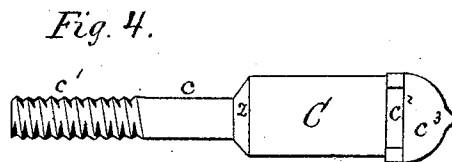
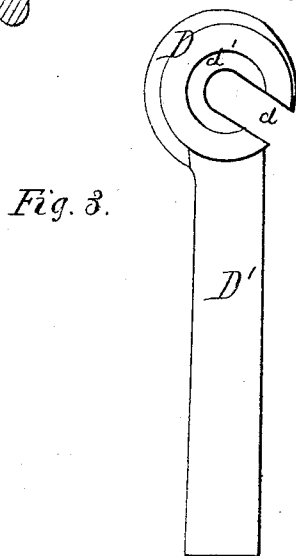
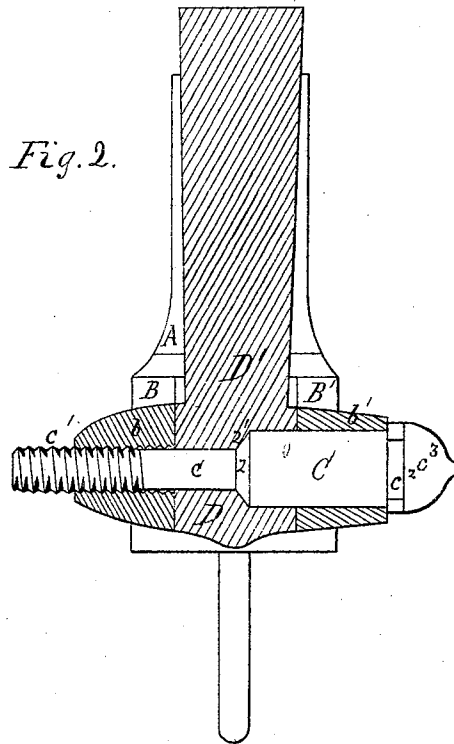
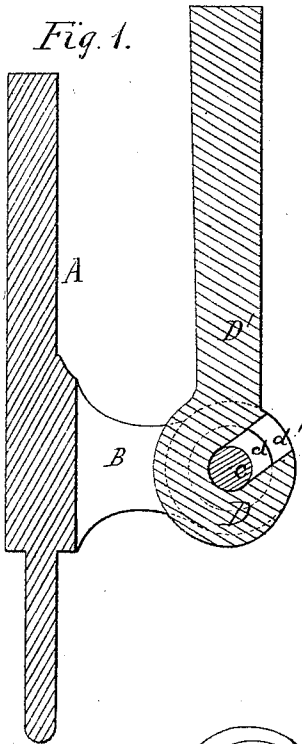


E. G. SMITH.
Thill-Couplings.

No. 150,091

Patented April 21, 1874.



Witnesses.
George E. Upham.
A. D. Famer,

Inventor.
Edward G. Smith,
Clippers & Co.,
Atty.

UNITED STATES PATENT OFFICE.

EDWARD G. SMITH, OF CORNING, NEW YORK.

IMPROVEMENT IN THILL-COUPPLINGS.

Specification forming part of Letters Patent No. **150,091**, dated April 21, 1874; application filed June 28, 1873.

To all whom it may concern:

Be it known that I, EDWARD G. SMITH, of Corning, in the county of Steuben and State of New York, have invented a new and valuable Improvement in Thill-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of my improved thill-coupling by a central longitudinal section. Fig. 2 is a central cross-section of the same. Figs. 3 and 4 are detailed views.

My invention relates to thill-couplings; and it consists of the improved construction and arrangement of the constituent parts, by which the pivot-pin is only slightly moved in its bearings for the purpose of coupling and uncoupling, and by which the fastening of the pivot-pin effects also the steadying of the lugs, between which the thill-head is secured.

In the drawings, A represents a carriage-clip with two lugs, B B', which are provided with bosses, *b b'*, for the reception of a pivot-pin. The said pivot-pin consists of a bolt, *c*, with a screw-thread, *c'*, which is fitted into the boss *b*, a step, C, and a hexagon or octagon base, *c²*, on a head, *c³*, for the purpose of applying a screw-wrench. The thill-head D on the thill-band D' is fitted between the lugs B B', and is provided with a transverse slot, *d*, of the size of the bolt *c*, and with a recess, *d'*, large enough to receive the step C, which enters it to a short distance or until its shoulder *z* reaches the end of the recess. The thill-head is made stronger than usual to counteract the weakening effects of the slot *d*.

To couple or uncouple the thill-head, the pivot-pin is unscrewed until the step C arrives with its end at the boss *b¹*. The thill-head D

will readily slide over the bolt *c*. When the thill-head is to be coupled again it is passed with the slot *d* over the bolt *c*; then, by applying a wrench to the head *c³*, the pin is screwed into its proper position, the step C projecting beyond the boss *b'* and fitting the recess *d'* in the thill-head D. The thill-head is now so secured to its proper place that it may be turned in any direction without slipping off the pivot-pin, which is owing to the larger diameter of the step C, which is partly embedded in the thill-head, and by its size is prevented from entering the slot *d*. The slot *d* is so inclined that the metal at the point of junction between the thill-band and the thill-head may be made very strong without impairing its neat appearance.

This construction requires the pivot-pin to stay within its bearings in the bosses *b b'* and thereby avoids its loss. The shoulder *z* on the step C is made to bear against the shoulder *z'* in the recess *d'*, whereby the thill-head is prevented from working loose between the bosses and from rattling during the progress of the carriage. The bosses *b b'* are prevented from getting apart by the head *c²* of the pivot-pin on one side and the screw-thread *c'* on the opposite side.

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

The thill-coupling having the thill-head D, the inclined slot *d*, and the cylindrical recess *d'*, in combination with the bolt *c*, having screw-threads *c'*, step C, and the polygonal base *c²*, all constructed as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

E. G. SMITH.

Witnesses:

J. S. ROBINSON,
S. O. MASTERS.