

No. 645,627.

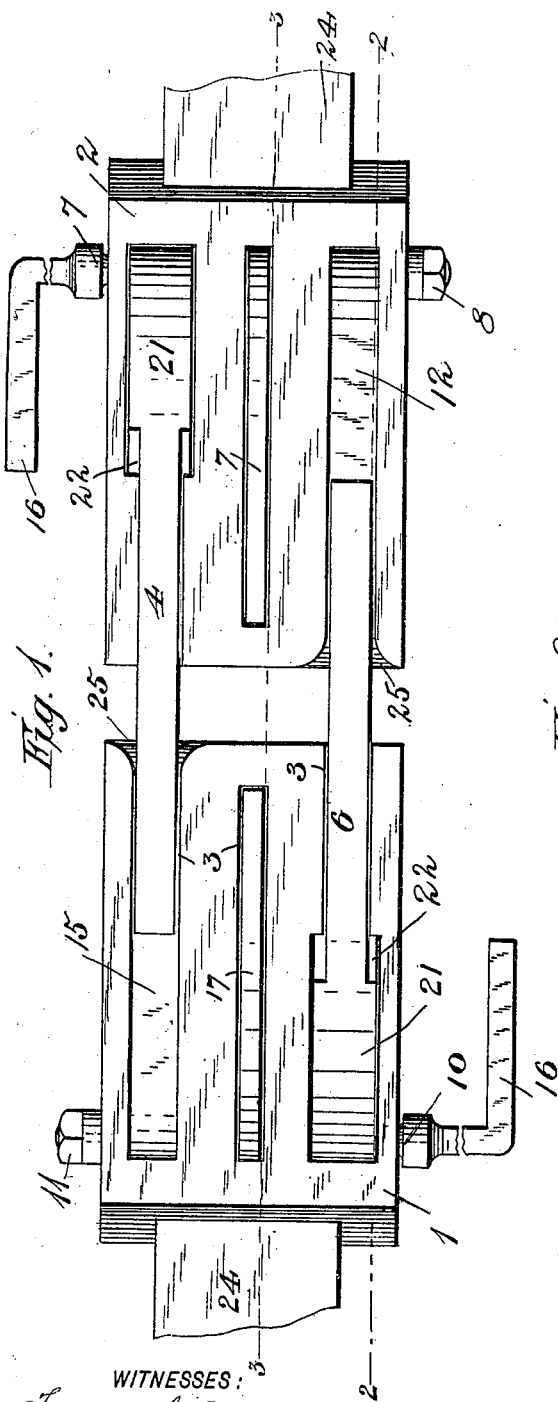
Patented Mar. 20, 1900.

J. McCOMB.
CAR COUPLING.

(Application filed Oct. 20, 1899.)

(No Model.)

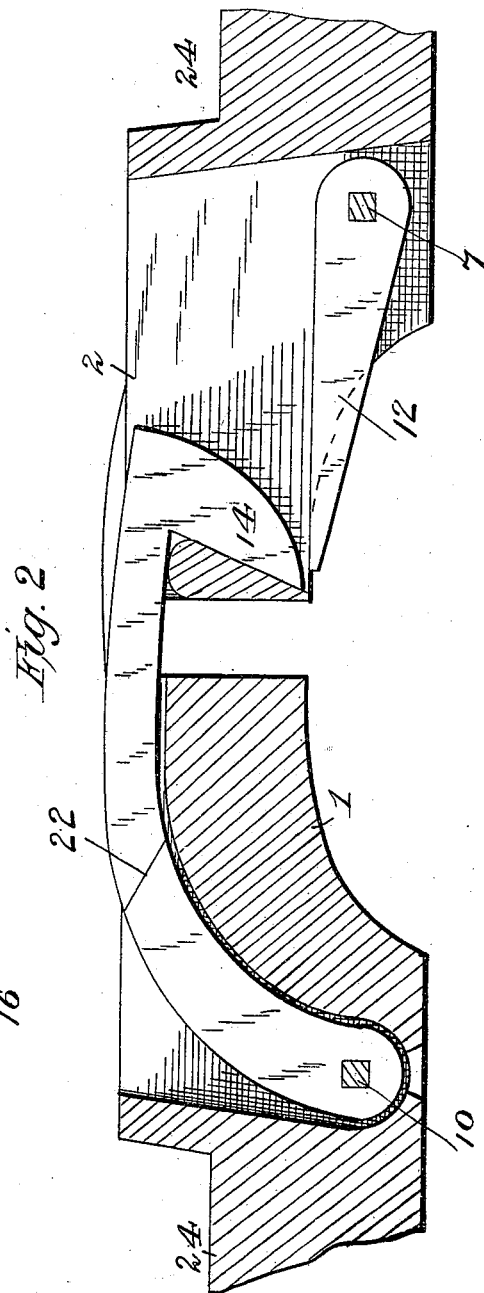
2 Sheets—Sheet 1.



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No. 645,627.

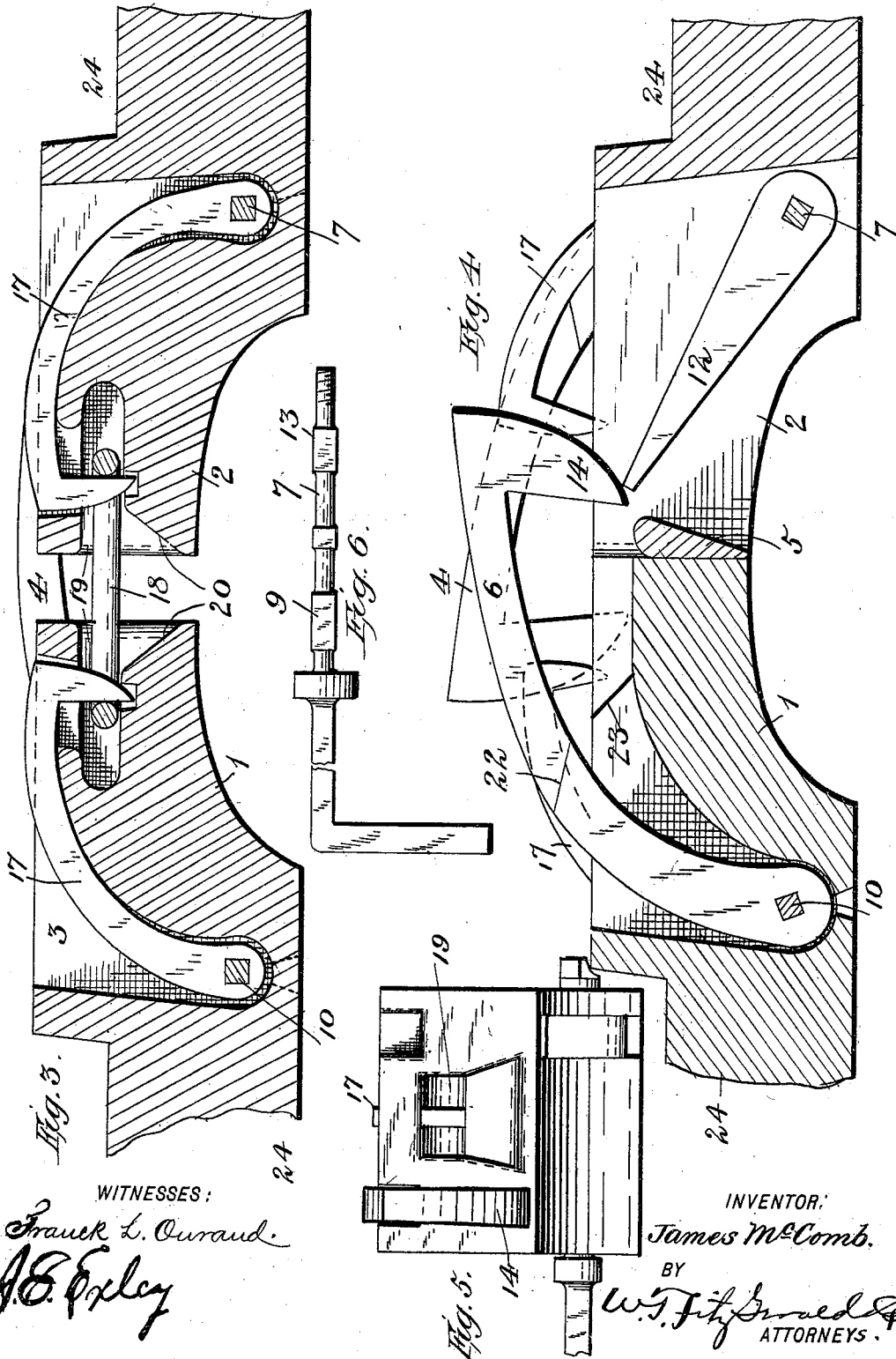
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2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

JAMES McCOMB, OF ST. CHARLES, MICHIGAN, ASSIGNOR OF ONE-HALF TO
THOMAS McPHAIL, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 645,627, dated March 20, 1900.

Application filed October 20, 1899. Serial No. 734,219. (No model.)

To all whom it may concern:

Be it known that I, JAMES McCOMB, a citizen of the United States, residing at St. Charles, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Car-Couplers; and I do hereby 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.

My invention relates to improvements in railway-cars, and more particularly to means for detachably securing two cars together; and it consists of certain novel features of construction and combinations of parts, as will be hereinafter fully described and claimed.

One object of my invention is to provide reliably-efficient means by which the operator may from a safe distance, as from the side of a car, instantly connect or disconnect one car from another, thereby obviating the necessity of going between the cars to accomplish such result.

A further object of my invention is to provide each car with a securing device which will act independently of the device carried by the other car.

With the foregoing objects in view attention is called to the construction presented in the accompanying drawings, in which—

Figure 1 is a top plan view of two car-bumpers provided with my improved coupling device. Fig. 2 is a longitudinal section of Fig. 1 on line 2 2. Fig. 3 is a longitudinal section of Fig. 1 on line 3 3. Fig. 4 is a similar view to that shown in Fig. 2, illustrating the operation of the coupling device proper. Fig. 5 is an end view of one of the bumpers or draw-heads.

Referring to the several parts of my invention and their cooperating accessories, 1 and 2 indicate cooperating bumpers or draw-heads, each of which is provided with three parallel vertically-disposed slots 3, in which are operatively disposed the several cooperating hooks, as will be hereinafter specifically described.

In order to render the draw-heads interchangeable, and thereby make it possible to enable any two of them to be coupled together, I dispose in the outer slot of one of

the draw-heads—as, for instance, in the right slot of the draw-head 2—the coupling-hook 4, designed to extend into the corresponding slot of the draw-head 1 and engage the shoulder or lip 5 therein provided. In a similar manner the draw-head 1 is provided with the cooperating hook 6, designed to engage a shoulder or lip 5, as illustrated in Fig. 4.

In order to place the cooperating hooks 4 60 and 6 under the complete and ready control of the operator, I fixedly secure to the shaft 7, which extends transversely through the draw-head 2 and is therein secured in any suitable way, as by the nut 8, the cooperating hook 4, which is provided with a suitable aperture designed to receive the squared portion 9 of said shaft, thereby insuring that when said shaft is partly rotated said hook will be raised or lowered, as desired. The cooperating hook 6 is secured in its operative position in a similar way by means of the controlling-shaft 10, which passes through its respective draw-head and is secured in its operative bearings by the nut 11. It is obvious, therefore, that but one of the hooks 4 or 6 may be raised by a proper movement of the shafts 7 or 10, and since it will be necessary to engage both hooks and accomplish such result simultaneously means must be provided to not only raise the hook 4, but also the end of the hook 6, if, for instance, the shaft 7 is partly rotated. With the object in view, therefore, of elevating the end of the hook 6 out of engagement with the draw-head 1 when the shaft 7 is turned, I dispose within the outer wall 3, in that side of the draw-head opposite the side wherein the hook 4 is disposed, the cam or guiding-finger 12, which is provided with a squared aperture designed to receive the squared portion 13 of the shaft 7, thus insuring that the free end of the finger 12 will be elevated at the instant the hook 4 is raised, and it is obvious that such movement of the finger 12 will engage the point 14 of the hook 6, and thereby raise said hook sufficiently to permit said point 14 to pass the lip or shoulder 5. In like manner the shaft 10 is provided with a squared portion designed to receive the cam-finger 15, which is disposed in the outer wall of the draw-head 1, in which the free end of the hook 4 is operatively dis-

posed when the coupling has been completed. It is clearly apparent, therefore, that a partial rotation of either one of the shafts 7 or 10 will not only disengage the hook from its co-
 5 operation with the opposite draw-head, but will also operate its respective finger and insure that the free end of the hook mounted in the opposite draw-head will also be elevated out of engagement with the lip with which it
 10 is in coöperation.

It will be understood that each of the shafts 7 and 10 is to be of sufficient length to extend laterally beyond one side of the car, where it terminates in an operating-handle 16. It is
 15 further apparent that said handle 16 may be operatively connected with a suitable lever at the top of the car, from whence the operator may control the coupling. The middle slot in each of the draw-heads is designed to
 20 accommodate an auxiliary hook, as indicated by the numeral 17 in Fig. 3, the object of said hooks being to enable an ordinary link 18 to be employed—as, for instance, when
 25 either of the hooks 4 shall have become disabled or when one of the draw-heads 1 or 2 is used to coöperate with a draw-head of ordinary construction.

By reference to Figs. 3 and 5 it will be observed that the central portion of each of my
 30 draw-heads is provided with an opening 19, which is of sufficient extent to loosely receive the end of an ordinary link, the guiding or inclined face 20 being provided for the purpose
 35 of more reliably guiding the end of said link upward into the seat designed for its reception. Since each of the auxiliary hooks 17 is mounted upon the shaft 7 or 10, as the case may be, it is obvious that said hooks are
 40 operated simultaneously with a movement of the hooks 4 or 6, thus insuring that the link 18 when employed may also be as readily disengaged as when reliance is placed upon the hooks 4 and 6.

By reference to Figs. 1, 2, and 4 it will be
 45 observed that the secured or mounted ends 21 of the hooks 4 and 6 are of greater width than the free ends thereof, thus providing the offset or shoulder 22 upon each side of said hooks, said shoulders being beveled, as shown
 50 in Figs. 2 and 4. The object of thus beveling the outer faces of the shoulders 22 is to insure that said shoulders will coöperate with the coöperatively-beveled offsets 23, formed in the draw-head, the object of this construction
 55 being to insure that either or both of said hooks 4 and 6 will still be held in their operative seats in case the shafts 7 or 10 should become broken or casually removed, since it is obvious that a pull upon the free end of said
 60 hooks will bring the beveled faces of the shoulders 22 to bear against the offsets 23, and thus tend to draw the hooks tightly downward in their respective seats.

My improved coupling for railway-cars or the like may be expeditiously manufactured 65 at a minimum cost, inasmuch as said draw-heads are forged or otherwise formed in one piece, when the several hooks can be quickly mounted in their respective seats, as by inserting the shafts 7 and 10 in the apertures 70 provided for their reception.

While I have described the preferred construction of the several parts of my invention and also the parts designed to coöperate therewith, I desire to reserve the right to make 75 such reasonable modifications thereof as will fall fairly within the scope of my invention. I have deemed it unnecessary for the purpose of this application to describe or illustrate how the draw-heads are mounted in position, 80 it being understood that the same can be secured in the usual or any preferred manner, as by providing a suitable seat at the end of the car for the reception of the stem or body portion 24, it being understood that the usual 85 buffer-spring may also be disposed around said body portion or against the end thereof, as is usual.

Each of the outer slots 3, designed for the reception of the free end of the hook 4 or 6, 90 is outwardly enlarged, as indicated by the numeral 25, the object being to provide means for more reliably guiding the free end of said hook into its respective seat, as when the cars are brought violently together. It is clearly 95 apparent, therefore, that the cars may be readily coupled by simply bringing them together and may be readily uncoupled by a proper movement of either of the controlling-handles 16, such movement resulting in not only 100 elevating the hook 4 or 6, but also in raising one of the fingers 12 or 15 sufficiently to elevate the free end of the other hook out of its engagement with the opposite draw-head.

Having thus fully described the construction and operation of my improved car-coupling appliance, I will dispense with further 105 reference to the details thereof.

What I claim as new, and desire to secure by Letters Patent, is— 110

The herein-described coupling comprising a pair of coöperating draw-heads, each provided with a hook adapted to extend into engagement with the opposite draw-head and having a controlling-shaft provided with a 115 disengaging finger for the free end of the hook carried by the opposite draw-bar, in combination with auxiliary hooks designed to secure a link, all operatively combined in the manner specified and for the purpose set forth. 120

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

JAMES McCOMB.

Witnesses:

JOHN LAMSON,
 KATIE MERCUE.