(No Model.)

C. H. TAYLOR.

CAR COUPLING.

No. 480,836. Patented Aug. 16, 1892.

Fig. 1.

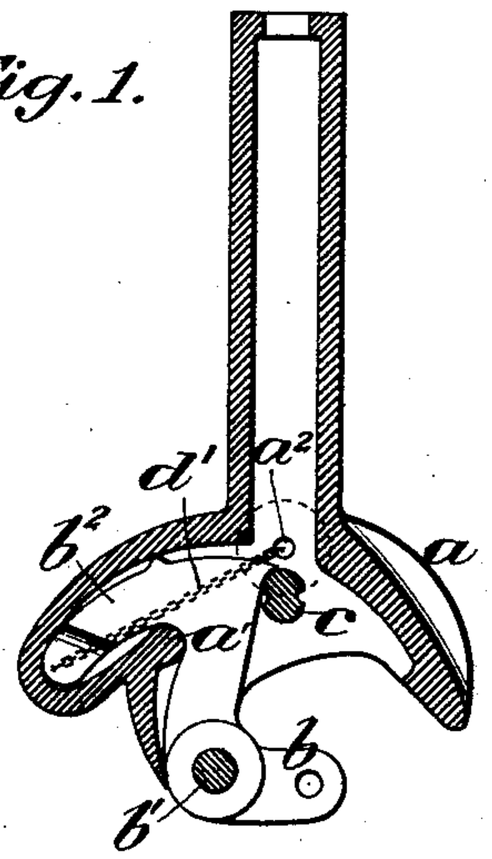


Fig. 2.

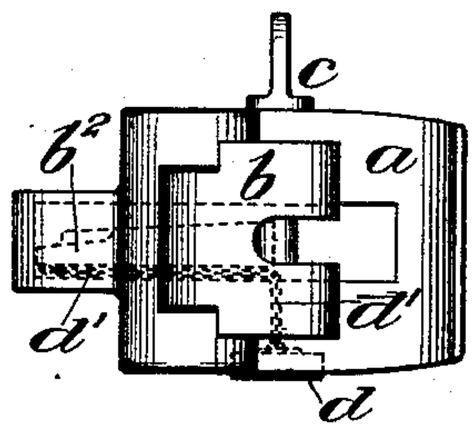
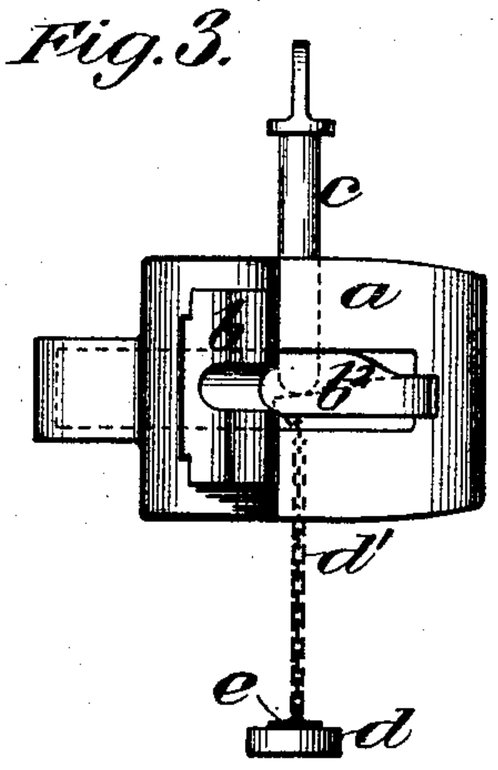


Fig. 3.



Witnesses:-

D. N. Hayward

Anne L. Hayes.

Inventor:-

Charles H. Taylor

by his attorney

Chas. P. Dane

UNITED STATES PATENT OFFICE.

CHARLES H. TAYLOR, OF SOUTH ORANGE, NEW JERSEY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 480,836, dated August 16, 1892.

Application filed November 23, 1891. Serial No. 412,763. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. TAYLOR, a citizen of the United States, and a resident of South Orange, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Car-Couplers, of which the following description, taken in connection with the drawings herewith accompanying, is a specification.

My invention relates to car-couplers of the "vertical-plane" type, in which the draw-head is provided with a hook or knuckle hinged thereto adapted to move or rotate in a horizontal plane and automatically lock or engage with the corresponding hook or knuckle of another coupler and be locked in such engagement by a suitable locking device which is supported in the draw-head and adapted to engage the inner arm of the said hook or knuckle.

My present invention has for its object to provide a simple and positively-operating means to automatically open the hook or knuckle of the coupler to a position for engaging with the corresponding hook of another coupler and be adjustably held in such position until closed by the engagement therewith of said engaging hook in a manner as well understood by those skilled in the art. This object I attain by means and in a manner as will hereinafter be described in detail, and pointed out in the claims.

Referring to the drawings, Figure 1 represents a horizontal sectional view through the draw-head of a coupler embodying my invention. Fig. 2 represents a front end view of the coupler, showing the knuckle closed; and Fig. 3 represents the same, showing the knuckle open.

To explain in detail, *a* represents the draw-head, *b* the horizontally-rotating knuckle having a pivotal connection with the said draw-head at *b'*, and *c* the locking pin or bolt, which is supported in a vertical opening in the draw-head and adapted to engage the inner arm of the knuckle *b* to adjustably lock the latter in a closed position when in engagement with the coupler of a connecting-car. The inner arm of the knuckle *b* is provided with a rearwardly-extending arm or hook b^2, which is adapted to engage with a projection a' of the draw-head and act, in combination with the locking-pin *c*, to prevent the removal of the knuckle from the draw-head in case of loss or breakage to the pivot-pin, and also to serve as a support for the locking-pin when raised from engagement with the inner arm of the knuckle, in a manner as more fully described and claimed in Letters Patent No. 416,187, dated December 3, 1889. It has been found in practice that the knuckle, after being drawn open by the withdrawal or disconnection of the connecting-coupler, is apt to be closed, or partially so, by the jolting or other movement of the car, and thus be liable to breakage or other damage by the contact therewith of the engaging coupler when two cars come together; and it has been the object of my present invention to prevent any liability of such accident by providing a device to automatically open the knuckle to its limit when the cars are separated and adjustably hold the same in such open position until closed by the engagement therewith of an engaging coupler. This device consists of a weight *d*, which is supported in a position below the draw-head by means of a chain or other flexible connection *d'*, which passes through an opening a^2 in the draw-head and connects with the arm b^2 of the knuckle adjacent to its free end, as more clearly shown in Fig. 1, in such manner as to allow the weight *d* to draw the knuckle open, as shown in Fig. 3, when the latter is released by its locking-pin and adjustably hold the same in such position for engagement with a connecting-coupler without liability of its being closed by the jolting or other movement of the car.

When the knuckle is closed, the weight *d* is raised or drawn up to a position adjacent to the under side of the draw-head, as shown in Fig. 2. In the present instance, as more clearly shown in Fig. 3, I have provided the weight *d* on its upper surface with a flexible buffer *e*, formed of rubber or other suitable material, which is adapted for contact with the under side of the draw-head when the weight is drawn up suddenly by the closing of the knuckle to relieve the blow and prevent breakage to the weight or connecting-chain. It is obvious, however, that the buffer may be located on the draw-head at the point

where the weight contacts in lieu of on the weight, as shown, and perform its function equally well. The weight *d*, having connection with the arm of the knuckle by means of the flexible connection passing through the opening in the draw-head, as described, also serves as a means to hold the knuckle in connection with the draw-head and prevent loss of the same in case of the loss or removal of the pivot-pin or breakage of other supporting part.

Having thus set forth my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a car-coupling, the combination, with the draw-head provided with a rotating hook or knuckle hinged thereto, of a weight having a flexible connection with said rotating hook or knuckle in a manner to draw the same to an open or extended position, substantially as described, and for the purpose set forth.

2. In a car-coupling, the combination, with the draw-head provided with a rotating hook or knuckle hinged thereto and a device for locking said hook or knuckle in a closed position, of a weight having connection with the inner arm of said hook or knuckle through the medium of a flexible connection and adapted to draw the same to an open position when released by said locking device, substantially as described, and for the purpose set forth.

3. In a car-coupling, the combination, with the draw-head provided with a rotating hook or knuckle hinged to said draw-head and a locking device for engaging said hook or knuckle, of a weight supported by and operating through a section of said draw-head connected with the arm of said hook or knuckle through the medium of a flexible connection, substantially as described, and for the purpose set forth.

4. In a car-coupling, the combination, with the draw-head provided with a hinged hook or knuckle, of a weight having connection with the rear arm of said hook or knuckle through the medium of suitable flexible connection and a buffer for receiving the blow of said weight when contacting with the draw-head, substantially as described, and for the purpose set forth.

CHAS. H. TAYLOR.

Witnesses:
CHAS. F. DANE,
ANNIE L. HAYES.