(No Model.)

J. H. HANSON.

THILL COUPLING.

No. 502,816. Patented Aug. 8, 1893.

Fig. 1.

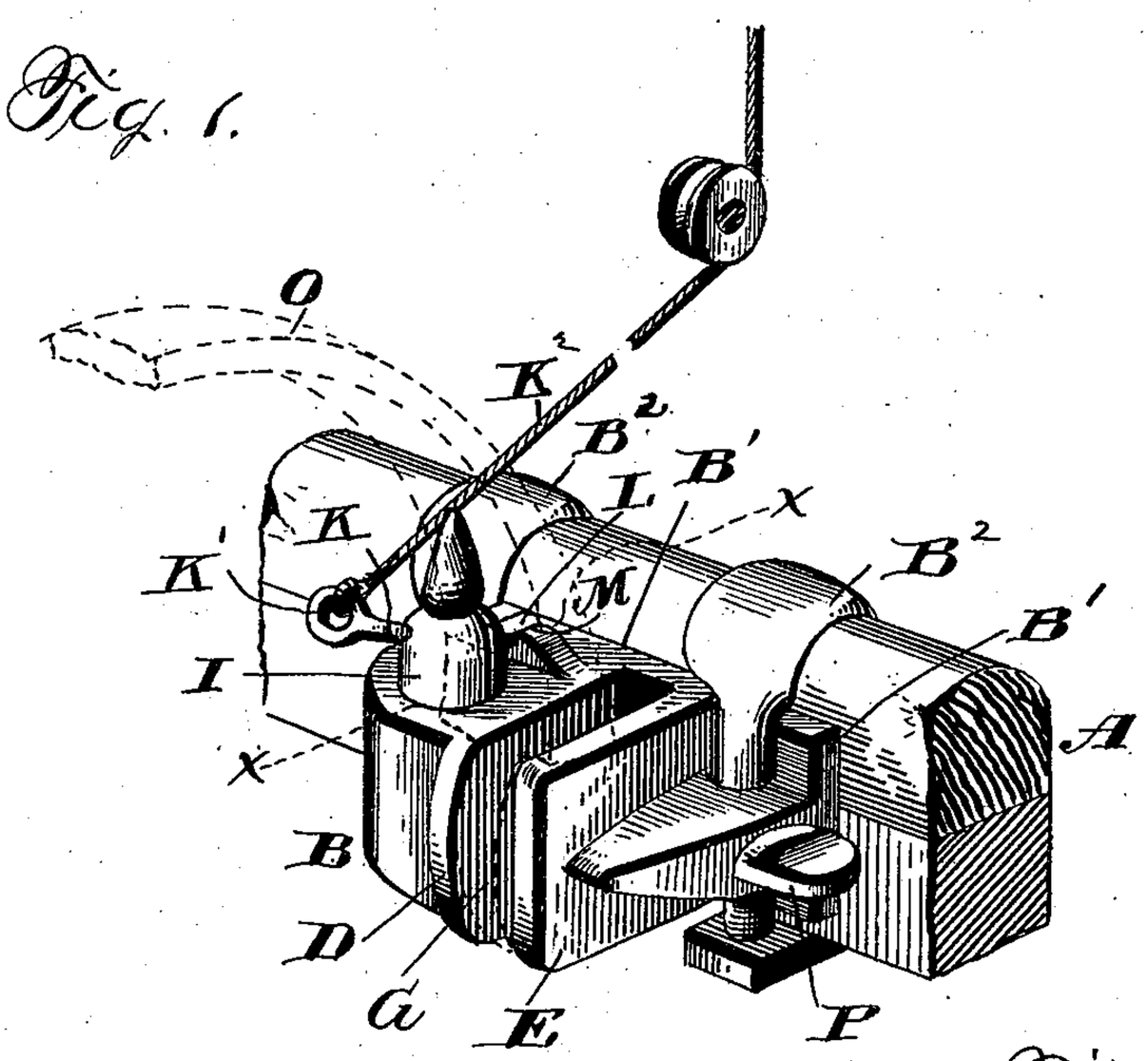
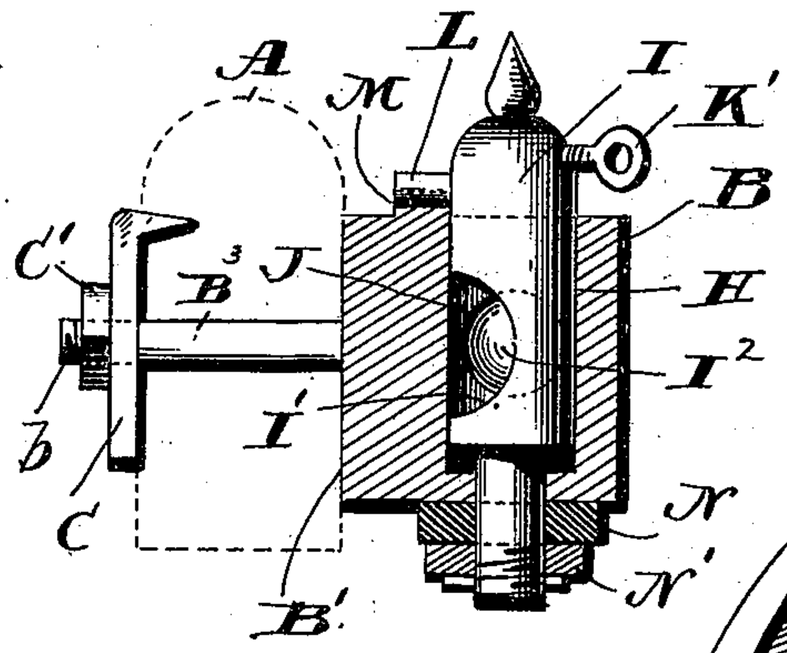


Fig. 2.



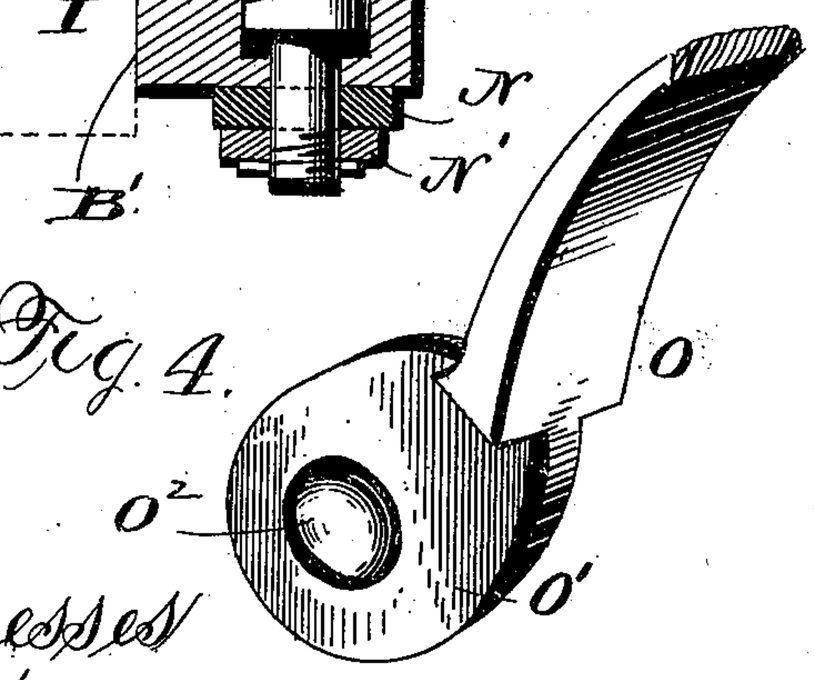
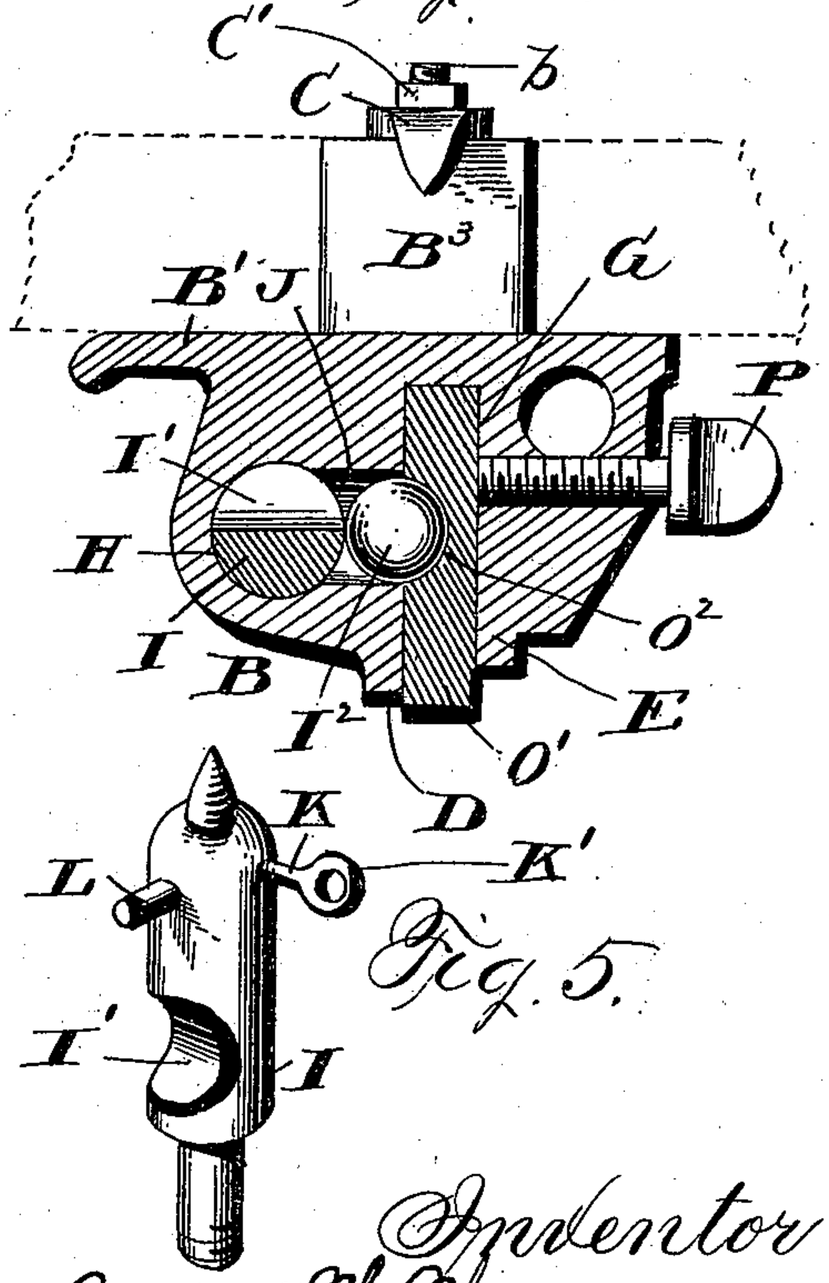


Fig. 4.

Witnesses
C. J. Williamson.
F. J. Rogers.

Fig. 3.



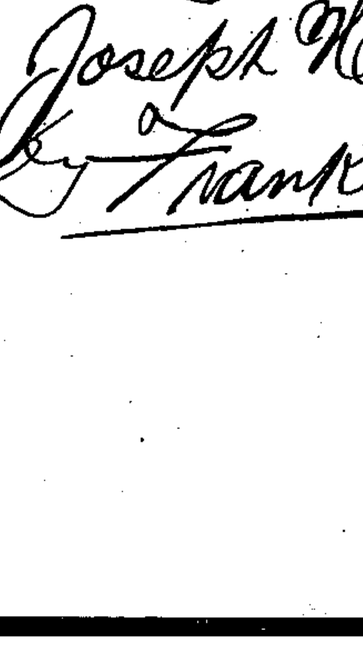


Fig. 5.

Inventor
Joseph H. Hanson
by Franklin H. Hough
his Atty.

UNITED STATES PATENT OFFICE.

JOSEPH H. HANSON, OF CRYSTAL FALLS, MICHIGAN, ASSIGNOR OF ONE-HALF TO WILLIAM J. BROWN, JOSEPH F. HOCKING, FRANK SCADDEN, AND GEORGE E. VOOS, OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 502,816, dated August 8, 1893.

Application filed December 19, 1892. Serial No. 455,633. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. HANSON, a citizen of the United States, residing at Crystal Falls, in the county of Iron and State of Michigan, 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in devices for attaching vehicle shafts and poles to vehicles, and it has for its object to provide a simple and inexpensive device of this character by the use of which poles or shafts may be quickly and easily attached to and removed from the vehicle.

The invention further contemplates novel mechanism whereby the several parts will at all times be held against rattling and the wear of the parts compensated for, while provision is also had for releasing the shafts or pole from the vehicle, in case of accident or run away.

To these ends and to such others as the invention may pertain, the same consists in the peculiar construction and in the novel combination, arrangement and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claims.

The invention is fully illustrated in the accompanying drawings, which, with the letters of reference marked thereon form a part of this specification, like letters of reference indicating the same parts throughout the several views, and in which drawings—

Figure 1 is a perspective view of my device, the same being shown as attached to the axletree of a vehicle. Fig. 2, is a section upon the line x, x of Fig. 1. Fig. 3, is a horizontal section. Fig. 4 is a detail of the shaft iron. Fig. 5, is an enlarged detail in perspective of the main bolt removed.

Reference now being had to the details of the drawings by letter, A designates the front axle of a vehicle, to which is attached my device B. The body portion of this device is made in a single casting, being provided with a base-plate B′ which is adapted to bear against the front face of the axle, to which it is held by clip-irons B^2, B^2 passed around the axletree. From the rear face of the plate B′ extends a flat lug or projection B^3, which is passed through between the metallic and wooden portions of the axle, and upon a projection b at the rear end of the lug is placed a clamp C which engages the rear face of the axle, and is secured in place by means of a nut C′.

From the front face of the plate B′ and cast integral therewith, are the lugs or portions D and E, which are separated by a vertical slot G for the reception of the iron on the rear end of the thill or pole to be attached, as will presently appear.

Seated within an opening H which extends vertically through the portion D, is a bolt I which is provided upon one of its sides, at substantially its longitudinal center, with a notch or recess I′, within which, when the said bolt is rotated so as to present the notch upon the side of the chamber or opening H adjacent to the vertical slot G, is seated loosely a metallic ball I^2, which ball, when the bolt I is turned so as to move the notch I′ toward the opposite side of the chamber H, passes through an opening J in the side wall of the chamber H, and bears against the opposite side of the slot G. For the purpose of rotating the bolt I, so as to move the ball in or out of the notch the head of the bolt is provided with a laterally extending arm or projection K which at its outer end is furnished with a loop or ring K′, to which is attached one end of a cord or strap K^2, which passes over suitably arranged pulleys to a point within convenient access of the driver. The head of the bolt I is provided upon one of its sides with a lateral pin or projection L, which pin is adapted to enter the notch M and thus normally hold the bolt in its locking position, and against possible accidental rotation. In order to hold the bolt I securely in place and prevent rattling of the parts, I provide a heavy rubber washer N and nut N′ at the lower end of the bolt. The elasticity of the washer N will, as will be seen admit of sufficient vertical movement of the bolt

to release the pin L from the notch M when the bolt is turned to lock or to release the thill or pole iron.

The thill or pole iron O is provided at its rear end with a flat portion O′, corresponding in thickness with the width of the vertical slot G which it is designed to enter, and one of the faces of this flat portion is provided with an annular recess O^2 to receive the ball I^2 when the bolt I is turned so as to throw the said ball outward.

To provide against rattling of the thill or shaft iron within the slot G, and to compensate for wear thereof, I provide a set screw P which passes laterally through the portion E of the casting, and bears against the face of the flat-portion of the iron, within the slot.

The operation of the device is simple and will be readily understood. By turning the bolt I so as to allow the metallic ball to enter the notch in the bolt, the vertical slot G will be opened to receive the thill or shaft iron. When the iron has been inserted in the slot the bolt is turned to throw the ball outward into the chamber in the thill iron, where it serves to lock the same and at the same time serves as a pivot, thus permitting the shaft or pole to be raised or lowered readily.

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

1. In a thill coupling, in combination with the thill adapted to have its end placed between lugs or projections carried by the axle, a ball adapted to move into engagement with the portion of the thill between the lugs and hold the same substantially as described.

2. In a thill-coupling, in combination with the casting adapted to be secured to the axle, and provided with a slot to receive the end of the thill, of a ball seated in a cavity in said casting and held in engagement with such thill end to pivot and hold the same, substantially as shown and described.

3. In a thill-coupling, in combination with the casting adapted to be secured to an axle and provided with a slot to receive the thill end, a ball seated in a cavity in said casting, and a rotary bolt to move said ball into engagement with the thill-end, substantially as shown and described.

4. In a thill-coupling, in combination with the casting adapted to be secured to an axle, and provided with a slot to receive the thill end, a ball seated in a cavity or recess in said casting, and a rotary notched bolt to co-operate with said ball to move the same into engagement with and permit its disengagement from the thill end, substantially as specified.

5. In a thill-coupling, in combination with the casting having the two lugs D and E, the thill-iron having a cavity between said lugs, the ball movable into said cavity and the rotary bolt to move said ball, both the ball and the bolt being in the lug D, substantially as and for the purpose described.

6. In a thill-coupling, in combination with the casting provided with a slot to receive the thill end, the ball movable into engagement with the latter, the rotary bolt to co-operate with said ball, and the locking device to hold said bolt, substantially as and for the purpose described.

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

JOSEPH H. HANSON.

Witnesses:
GEO. PONTBRIAND,
A. B. BROOKS.