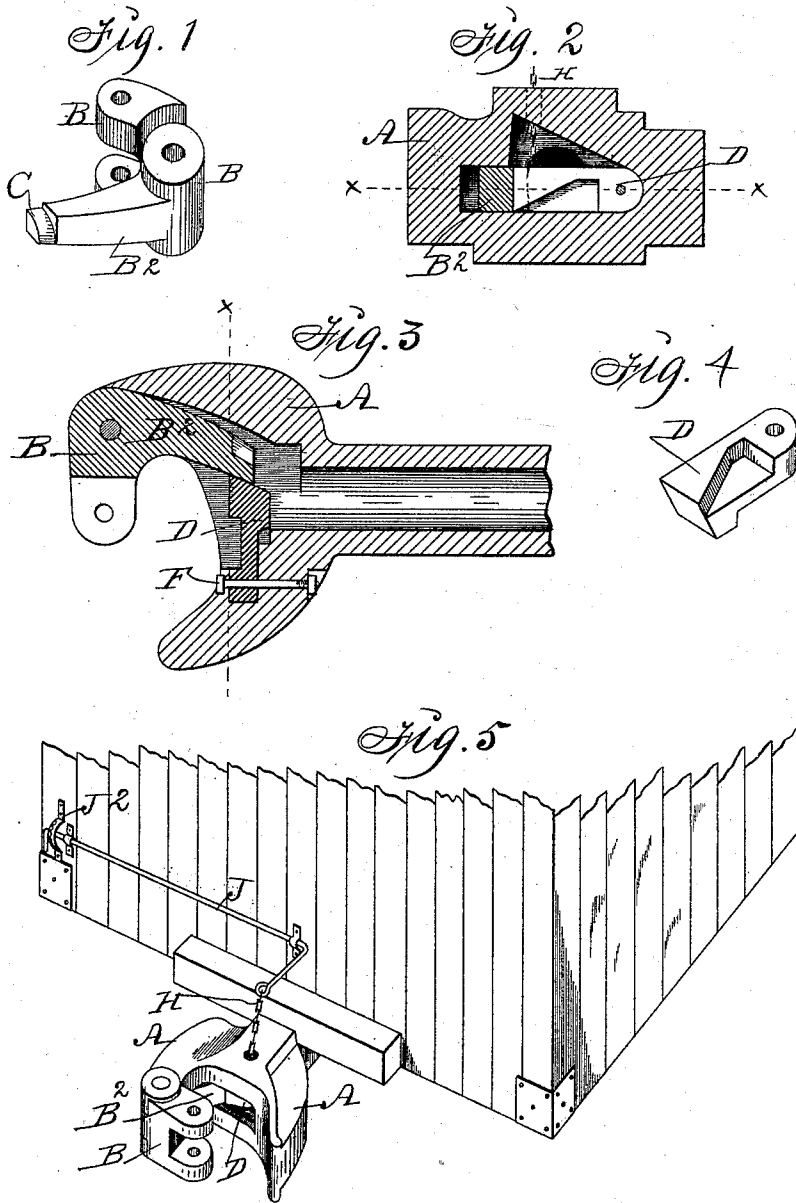


(No Model.)

C. F. SPRINGER.
CAR COUPLING.

No. 476,322.

Patented June 7, 1892.



Witnesses:

W. J. Sankey.

R. H. Orrig }

Inventor: Clifton F. Springer,

By Thomas G. Orrig, Attorney.

UNITED STATES PATENT OFFICE.

CLIFTON F. SPRINGER, OF DES MOINES, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 476,322, dated June 7, 1892.

Application filed November 12, 1891. Serial No. 411,750. (No model.)

To all whom it may concern:

Be it known that I, CLIFTON F. SPRINGER, a citizen of the United States of America, residing at Des Moines, in the county of Polk and State of Iowa, have invented an Improved Automatic Car-Coupling, of which the following is a specification.

My invention relates to that class of car-couplers in which lateral-moving hinged jaws are reciprocally engaged and extend horizontally to be lifted by the rear extension of the jaw as the jaw assumes a closed position, to allow the extremity of the jaw-extension to pass in rear of the latch, so that the latch can then by force of gravity resume its normal position and lock the jaw, as required, to prevent uncoupling.

Heretofore jaws and latches of various configuration have been combined with a draw-head and the jaw automatically locked by means of the latch; and my invention consists in the construction, arrangement, and combination of a jaw and a latch and a draw-head, as hereinafter set forth, pointed out in the claim, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a jaw, showing the rear extension and the extremity thereof adapted in shape to engage the gravitating latch. Fig. 2 is a vertical transverse sectional view of a draw-head, showing the latch in its normal position and the extremity of the rear end of a jaw engaged by the latch. Fig. 3 is a longitudinal horizontal sectional view of a draw-head looking down from the line indicated by the dotted line *xx* in Fig. 2, showing the jaw and the latch in position, as required, to retain the jaw locked. Fig. 4 is a perspective view of the latch adapted to be engaged and lifted by the rear extension of the jaw. Fig. 5 is a perspective view showing my invention applied to a car as required for practical use.

A represents the draw-head, and B the hinged jaw. The rear extension B², in combination with the main part of the jaw, forms an acute angle that allows the draw-head to be narrowed.

C is an integral cam on the extremity of the extension B², adapted to enter a cavity in a latch and to lift the latch.

D is a latch adapted to be pivoted in a cavity

in the draw-head in such a manner that it will rest upon the flat bottom of the cavity in its normal position, and also in such a manner that its inner and free end can be lifted. In the front face and lower part of the central portion of the latch is a cavity that has an inclined roof adapted to be engaged by the cam on the end of the rear extension B² of the jaw B in such a manner that the latch will be lifted thereby as the jaw is swung inward and into a closed position, as shown in Fig. 3. The front face of the free end of the latch is inclined and adapted to engage the inside face and acute angle of the extension B² of the jaw.

F is a bolt passed through a horizontal bore in the draw-head and through a coinciding perforation in the outer end of the latch D, as required to pivot the latch.

H is a chain fastened to the latch and extended up through a perforation in the draw-head and attached to the end of an arm projecting from a rock-shaft H², resting in the bearers J and J², that are fixed to the car in such a manner that a person at the side of the car can operate the shaft to thereby lift the chain and latch, as required, to unlock and free the rear extension B² of the jaw, so that when two jaws are reciprocally engaged they will separate and cars connected therewith uncoupled.

J is a rack fixed to the car to engage a handle J², that is formed on or fixed to the end of the shaft, so that the shaft will be thereby retained stationary and the latch elevated and inoperative whenever desired.

In the practical operation of my invention the cam on the end of the rear extension of the jaw enters the cavity in the latch and engages the roof of the cavity, which roof is inclined longitudinally, but extends horizontally at right angles to the perpendicular sides of the latch, so that all the pressure of the cam is directly upward, as required, to lift the latch without being subjected to any lateral pressure and such binding force as results from lateral or rearward pressure from a jaw that has an inclined face to enter, like a wedge, under a latch that has a correspondingly-inclined face to admit the wedge-shaped jaw to slip under the latch and subject it to rearward or lateral pressure while lifting the

latch. By means of the angular cavity and a solid wall at the rear side of the cavity common coupling-links are prevented from being thrust through under the latch to be clamped fast in a draw-head when a car carrying a link comes in connection with a car that is equipped with my improved coupling.

I claim as my invention—

In a car-coupling, a latch consisting of a block of metal having a cavity in its front side that is open at its bottom and closed at its rear side and has a roof that extends horizontally in a plane that is at right angles to the front face of the latch and inclined rela-

tive to the flat bottom of the cavity, in combination with a draw-head having a cavity in its front face to admit the latch to be pivoted therein, and a jaw pivoted to an extension at the front and side of the draw-head, and a rear extension of said jaw having a cam on its end adapted to enter the cavity in the latch to engage the roof of the cavity and to lift the latch in the manner set forth, for the purposes stated.

CLIFTON F. SPRINGER.

Witnesses:

J. R. ORWIG,
THOMAS G. ORWIG.