No Model.)

D. J. CROSBY & D. S. KEENER.

THILL COUPLING.

No. 551,111. Patented Dec. 10, 1895.

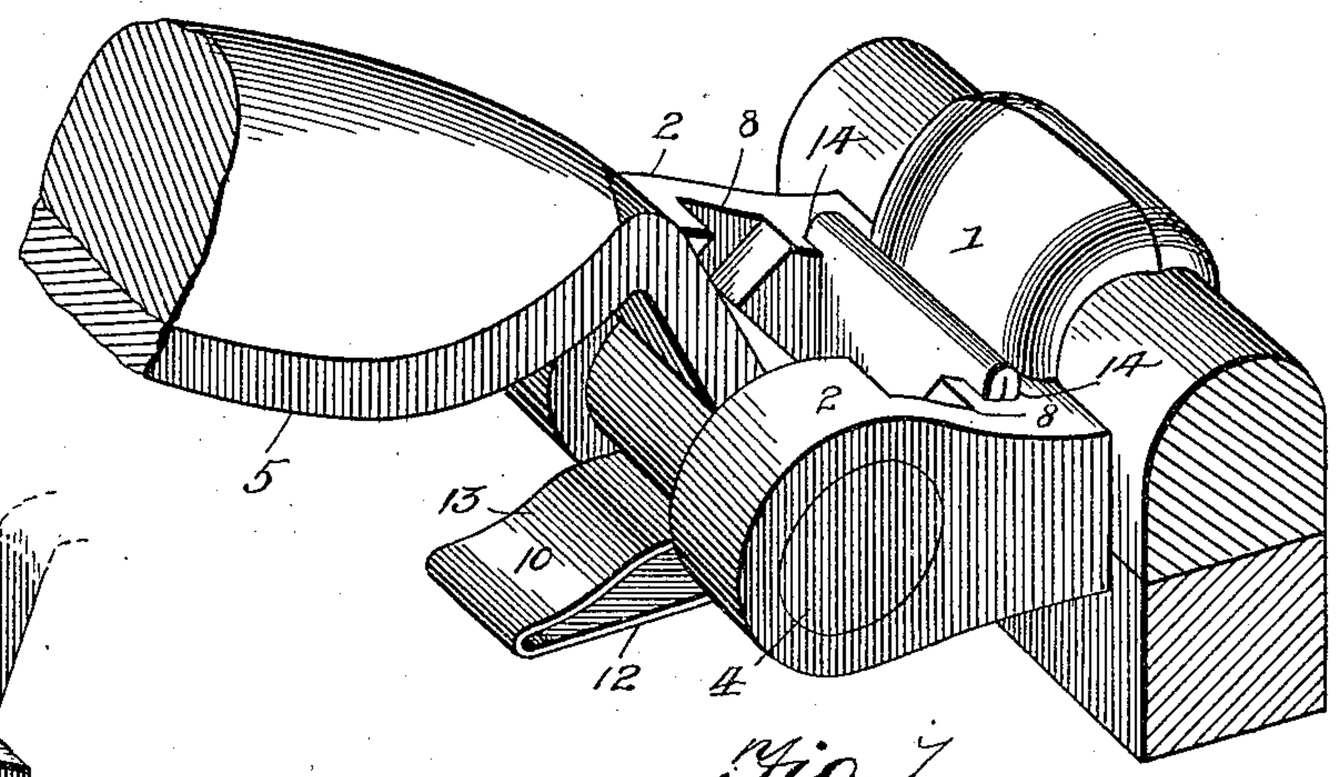


Fig. 1.

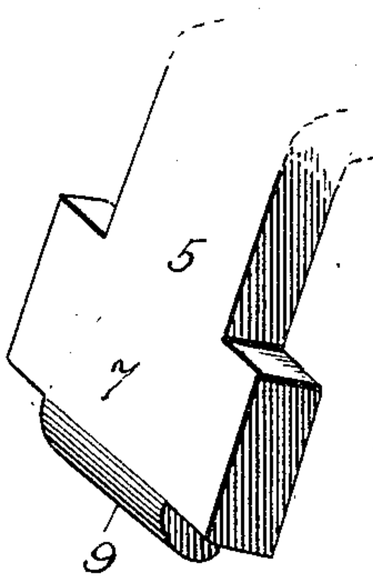
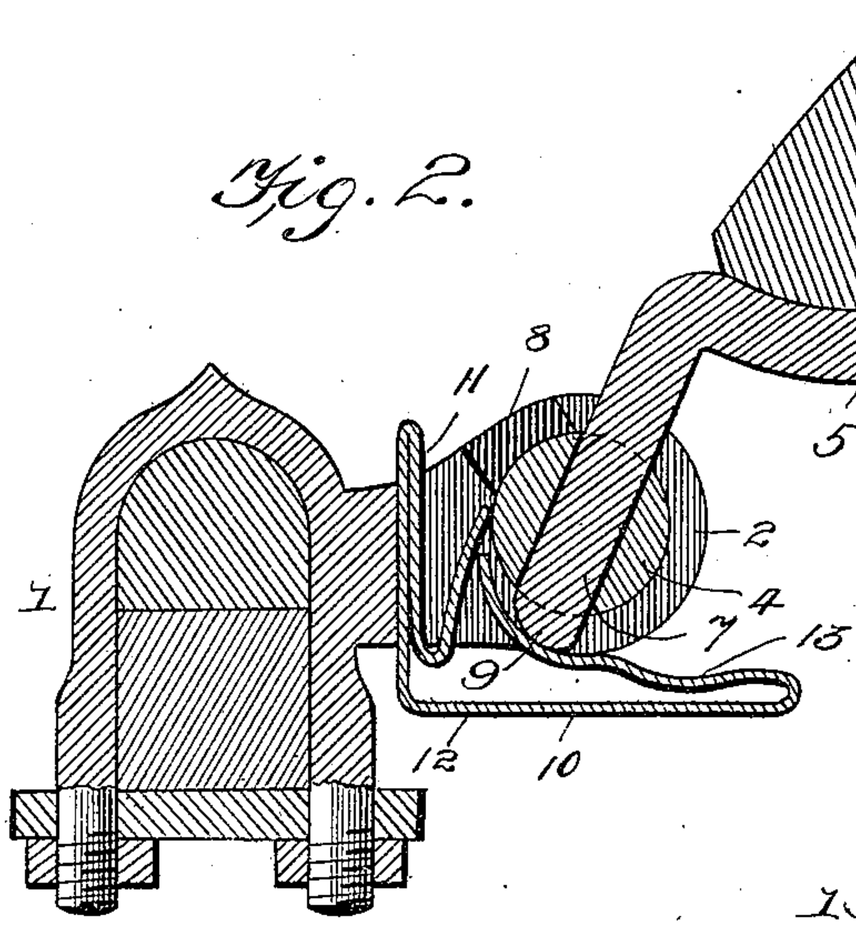


Fig. 6.

Fig. 2.



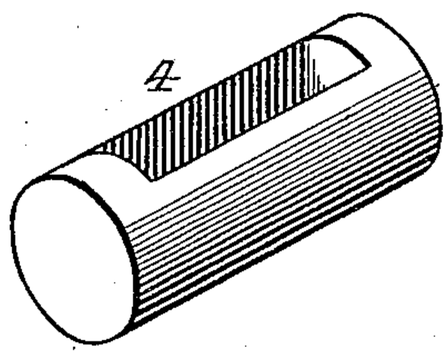
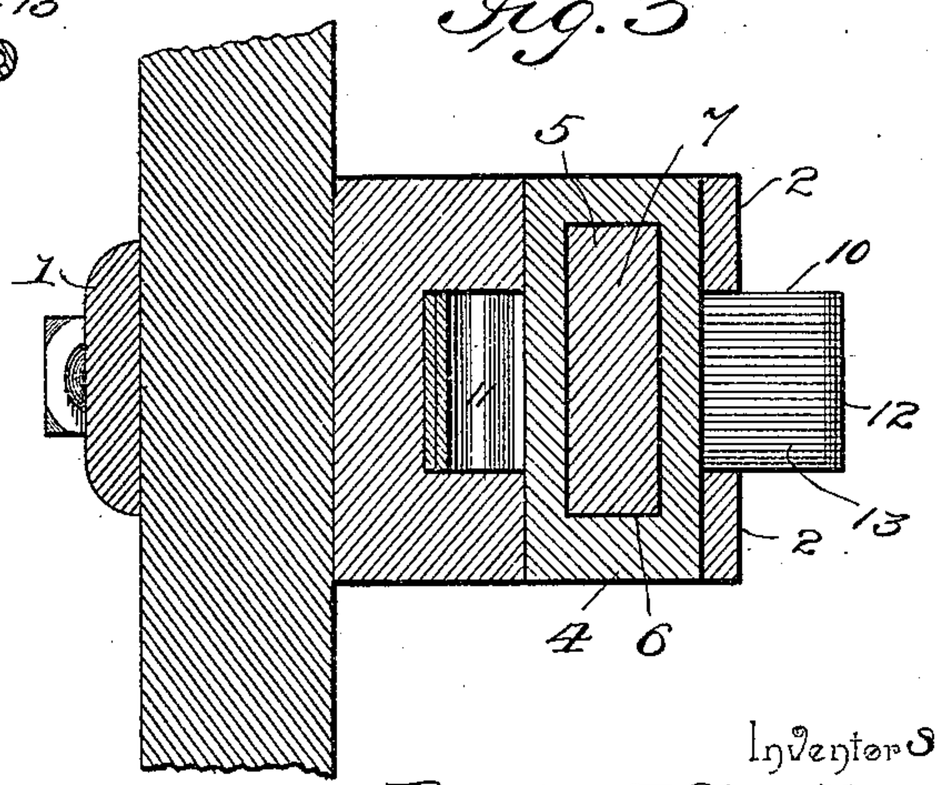


Fig. 5.

Fig. 3



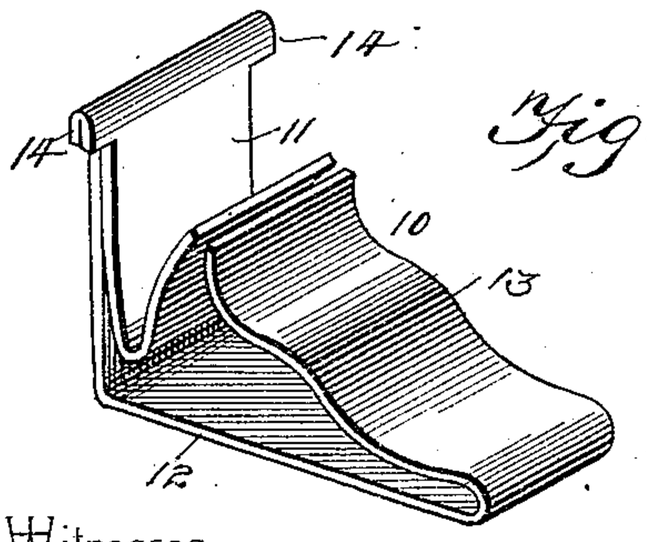


Fig. 4.

Witnesses
E. H. Monroe.
A. E. Hoyle

Inventors
David J. Crosby and
Daniel S. Keener.
By their Attorneys,
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

DAVID J. CROSBY AND DANIEL S. KEENER, OF UNIONTOWN, PENNSYLVANIA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 551,111, dated December 10, 1895.

Application filed August 29, 1895. Serial No. 560,924. (No model.)

To all whom it may concern:

Be it known that we, DAVID J. CROSBY and DANIEL S. KEENER, citizens of the United States, residing at Uniontown, in the county of Fayette and State of Pennsylvania, have invented a new and useful Thill-Coupling, of which the following is a specification.

The invention relates to improvements in thill-couplings.

The object of the present invention is to improve the construction of thill-couplings and to provide a simple and inexpensive device which will dispense with the ordinary construction and thereby prevent accidents resulting from the loss of such bolts and the accidental uncoupling of the thills and which will be a complete antirattler.

The invention consists in the construction and novel combination and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of a thill-coupling constructed in accordance with this invention. Fig. 2 is a central longitudinal sectional view. Fig. 3 is a horizontal sectional view. Fig. 4 is a detail perspective view of the antirattler-spring. Fig. 5 is a similar view of the roller. Fig. 6 is a detail view of the head of the thill-iron.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates an axle-clip provided with a pair of forwardly-extending parallel ears 2, having opposite circular openings forming a bearing for a removable roller 4, to which is detachably connected a thill-iron 5. The roller is provided with a longitudinal slot 6 to receive a flat head 7 of the thill-iron 5, and when the head 7 is arranged in the slot or opening 6 of the roller the latter forms journals for the thill-iron.

The openings of the ears 2 are of the same diameter as the roller and the latter is adapted to be inserted endwise in the bearings. The ears are provided at their tops on their inner faces with recesses 8, conforming to the configuration of the terminals of the slot of the roller and adapted when the slot or opening 6 registers with them to permit the flat head 7 of the thill-iron to be inserted in or removed from the roller 4. When the thill-iron is inserted in or removed from the slot or opening of the roller it has to be raised to a slightly rearwardly-inclined position to cause the slot or opening 6 to register with the recesses 8 of the ears, and when the thill-iron is in its normal position the head is carried away from the recesses 8 and is located in advance of the latter and cannot become accidentally disengaged from the ears of the axle-clip.

The flat head 7 is provided at its rear side or edge with a projection or lug 9, extending beyond the roller and adapted to be engaged by an antirattler-spring 10. The antirattler-spring 10 is constructed of flat resilient metal and is composed of two sections or members 11 and 12, secured together and having free ends engaging, respectively, the lug 9 of the thill-iron and the bottom of the roller, whereby both those parts are held against any rattling movement to prevent noise. The member 11 is substantially V-shaped and has a vertical rear portion and an inclined forwardly-extending front portion for engaging the lug. The other member 12 is substantially triangular, having a vertical rear portion secured to that of the member or section 11, and the said member or section 12 consists of the vertical portion, a horizontally-disposed bottom portion, and an inclined front portion 13, extending rearward and curved to conform to the configuration of the roller and terminating in advance of the free end of the section or member 11. When the thill-iron is in a raised position it is adapted to be inserted in the roller without resistance from the springs, and as the thills are lowered into operative position the springs or sections engage the roller and the lug. The antirattler-spring is retained between the ears by laterally-projecting lugs or extensions 14, formed integral with the vertical portions of the sections or members and resting upon the upper edges of the ears adjacent to the axle-clip.

It will be seen that the thill-coupling is simple and comparatively inexpensive in construction, that it is a complete antirattler, and that it will enable thills to be readily coupled to or disconnected from an axle.

In the construction illustrated in the drawings the spring 10 is struck from a single sheet of metal, the vertical portions of the

sections thereof being connected by a loop formed in the plate contiguous to the lateral projections 14.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What we claim is—

In a thill coupling, the combination of an axle clip provided with forwardly extending ears having recesses at their tops, a roller arranged in the ears and provided with a longitudinal slot, adapted to register with the recesses, a thill iron having a flat head fitting snugly in the slot of the roller and adapted to be introduced into the same through the same recesses, and provided with a rearwardly extending lug projecting beyond the roller, and an anti-rattler spring comprising two sections or members and arranged between the ears, one of the sections being substantially V-shaped and having its front portion extending forward and engaging the said lug, and the other section being substantially triangular and having an inclined rearwardly extending front portion bearing against the bottom of the roller and terminating in advance of the other section, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

DAVID J. CROSBY.
DANIEL S. KEENER.

Witnesses:
IRA E. PARTRIDGE,
SAMUEL A. POUNDSTONE.