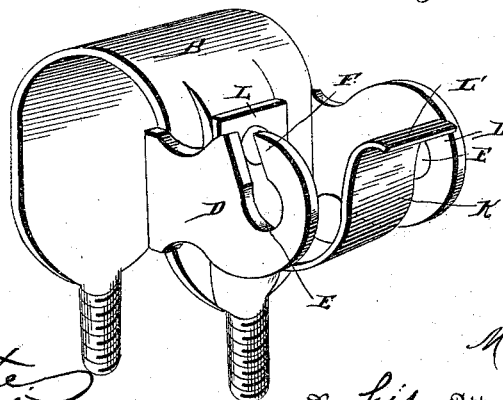
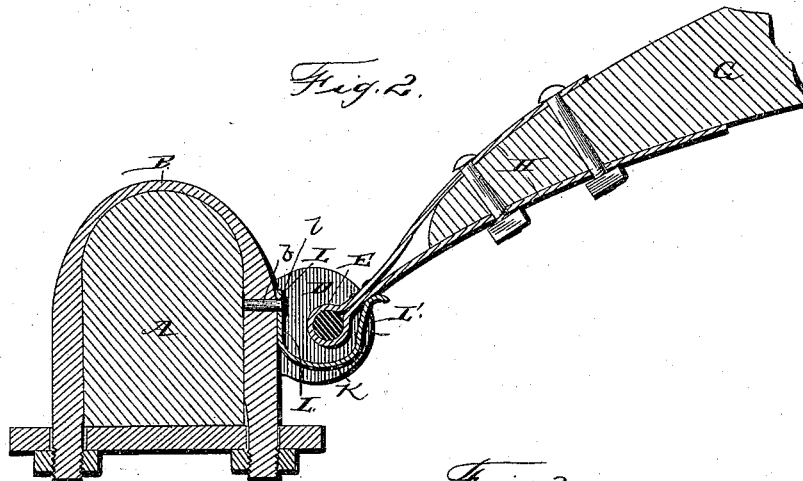
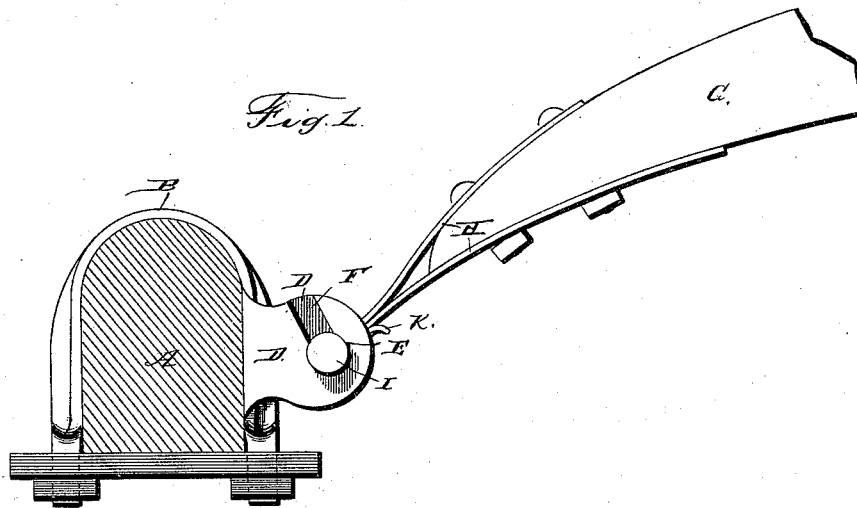


(No Model.)

M. G. CONRAD.
THILL COUPLING.

No. 383,864.

Patented June 5, 1888.



Witnesses.

Geo. Thayer
O. E. Doyle

Inventor.

Merton G. Conrad.

By his Attorneys.

C. B. Howland

UNITED STATES PATENT OFFICE.

MERTON G. CONRAD, OF MCGRAWVILLE, NEW YORK.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 383,864, dated June 5, 1888.

Application filed January 13, 1888. Serial No. 260,611. (No model.)

To all whom it may concern:

Be it known that I, MERTON G. CONRAD, a citizen of the United States, residing at McGrawville, in the county of Cortland and State of New York, have invented new and useful Improvements in Thill-Couplings, of which the following is a specification.

My invention relates to improvements in thill-couplings; and it has for its objects the provision of means whereby the thills may be readily and quickly detached from or attached to the vehicle, and a further object is to so arrange the parts that rattling will be prevented.

With these objects in view the invention consists in a certain novel construction and arrangement of parts for service, which is more fully set forth hereinafter in connection with the accompanying drawings, wherein—

Figure 1 is a side view of my improved coupling. Fig. 2 is a longitudinal section of the same, taken centrally. Fig. 3 is a detail perspective view of the axle-clip having the ears and the spring attached thereto.

Referring by letter to the drawings, A designates the axle, and B the axle-clip, which is secured thereto in the ordinary manner—namely, integral bolts on its lower end projecting through apertures in a clip-plate and having nuts screwed on their extremities beneath the plate. The front side of the clip is provided with the ears D D, having bearings E E therein, and one of the ears is further provided with a slot, F, which communicates at its inner end with the bearing. This slot is inclined slightly backward toward its upper end, and it is for a purpose which is hereinafter more fully explained.

The thill G is provided with the thill-iron H, which is of a V shape and embraces the end of the thill. The inner end of the thill-iron is provided with the lateral trunnions I I, which fit and operate in the bearings E E in the ears D D.

It will be seen that when the thill is raised to a vertical position or slightly beyond the vertical the thill-iron will align with the slot F, and if the thills are now moved laterally toward the slot the thill-iron will pass through the same, and the trunnions will be removed from their bearings. To replace the thills or return them to their former connection with the vehi-

cle, it is simply necessary to reverse the operation just described.

It will be readily seen that the thills cannot be detached from the vehicle when they are in any position except that just described, and therefore there is no danger of an accidental displacement.

K represents a U-shaped spring comprising the vertical (or approximately vertical) arms L and L', and the arm L is attached rigidly to the front side of the axle-clip between the ears D D. The front side of the clip is provided with a perforation, b, and the arm L is provided with a perforation, l, which aligns therewith, and a rivet or bolt, M, is passed through the aligned perforations. The front arm, L', of the spring is provided at its upper end with an outward-turned hook, N, upon which the lower side of the thill-iron is designed to bear. When the thill is drawn down into its operative position, it depresses the front side or arm of the spring, and consequently the spring exerts a constant upward pressure upon the rear end of the thill. This pressure causes the trunnions on the sides of the thill-irons to bear against the upper sides of their bearings, and as the bearings wear the spring still exerts its upward pressure. The result of this is, that there can be no rattle in the bearings of the thill-irons even when the bearings become considerably worn.

The advantages of this simple and cheap device will be readily seen. The spring is arranged between the bearing-ears and under the thill, and is consequently out of the way; it requires no adjustment; it allows the thill an easy vertical swinging motion; its construction and attachment are such as to prevent damage or displacement, and it may be applied readily to any ordinary thill-coupling now in use.

Having thus described my invention, I claim—

1. In a thill-coupling, the combination, with the axle-clip and the ears D D on the front side of the clip, having rearwardly-inclined slots F F therein, of the thill-iron having lateral trunnions which are mounted in the said slots, and the U-shaped spring L, attached to the clip between the ears and bearing against the under side of the thill-iron in front of the ears, substantially as specified.

2. In a thill-coupling, the combination of the axle-clip having a perforation, *b*, in its front side and the ears D D on the clip, the U-shaped spring, comprising the arm L, having a perforation, *l*, aligning with the perforation *b*, and the arm L', having a hook on its free end, the rivet or its equivalent engaging the aligned perforations *b* and *l*, and the thill bearing on the spring between the ears D and
5
10 having trunnions mounted in bearings in the

said ears, substantially as and for the purpose specified.

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

MERTON G. CONRAD.

Witnesses:

DAVID S. ANDERSON,
T. H. GREEN.