(No Model.)

C. L. HALSTEAD.

THILL COUPLING.

No. 525,542. Patented Sept. 4, 1894.

Fig. 1.

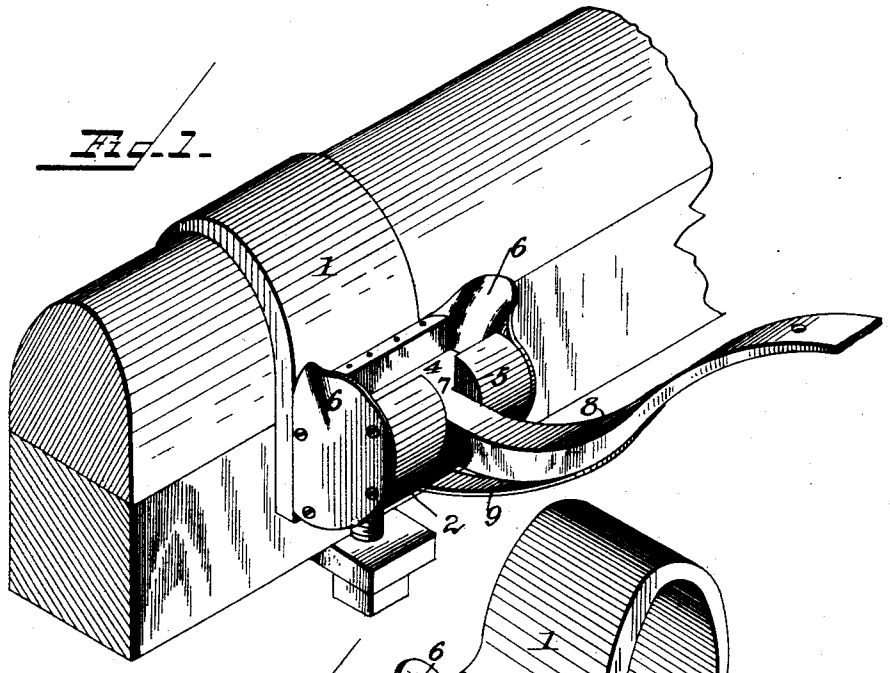


Fig. 2.

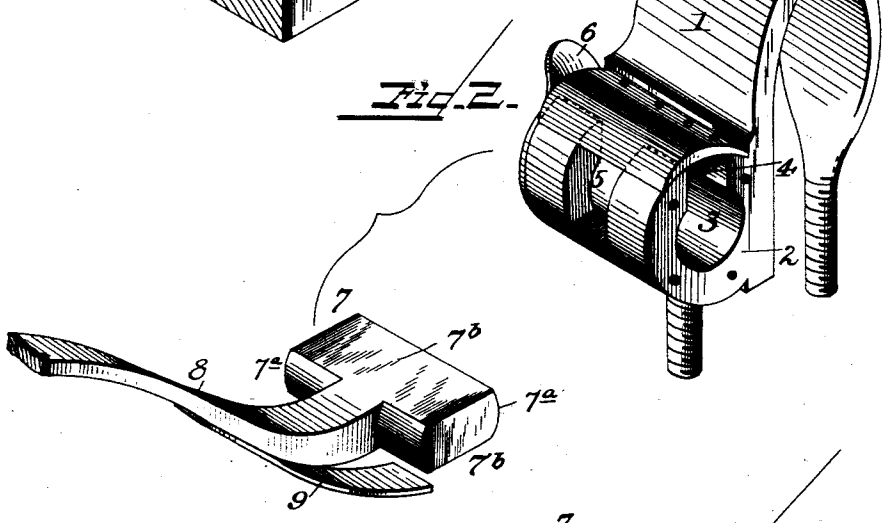
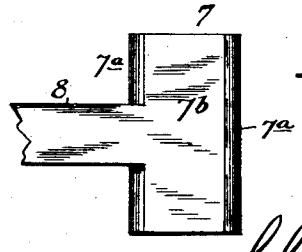


Fig. 3.



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CHARLES L. HALSTEAD, OF LA CROSSE, WISCONSIN.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 525,542, dated September 4, 1894.

Application filed November 4, 1893. Serial No. 490,038. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. HALSTEAD, a citizen of the United States, residing at La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Thill-Couplings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention consists in a new and improved thill coupling, the great practical advantage of which lies in its extreme simplicity of construction and great effectiveness in operation; the coupling being devoid of all complicated parts; and my invention will be hereinafter fully described and claimed.

Referring to the accompanying drawings, in which the same numerals of reference indicate corresponding parts in the several figures:—Figure 1 is a perspective view illustrating my invention. Fig. 2 illustrates in detail, on an enlarged scale, the clip and its coupling socket. Fig. 3 is a similar view of the inner end of the thill iron.

In the accompanying drawings, 1 indicates the clip which fits on the axle, to the forward upper part of which is attached or formed the circular box 2. This coupling-box is formed with the central longitudinal opening, 3; and in the top of the boxing is formed a straight longitudinal opening, 4, of the same length as the central circular opening 3, with which it communicates. A vertical slot, 5, is formed in the front wall of the box 2, leading down from the top-opening 4. To the open ends of the coupling-box are secured the guide-plates, 6, 6, which project up about three-eighths of an inch above the top of the box, forming guides for the coupling-head of the thill-iron as the latter is being fitted to the coupling-box. The upper ends of the coupling-plates are slightly curved outward and hollowed, as shown, to form more effective guides for the ends of the thill-iron head, as the latter is being inserted.

8 indicates the thill-iron, which is bolted to the inner end of the shaft. The inner end of the thill-iron is formed, or provided, with the transverse coupling-head 7 having the curved opposite front and rear sides or faces 7^a, adapted to fit snugly the curvature of the round central opening 3 of the box 2; while the opposite upper and lower sides of the coupling-head are formed straight and parallel.

9 indicates the tension or anti-rattling spring, which consists of a flat steel spring of about an inch in width which is bolted or otherwise secured at its outer end to the under side of the thill-iron, and is curved to follow closely the longitudinal curvature of the under side of the thill-iron, the rear end of this spring being free, and bearing against the round under surface of the coupling-box 2 when the parts are coupled together, as shown.

To couple the thill to the axle, it is only necessary to raise it upright, when the flattened parallel sides 7^b of the coupling head will enable it to be inserted through the straight top opening 4 of the coupling-box 2; the projecting upper ends of the guide-plates 6, 6, greatly facilitating this movement; and when the head reaches the central round opening 3 the thill is turned down, the neck of the thill-iron entering the vertical front slot 5, and the free inner end of the spring 9 pressing against the rounded under surface of the coupling-box, its pressure being tightened or increased as the shafts are lowered; this spring preventing wear, and effectually preventing all rattling. When the thill-iron comes down into the vertical slot 5, it is thus locked against any lateral displacement; while the rounded sides 7^a of the head 7 press tightly against the inner side of the round central opening 3 and thus greatly reduce all tendency to rattling or looseness. It will be seen that it will be impossible for the coupling to become accidentally uncoupled, or for the coupling-head 7 to pull out of the coupling box 2, as it can only be uncoupled by turning the thills up into an exact vertical position so that the flat parallel sides 7^b of the coupling-head can be drawn up through the straight top-opening 4 of the coupling-box. The inside of the coupling-box is to be case-hardened, and also the coupling-head 7, to prevent wear. A plate 10 is provided to cover the upper end of the top opening 4 after the coupling head 7 is in position in the

central opening 3. This plate is secured by machine screws to the circular box to one side of the top opening 4 and tapers at its front and rear edges to the circumference of the box. This plate prevents the lodgment of dirt and foreign matter in the opening 4 and prevents accidental displacement of the coupling head when the shaft is propped up.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a thill coupling, the combination with a clip having a coupling box provided with a longitudinal circular opening and with a top opening and a vertical slot extending into the said circular opening, and plates closing the ends of the circular and top opening and projected above the top of the coupling box, the vertically projecting ends being curved outward in opposite directions and depressed or hollowed opposite the ends of the top opening, and a thill iron having a coupling head which is guided to place in the circular opening by the said end plates.

2. In a thill coupling, the combination with a clip having a coupling box provided with a longitudinal circular opening, and with a top opening and vertical slot communicating with the circular opening, and end plates closing the ends of the circular and top openings, of a thill iron having a coupling head, and a plate closing the top opening and secured to the coupling box to one side of the said top opening and tapering at its edges.

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

CHARLES L. HALSTEAD.

Witnesses:
JOHN BRINDLEY,
ELLA BRAKKE.