No. 627,379. Patented June 20, 1899.

L. BEESE.

CAR COUPLING.

(Application filed May 31, 1898.)

(No Model.)

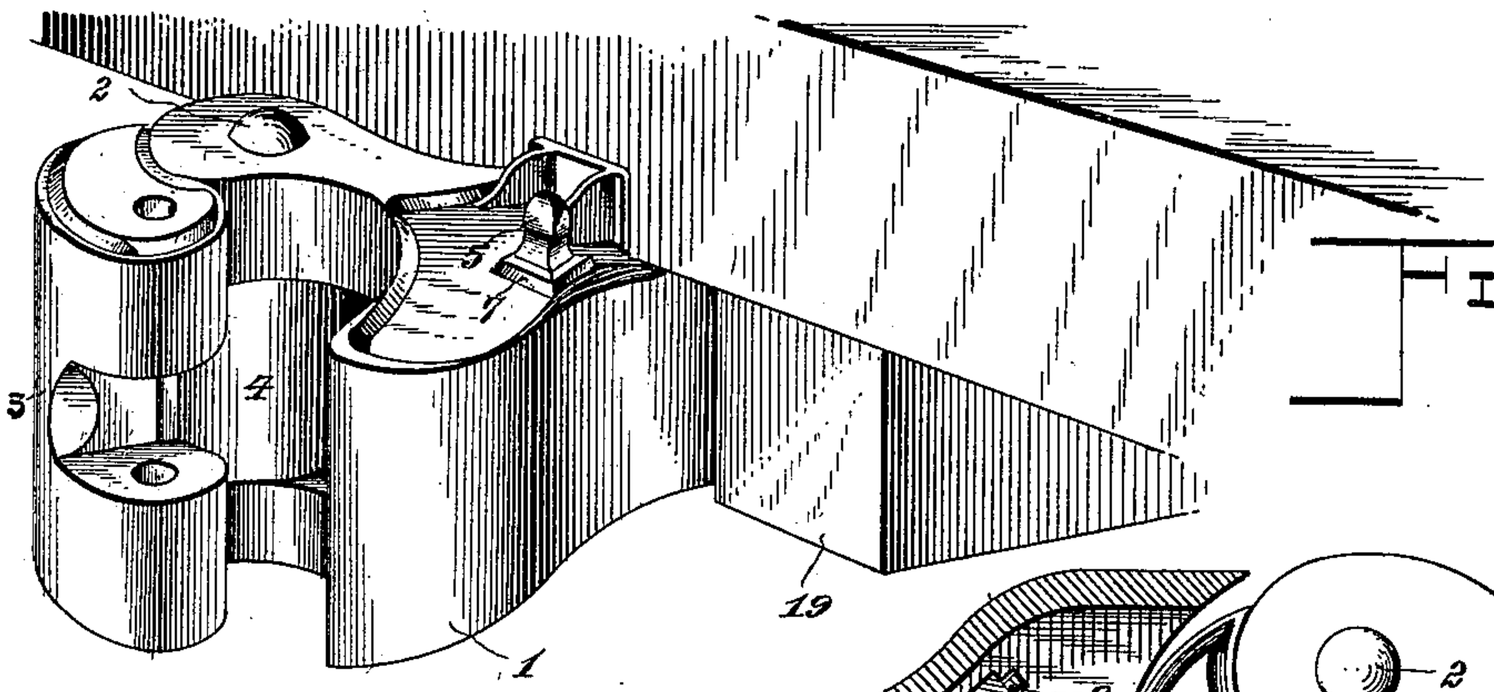


FIG. 1.

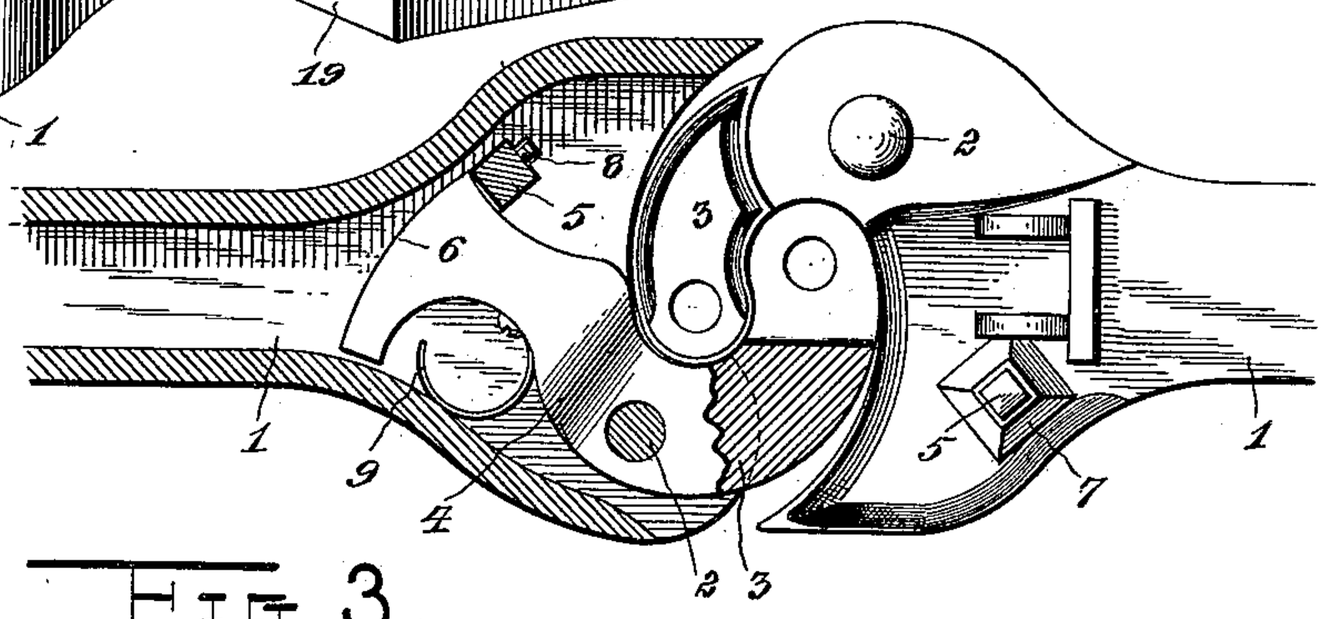


FIG. 2.

FIG. 3.

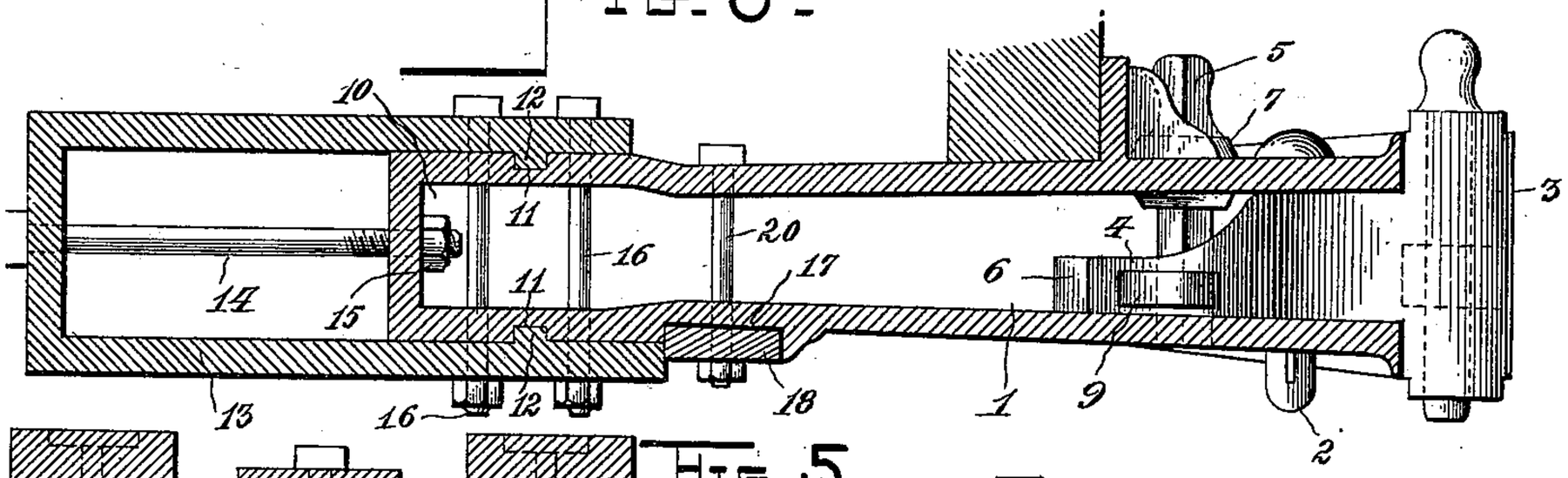


FIG. 5.

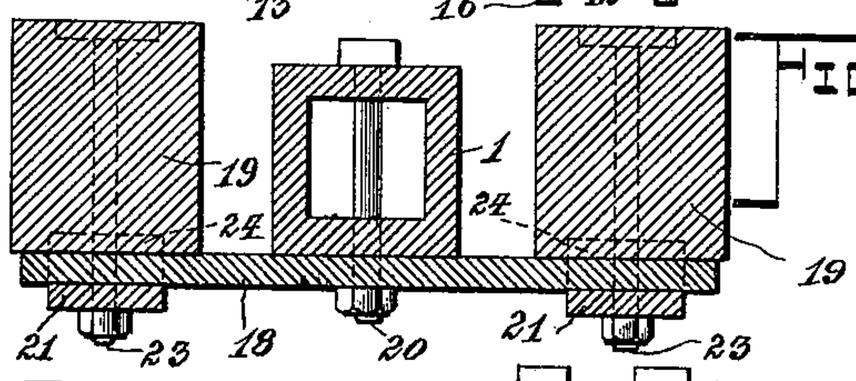
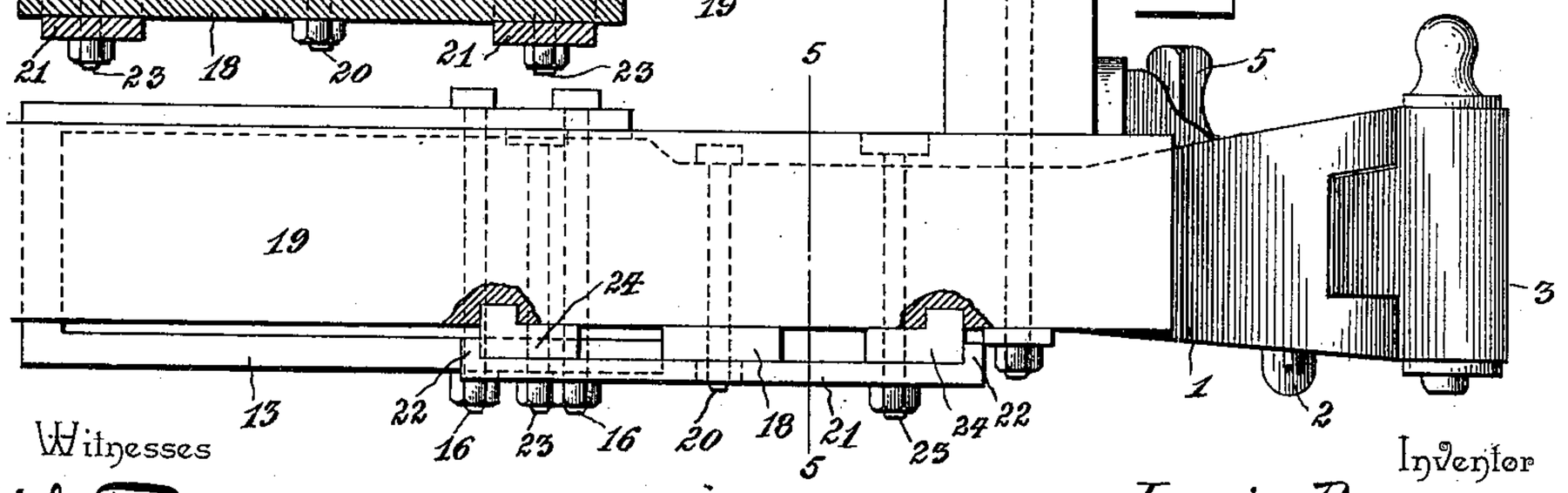


FIG. 4.



Witnesses

John F. Dewfferwiel

T. J. Riley

By his Attorneys,

Louis Beese,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

LOUIS BEESE, OF WEST SUPERIOR, WISCONSIN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 627,379, dated June 20, 1899.

Application filed May 31, 1898. Serial No. 682,164. (No model.)

To all whom it may concern:

Be it known that I, LOUIS BEESE, a citizen of the United States, residing at West Superior, in the county of Douglas and State of Wisconsin, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car-couplings.

The object of the present invention is to improve the construction of car-couplings of the Janney type and to provide a simple and comparatively inexpensive one which will possess great strength and durability and which when the locking-pin is raised will always be in position for automatic coupling, and thereby obviate the necessity of going between cars and opening the knuckle before coupling.

A further object of the invention is to provide a car-coupling in which the pivoted knuckle will move freely and not stick and remain in its closed position when not engaged by the locking-pin.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a car-coupling constructed in accordance with this invention. Fig. 2 is a view, partly in plan and partly in section, showing two draw-heads coupled. Fig. 3 is a longitudinal sectional view. Fig. 4 is a side elevation. Fig. 5 is a transverse sectional view on line 5 5 of Fig. 4.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a draw-head provided at one side with upper and lower perforated portions or ears receiving a knuckle-pin 2, which pivots a knuckle 3 to the draw-head in the usual manner. The engaging portion of the knuckle, which is of the ordinary configuration, is provided with a coupling-pin perforation and has a slot for the reception of a link of the ordinary construction and is adapted to engage a knuckle of a corresponding draw-head, as illustrated in Fig. 2 of the drawings. The arm 4 of the knuckle is engaged by a vertical locking-pin 5, located at the opposite side of the draw-head adjacent to the side wall thereof, and the said arm 4, which extends from the knuckle-pin across the draw-head to the locking-pin, is substantially L-shaped, being provided with a curved extension 6, adapted to support the locking-pin 5 when the latter is raised for releasing the knuckle and effecting the operation of uncoupling.

The locking-pin 5, which is square in cross-section, is arranged in a corresponding opening of the draw-head, and it is provided at its upper end with a head normally resting upon the upper face of the draw-head, which is provided around the opening with a projecting boss or flange. By having the head of the coupling-pin supported upon the boss or flange 7 access of water to the interior of the draw-head is prevented, and the lower end of the locking-pin is provided with a set-screw 8, located a short distance from the extremity of the pin 5 and adapted to limit the upward movement of the same and prevent it from being entirely withdrawn from the draw-head. The set-screw, which engages a threaded socket of the locking-pin, is offset from the end of the same to permit the locking-pin to engage the opening at the bottom of the draw-head. The locking-pin, which has smooth sides, is easily raised and is not weakened by recesses and possesses great strength and durability, and by arranging it at one side of the draw-head, as shown, the latter is not weakened in the center and is rendered less liable to break at that point.

The curved extension 6 of the arm of the knuckle projects inward therefrom and is of sufficient length to extend from one side of the draw-head to the other, as clearly shown in Fig. 2 of the drawings. When the locking-pin is lifted to effect the operation of uncoupling, the lever is automatically opened by a spring 9, secured to the inner face of the arm, and when the knuckle is open the locking-pin is supported in an elevated position preparatory to automatic coupling by the curved rearwardly-extending arm 6. When the knuckle is closed incident to two cars coming together for coupling, the rearward extension 6 of the arm is withdrawn from beneath the

locking-pin, which falls in advance of the said arm and locks the knuckle in its closed position, and the part 6, which extends entirely across the space between the locking-pin and the opposite side of the draw-head, limits the inward movement of the arm or knuckle and prevents the spring from being injured.

The inner face of the arm and the adjacent portion of the extension 6 are continuously curved, as shown, and form, when the knuckle is closed, a substantially semicircular recess for the reception of the spring 9, which may be constructed of a single piece of resilient metal or be made up of several leaves. This spring, which presents a convex face to the adjacent side of the draw-head when the knuckle is closed, operates to open the knuckle automatically and maintain it in such open position, and thereby obviates the difficulty and inconvenience incident to those draw-heads which require a person, preparatory to coupling, to go between the cars and open the knuckles. The inner end of the curved spring is secured to the curved face of the arm of the knuckle by screws or any other suitable fastening devices, and should any of the parts of the draw-head become broken or otherwise injured they may be readily removed and replaced by new parts, as convenient access is had to the interior of the draw-head.

The shank or draw-bar of the draw-head, which has its rear portion 10 enlarged, as shown in Figs. 3 and 4 of the accompanying drawings, is provided in its upper and lower faces with transverse grooves 11, adapted to receive corresponding ribs 12 of a rearwardly-disposed oblong frame 13, which is adapted to house the springs for cushioning the draw-head. The tail or draft bolt 14, which extends from the back of the draw-head, is secured to the same by an interior nut 15 and passes through a corresponding perforation of the inner or rear end of the oblong frame, being provided with a head arranged on the exterior of the same. The transverse ribs 12, which are formed integral with the top and bottom of the oblong frame, assist in securing the same to the shank or draw-bar of the draw-head, and the frame 13 is further secured by means of vertical bolts 16, passing through perforations of the draw-head and the adjacent portions of the frame.

The shank of the draw-head is provided in advance of the oblong frame with a transverse recess 17, receiving a transversely-disposed supporting bar or iron 18, which is connected with the lower face of the draft-timbers 19 by means of longitudinal bars 21 and which is centrally secured to the draw-bar by a vertical bolt 20. The longitudinal bottom bars 21, which are provided at their ends with upwardly-extending transversely-disposed flanges 22, are secured by end bolts 23 and are spaced from the lower faces of the draft-timbers by angle-plates 24. The angle-plates 24 fit against the end flanges 22 and have their vertical flanges arranged in transverse recesses of the lower faces of the draft-timbers. By this construction the draw-head is firmly secured to a car and is enabled to stand all the strains incident to its use.

Any suitable means may be employed for enabling the operation of uncoupling to be performed from the tops and sides of cars. This uncoupling mechanism may consist of a transverse rock-shaft extending from one side of a car to the center thereof and having its ends bent at an angle to provide an outer handle and to form an inner arm to be connected with the locking-pin, and a chain may extend from the inner arm to the top of the car, so that the locking-pin can be lifted from that point.

The invention has the following advantages: The draw-head is securely attached to the framework of a car and its central portion is not weakened by a locking-pin perforation and it is not liable to break at that point. The car-coupling, which is automatic, positive, and reliable in operation, possesses great strength and durability, and its knuckle is opened automatically when the locking-pin is raised, and it is maintained in such position and prevented from accidentally closing by the curved spring, thereby obviating the inconvenience and difficulty attending the opening of knuckles preparatory to coupling.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a car-coupling, the combination of a draw-head having a shank, angle-plates engaging transverse recesses of the draft-timbers, longitudinal bottom bars provided with end flanges engaging the angle-plates, and a transverse bar secured to the longitudinal bars and supporting the shank of the draw-bar, substantially as described.

2. In a car-coupling, the combination with the draft-timbers of a car, of a draw-head provided with a shank having a transverse recess at its bottom, a transverse supporting-bar arranged in the recess and having its end portions located on the lower faces of the draft-timbers, the longitudinal bottom bars arranged beneath the draft-timbers and provided at their ends with vertical flanges, the angle-plates interposed between the bottom bars and the draft-timbers and having their vertical flanges fitting in recesses of the draft-timbers, and vertical fastening devices passing through the draft-timbers and securing the bottom bars, the angle-plates and the supporting-bar to the same, substantially as described.

3. In a car-coupling, the combination of a draw-head having a shank enlarged at its rear end, provided with upper and lower transverse grooves and having a bottom transverse recess, a longitudinal oblong frame pro-

vided at the inner faces of its sides with transverse ribs interlocked with the grooves, a draft-bolt connecting the rear ends of the shank and the frame, a transverse supporting-bar arranged in the transverse recess, the longitudinal bottom bars having end flanges, the angle-plates arranged against the end flanges, and means for securing the bottom bars, the angle-plates and the supporting-bar to the draft-timbers of a car, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LOUIS BEESE.

Witnesses:
H. H. GRACE,
MARIE E. WILSINGER.