(No Model.)

G. C. McKITTERICK, T. R. MORGANS & J. J. McKITTERICK.

CAR COUPLING.

No. 354,335. Patented Dec. 14, 1886.

Fig. 1.

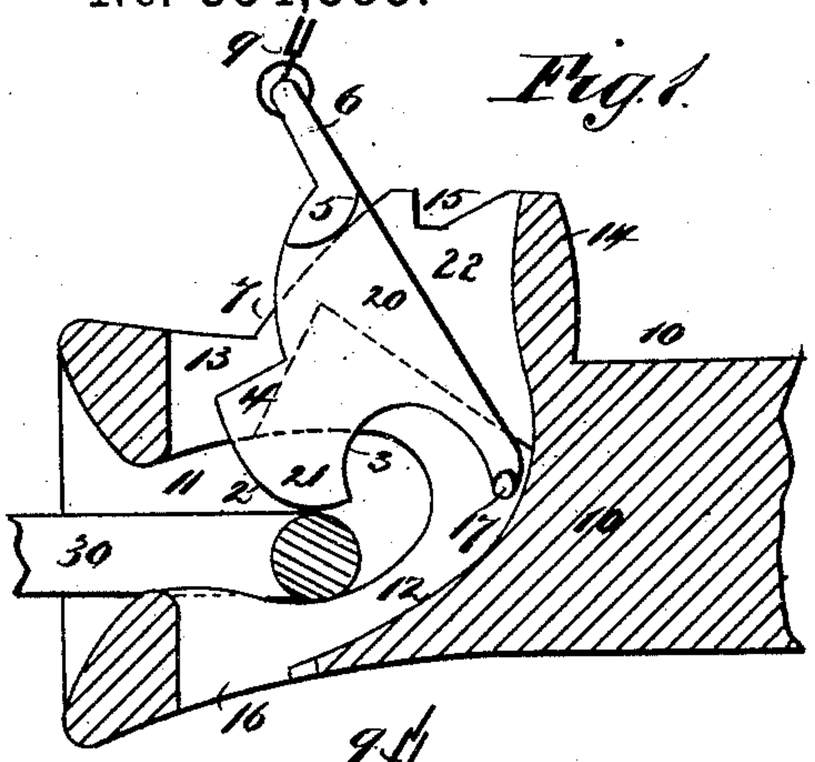


Fig. 2.

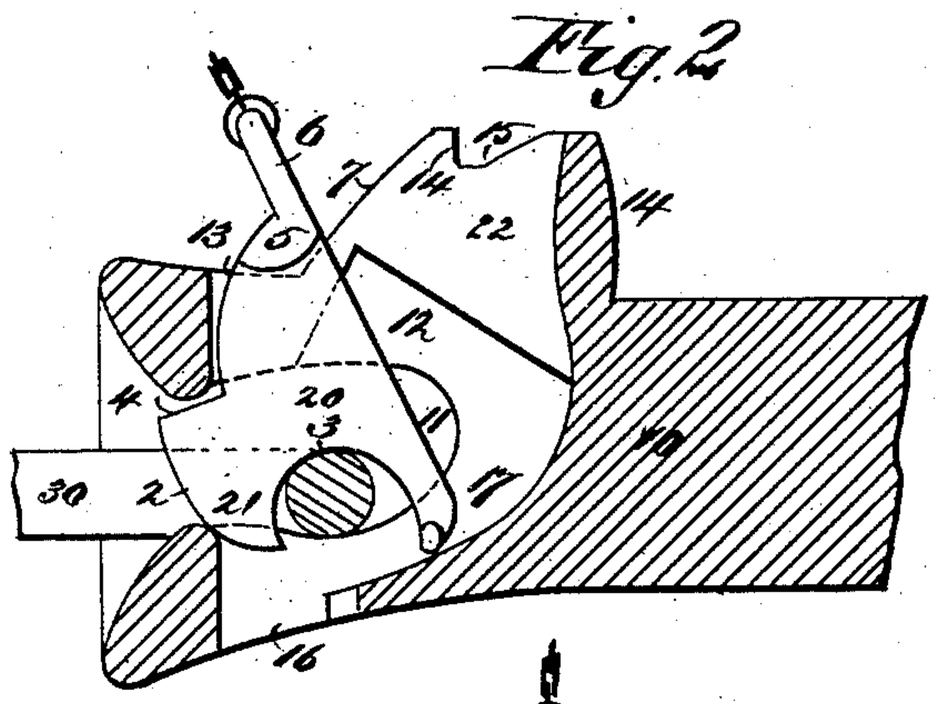


Fig. 3.

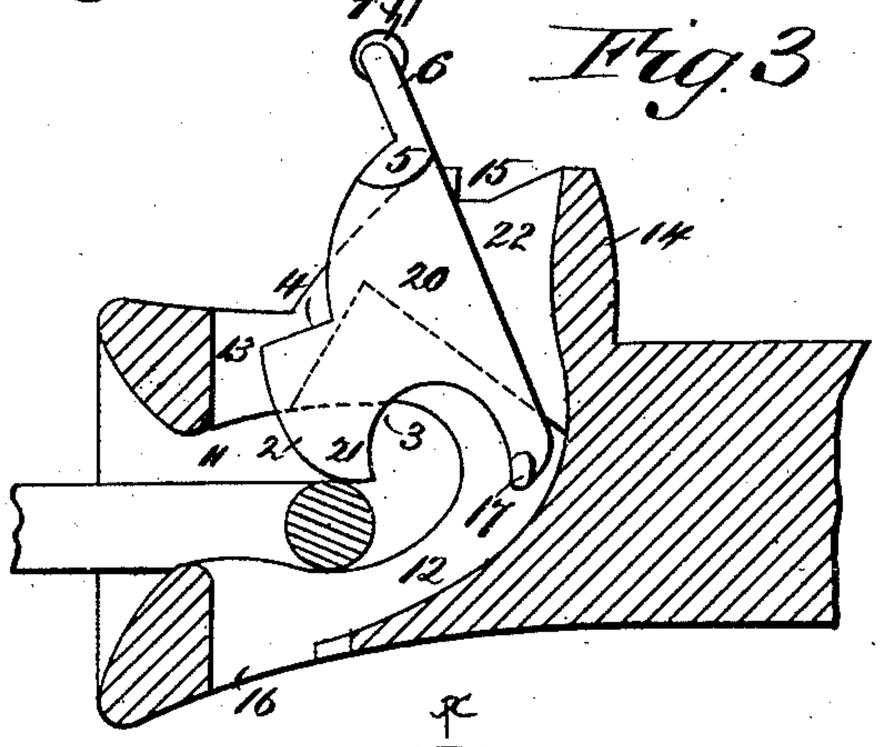


Fig. 4.

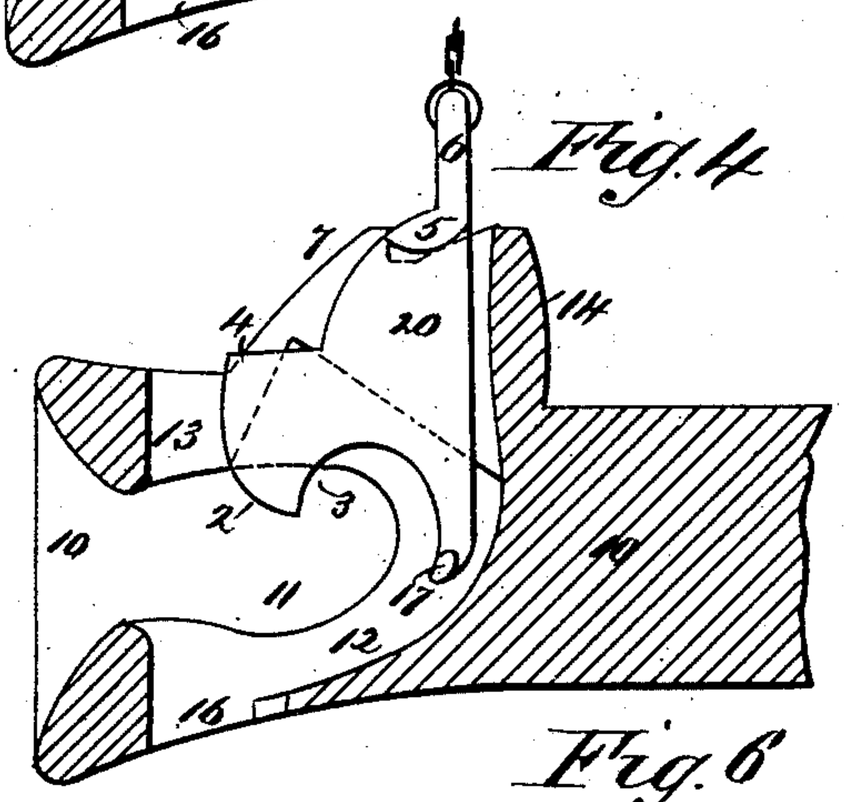


Fig. 5.

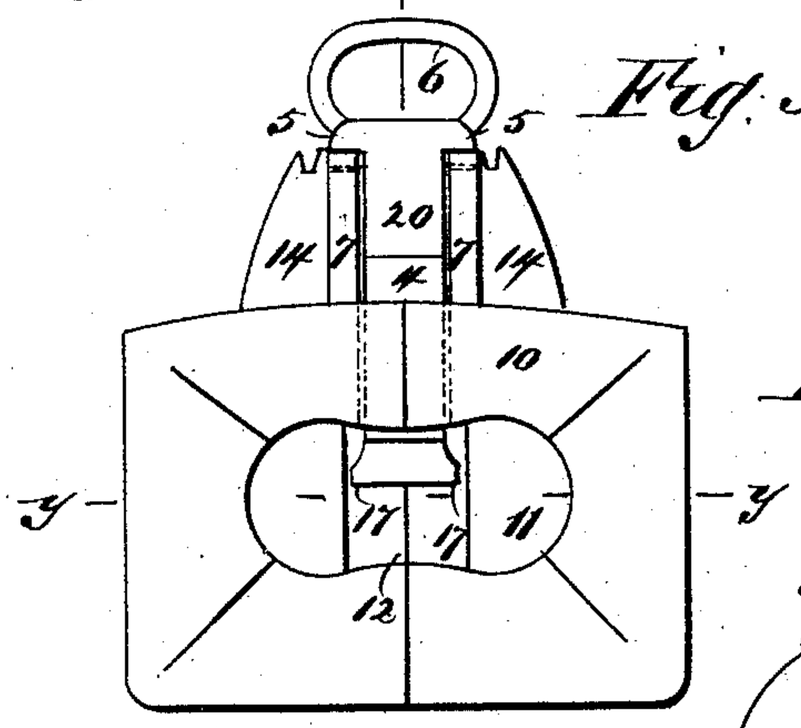


Fig. 6.

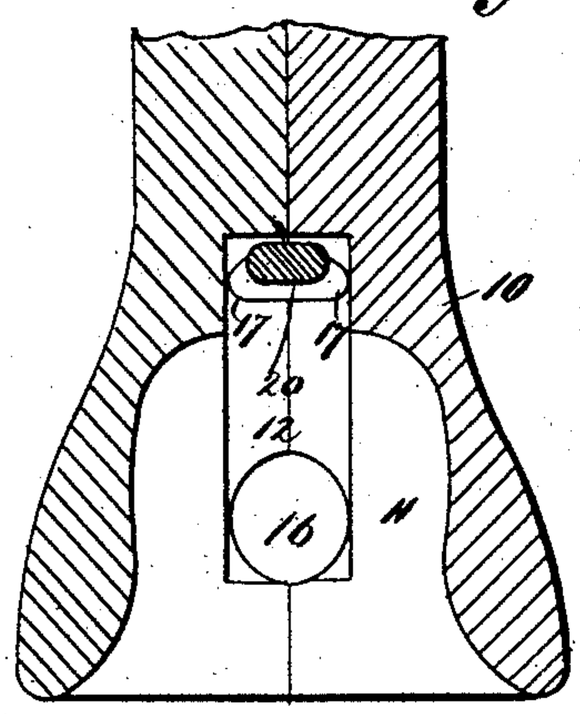
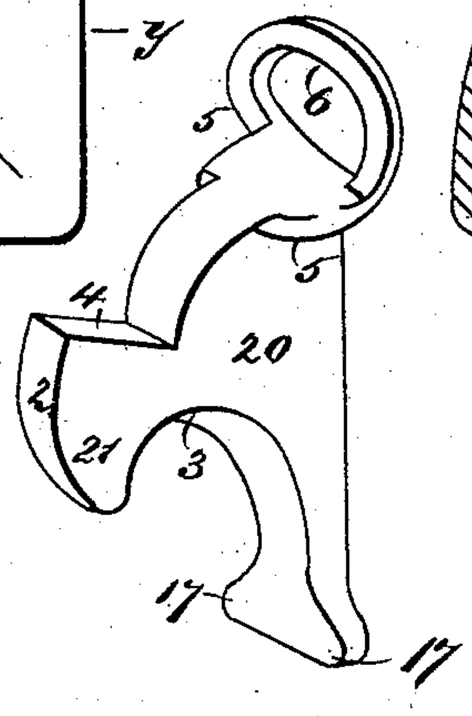


Fig. 7.



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UNITED STATES PATENT OFFICE.

GEORGE C. McKITTERICK, THOMAS R. MORGANS, AND JOHN J. McKITTERICK,
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 354,335, dated December 14, 1886.

Application filed May 1, 1886. Serial No. 200,828. (No model.)

To all whom it may concern:

Be it known that we, GEORGE C. McKITTERICK, THOMAS R. MORGANS, and JOHN J. McKITTERICK, of Jackson, in the county of Jackson and State of Ohio, have invented a new and Improved Car-Coupler, of which the following is a full, clear, and exact description.

The object of our invention is to provide an automatic coupler of simple construction that shall be applicable for use not only with cars provided with our improved car-coupler, but also with cars provided with the ordinary form of coupling pin and link; and to the end named our invention consists of a draw-head formed with a link-chamber and with an upper longitudinal slot connecting with said link-chamber, a recess or groove, also connecting with the link-chamber, being arranged below and to the rear of the link-chamber, said groove or recess being formed with a circular face and extending upward to connect with the slot formed in the upper part of the draw-head; and the invention further consists of a boss or elevation formed with a rearwardly-extending forward face and slotted to correspond with the upper slot formed in the draw-head, the draw-head and its boss or extension being so formed as to operate in connection with a coupling-dog of peculiar and novel construction, all as will be hereinafter described, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the figures.

Figure 1 is a central longitudinal sectional view of the coupler, the dog being shown in full lines and in the position it assumes when just about to fall within the link. Fig. 2 is a similar view representing the coupling-dog as it appears after it has fallen into the central opening of the coupling-link. Fig. 3 represents the parts as they appear just as the link is about to be withdrawn from the draw-head. Fig. 4 represents the coupling-dog as thrown back and out of use. Fig. 5 is a view of the forward end of the draw-head and its attachments. Fig. 6 is a sectional plan view taken on line *y y* of Fig. 5, and Fig. 7 is a perspective view of the coupling-dog.

In constructing such a coupler as the one forming the subject-matter of this application we provide a draw-head, 10, that is formed with the usual link-chamber, 11, beneath which there is a semicircular-faced recess, 12, and above which there is a longitudinal slot, 13, said slot extending upward from the link-chamber through the upper portion of the draw-head. Upon the upper side of the draw-head there is a slotted extension, 14, and into the slot 22 of this extension 14 the slot 13 and the recess 12 are merged. The forward face, 7, of the extension 14 upon each side of the slot inclines backward, and just behind the inclined portion of the extension there are formed notches 15. The recess 12 is wider than the slot 13, and this recess extends around the rear and partially over the link-chamber, as best shown in Fig. 2.

Below the chamber 11 and the recess 12 there is an aperture, 16, through which a coupling-pin of ordinary form may be passed when it is deemed desirable to employ such pin. In connection with such a draw-head as we have just described, we employ a coupling-dog, 20, the main body of which is formed so as to fit loosely within the slot 13. The rear face of this dog 20 is practically straight, and at this part is made sufficiently heavy to balance the link in position. The heel of the dog is rounded off, and upon each side of this heel there are formed lugs or projections 17, which extend from either side of the dog and fit closely within the recess 12. The dog 20 is provided with a hook-shaped projection, 21, of which the forward face, 2, is curved outward—that is, is convex—while the inner face, 3, is concave, this concave portion extending from the point of the hook 21 to the point at which the projections 17 are located. Just above the convex portion 2 the hook 21 is cut off sharply in a line at right angles to the rear of the main body of the dog 20, the idea being to form a shoulder, 4, that will fit beneath the upper jaw of the mouth of the link-chamber, as best shown in Fig. 2.

From the shoulder 4 the forward face of the dog is carried up in a convex curve to an eye, 6, just below which eye there are formed outwardly-projecting shoulders 5 5, which bear upon the inclined forward edges, 7, of the extension 14, and are arranged to be seated within

notches or recesses 15, that are formed to the rear of said inclined face 7, the dog being shown in this position in Fig. 4.

In order that the dog may be manipulated from any point desired, we attach thereto a chain, 9, which may be carried upward to within reach of the train-men; or the other end of the chain may be secured to a shaft mounted in bearings fixed to the end of the car, said shaft being arranged to be operated from either side of the car by a crank-handle or otherwise.

From the construction described it will be seen that when the coupling-dog 20 is in the position shown in Fig. 2 the coupling-link 30 will be supported so that it will extend in about a horizontal line from the mouth of the draw-head, and consequently there will be no necessity of using any of the numerous forms of link-lifters with our coupler.

The operation of the coupler is as follows: When the chain 9 is slackened and the dog 20 allowed to rest freely within the draw-head, the coupling-link 30 of an approaching car, upon entering the link-chamber 11, will strike against the convex face 2 of the hook 21, and will force the dog to about the position in which it is shown in Fig. 1, and after the link has entered still farther the hook 21 will drop within the link 30, and when the cars are started forward the dog will be drawn to the position in which it is shown in Fig. 2, and an inspection of this figure will show that the draft is distributed so that it falls both upon the upper and lower jaws of the mouth of the link-chamber 11.

When it is desired to uncouple the cars provided with our coupler, the dog 20 is drawn up by hand or through the medium of the chain 9, so that its hook 21 will be freed from engagement with the link 30, in which position the dog may be held until the cars are separated, and then returned, so as to rest more fully within the draw-head in position to couple automatically with the link of another car; or the dog may be elevated to the position in which it is shown in Fig. 4, so that the lugs 5 will be seated within the recesses 15. It will of course be understood that any form of lifting device could be used to free the dog from engagement with the link.

The office and function of the lugs 17 is to prevent the accidental withdrawal or displacement of the coupling-dog, for as the recess 12, within which the heel of the dog and the said projections 17 ride, is wider than the slot 13, it follows that, although the dog may be drawn up and partially out of the draw-head, it cannot be entirely withdrawn unless it is so placed that the heel of the dog is in front of the upper portion of the recess 12 and the hook 21 above the upper face of the draw-head. When the parts are in the position named, the dog may be turned so that the lugs 17 will be in line with the slot 13, and then the dog may be withdrawn from the draw-head; but this movement of the parts would never take place by accident.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a draw-head, of a loosely-inserted coupling-dog recessed on its lower edge to form two points, which rest on the lower inner face of the coupling-head, substantially as described.

2. The combination, with a draw-head formed with a link-chamber partially surrounded by a recess, 12, and provided with a slot, 13, and projection 14, having forwardly-inclined faces 7, of a coupling-dog having a hook, 21, having a convex outer and a concave inner face, lugs 5 being formed on the dog above and to the rear of the hook, substantially as described.

3. The combination, with a draw-head having a recess, 12, that partially surrounds the link-chamber, and a slot, 13, communicating with said link-chamber, of a coupling-dog formed with lugs 17 and 5, a shoulder, 4, and a hook, 21, substantially as described.

4. The combination, with a draw-head formed with an extension, 14, having inclined faces 7, a recess, 12, partially surrounding the link-chamber, a slot, 13, communicating with the link-chamber, the recess 12 being wider than the slot 13, of a coupling-dog formed with a hook, 21, and lugs 17, and the coupling-dog being arranged for connection with a chain that extends to an operating mechanism, substantially as described.

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