattling when such coupling is worn out. After it has been applied the packing, when worn out, may be easily changed by simply lowering the follower, sliding the old packing out sidewise, and replacing it with a new piece, it being unnecessary to remove the thill.

The safety-strap attachment already described will hold the thill secure in case of accident; and the slot for the attachment of the safety-strap being at the front end of the plate, in front of and independent of the coupling, there is no danger of the strap becoming worn by friction or damaged by accident to the coupling proper.

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

1. In a thill-coupling, the tie-plate E, having parallel flanges F F′, arranged crosswise thereupon, forming the box G, with open sides, slot K, in front of flanges F F′, set-screw I, and follower H, all arranged and operating substantially as and for the purpose herein shown and specified.

2. In a thill-coupling, the tie-plate E, having slot K, flange F′, slotted flange F, set-screw I, follower H, plate P, having shank S, and nut N, for adjusting the latter, and packing-pads J R, all combined, arranged, and operating substantially as and for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

DAVID W. COPELAND.

Witnesses:
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GEO. F. GRAHAM.