(No Model.)

H. D. RUSSELL.

THILL COUPLING.

No. 537,071. Patented Apr. 9, 1895.

Fig. 1.

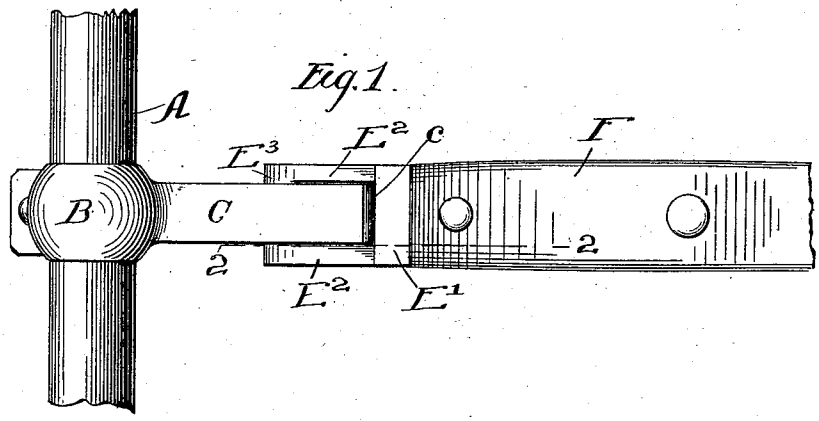


Fig. 2.

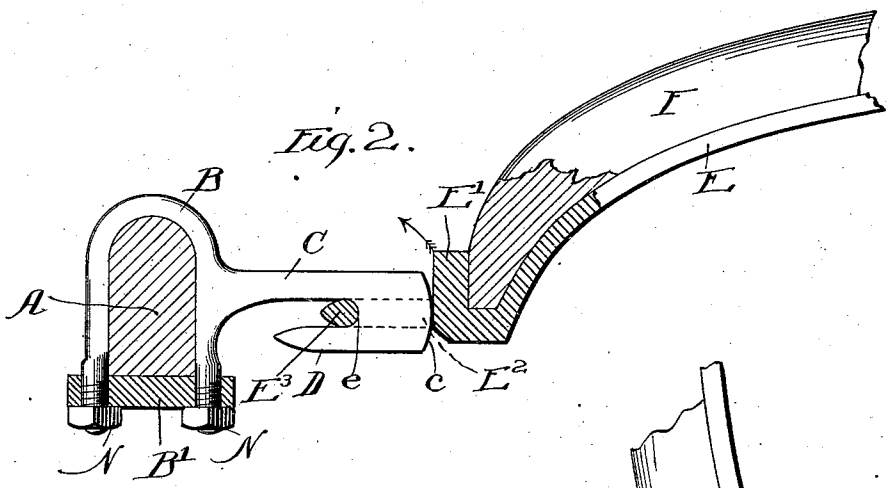


Fig. 3

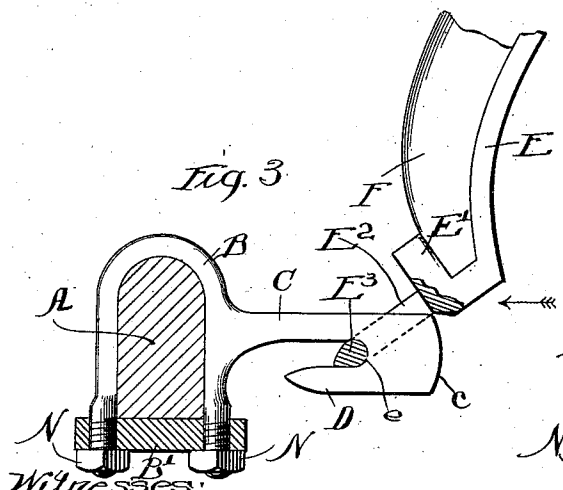
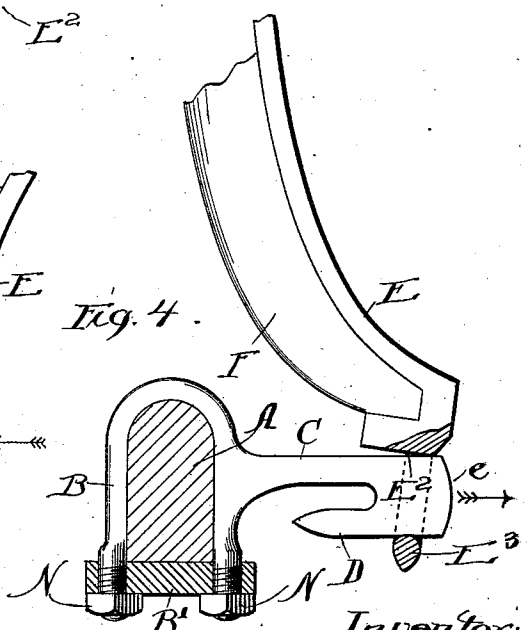


Fig. 4.



Witnesses:
Charles A. Sherzy.
A. D. P. Ebbesen

Inventor:
Horace D. Russell
by Wiles Greene & Bitner
Attorneys.

UNITED STATES PATENT OFFICE.

HORACE D. RUSSELL, OF WINSLOW, ILLINOIS.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 537,071, dated April 9, 1895.

Application filed June 7, 1894. Serial No. 513,780. (No model.)

To all whom it may concern:

Be it known that I, HORACE D. RUSSELL, a citizen of the United States of America, residing at Winslow, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Thill-Couplers, of which the following is a specification.

My invention relates to improvements in thill couplers of that class adapted to be coupled or uncoupled only when the thills are in a predetermined position such as they cannot assume when in working use.

The invention is fully described and explained in this specification and shown in the accompanying drawings, in which—

Figure 1 is a top plan of a portion of an axle and the rear end of a thill coupled to the axle by means of my improved coupler, the thill being in working position. Fig. 2 is a view partly in side elevation, and partly in vertical section, showing the parts in the same relative positions as in Fig. 1. Figs. 3 and 4 are similar views showing the parts in the positions through which they pass in coupling or uncoupling. The sections in Figs. 2, 3, and 4, are through the line 2—2, Fig. 1.

In the views, A is an axle of ordinary form, and B is a clip encircling the axle, held in place by the usual plate, B′, and nuts, N. On the front face of the clip is integrally formed a horizontally projecting bracket, C, having on its lower surface a rearwardly open hook, D. The surface, *c*, of the front end of the bracket, C, is approximately a segment of a cylinder, whose axis is a transverse horizontal line lying at the center of the closed end of the hook.

E is a thill-iron of suitable shape adapted to be attached to the lower face of the rear part of a thill, F, the iron being preferably formed with a lug, E′, against which the end of the thill abuts. On the rear end of the iron are formed two parallel bars, E^2, joined at their rear ends by a transverse bar, E^3, the whole forming a loop adapted to embrace the bracket, C, and the longitudinal space in the loop being such that when the bar, E^3, is seated in the hook as shown in Figs. 1, 2, the lug, E′, is in contact with the front face, *c*, of the bracket.

The parts being in the normal or working position shown in Fig. 2, they may be disconnected by swinging the thill upward about the bar, E^3, as an axis until it reaches the position shown in Fig. 3, when it may be moved in the direction indicated by the arrow in that figure and may be thus freed from the hook, D. As soon as the bar, E^3, is clear of the rear end of the hook, the thill can be brought into the vertical position shown in Fig. 4 and may be moved in the direction indicated by the arrow in that figure, until it passes off the bracket. During this movement the loop embraces the entire body of the bracket, the internal length of the loop being preferably very little greater than the vertical thickness of the front portion of the bracket and the vertical thickness of the bracket being approximately the same as the distance from the inner end of the hook upon the bracket to the front face, *c*, thereof. This method of connecting and disconnecting the loop and hook is necessary on account of the position of the hook on the lower face of the bracket instead of the upper face as in certain proposed forms of thill couplers. This construction has the advantage that the loop formed on the thill may be a plain rectangular loop and will still be held securely in connection with the hook without any extraneous means for fastening it in position.

The bar, E^3, may be cylindrical in cross-section if desired, but it is only important that that part of its surface bearing on the hook be cylindrical and I prefer the form shown in the drawings, as being stronger.

The cylindrical shape of the front end of the bracket insures constant contact with it of the rear face of the lug, E′, so long as the thill is in working position and thus practically prevents rattling of the parts while in use.

Having now described and explained my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the clip, B, having the bracket, C, formed with the downwardly and rearwardly open hook, D, of the thill iron, E, formed with the loop E^2, E^3, adapted to embrace and move along the free end of the bracket to permit engagement of the transverse bar of the loop with the hook; substantially as shown and described.

2. The combination with the clip, B, having the bracket, C, formed with the downwardly and rearwardly open hook, D, of the thill iron, E, formed with the loop, E^2, E^3, adapted to embrace and move along the free end of the bracket in bringing the transverse bar of the loop into engagement with the hook, the front end of the bracket being approximately cylindrical and the space between the closed end of the hook and said front face being approximately equal to the internal length of the loop; substantially as shown and described.

HORACE D. RUSSELL.

Witnesses:
A. P. NELSON,
MARY L. BURLEY.