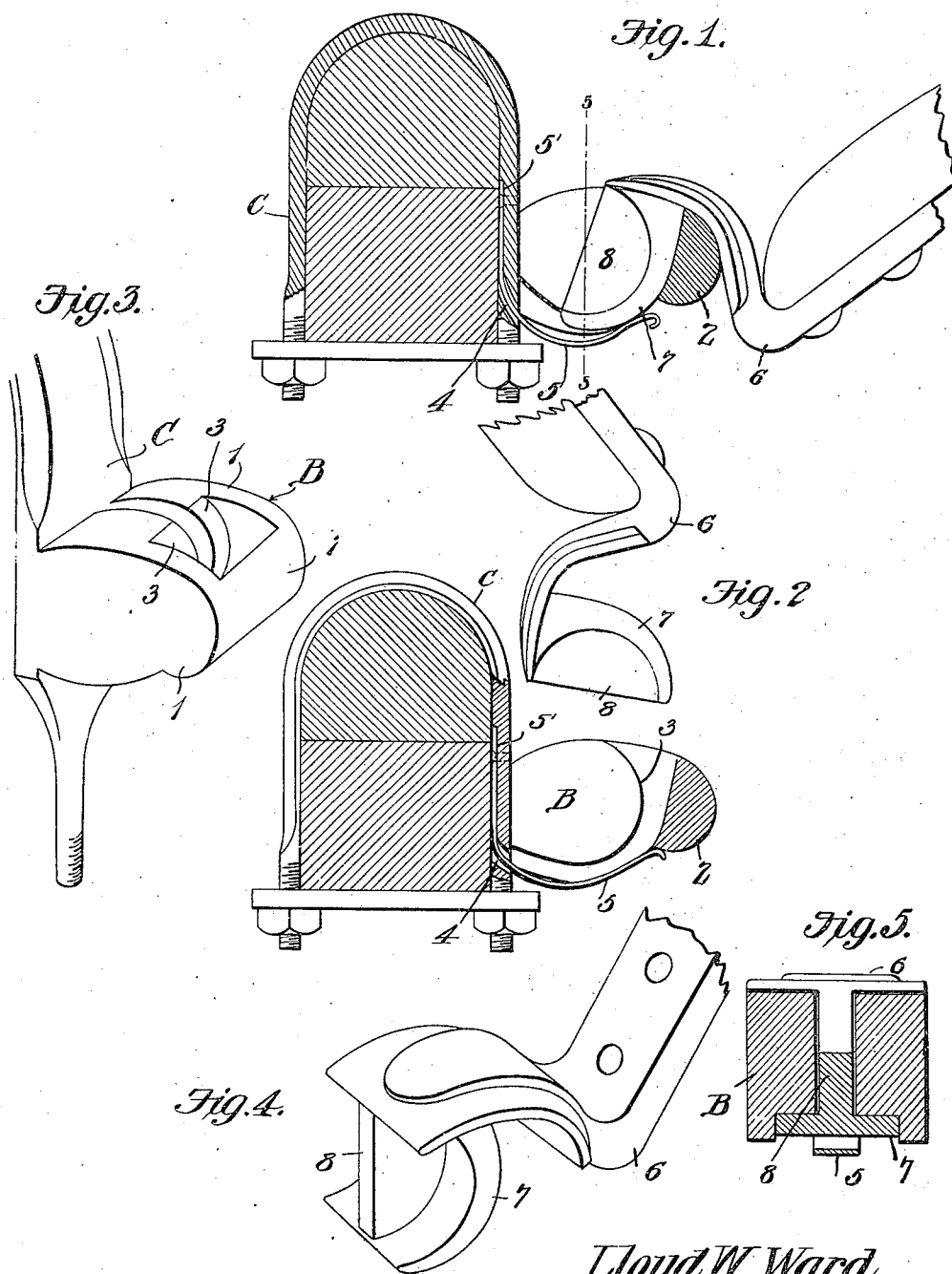


No. 843,723.

PATENTED FEB. 12, 1907.

L. W. WARD.
THILL COUPLING.
APPLICATION FILED APR. 12, 1906.



WITNESSES:

E. J. Stewart
Wm. Baggett

Lloyd W. Ward,
INVENTOR

By *C. A. Snow & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

LLOYD W. WARD, OF BUCKHANNON, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO WILLIAM S. O'BRIEN, OF BUCKHANNON, WEST VIRGINIA.

THILL-COUPLING.

No. 843,723.

Specification of Letters Patent.

Patented Feb. 12, 1907.

Application filed April 12, 1906. Serial No. 311,300.

To all whom it may concern:

Be it known that I, LLOYD W. WARD, a citizen of the United States, residing at Buckhannon, in the county of Upshur and State of West Virginia, have invented a new and useful Thill-Coupling, of which the following is a specification.

This invention relates to thill-couplings; and it has for its objects to provide a device of this class of novel and improved construction whereby the parts or members of the coupling may be readily assembled or separated so as to permit the thills or shafts to be readily detached from the axle of the vehicle in connection with which they are used.

A further object of the invention is to provide the improved coupling with an antirattling spring of simple and improved construction.

Further objects of the invention are to simplify and improve the construction and operation of this class of devices.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modification within the scope of the invention may be made when desired.

In the drawings, Figure 1 is a sectional elevation showing the parts of the improved thill-coupling assembled. Fig. 2 is a similar view showing the parts of the coupling separated. Fig. 3 is a perspective view of the coupling-box. Fig. 4 is a perspective detail view of the thill-iron which is used in connection with the coupling-box. Fig. 5 is a transverse sectional view taken on the plane indicated by the line 5 5 in Fig. 1.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The coupling-box B of the improved thill-coupling may be secured upon or formed integrally with an axle-clip C of ordinary construction. The coupling-box is composed of side members 1 1, connected at their front

ends by a cross-bar 2 and provided on their inner faces adjacent to the clip-strap with cheeks 3 3 of approximately circular shape, said cheeks being spaced apart, as will be clearly seen in Fig. 3. The clip-strap has an obliquely-disposed slot 4, through which extends a leaf-spring 5, the upper end of which is riveted upon or otherwise suitably secured to the clip-strap, the inner face of which may be provided with a recess 5' for the accommodation of said spring, although this is not considered essential. The lower end of the spring is curved in a forward and upward direction, and it terminates beneath the cross-bar 2, against which it rests when the thill-iron is detached from the coupling-box.

The thill-iron 6 is provided with a hook-shaped extension 7, adapted to enter the coupling-box between the cross-bar 2 and the cheeks 3, said hook being curved in a rearward direction to correspond with the circular edges of the cheeks 3, which are directly engaged by said hook and which operate to form a pivot upon which the latter may turn until the front portion of the shank of said hook is arrested by contact with the cross-bar 2 of the coupling-box. The hook 7 is provided with a web 8, fitting between the cheeks 3, filling the intervening space between the faces of said cheeks and causing the parts to fit snugly together when assembled.

In order to assemble the parts, the thill-iron is turned to the position shown in Fig. 2, when the point of the hook 7 may be inserted into the box between the cross-bar 2 and the cheeks 3. By turning the thill-iron in a downward and forward direction the hook 7 will engage the circular edges of the cheeks, while the web 8 will enter between the faces of the cheeks. The hook will also engage the free end of the spring 5, which latter, being thus forcibly depressed, will exert its tension against the hook to keep the latter in engagement with the cheeks 3, thus holding the parts together in such a manner that rattling will be positively avoided.

This improved thill-coupling is, as will be seen from the foregoing description, extremely simple in construction, and it may be manufactured at a very moderate expense. Its construction is such that the parts of the coupling may with the greatest ease be assembled or separated, as occasion may demand.

Having thus described the invention, what is claimed is—

1. In a thill-coupling, a coupling-box including side members connected by a cross-bar at their front ends and having convex bearing-cheeks upon their inner sides, the bearing-surfaces of which are spaced from the cross-bar, in combination with a thill-iron having a cheek-engaging hook.
2. In a thill-coupling, a box having side members connected by a cross-bar at their front ends and provided on their inner sides with convex cheeks, in combination with a thill-iron having a curved cheek-engaging hook provided with a web adapted to enter between the faces of the cheeks.
3. A coupling-box having side members connected by a cross-bar at their front ends and provided with cheeks on their inner sides, said cheeks being spaced apart to form a slot and having approximately circular bearing edges, in combination with a thill-iron having a rearwardly-curved cheek-engaging hook adapted also for engagement with the cross-bar at the front end of the box, and provided with a vertical web adapted to enter said slot.
4. In a thill-coupling, a coupling-box having side members connected by a cross-bar at their front ends and provided with approximately circular bearing-cheeks upon their inner sides, the bearing-surfaces of which are spaced from the cross-bar and housed by the latter in combination with a thill-iron having a hook adapted to engage between the cheeks

and the cross-bar, and a suitably-supported spring adapted to engage the hook.

5. In a thill-coupling, an axle-clip having a coupling-box including side members connected by a cross-bar at their front ends and having approximately circular cheeks upon their inner sides, a spring extending through an obliquely-disposed slot in the clip and having one end secured upon said clip, the other end of the spring being curved forwardly and normally supported against the cross-bar of the coupling-box; and a thill-iron having a hook adapted to engage between the cheeks and the cross-bar of the coupling-box and to be engaged by said spring.

6. An axle-clip having a coupling-box including side members connected by a cross-bar and having approximately circular cheeks upon their inner sides, a thill-iron having a hook adapted for pivotal engagement with the cheeks, and a spring secured upon the inside of the clip, extending obliquely through a slot in the latter, and normally resting against the cross-bar of the coupling-box for engagement with the coupling-hook when the latter is assembled with the coupling-box.

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

LLOYD W. WARD.

Witnesses:

CHASE WEST,
D. C. SATTERFIELD.