(No Model.)

S. B. CASTLE.

THILL COUPLING.

No. 384,233. Patented June 12, 1888.

Fig. 1.

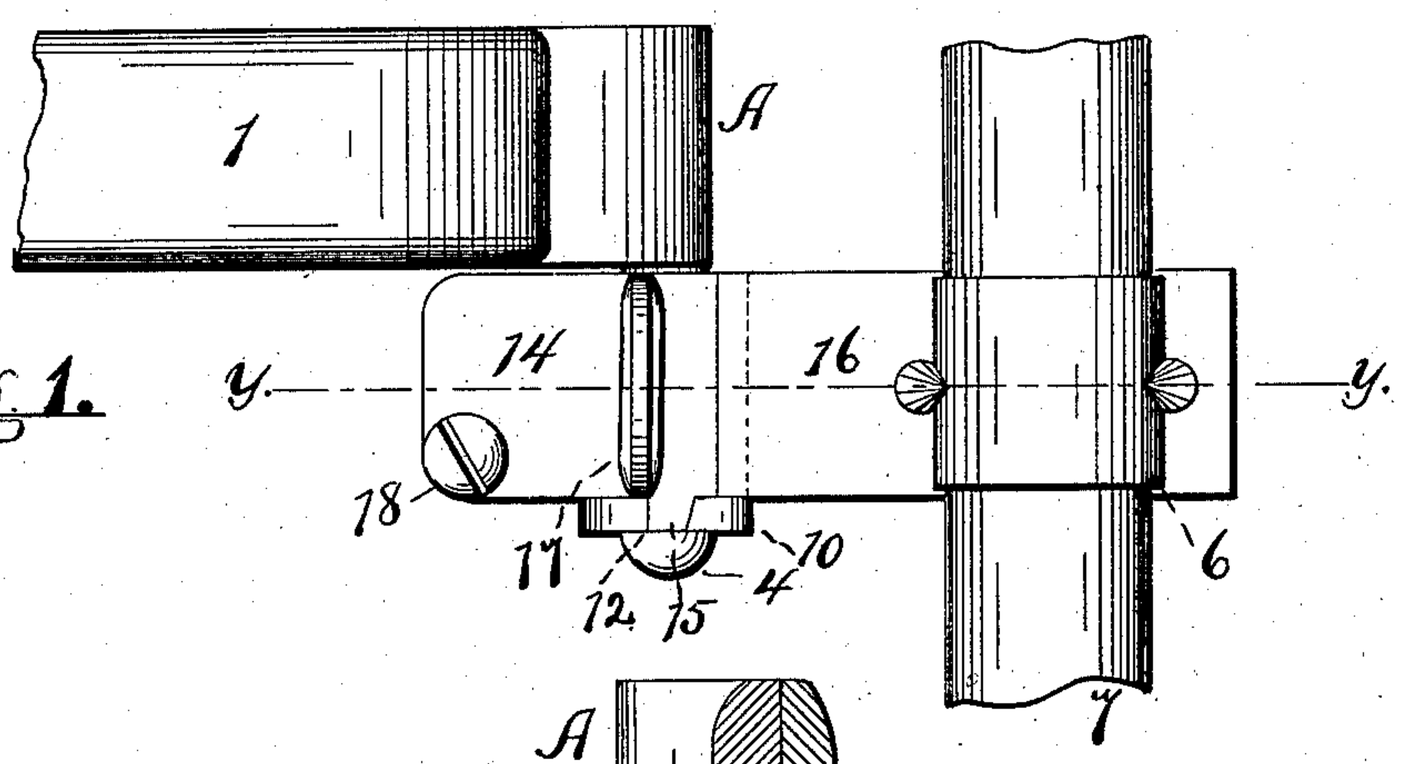


Fig. 2.

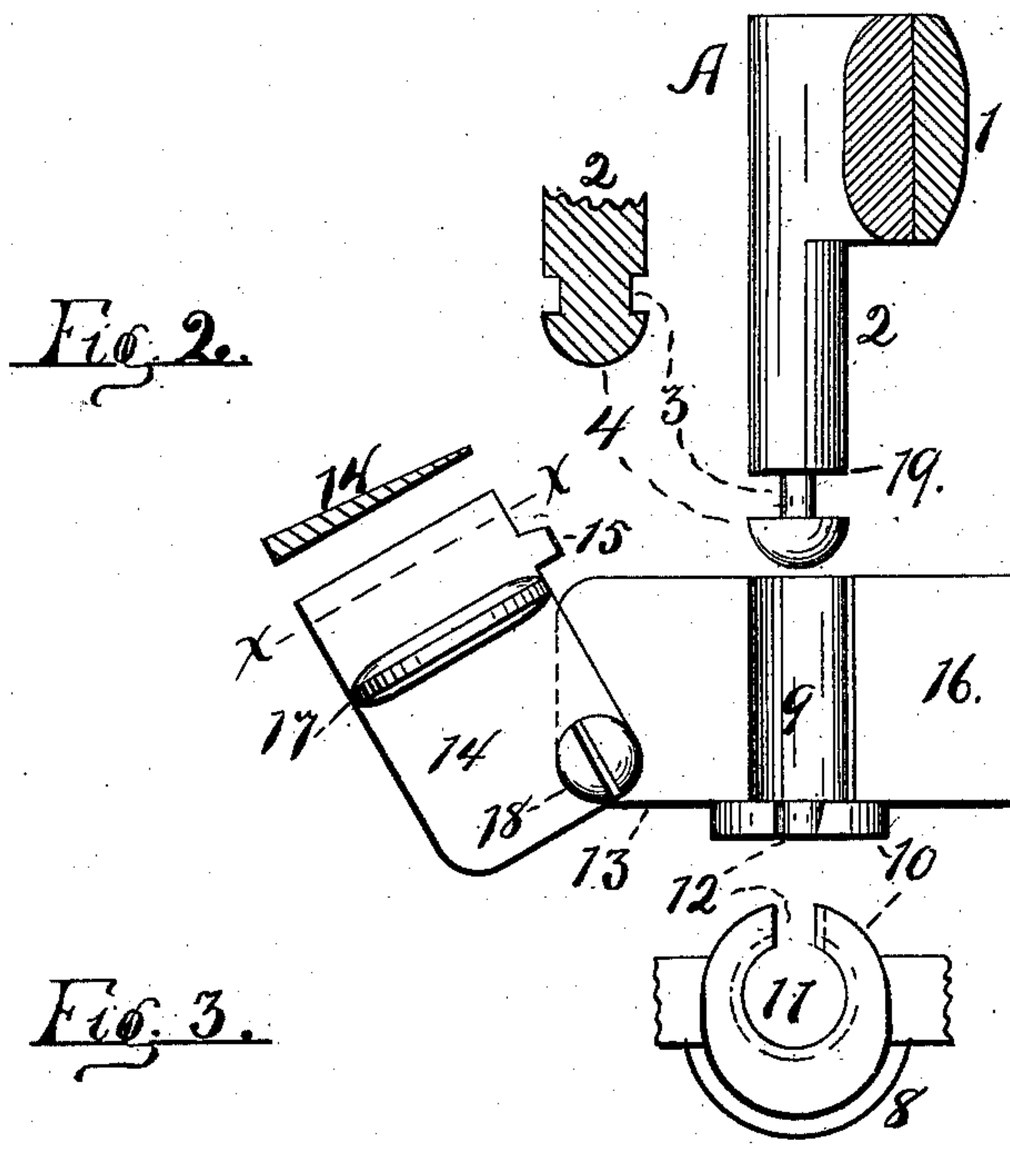
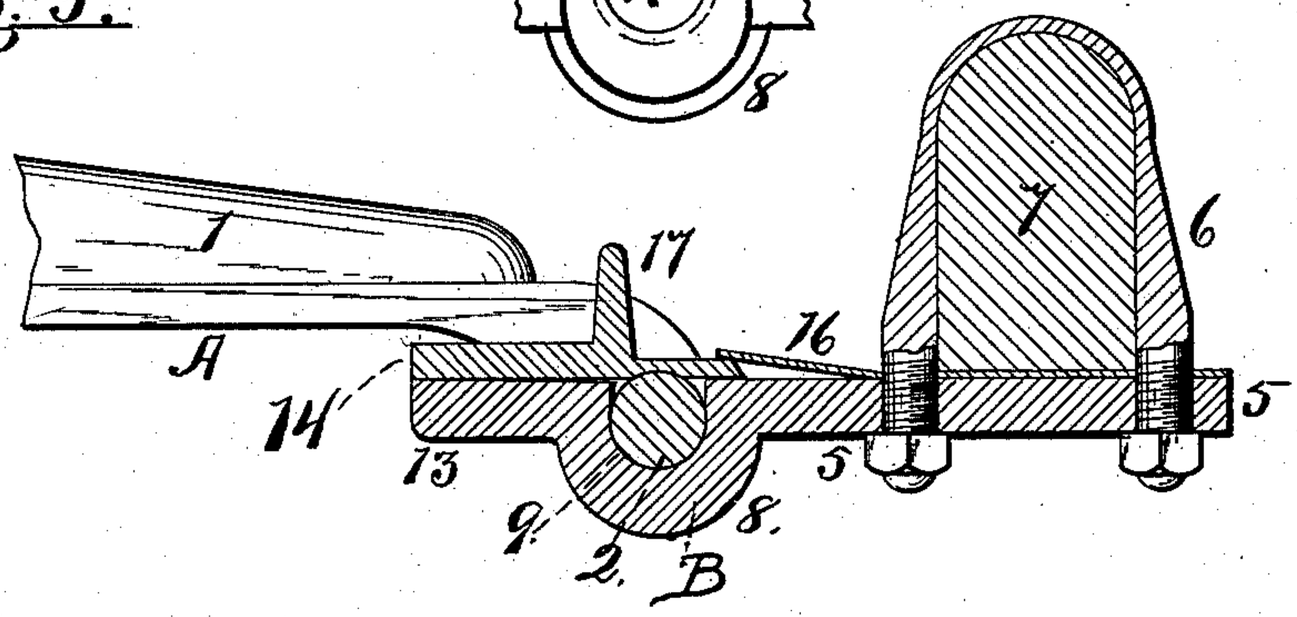


Fig. 3.



WITNESSES:

A. Smith

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UNITED STATES PATENT OFFICE.

SIMEON B. CASTLE, OF SYRACUSE, NEW YORK.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 384,233, dated June 12, 1888.

Application filed September 15, 1887. Serial No. 249,735. (No model.)

To all whom it may concern:

Be it known that I, SIMEON B. CASTLE, of Syracuse, in the county of Onondaga, in the State of New York, a citizen of the United States, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view thereof locked. Fig. 2 is a top plan view thereof unlocked and with the parts disconnected, together with sectional details of the coupling-pin and lock-piece, and also an elevation of a part of the axle-iron adjacent to the pin-seat. Fig. 3 is a sectional elevation of the coupling on the line *y y*, Fig. 1.

My invention relates to the couplings used to connect the thills or pole of a vehicle to it; and my object is to produce an anti-rattling coupling in which no elastic washer, block, or packing is employed.

It consists in the several novel features of construction and combinations of elements hereinafter described, and which are specifically set forth in the several clauses of claim hereunto annexed.

It is constructed as follows: A is the thill-iron secured to the thill 1, and it is provided with a coupling-pin, 2, at right angles to the body of the thill-iron, and upon its outer end it is provided with a flattened neck, 3, and a head, 4. The body of the coupling-pin is preferably cylindrical in shape.

B is the female part of the coupling, consisting of a flat body, 5, provided with holes to receive the arms of the clip 6, which fits over the axle 7; also, an enlarged portion, 8, extending down below the plane of the body, which is also provided with the transverse groove 9, one end of which is partly closed by the flattened offset 10, which is provided with a central opening, 11, into which the vertical slotway 12 opens, and a front arm, 13. Upon this arm 13, I pivot my lock-piece 14, the outer edge of which is somewhat beveled, as on the line *x x* in Fig. 2; and 15 is a flat stud upon the edge of this lock-piece, and 17 is a thumb-piece to operate the lock.

Between the body 5 and the axle, I place a flat spring, 16, held in position by the clip-arms, the front end of which projects out nearly to the edge of the groove 9; but this front end is bent upward a little, so that it does not lie upon the body, and it may also be twisted so as to conform it to the bevel of the lock-piece.

I usually bevel the lock-piece substantially back to the base of the thumb-piece.

It is operated as follows: To insert the thills, I throw back the lock, as shown in Fig. 2, raise the thills to a vertical position, and lower the coupling-pin into the groove, the neck passing down through the slot 12. I then swing the lock around, wedging its free end under the spring, the lock bearing upon the top of the coupling-pin and being held there securely by the spring, which pressure holds the pin to a fit in the groove and prevents it absolutely from moving vertically therein, while the head 4 and the shoulder 19 hold it securely against longitudinal movement. I then lower the thills to the ground or to proper height for use, and then the neck 3 lies transverse to the opening 11 and slot 12. To remove the thills, I raise them to a vertical position, swing back the lock, and raise the pin out of the groove. When the thills are so locked in, the stud 15 closes the slot 12, so that no dirt can get into the coupling; also, one side of the slot 12 is cut away upon a circle concentric with the hole which receives the pivot-screw 18, and one side of the stud 15 is of the same form.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a thill-coupling, a thill-iron provided with a coupling-pin having on one end a head and a flattened neck, substantially as described.

2. In a thill-coupling, a thill-iron provided with a coupling-pin having a head and flattened neck, an axle-iron provided with a seat for the coupling-pin and its neck and open on top, a spring having one end secured by the clip arms, and a lock-piece pivoted upon the axle-iron and beveled across its free end, and swinging horizontally around under the free end of the spring and onto the coupling-pin, substantially as described.

3. The combination, with a coupling-pin seated in the axle-iron, of a spring secured upon the axle clip-arms, and a beveled lock-piece swinging horizontally upon a pivot-bolt in the axle-iron around under the free end of the spring and onto the axle-iron, substantially as described.

In witness whereof I have hereunto set my hand this 9th day of September, 1887.

SIMEON B. CASTLE.

In presence of—
C. W. SMITH,
JOSEPH D. JONES.