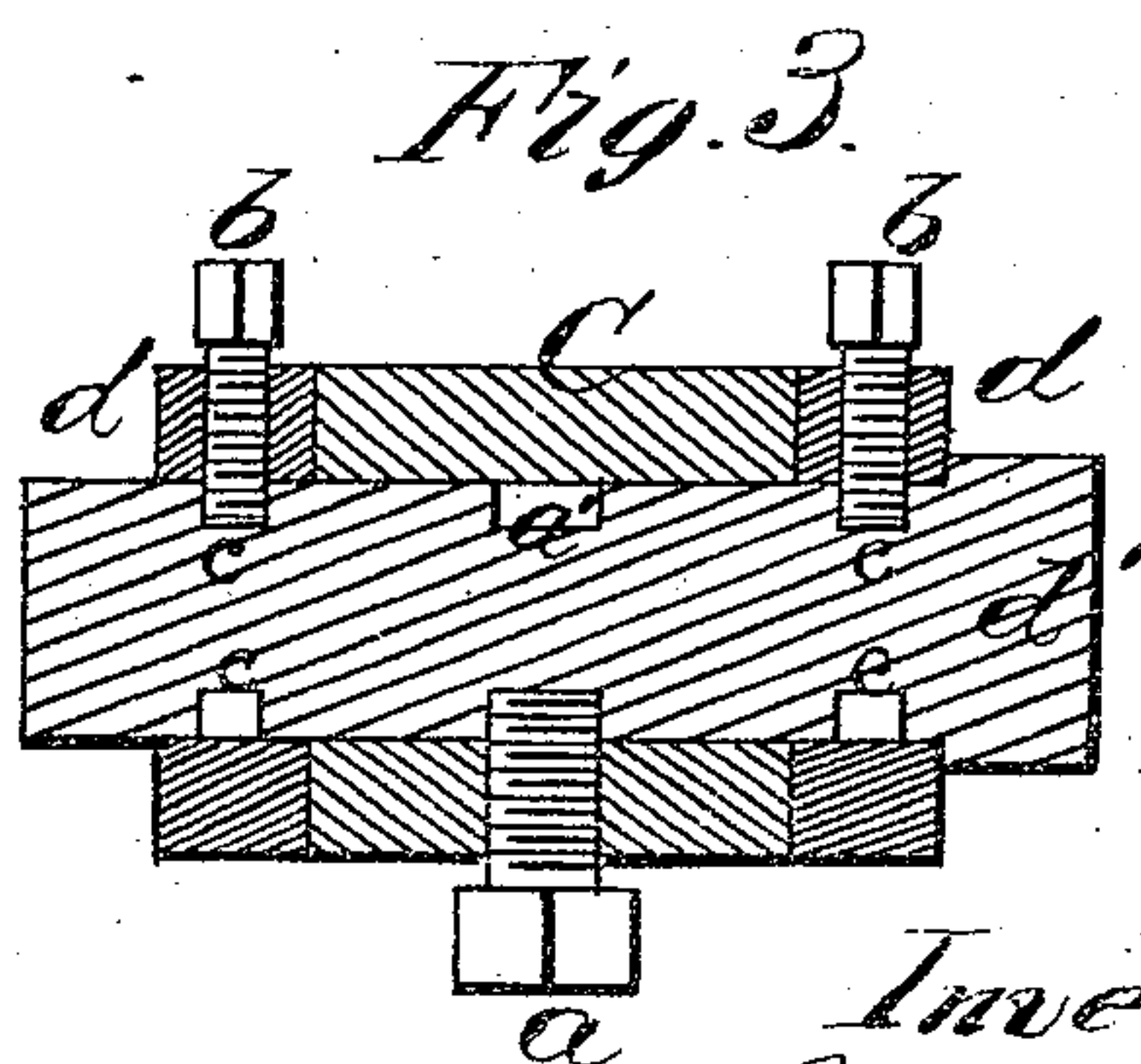
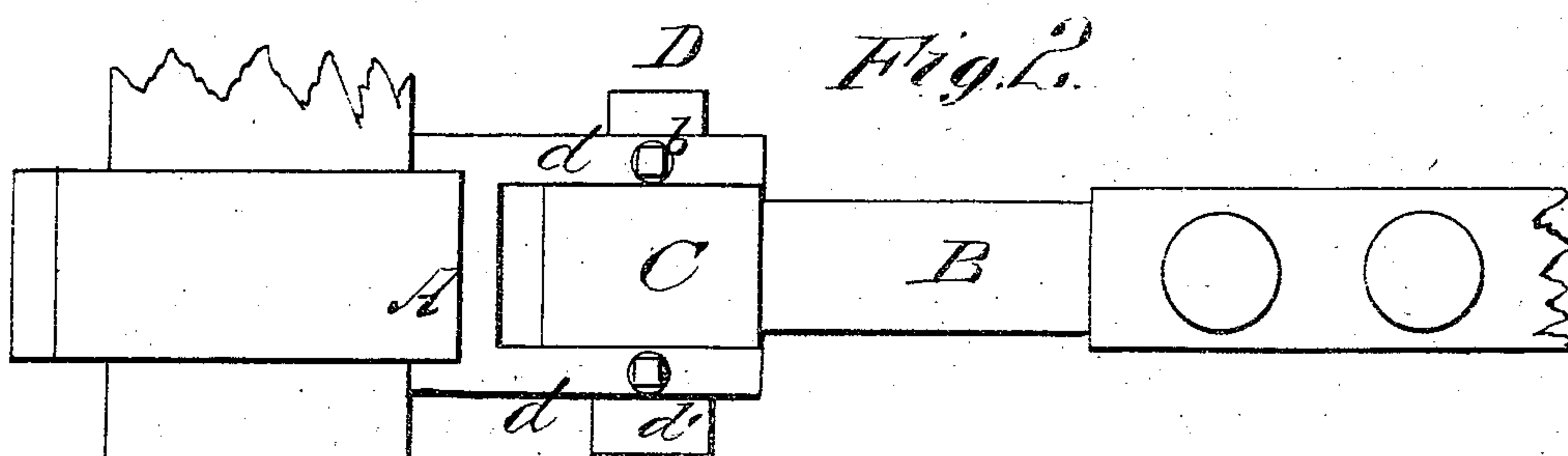
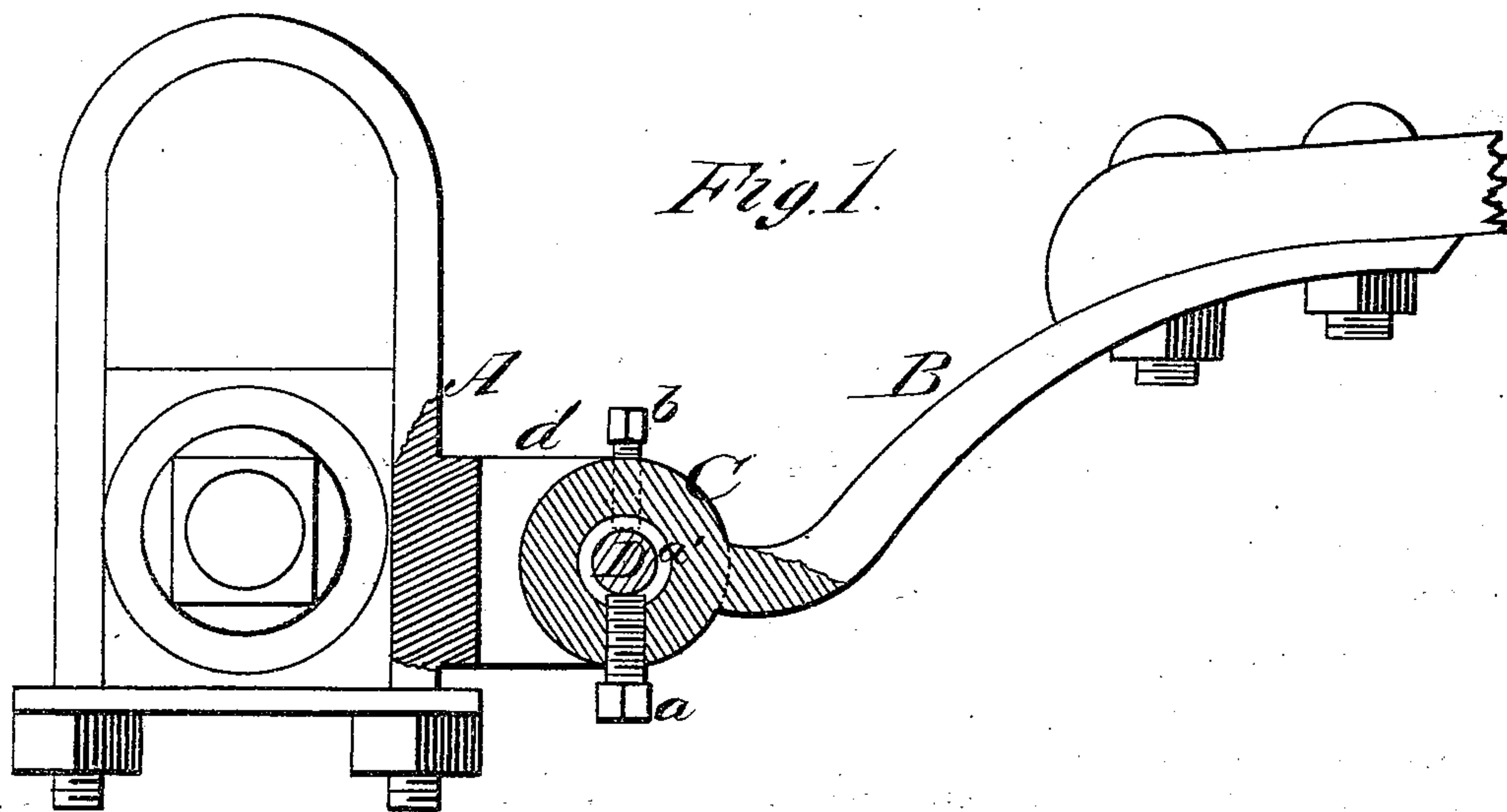


R. AUSTIN.
Thill-Couplings.

No. 153,799.

Patented Aug. 4, 1874.



Witnesses.
E. H. Bates.
G. E. Upham.

Inventor.
Richard Austin
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Attorneys

UNITED STATES PATENT OFFICE.

RICHARD AUSTIN, OF SING SING, NEW YORK.

IMPROVEMENT IN THILL-COUPPLINGS.

Specification forming part of Letters Patent No. **153,799**, dated August 4, 1874; application filed July 3, 1874.

To all whom it may concern:

Be it known that I, RICHARD AUSTIN, of Sing Sing, in the county of Westchester and State of New York, have invented a new and valuable Improvement in Carriage - Shaft 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 drawing is a representation of a sectional view of my carriage-shaft coupling. Fig. 2 is a plan view of the same. Fig. 3 is a detail sectional view of the same.

This invention has relation to thill-couplings; and it consists in an annularly-grooved coupling-pin in combination with set-screws, applied to the two clip-ears, and also to the thill-iron eye, whereby the pin is prevented from casual detachment, and also from rattling, as will be more fully explained hereinafter.

In the annexed drawings, A designates the clip, and *d d* the ears thereof, between which the eye C of the thill-iron B articulates. These parts are or may be constructed in the usual well-known manner. D designates a coupling-pin, having a head, *d'*, on one end. This pin is constructed with three annular grooves

a' c c, adapted to receive the ends of three set-screws, *a b b*. The set-screw *a* is set up so tight that the pin D is neither allowed to turn about its axis nor to receive endwise play. The set-screws *b b*, which are tapped through the ears *d d* of the clip A, enter the grooves *c c*, and are intended merely to prevent rattling, which they will do by setting them up so that they just bear slightly on the pin D, allowing this pin to turn in the ears *d d*. Should the ends of the pin D wear loose they can be tightened again by adjusting the screws *b b*.

It will be seen from the above description that my improvement is applicable to most of the well-known thill-iron eyes and clips, by using a groove-pin, D, and tapping the eye C and ears *d d*, for the set-screws.

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

The coupling-pin D, with its grooves *a' c c*, in combination with set-screws *a b b*, substantially as described.

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

RICHARD AUSTIN.

Witnesses:

ISAAC B. NOXON,
JAMES WILLIAMSON.