(No Model.)

W. C. BOSWELL.

CAR COUPLING.

No. 550,156. Patented Nov. 19, 1895.

Fig. 1.

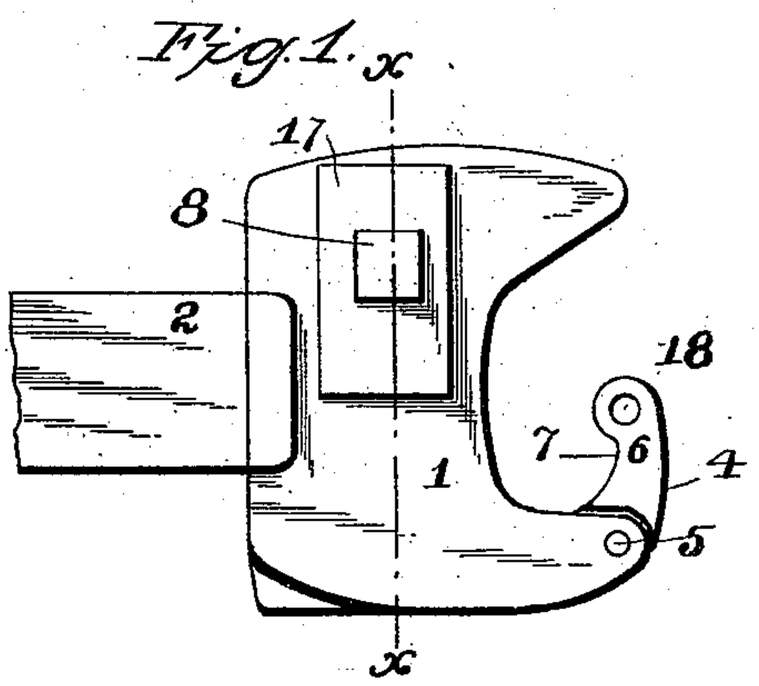


Fig. 2.

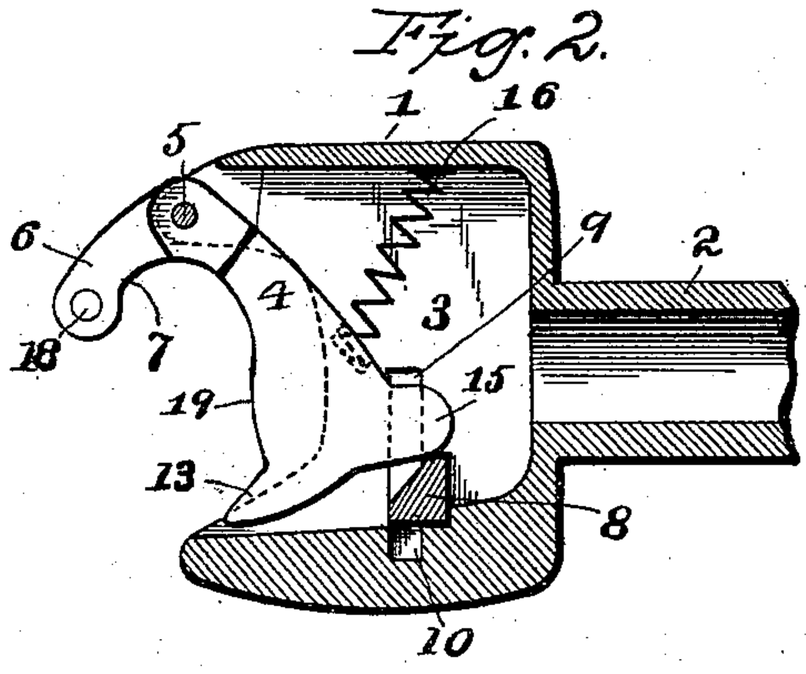


Fig. 3.

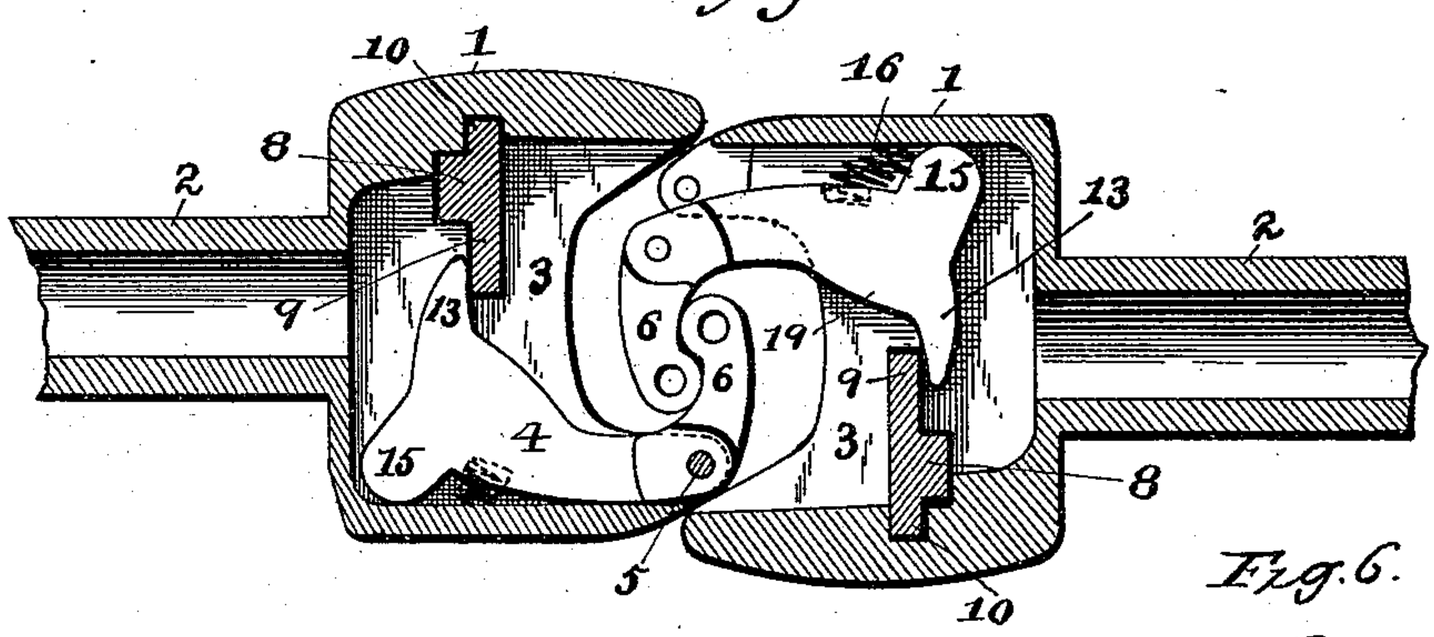


Fig. 6.

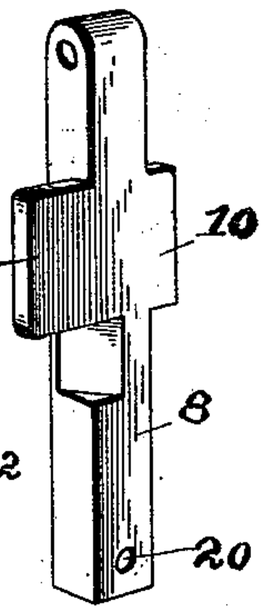


Fig. 4.

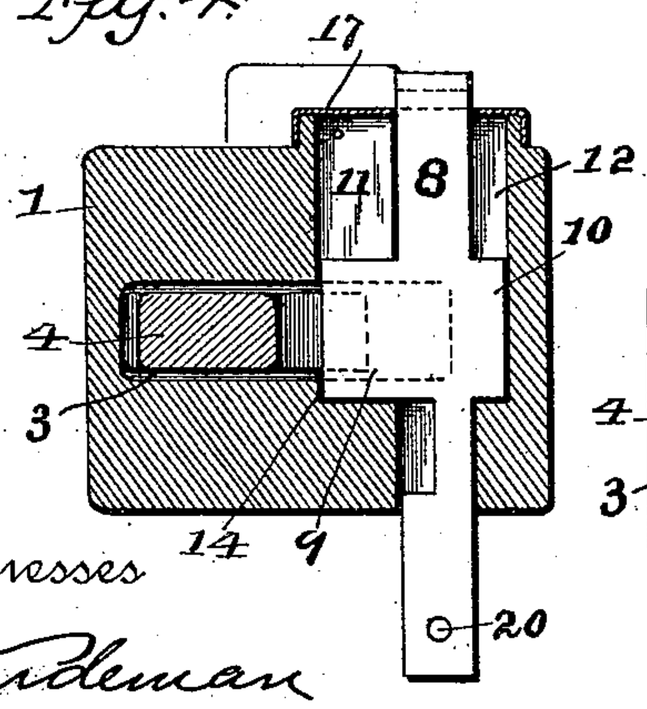
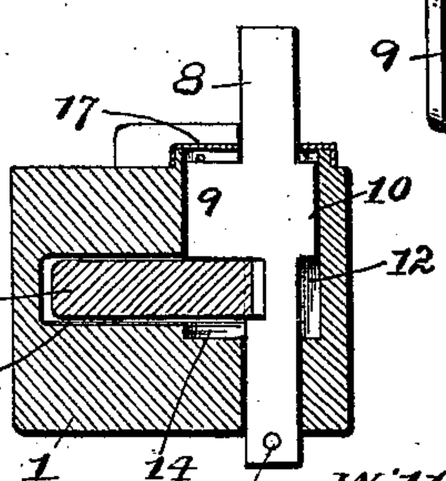


Fig 5



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM C. BOSWELL, OF CLARKSBURG, WEST VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 550,156, dated November 19, 1895.

Application filed May 23, 1895. Serial No. 550,323. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. BOSWELL, a citizen of the United States, residing at Clarksburg, in the county of Harrison and State of West Virginia, have invented certain new and useful Improvements in Car-Couplers, of which the following is a full, clear, and exact specification.

My invention relates to a new and useful improvement in car-couplers, and has for its object to provide such a device that shall operate automatically in coupling cars and obviate the liability of said cars becoming uncoupled by accident; and with these ends in view my invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction and operation in detail, referring by numbers to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of a draw-head embodying my improved coupler; Fig. 2, a longitudinal section showing the knuckle in a distended position; Fig. 3, a longitudinal section of two draw-heads coupled together and showing the knuckle of one in the position assumed should its pivot-pin be removed or become broken; Fig. 4, a cross-section at the line *x x* of Fig. 1, the coupling-pin being shown down; Fig. 5, a similar view on a smaller scale, showing the coupling-pin held up by the knuckle; and Fig. 6 is a perspective of the coupling-pin.

Similar numbers denote like parts in the several views of the drawings.

1 is a draw-head, cast or otherwise formed with the draw-bar 2 and provided with the recess 3 of proper shape to receive the knuckle 4. This knuckle is pivoted at 5 within the said recess, and its hooked end 6 is provided with a concave surface 7 for the purpose presently explained.

8 is a coupling-pin having the wings 9 and 10 adapted to slide in the grooves 11 and 12, respectively. The wing 9 when down is within the path of travel of the toe 13, formed on the inner end of the knuckle, so that said knuckle is held thereby in the position shown in Figs. 1 and 3, and in order to relieve undue strain upon the wing 9 when draft is brought upon the knuckle the bottom edge of said wing fits in the notch 14, so that both the upper and lower portion of the said wing are supported. To allow the knuckle to be swung in the position shown in Fig. 2 in uncoupling, the pin 8 is raised until the wing 9 clears the toe 13, when said toe will be free to pass beneath said wing and prevent the pin from dropping down until the knuckle is again returned to the position shown in Figs. 1 and 3.

15 is a heel formed upon the inner end of the knuckle in order to prevent said knuckle from being withdrawn from the recess in the draw-head, when the coupling-pin is down should the pivot-pin be removed or become broken by coming in contact with the side wall of said recess, as clearly shown at the right of Fig. 3.

16 is a spring interposed between the wall of the recess 3 and the rear portion of the knuckle, whereby said knuckle is swung to its distended position upon the elevation of the coupling-pin.

17 is a cap placed over the grooves in which the coupling-pin slides to exclude dirt and snow and limit the upward movement of the coupling-pin, or said movement may be limited by inserting a small pin in the hole 20.

18 is a hole in the outer end of the knuckle for the insertion of the ordinary coupling-pin when the well-known link is used for coupling cars on which other forms of couplers are used to my improved coupler.

From the foregoing description the operation of my improved coupler will be obviously as follows: The coupling-pin having been elevated and the knuckle distended by the action of the spring, said coupling-pin will be retained in this elevated position by the wing 9, resting upon the rear portion of the knuckle. Now should a car provided with a similar coupler be backed until the knuckle of said coupler strikes against the portion 19 of the distended knuckle, said knuckle will be swung into the position shown in Fig. 3, thereby engaging the knuckle of the other draw-head, and the coupling-pin will drop by gravity when the toe 13 has been

swung from beneath said pin, so that it will be seen that couplers of my construction act automatically in coming upon contact with each other.

It often occurs that a pivot-pin in automatic couplers as heretofore constructed becomes worn and gives way when a train is in motion, thus permitting a part of the train to become detached, which in many cases causes serious accidents; but by the use of my improvement should the pivot-pin 5 become broken the heel 15 will come in contact with the side wall of the chamber 3, as clearly shown in Fig. 3, and prevent the withdrawal of the knuckle, so that no inconvenience will be occasioned by said breakage. The concave 7 permits the knuckles of two couplings to so interlock as to firmly grasp each other in the turning of curves.

Having thus described my invention, what I claim as new and useful is—

In a coupler, a draw head having a recess 3, grooves 11 and 12 and a notch 14, a coupling pin provided with wings 9 and 10 slidable in the grooves 11 and 12, the wing 9 resting in the notch 14, a knuckle pivoted within the recess, toe and heel formed with the knuckle, said toe being engaged by a wing of the pin, and the hooked ends of the knuckle forming a locking connection, as and for the purpose described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

WILLIAM C. BOSWELL.

Witnesses:

D. H. BRADFORD,

C. B. LEACH.