

No. 649,010.

Patented May 8, 1900.

J. N. SWAN.
CAR COUPLING.

(Application filed Jan. 26, 1900.)

(No Model.)

Fig. 1.

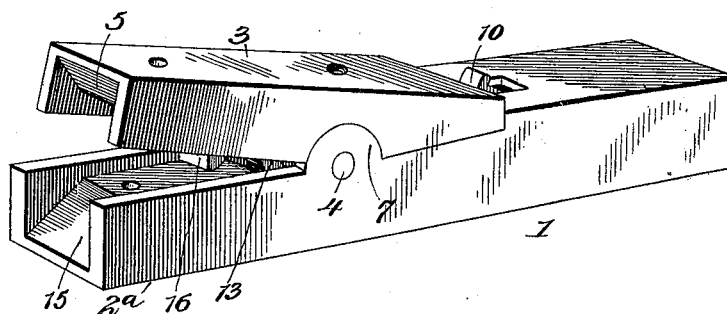


Fig. 4.

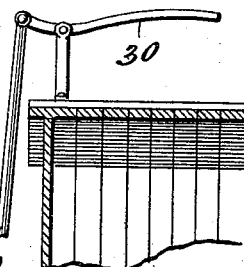
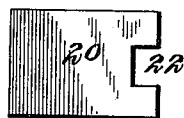
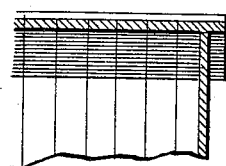


Fig. 2.

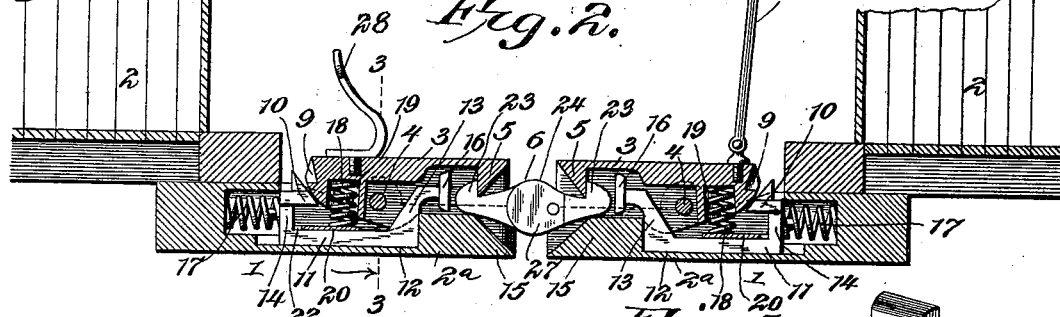


Fig. 3.

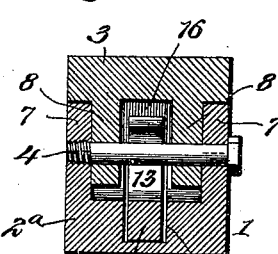


Fig. 5.

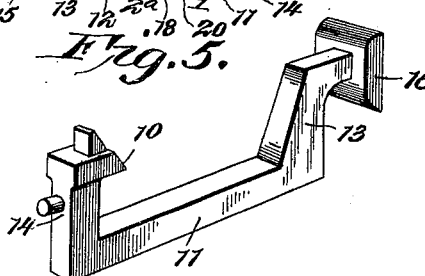


Fig. 7.

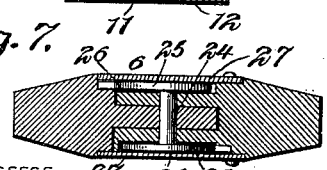
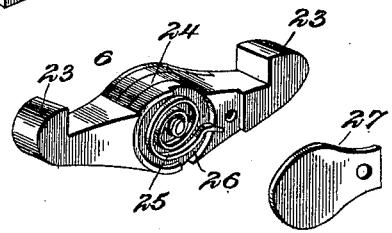


Fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN N. SWAN, OF MOUNT MORIAH, MISSOURI, ASSIGNOR OF ONE-HALF
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 649,010, dated May 8, 1900.

Application filed January 26, 1900. Serial No. 2,930. (No model.)

To all whom it may concern:

Be it known that I, JOHN N. SWAN, a citizen of the United States, residing at Mount Moriah, in the county of Harrison and State of Missouri, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car-couplings.

One object of the present invention is to improve the construction of that class of car-couplings capable of coupling automatically and of being uncoupled without going between cars and to provide a simple, inexpensive, and efficient one adapted in event of an accident of automatically uncoupling, whereby a car leaving the rails is prevented from dragging another after it.

A further object of the invention is to provide a car-coupling adapted to be locked in its uncoupling position, so that cars may be separated at any time after it has been thus set and to enable it to be coupled with cars equipped with the ordinary pin-and-link car-coupling.

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 longitudinal sectional view showing two draw-heads coupled. Fig. 3 is a transverse sectional view. Fig. 4 is detail view of the plate which forms a seat for the upright coiled spring. Fig. 5 is a detail perspective view of the spring-actuated slide or bar which locks the pivoted jaw or member of the draw-head in its open position. Fig. 6 is a detail perspective view of the link, one of the side plates being removed. Fig. 7 is a sectional view taken longitudinally of the link.

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

1 designates a draw-head designed to be mounted on a car 2 in the usual manner and composed of a lower or body portion 2^a and

an upper member or jaw 3, mounted on a transverse pivot 4 and provided at its outer end with a depending catch 5, adapted to engage a link 6. The lower or body portion of the draw-head and the upper member or jaw are provided with perforated ears 7 and 8, registering with each other and arranged in pairs for the reception of the transverse pivot 4, as clearly illustrated in Fig. 3 of the accompanying drawings. The pivot 4 is located at a point between the ends of the upper member or jaw 3, which is provided at its rear end with a recess 9, adapted, when the member or jaw 3 is arranged as illustrated in Fig. 1 of the accompanying drawings, to be engaged by a beveled catch 10 of a longitudinally-reciprocating bar 11, slidably mounted on the lower or body portion of the draw-head in a longitudinal groove or recess 12. The longitudinally-reciprocating bar is provided at its front and rear ends with arms 13 and 14, the rear arm 14 extending vertically from the body portion of the bar 11 and provided at its upper end with the beveled catch 10, as clearly shown in Fig. 5. The front arm 13, which is substantially L-shaped, extends upward and forward from the bar 11, its upper portion overhanging the solid front portion 15 of the draw-head, and the front end of the arm 13 is provided with a head 16, arranged to be engaged by the link 6, whereby when the same enters the draw-head it will engage the head 16 of the bar 11 and move the latter rearward and trip the pivoted jaw. The bar 11 is moved forward and held in position for engaging the rear end of the pivoted jaw by a horizontal coiled spring 17 engaging a lug 17^a of the rear arm 14 and mounted in the rear portion of the draw-head, as clearly shown in Fig. 2. The reciprocation of the bar 11 is limited by the shoulders at the front and rear ends of the longitudinal groove or recess 12. The lower body portion 2^a of the draw-head projects slightly beyond the upper jaw to form a bumper and also to relieve the upper jaw when two cars are coupled, whereby the upper jaw may be readily operated to effect the operation of uncoupling.

The pivoted jaw, which is recessed in rear of the catch 5 to clear the head 16, is main-

tained in engagement with the link by an upright coiled spring 18, fitting in a socket 19 of the pivoted jaw and seated on a plate 20, arranged on the upper edge of the bar 11 and the adjacent portions of the draw-head and provided with a slot or bifurcation 22 for the reception of the rear arm 14. The socket 19 depends from the rear portion of the pivoted jaw and is located in rear of the pivot, and the spring is adapted to throw the catch 5 downward into engagement with the link as soon as the latter moves the bar 11 rearward sufficiently to release the rear end of the pivoted jaw. The draw-head is provided with a flaring mouth formed by the beveled face of the solid portion 15 and the beveled face of the catch 5, and the operation of coupling is automatic, whether the pivoted jaw is raised or lowered. If the pivoted jaw is in a horizontal position, the link is adapted to engage the beveled face of the catch 5 and pass beneath the same to the position shown in Fig. 2.

The link 6, which is provided at each end with a hook or catch 23, is composed of two sections connected at their inner ends by a knuckle-joint 24 and maintained normally in alinement by a spring 25, located at each side of the link and arranged as illustrated in Fig. 6 of the accompanying drawings. The spring, which is coiled, is connected at one end to the pivot and at its other end to one of the sections. The recesses 26 are covered by removable plates 27, which protect the springs. The pivot passes loosely through the perforations of the sections of the link, being secured to the inner ends of the coiled springs, and as the outer end of one spring is connected to one of the sections and the outer end of the other spring is secured to the other section the link is normally held as shown in Fig. 6. The link coöperates with the particular construction of the draw-head and enables two cars to be automatically uncoupled should one of them through an accident have its draw-head suddenly thrown out of the plane of the draw-head of the other car. Should a car leave the rails and cause its draw-head to drop, the link will break at the joint and the upper jaw will open sufficiently to uncouple the cars, and the same operation is effected should one of the draw-heads be thrown upward or twisted in either direction. The pivotal connection between the sections of the link also permits the parts to yield to the vibration and natural vertical play of the draw-head without uncoupling.

The pivoted jaw may be provided with an arm 28, or it may be connected with a rod 29, extending to the top of the adjacent car to an operating-lever 30, which is fulcrumed on a bracket or other suitable support. The lever is adapted to depress the inner or rear end of the pivoted jaw to effect the operation of uncoupling, and the jaw will be retained in such position by the catch 10. The arm 28 may be operated by hand or any suitable means may be provided for enabling the op-

eration of uncoupling to be performed from the sides of a car.

It will be apparent that the car-coupling, which is simple and comparatively inexpensive in construction, is positive, reliable, and automatic in operation and that it is adapted to uncouple itself automatically in event of an accident to prevent one car from dragging another after it when leaving the rails. It will also be apparent that the draw-head by being provided with a coupling-pin perforation is adapted to be coupled with cars equipped with the ordinary pin-and-link coupling.

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

What is claimed is—

1. A car-coupling comprising a draw-head having a jaw pivoted between its ends and adapted to engage a link, and a sliding bar mounted on the draw-head and provided at its back with a catch arranged to engage the rear portion of the pivoted jaw, the front end of the bar being arranged to be engaged by the link entering the draw-head, whereby the jaw will be released from engagement with the said catch, substantially as described.

2. A car-coupling comprising a draw-head provided with a jaw pivoted between its ends, a reciprocating bar extending in advance and in rear of the pivot and provided at its ends with arms, the front arm being arranged to be engaged by a link, and the rear arm being provided with a catch for engaging the rear end of the pivoted jaw, and a spring for moving the bar forward or outward, substantially as described.

3. A car-coupling comprising a draw-head having a jaw pivoted between its ends and provided at its front end with a catch and having a shoulder at its rear end, a reciprocating bar provided at its front end with an arm having a head arranged to be engaged by a link, said bar being also provided at its rear end with an arm and having a catch at the end thereof for engaging the shoulder of the pivoted jaw, and a spring for actuating the reciprocating bar, substantially as described.

4. A car-coupling comprising a draw-head provided with a jaw pivoted between its ends and having a depending socket located in rear of the pivot, a reciprocating bar extending in advance and in rear of the pivot and provided with a catch for engaging the rear end of the pivoted jaw, an upright spring fitted in the socket of the pivoted jaw and engaging the latter, and a spring for actuating the reciprocating bar, substantially as described.

5. A car-coupling having a pivoted jaw and provided with a link composed of two sections provided at their outer ends with hooks for engaging the said pivoted jaw and hinged

together at their inner ends and adapted to
swing upward and downward, whereby they
are adapted to uncouple automatically when
one of two draw-heads drops below the other,
5 and a spring for holding the sections of the
link normally in alinement, 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.

JOHN N. SWAN.

Witnesses:

THOMAS ADDISON,
CHARLES J. SELLERS.