

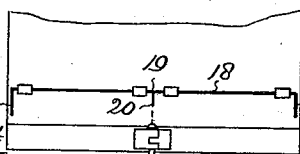
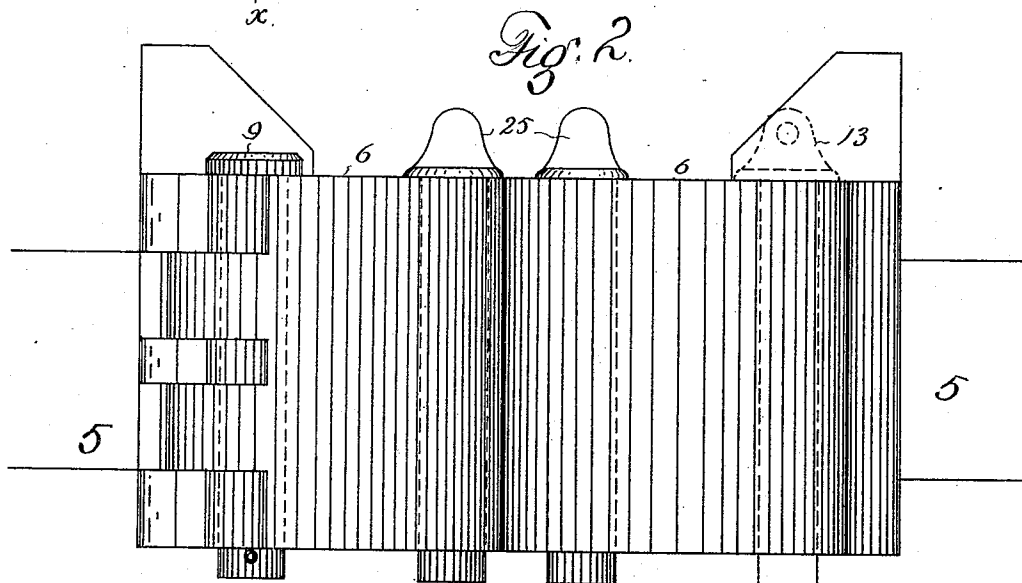
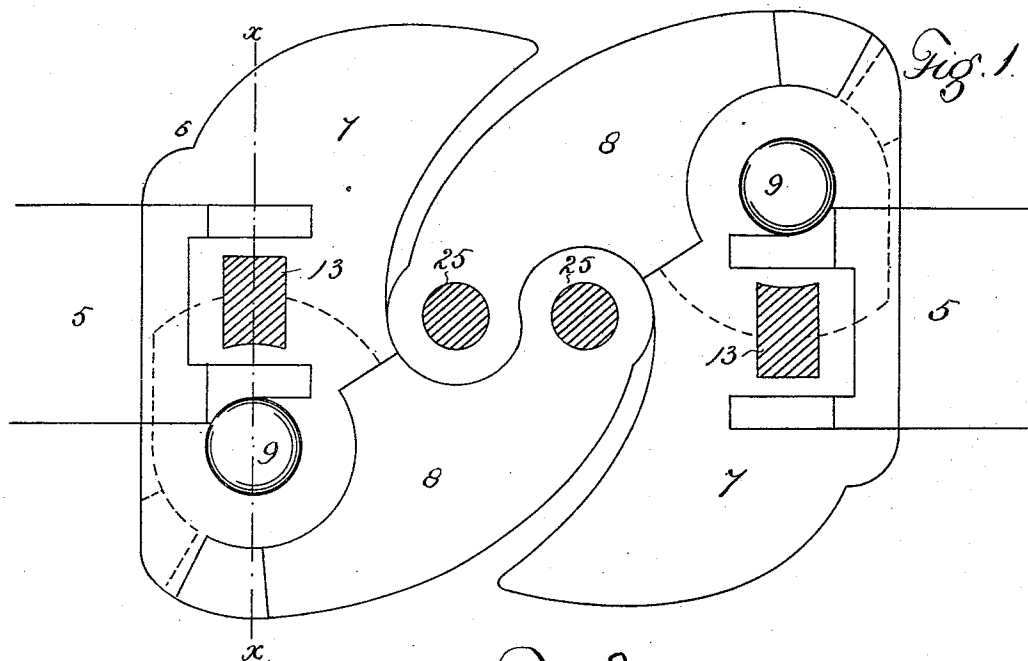
(No Model.)

2 Sheets—Sheet 1.

C. A. DUNN.
CAR COUPLING.

No. 475,268.

Patented May 17, 1892.



Witnesses
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Wm. M. Connell

By his Attorney

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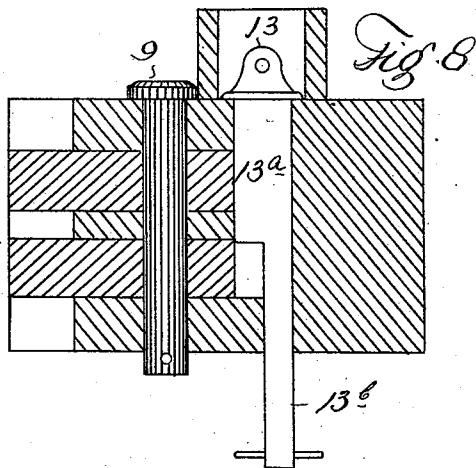
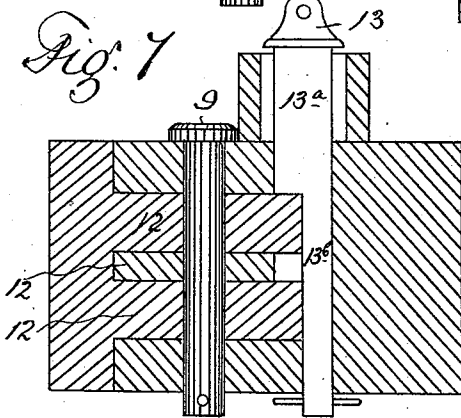
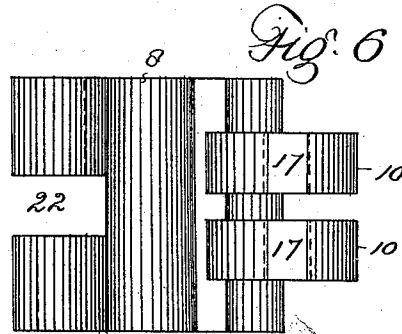
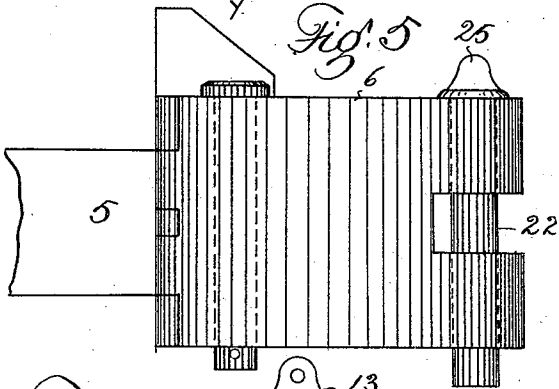
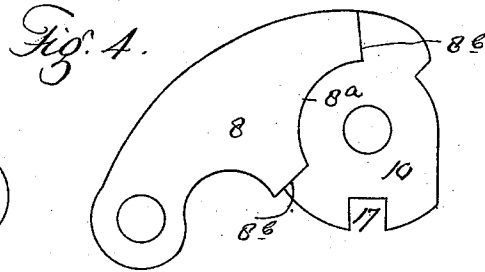
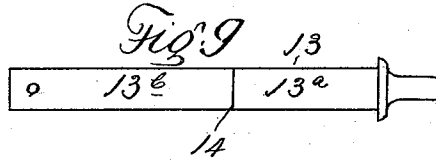
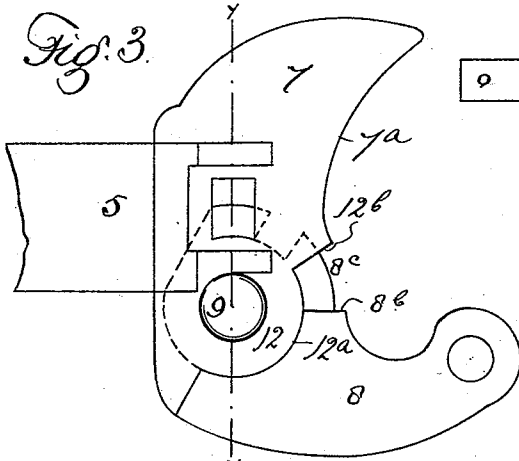
(No Model.)

2 Sheets—Sheet 2.

C. A. DUNN.
CAR COUPLING.

No. 475,268.

Patented May 17, 1892.



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UNITED STATES PATENT OFFICE.

CLAUDIUS A. DUNN, OF DENVER, COLORADO, ASSIGNOR OF THREE-SIXTHS TO WILLIAM SMITH, WILLIAM A. C. McDONALD, AND BENJAMIN GRIFFITH, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 475,268, dated May 17, 1892.

Application filed October 26, 1891. Serial No. 409,917. (No model.)

To all whom it may concern:

Be it known that I, CLAUDIUS A. DUNN, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Car-Couplers; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in car-couplers; and its object is to provide a car-coupling which shall be automatic in action, of simple and economical construction, reliable and durable in operation, and efficient in use.

To these ends the invention consists of the features, arrangements, and combinations hereinafter described and claimed.

In the accompanying drawings is illustrated an embodiment of the invention, Figure 1 being a plan view, partially in section, showing the coupling-heads in the locked position. Fig. 2 is a side elevation of the same. Fig. 3 is a plan view of one of the coupling-heads in the uncoupled position or showing the movable jaw open. Fig. 4 is a detail view of the movable jaw of the coupling-head. Figs. 5 and 6 are side elevations of the mechanism shown in Figs. 3 and 4, respectively. Fig. 7 is a vertical transverse section taken on the line *yy*, Fig. 3. Fig. 8 is a similar section taken on line *xx*, Fig. 1. Fig. 9 is a detail elevation of the locking-pin. Fig. 10 is a fragmentary end view of a car on a small scale provided with one of my improved coupling-heads and showing means attached to the car for unlocking the same.

In the views, similar reference characters indicating corresponding parts or elements of the mechanism, let the numeral 5 designate the draw-bar, to the outer extremity of which is secured the coupling-head 6, composed of the stationary buffer 7 and the laterally-movable jaw 8. This jaw and buffer are pivotally connected by means of a pin 9, passing through suitable apertures formed in tongues

10 of the jaw and similar tongues 12 of the buffer. The tongues of one part are received within corresponding grooves or recesses of the opposite part. The edges of tongues 12 55 are curved, as shown at 12^a, while the jaw is provided with oppositely-disposed shoulders 8^a of corresponding shape. At the extremities of the curves 12^a and 8^a are located shoulders 12^b and 8^b, adapted to engage each other 60 as the jaw passes from one position to the other. When the movable jaw is open, there is a forward space 8^c between one set of these last-named shoulders, while when the jaw is closed there is a corresponding rearward 65 space between the other set of these shoulders.

The space 8^c indicates the extent of the jaw's movement in passing from one position to the other.

Within the buffer is formed a vertical opening for the reception of the locking-pin 13, having a shoulder 14, a top flange or rim 15 to prevent its falling through the opening, and a key 16, passing through an aperture in its lower extremity to prevent the possibility of its being drawn entirely out of the opening in unlocking the jaw. When the jaw 8 is open, its tongue 10 partially closes this vertical opening in the buffer, whereby the 80 upper tongue forms a support or seat for the shoulder 14 of the locking-pin, as shown in Fig. 7.

The tongues 10 are provided with recesses 17, which when the jaw is in the closed position lie in the path of the shoulder 14 of the pin and allow the pin to drop by gravity to the position shown in Fig. 8, the jaw being then locked in the closed position, since the pin engages recesses 17 thereof. It will be 90 observed that the tongues 10 of the jaw 8 only partially close the opening in the buffer at any time. Hence when the jaw is in the locked position only the upper enlarged portion 13^a of the pin engages the recess 17 of a tongue 10. Hence to unlock the jaw 8 it is only necessary to raise the pin 13 until its upper enlarged portion 13^a passes out of the recess 17 of the upper tongue 10. This movement of the pin permits the two movable 100 jaws of the two heads to open freely as soon as either car is moved. The upward movement

of the pin is brought about by any suitable means attached to the end of the car—as, for instance, that illustrated in Fig. 10—in which 18 is a horizontal movable rod provided with a central bend 19, forming a crank, to which is attached a chain 20, connected with the top of the pin, which is provided with a suitable aperture therefor. The extremities of rod 18 are formed into cranks 21, located close to the outside of the car. By the use of these cranks the rod may be turned and the locking-pin lifted by the train-men without going between the cars. The jaws 8 are hook-shaped and adapted to engage each other when in the locked position. The inner face of the buffer is curved, as shown at 7^a, and adapted to engage the outer face of the jaws and force them to the locked position as the two cars come together. The outer extremities of jaws 8 are provided with a recess 22 for the reception of the ordinary coupling-link and an aperture 23, in line with these recesses, for the reception of the corresponding coupling-pin 25, when for any reason it may be necessary or desirable to connect cars provided with my improved coupling-heads by using the old-fashioned link and pin—as, for instance, when one car is provided with the improved coupling-heads and the other with the ordinary draw-heads.

It will be observed from the description heretofore given that only one of the movable jaws need be unlocked or opened to insure perfect automatic work; also, that my improved coupling-heads have sufficient lateral movement upon each other to allow the cars coupled thereby to make any curve with ease, avoiding at the same time any possible danger of uncoupling.

Having thus described my invention, what I claim is—

1. In a car-coupling, a divided coupling-head consisting of a stationary part provided with a concave buffer-face and a laterally movable hook-shaped jaw pivoted thereto in the rear of the buffer-face, said jaw being provided with vertical shoulders engaging corresponding shoulders formed on the stationary part and limiting the jaw's lateral movement in both directions, the body portion of the jaw having the same vertical depth as the stationary part of the head, the outer vertical shoulder of the stationary part being located in the rear of the hook's axis, whereby said jaw forms the entire side of the head in front of the outer vertical shoulder of the stationary part, substantially as described.

2. In a car-coupler, a divided coupling-head consisting of a stationary curve-faced buffer-head provided with a vertical opening located in the rear of the buffer-face, and outer and inner vertical shoulders, the outer shoulder being located in the rear of the vertical opening, and the hook-shaped coupling-jaw having arc-shaped tongues engaging counterpart recesses formed in the buffer-

head and passing through apertures formed in its tongues and coinciding with apertures formed in the adjacent parts of the buffer-head, the jaw being provided with vertical shoulders engaging the adjacent shoulders of the buffer-head, the body of the coupling-jaw having the same vertical depth as the buffer-head and forming the entire side of the coupling-head forward of the outer vertical shoulder of the buffer-head, and a shouldered locking-pin engaging the vertical opening in the buffer-head, its shoulder resting upon the upper tongue of the coupling-jaw when the latter is open or in the uncoupled position, while when the jaw is moved inward to the coupled position the shouldered part of the pin falls into recesses formed in the tongues of the jaw, locking the latter in place, substantially as described.

3. In a car-coupler, a divided coupling-head consisting of a stationary curve-faced buffer-head and an oscillating hook-shaped coupling-arm pivoted to the buffer-head in the rear of the buffer-face, the buffer-head being provided with an outer vertical shoulder located in the rear of the jaw's axis and adapted to engage a similar shoulder formed on the oscillating jaw, the body of said jaw having the same vertical depth as the buffer-head and forming the entire side of the coupling-head forward of the outer vertical shoulder of the buffer, substantially as described.

4. In a car-coupler, a divided coupling-head consisting of a curve-faced buffer provided with a vertical opening located in the rear of the buffer-face and in line with the longitudinal center of the draw-bar, the buffer having outer and inner vertical shoulders, the former being located in the rear and the latter forward of the vertical opening, and a horizontal oscillating coupling-jaw having two arc-shaped tongues provided with recesses vertically coinciding, the tongues being provided with apertures for the reception of a pin which passes through corresponding apertures formed in the buffer, said pin forming the axis of the coupling-jaw and located in a plane passed through the vertical opening in the buffer and parallel with the end of the car, and a shouldered locking-pin engaging the vertical opening in the buffer, its shoulder resting upon the upper tongue of the jaw when the latter is open, its shouldered part engaging the recesses in the tongues when the jaw is closed, the jaw having the same vertical depth as the buffer and forming the entire side of the head forward of its axis, the jaw being provided with shoulders engaging the vertical shoulders of the buffer, substantially as described.

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

CLAUDIUS A. DUNN.

Witnesses:
WM. MCCONNELL,
G. J. ROLLANDET.