

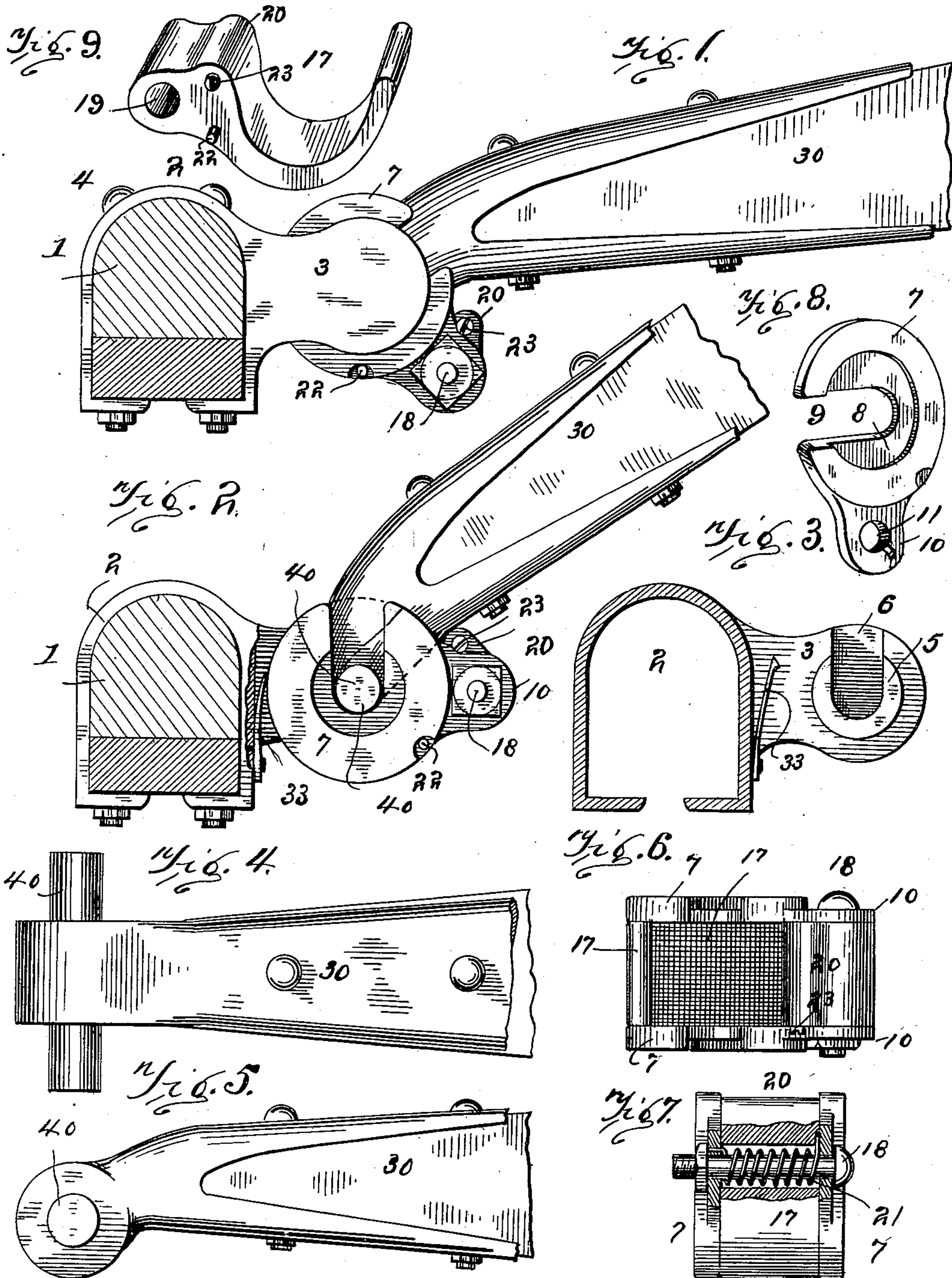
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Patented Dec. 26, 1899.

B. B. CRAWFORD.
THILL COUPLING.

(Application filed May 25, 1899.)

(No Model.)



WITNESSES

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BEVERLY B. CRAWFORD, OF SALEM, OREGON, ASSIGNOR TO JOHN W. CRAWFORD, OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 639,714, dated December 26, 1899.

Application filed May 25, 1899. Serial No. 718,150. (No model.)

To all whom it may concern:

Be it known that I, BEVERLY B. CRAWFORD, a citizen of the United States, residing at Salem, in the county of Marion, and State of Oregon, have invented certain new and useful Improvements in Thill-Couplers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to thill or pole couplings for carriages, &c.

The object of the invention is to produce a coupling which will be strong and durable, readily attachable and detachable, and which will have wear-plates and an antirattling attachment, substantially as hereinafter described.

Figure 1 is a side elevation of a coupling, showing section of axle and a broken part of thill or shaft coupled. Fig. 2 is a similar view, part of the clip broken away, showing parts in position for uncoupling by lifting the pole or shaft. Fig. 3 is a central cross-section of the clip. Figs. 4 and 5 are plan and elevation of part of pole or shaft. Fig. 6 is a top plan of wear-plates and hook-shaped filler-piece. Fig. 7 is a broken end elevation of the wear-plates and coupling-hook or filler, showing bolt and connecting spring. Fig. 8 is a perspective view of one of the wear-plates. Fig. 9 is a perspective view of the hook-shaped filler-piece.

The numeral 1 indicates the axle of a vehicle of any usual construction. A clip 2, preferably in form of a box, partly open at bottom and having lugs 3 3 projecting forward, is attached to the axle in any suitable way, as by bolts 4 4, which bolts may pass through holes in the clip and grooves in the axle; but any other means may be employed in attaching the clips or boxes 2, two of which are attached to the axle in the usual location of shaft or thill couplers.

The lugs 3 3 project forward at the edges of the clip and are integral with the clip, being cast or struck up therewith. Each lug 3 has an inwardly-projecting boss 5, which is integral with the lug and is nearly in form of a washer, one edge being slotted by a slot 6, which extends to the upper edge of the lug, being a little deeper than the thickness of the boss 5.

A locking wear-plate 7 is placed inside each lug 3. These wear-plates may be of hardened steel or other suitable metal, and each wear-plate has a recess 8, which fits boss 5 of the lug 3, and also has a slot 9, corresponding to the slot 6 in the lug. Each wear-plate has an ear 10, having a hole 11 therein. The two wear-plates 7 are complementary and when applied to the lugs 3 form bushing with perforated ears 10, projecting forward from the lugs. The wear-plates are then capable of rocking on the bosses 5, so that the slots 9 may be either in or out of alinement with slots 6 in the lugs. When in alinement, as in Fig. 2, full lines, the cross-pin 40 of the thill may be dropped into the slots.

Between the plates 7 a hook-shaped filler-piece 17 is pivoted by a bolt 18, passing through a hole 19 in an extension of the hook. The hole 19 is large enough to receive around bolt 18 a small coiled spring 21, one end of which spring bears against one of the wear-plates 7 and the other against the body of the hook 19, tending to rock the hook on the bolt as its pivot. This prevents rattling of the parts and also turns the hook slightly down from the wear-plates when desirable in assembling or separating the parts.

A stop-pin 22, projecting from the side of hook 17, enters a small recess in one of the plates 7 and holds the hook from swinging out of alinement with the plates 7 in one direction. A screw or stop-pin 23, entering the projection 20 of hook 17, prevents movement in the other direction, and the wear-plates 7 and hook 17 when assembled and held may be rocked together about the bosses 5 of lugs 3.

The upward projection 20 of hook 17 forms an abutment on which the thill 30 bears when in the normal nearly horizontal position, as would be the case if the thill were dropped from position of Fig. 1. The cross-pin 40 can only be entered in slots 6 by lifting the front of the thill high enough so that projection 20 may be rocked upward, as in Fig. 2, when the slots in plates 7 and in lugs 3 will be in alinement and the cross-pin may be entered, as in Fig. 2. Then when the front of the thill is lowered, turning on pin 40 as a pivot, the thill bears on projection 20 and rocks the wear-plates and hook about the bosses 5, so that

the slots in plates 7 are not in line with those in lugs 3, and thus these plates 7 form locking-plates, as in Fig. 1, and the lifting of the thill will not unlock this locking engagement; 5 but the plates must be turned back by hand to release the thill, which turning can only be done when the front of the thill is elevated, because projection 20 will come against the lower side of the thill if the attempt be made 10 to rock plates 7 when the thill is down.

A flat spring 33, fastened to the inside of clip 2, has its free end in position to bear on the curved portion of hook 17, thus serving as an antirattler and also by friction holding 15 the hook and plates 7 in position to receive pin 40 when the thills are to be coupled.

From the above description it is thought the construction and operation of the device will be understood.

20 I am aware that there are numerous thill-couplers in which the coupling can only be made when the front end of the thill is elevated. Such I do not claim, broadly; but in this coupling the thill cannot be released simply by raising the front end, but the plates 7 25 must be rocked by a separate movement.

What I claim is—

1. In a thill-coupling, the clip having pro-

jecting lugs provided with bosses, slotted plates having recesses and journaled on said 30 bosses, a hook-shaped filler-piece extending between said plates and secured thereto, and provided with a projection with which the thill may engage as described, and the thill 35 having cross-pin to enter the slots, substantially as described.

2. In a thill-coupling, the clip having bossed lugs as described, the slotted wear-plates embracing the bosses on the lugs, the hook-shaped filler-piece between the wear-plates 40 and connected thereto, and a spring bearing on one of the wear-plates and the filler-piece, substantially as described.

3. In a thill-coupling, the clip having projecting lugs provided with bosses, the slotted 45 wear-plates journaled on said bosses, a filler-piece between said bosses, and an antirattler or friction-spring connected to the clip and bearing on said filler-piece, all substantially 50 as described.

In testimony whereof I affix my signature in presence of two witnesses.

BEVERLY B. CRAWFORD.

Witnesses:

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