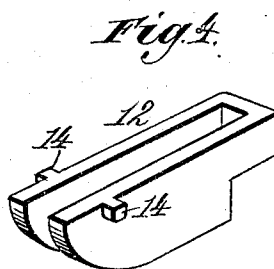
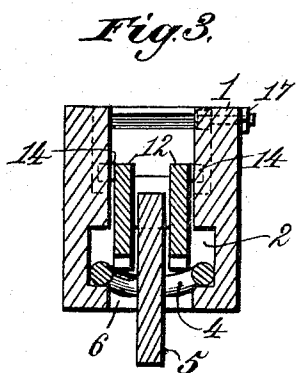
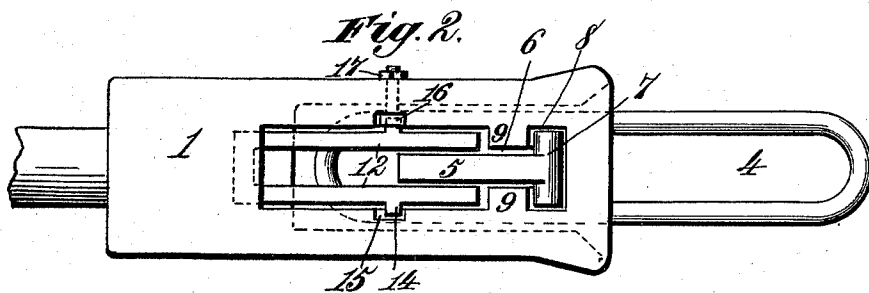
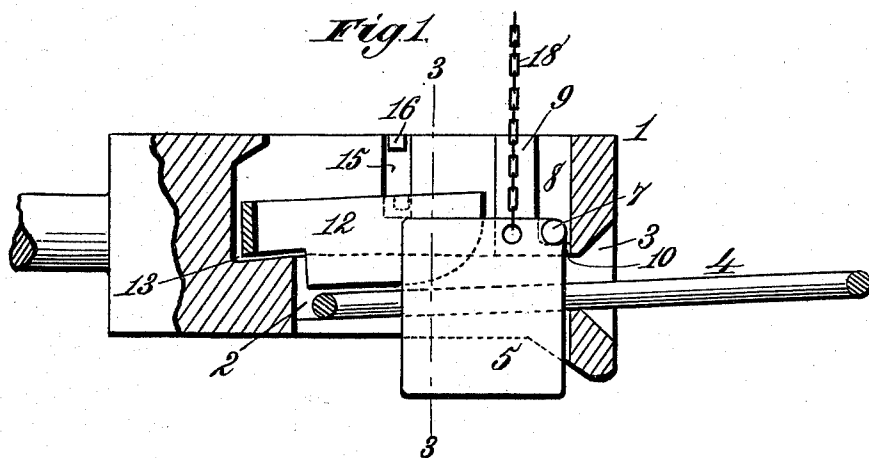


(No Model.)

H. SCHAEFFER.
CAR COUPLING.

No. 527,376.

Patented Oct. 9, 1894.



Witnesses:
Robert G. Smith,
D. W. Rea,

Inventor:
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Atty.

UNITED STATES PATENT OFFICE.

HENRY SCHAEFFER, OF DURANGO, COLORADO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 527,376, dated October 9, 1894.

Application filed May 4, 1893. Renewed March 13, 1894. Serial No. 503,510. (No model.)

To all whom it may concern:

Be it known that I, HENRY SCHAEFFER, a citizen of the United States, residing at Durango, in the county of La Plata and State of Colorado, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to automatic car-couplers of the type shown and described in Letters-Patent of the United States granted to me upon the 20th day of December, 1892, No. 488,507.

It is the purpose of my present invention to improve the coupling shown in said Letters-Patent by combining therewith a clevis-shaped link-holder, automatically raised by the entrance of the link and adapted to maintain the latter in suitable position for engaging an opposite draw-head, and to prevent the constant play and rattling of the same when the train is in motion.

The invention consists in the novel and simple construction and combination of parts, as fully described hereinafter and then particularly pointed out and defined in the claims which follow and conclude this specification.

To enable those skilled in the art to which my said invention pertains to clearly understand and practice the same, I will describe the improvement fully, reference being made to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of a draw-head having my invention embodied therein. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a transverse section taken in the plane 3—3, Fig. 1. Fig. 4 is a detail view, in perspective, of the link-holder, removed from the draw-head.

In the said drawings the reference numeral 1 indicates the draw-head which is connected in any suitable manner to the car-body, such, for example, as that illustrated in my Letters-Patent No 488,507, to which reference is made in the earlier portion of this specification. Within said draw-head is formed a chamber, or space 2, which has the usual flared opening, or mouth 3, at the front end of the draw-head. The width of this chamber, within the open end or mouth 3, is somewhat in excess of the outside width of the link 4,

in order that the latter may enter freely and have all the lateral play necessary. Its height may be varied, but is usually several times the thickness of the link, or of such measurement that the maximum vertical inclination, due to different heights of draw-heads, shall be amply provided for.

The coupling pin 5 is substantially similar in form to that shown in my patent, mentioned above, being a plate or block, approximately square in side elevation, and having a width and length considerably in excess of its thickness. This coupling-pin lies in a vertical longitudinal slot, or channel 6, formed in the median line of the draw-head and cut through the same above and below the chamber 2. This slot terminates, at its forward end, in a vertical wall which lies behind the flared opening, or mouth 3 of the chamber 2. From this point it is extended rearward for a suitable distance, its length being, ordinarily, about twice the width of the coupling-pin 5, more or less. The coupling-pin lies in the forward end of this slot, or channel 6, and is supported therein by a T-shaped trunnion 7, formed or mounted upon the upper front corner, or angle of the coupling-pin. This trunnion extends about equally upon both sides of the part upon which it is mounted and its ends lie loosely in vertical slots 8, formed in the opposite vertical walls of the slot or channel 6 by two vertical projections 9, which extend as far as the top of the chamber 2. These slots are terminated by projecting portions 10, between the lower ends of the projections 9 and the front, vertical wall of the channel 6. The lower, closed ends of said slots 8 form supports for the laterally projecting extremities of the trunnion 7, the vertical, front edge of which rests against the vertical end wall of the channel 6, as shown in Fig. 1. This construction permits the coupling-pin to turn upon its trunnion 7, under the impulse of the entering link 4. The rearward extension of the slot or channel 6 is for the purpose of permitting this movement which is of sufficient extent to allow the end of the link to pass behind the coupling-pin 5, which drops by gravity into the opening inclosed by said link, as shown in Figs. 1 and 2. In the channel 6 is placed a U-shaped, or

clevis-shaped link-holder 12, the closed end of which lies in the rearward end of the said channel, and preferably in a pocket 13 formed by extending said channel toward the rear, just above the link-chamber 2. The two parallel members of said link-holder lie parallel with the vertical faces of the channel 6 and between said faces and the adjacent surfaces of the coupling-pin 5, their length being such that their extremities lie near the rearward vertical edges of the projections 9. The width of said members is such that their lower edges lie within the link-chamber 2, leaving sufficient space between said edges and the bottom of said chamber to admit the link 4. Said edges are rounded off, or curved upward and forward, to present such convexity to the entering end of the link 4 as to enable the latter to lift the link-holder, in case it comes in contact therewith.

The link-holder is supported in normal position by laterally extending pins, or trunnions 14, upon the outer faces of its parallel members, at or near their upper edges and not far from the middle points thereof. These trunnions lie in slots 15, formed in the parallel walls of the channel 6, from the upper edges of said walls to a point above the chamber 2.

The link 4 being of a width in its interior opening somewhat in excess of the distance between the outer vertical faces of the parallel members of the link-holder, 12, as clearly shown in Fig. 3, the said link-holder will, when the link is in place and has coupling engagement with the pin 5 rest on the closed end of said link, the parallel portions of the latter lying in the chamber 2, and resting upon the bottom of the latter. The weight of the link-holder is such that it will, at all times, prevent the downward sagging of the end of the link which extends outside of the draw-head, thereby maintaining it in proper position for coupling with the adjacent car.

It will be noted that by reason of the fact that the whole weight of the link-holder is caused to bear upon the inserted end of the link, the maximum leverage of the latter is utilized, the fulcrum being at the mouth of the link-chamber 2. By this advantageous application of the gravity of the link-holder I am able to diminish its weight and bulk to a considerable degree. The link-holder also prevents the constant play of the link 4 in great measure, and thus avoids the constant rattle and noise of the parts which takes place when the train is in motion, and which is especially noticeable upon a rough roadway. By this means, a considerable wear of

the link and other parts of the coupling is prevented.

In order to retain the link-holder in the draw-head and at the same time permit the maximum vertical play, I close one or both of the vertical slots 15, by a bolt 16 and nut 17. Any other device, however, which will answer the same purpose may be substituted therefor.

The coupling-pin 5 is provided with a chain, cord, or wire 18, by which it may be raised to release the link, substantially as shown in my Patent No. 488,507.

What I claim is—

1. In a car-coupling, the combination with a draw-head having a longitudinal chamber for the link and a vertical channel intersecting said chamber longitudinally of a coupling-pin having a trunnion at its angle lying in vertical slots at or near the front of the vertical channel, and a link-holder having two parallel members which lie next the faces of the vertical channel and extend above and partly within the link-chamber, substantially as described.

2. In a car-coupling, the combination with a draw-head having a chamber to receive the link and a vertical channel cut from a point near the front of the draw-head to the rear end of the link-chamber, of a coupling-pin of greater length and width than thickness provided at its upper, front corner with a trunnion the laterally projecting ends of which lie in vertical slots above the front end of the link-chamber, and a link-holder of U-shape its closed end lying above the rear end of the chamber for the link, its parallel members lying adjacent to the faces of the vertical channel extending downward into the link-chamber, their lower edges being rounded at and near the ends, substantially as described.

3. In a car-coupler, the combination with the draw-head of a link-holder having two parallel members which are arranged in position to rest upon the entering end of the link, said members being curved upon the forward and lower edges and provided with laterally extending trunnions lying in vertical slots in the draw-head above the link, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENRY SCHAEFFER.

Witnesses:

W. S. PICKERILL,
J. F. MCFADDEN.