

2 Sheets—Sheet 1.

No. 551,249.

Patented Dec. 10, 1895.



INVENTOR

WITNESSES

WITNESSES
L. S. Elliott,
M. Johnson

by 

Attorney

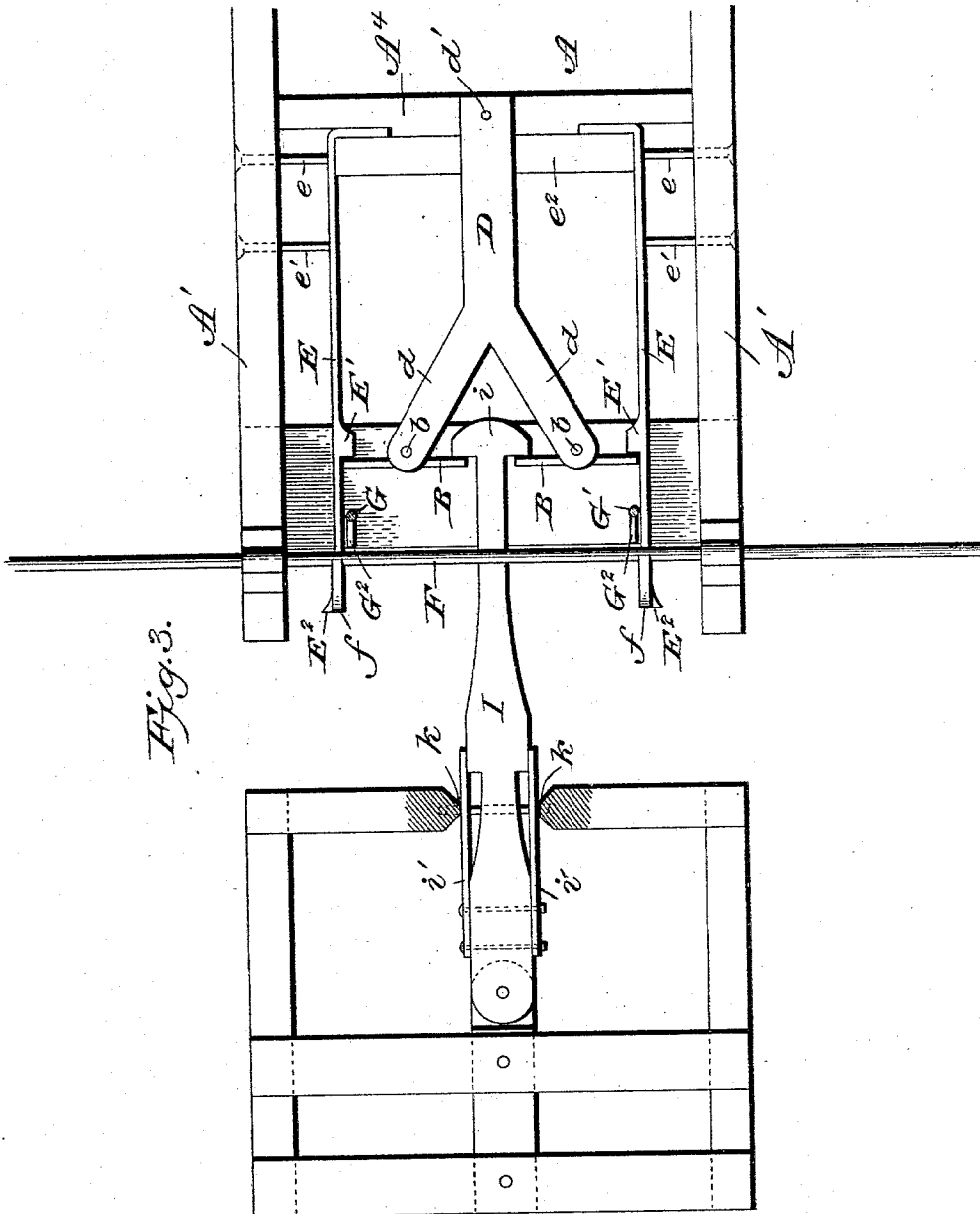
(No Model.)

2 Sheets—Sheet 2.

A. ATKINSON.
CAR COUPLING.

No. 551,249.

Patented Dec. 10, 1895.



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UNITED STATES PATENT OFFICE.

ALEXANDER ATKINSON, OF HUNTSVILLE, ALABAMA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 551,249, dated December 10, 1895.

Application filed October 5, 1895. Serial No. 564,705. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER ATKINSON, a citizen of the United States of America, residing at Huntsville, in the county of Madison and State of Alabama, have invented certain new and useful Improvements in Car-Couplings; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide an improved car-coupling which is adapted to be used in connection with a coupling-link of the arrow-head type.

The invention consists in providing the coupling-head with two pivoted plates between which the head of the coupling-link passes to engage therewith, the pivoted plates being spring-actuated and held against swinging movement in one direction by flat springs having lugs with which the plates engage, means being provided for throwing the flat springs out of engagement with the plates.

The invention further consists in the particular construction and combination of the parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of the coupling mechanism constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view, and Fig. 3 is a horizontal sectional view, showing the two coupling-heads, one having the coupling mechanism and the other the coupling-link. Fig. 4 is a detail view of the brace-plate.

A designates the coupling-head which is connected to the car in the usual manner and consists of side pieces A' connected to each other by cross-pieces A^2 , A^3 and A^4 , the cross-pieces A^3 forming the top of the coupling-head.

B B designate coupling-plates which are centrally attached to vertical shafts b journaled in the cross-pieces A^2 and A^3 of the

coupling-head, and to the upper end of the shafts are rigidly secured rearwardly-projecting plates b' having lugs b^2 at their rear ends with which springs c and c' engage to hold the coupling-plates B normally at right angles with the side pieces A' of the coupling-head. The springs c and c' are attached to the top A^3 of the coupling-head and are provided with coils, as shown. To the top A^3 are secured pins c^2 which limit the movement of the springs c in one direction, and a bail or loop c^3 which limits the movement of the springs c' .

D D designate brace-plates which are provided with diverging members d d apertured to fit over the upper end of the vertical shafts b to which the coupling-plates are attached, one of the brace-plates being located below the top of the coupling-head while the other is a considerable distance above the same, as shown more clearly in Fig. 2. The rear ends of the brace-plates are rigidly secured to the coupling-head by a bolt d' which passes through the top A^3 , cross-piece A^4 and interposed block d^2 .

E E designate flat spring bars which are located within the coupling-head and are connected to the side pieces thereof by means of screws or bolts e and e' , being connected to each other by a cross-piece e^2 into which the screws e pass. The rear ends of the bars E are bent upon the cross-piece e^2 and also bear against the cross-piece A^4 to further brace the same against rearward movement.

Near the forward end of each bar E and on the inner side thereof is formed a lug E' , and with these lugs the outer ends of the coupling-plates B engage to prevent the inner ends from swinging outwardly when the cars are coupled, the coupling-link engaging said inner ends, as hereinafter set forth. The upper part of the forward end of each flat spring-bar E is bent outwardly, as shown at E^2 , and upon the coupling-head is mounted a rock-shaft F, having projecting arms f f , which engage the curved surfaces E^2 and force the spring-bars out of engagement with the coupling-plates. The ends of the rock-shaft F extend a considerable distance on either side of

the coupling-head and are provided with crank-handles, so that said shaft can be operated from either side of the car.

In order to operate the flat spring-bars E from the top of the car, I provide two vertical shafts G and G', which are journaled in the top and bottom pieces of the coupling-head, and are provided with projecting portions or lugs G², which are adapted to bear against the bars E to move them to one side. The shafts G and G' are connected to each other by a connecting-rod g, which is connected to arms projecting from the upper ends of said shafts, so that they will be turned in unison. One of the shafts is extended to the top of the car, where it is provided with a crank-handle for operating the same. Upon the coupling-head is attached a spring-catch h, which engages a projecting portion on one of the shafts to hold the spring-bars E out of engagement with the coupling-plates to permit the coupling-link to be withdrawn.

I designate the coupling-link, which is provided with a head i, the forward end of which is rounded, and this coupling-link is pivoted to its coupling-head so as to have a limited horizontal swinging movement, being provided with springs i' which impinge against the adjacent edges k of the coupling-head, the link being cut away adjoining the springs, as shown.

This invention provides an efficient automatic car-coupling having means for uncoupling the cars from the sides and top thereof and means for holding the spring-bars so that the coupling-plates will be allowed to swing freely and permit the insertion and withdrawal of the coupling-link when it is not desired to couple the cars when they come together. It will be noted that the coupling-link can enter the coupling-head, so that the heads will abut and the shock incident to the cars coming together will not be thrown on the coupling mechanism.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupling, the combination with a coupling-head, of swinging plates B mounted therein upon vertical axes, springs for holding the plates normally on a line with each other, and flat spring bars attached to the coupling-head and provided with lugs with which the coupling-plates engage; together with means for throwing the spring bars out of engagement with the coupling-plates, substantially as shown and for the purpose set forth.

2. In a car-coupling, the combination, of the swinging coupling plates attached to vertical axes or shafts having at their upper ends rearwardly-projecting portions with lugs, springs carried by the coupling-head and adapted to engage said lugs to hold the coup-

ling-plates normally on a line with each other, flat spring bars attached to the coupling-head and provided with lugs with which the coupling-plates engage, and means for throwing the flat spring bars out of engagement with the coupling-plates, substantially as shown and for the purpose set forth.

3. In a car-coupling, the combination with the pivoted coupling-plates, of flat spring bars having outwardly curved ends and lugs with which the coupling-plates engage, and a rock-shaft F having projecting arms which are adapted to engage with the curved ends of the flat spring bars to throw them out of engagement with the coupling-plates, substantially as described.

4. In a car coupling, the combination, of the coupling-plates B pivotally supported in the drawhead and engaging means for holding them normally on a line with each other, flat spring bars attached to the drawhead and having lugs with which the outer ends of the coupling-plates engage, vertical shafts G supported in the drawhead and provided with lugs adapted to engage the flat spring bars, a rod connecting the shafts to each other, one of the shafts being extended to the top of the car, and a spring catch adapted to engage an arm projecting from one of the vertical shafts, substantially as shown and for the purpose set forth.

5. In a car coupling, the combination, of the pivoted plates B, flat spring bars E having projecting lugs E' with which the pivoted plates engage, the flat spring bars being connected to the coupling-head by screws e and e' and separated by a cross-bar e², the ends of the bars E being bent upon the cross-bar so as to bear against the cross-bar A⁴ of the coupling-head, and means for throwing the flat spring bars out of engagement with the coupling-plates, substantially as shown and for the purpose set forth.

6. In a car coupling, the combination, of the pivoted coupling-plates B provided with vertical axes having rearwardly-projecting plates at their upper ends provided with lugs; springs c and c' attached at one end to the coupling-head and provided with intermediate coils, the free ends of the springs engaging the lugs on the rearwardly-projecting plates of the coupling-plates to hold said coupling-plates normally on a line with each other; flat spring bars E attached to the coupling-head and provided with lugs with which the coupling-plates engage, and means for throwing the spring bars out of engagement with the coupling-plates, substantially as shown and for the purpose set forth.

7. In a car coupling, the combination with the coupling-plates B attached to vertical axes, of brace-plates D connected at their rear ends to the coupling-head and provided with diverging members d having apertures

through which the vertical axes of the coupling-plates pass.

8. In combination with the coupling mechanism constructed substantially as shown, of a coupling link I connected to its drawhead
5 so as to have a swinging movement thereon, and springs attached to the link and adapted to engage the adjacent edges of the coupling-

head, the link being cut away adjoining the springs, substantially as set forth.

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

ALEXANDER ATKINSON.

Witnesses:

ERNEST DEUTLER,

JACOB W. STRICKLE.