

(No Model.)

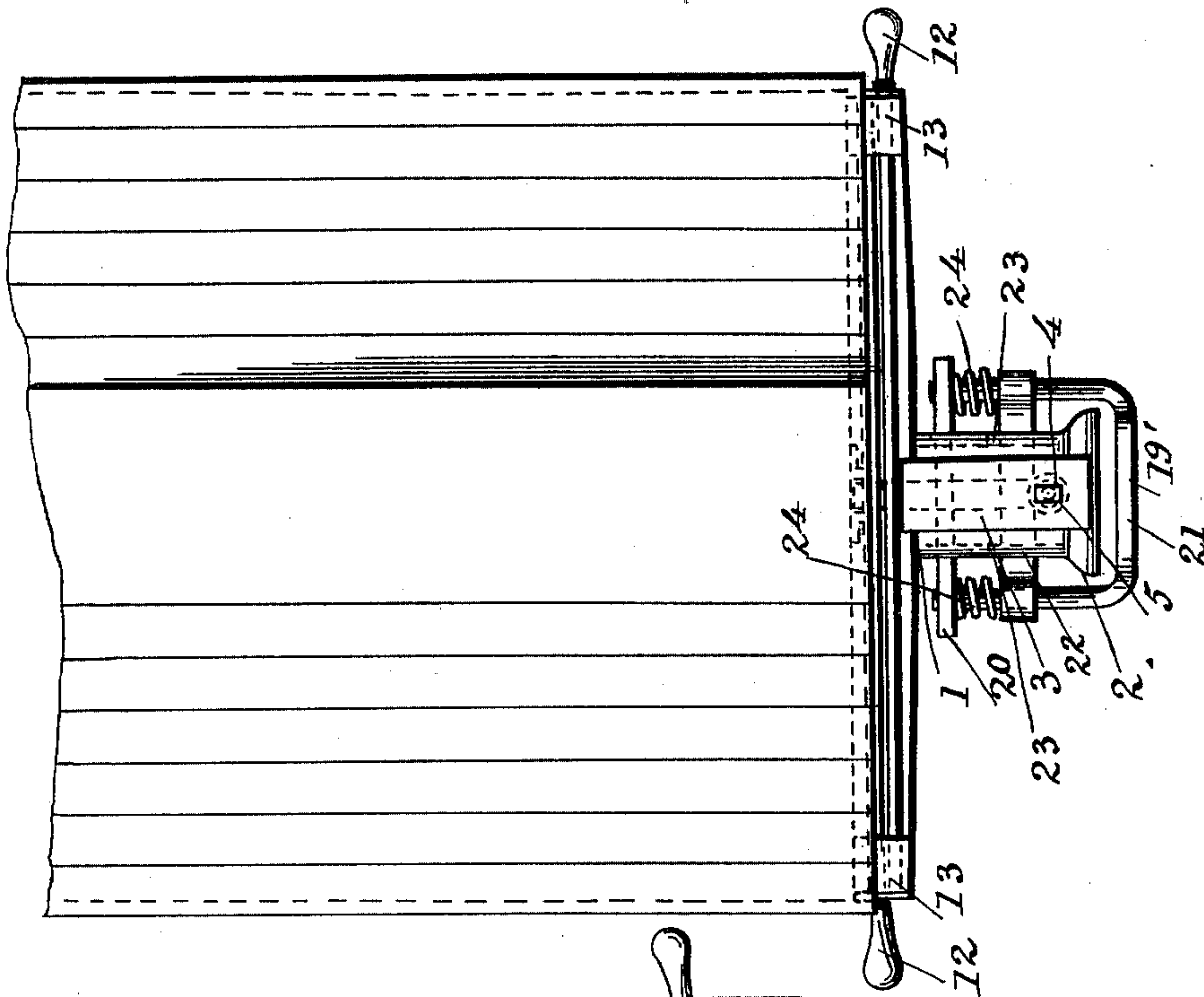
2 Sheets—Sheet 1.

R. E. BATES.  
AUTOMATIC CAR COUPLING.

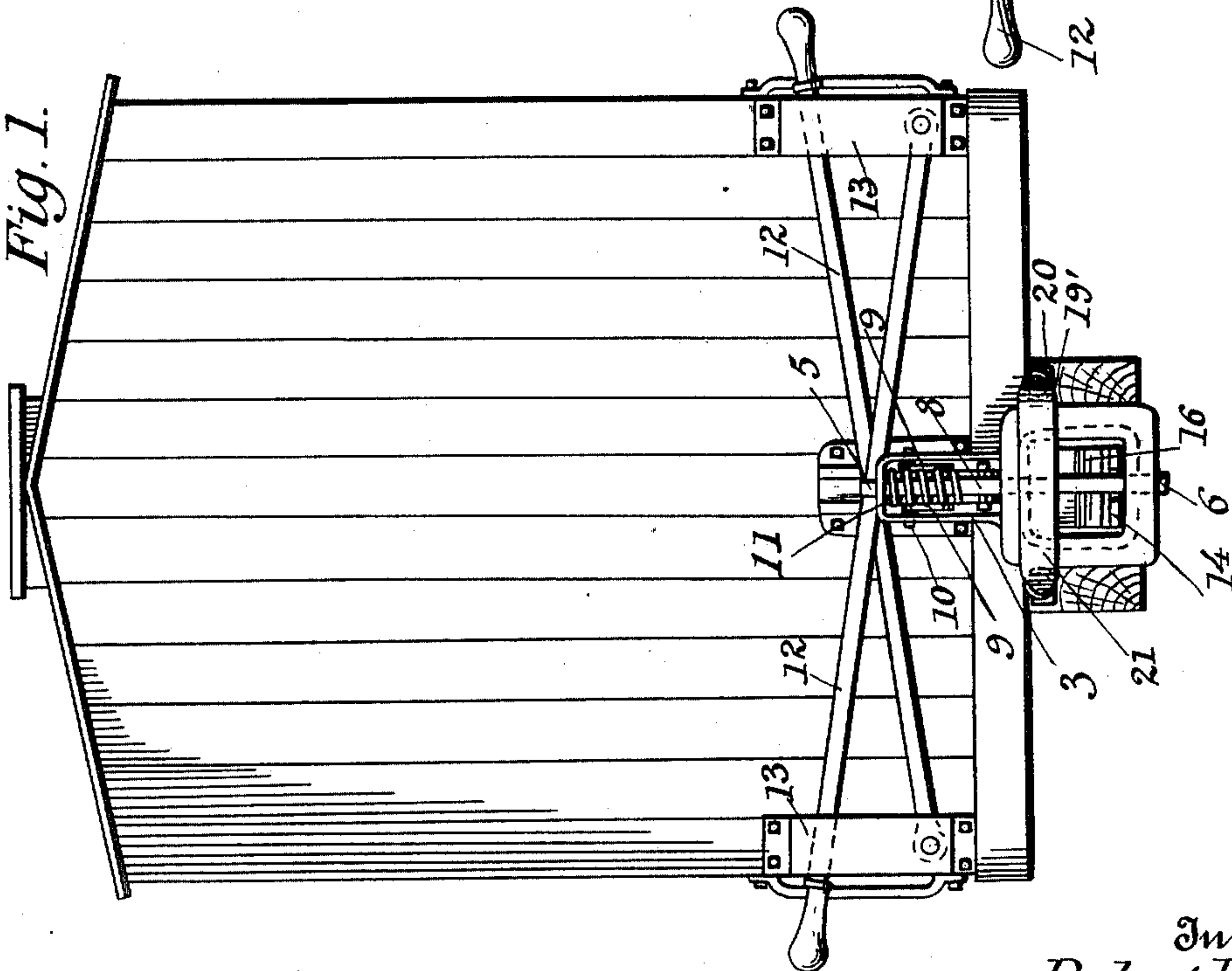
No. 592,580.

Patented Oct. 26, 1897.

*Fig. 2.*



*Fig. 1.*



Witnesses:

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Inventor:  
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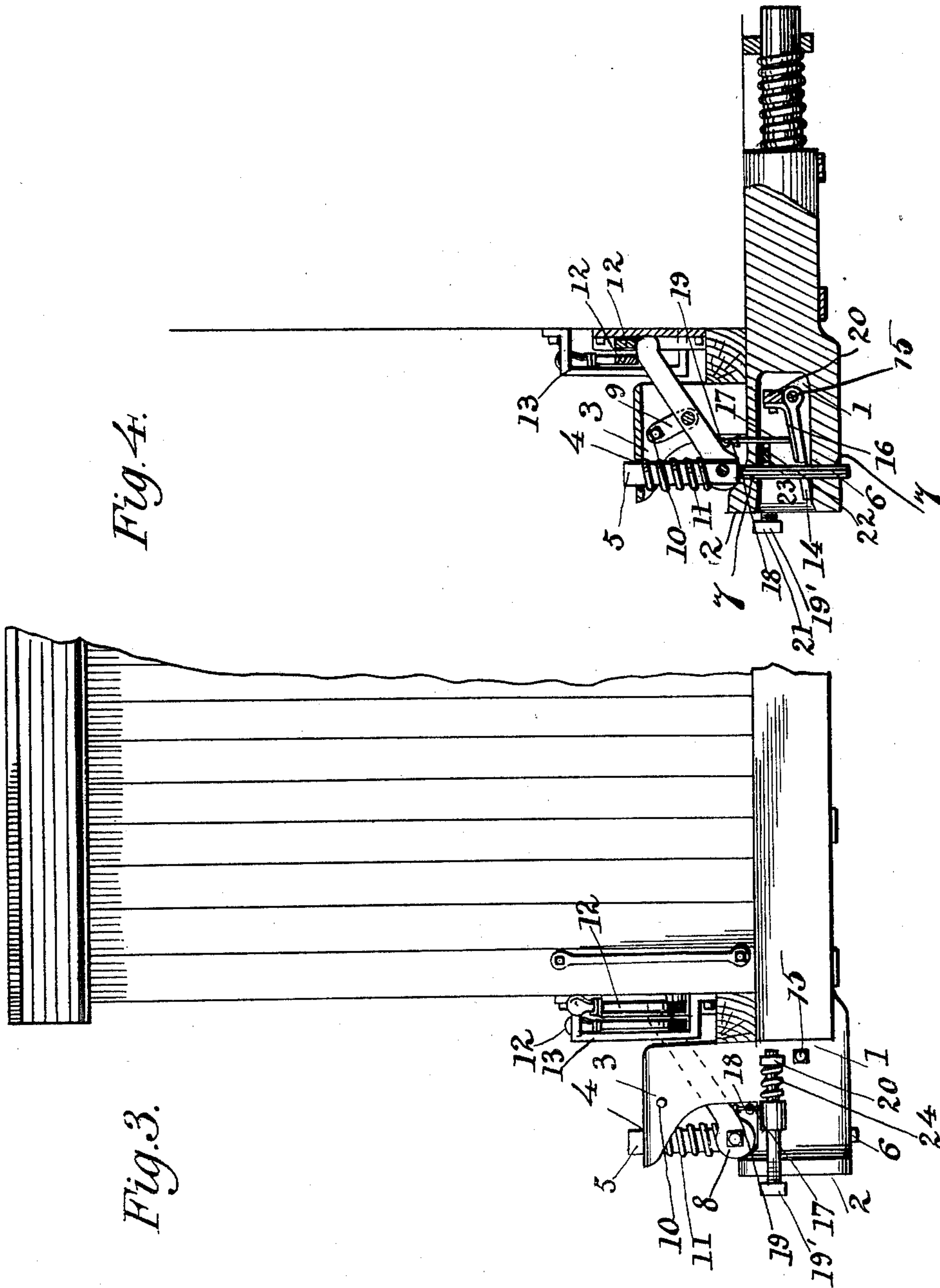
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J. A. Miller.

Inventor:  
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# UNITED STATES PATENT OFFICE.

ROBERT E. BATES, OF SPRING GREEN, WISCONSIN.

## AUTOMATIC CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 592,580, dated October 26, 1897.

Application filed July 15, 1897. Serial No. 644,692. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT E. BATES, a citizen of the United States, residing at Spring Green, in the county of Sauk and State of Wisconsin, have invented certain new and useful Improvements in Automatic Car-Couplings; and I do 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.

My invention relates to automatic car-couplings, and the object is to produce a simple, reliable, and effective device for automatically coupling cars on a straight track as well as on a curve; and to this end the invention consists in the construction, combination, and arrangement of the device, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same reference-characters indicate the same parts of the invention.

Figure 1 is a front elevation of my automatic car-coupling. Fig. 2 is a top plan view, Fig. 3 is a side elevation, and Fig. 4 is a longitudinal section, of the same.

1 represents the tubular draw-bar, provided with the usual integral flanged draw-head 2.

3 represents a bracket extending vertically from the draw-bar, and its upper forward end is provided with a rectangular orifice 4 to receive the coupling-bar 5, the lower end of which terminates in an integral coupling-pin 6, which has a vertical movement in the aligned orifices 7 7 in the draw-head 2. This coupling-bar 5 is pivoted in the forward bifurcated end of a lever 8, fulcrumed between the lower ends of the parallel straps 9 9, pivoted to a bolt 10, fixed in the upper end of the bracket.

The spiral spring 11 encompasses the coupling-bar and extends from the under side of the bracket to the top of the bifurcated end of the lever 8, so as to exert its tension to normally secure the coupling-pin in the draw-head. The rear end of the lever 8 projects into the path of two transversely-crossed hand-levers 12 12, fulcrumed on the straps 13 13, extending vertically on each side of the end of the car. It will be noted that these vertical straps 13 13 form a support for the fulcrumed point of the hand-levers and also

act as guards or guides to insure the vertical movement of said levers. A longitudinal follower 14 is pivoted on the bolt 15 in the draw-bar, and its horizontal bifurcated end extends forwardly on each side of the coupling-pin. A V-shaped leaf-spring 16, fixed in the draw-head, impinges upon the forward end of the follower to press it downward, and a rod 17, fixed to the follower, is connected by a link 18 to an eye 19 on the lever 8, so as to insure a simultaneous movement of the follower with said lever. A rectangular yoke 19 is mounted in a horizontal cross-bar 20, fixed in the rear end of the draw-bar, its forward end terminating in a cross-head 21, which extends across the face of the upper end of the draw-head 2 so as to project into the path of the corresponding draw-head on the opposite car. A horizontal plate 22 extends through the aligned longitudinal slots 23 23 in the draw-bar, and its outer ends are fixed to the parallel arms of said yoke. This horizontal plate working through the slots in the draw-bar forms a guide for the end of the yoke, and it is also adapted to project into the path of the coupling-pin to retain it in an elevated position when the cars are about to be coupled.

24 24 represent spiral springs encompassing the parallel arms of the yoke 19 between the outer ends of the plate 22 and the projecting ends of the cross-bar 20, the tendency of which is to press the forward end of the plate against the coupling-pin, so that if the coupling-pin be raised the plate will be projected into its path and supported in elevated position. In doing this the spiral springs project the cross-head of the yoke beyond the face of the draw-head and into the path of the corresponding draw-head on the opposite car, so that if a link in the draw-head of the opposite car be inserted into the draw-head 2 the draw-head of the opposite car will abut against the cross-head of the yoke, press it backward, carrying with it the plate 22, which slides from under the coupling-pin and allows the spiral spring 11 to force the coupling-pin through the link and couple the cars. If either of these levers 12 12 be drawn downwardly, they will carry with them the rear end of the bifurcated lever 8, which raises the



coupling-pin. An ordinary coupling-link may then be inserted in the draw-head under the follower. If the hand-levers be released, the coupling-pin will pass through the link, 5 and at the same time the bifurcated end of the follower will press the rear end of the link against the bottom of the draw-head, and thus sustain the link in a horizontal position ready for insertion into the opposite 10 draw-head when the cars come together. The friction of the follower on the coupling-link due to the leaf-spring is sufficient to hold it in any position into which it may be adjusted, so that if the cars are to be coupled on a 15 curve the forward end of the link may be turned to the right or the left to correspond to the curve on which the cars are being coupled.

Although I have specifically described the 20 construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as will clearly fall within the scope of my invention 25 without departing from the spirit thereof.

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

30 1. An automatic car-coupling, comprising the tubular draw-bar 1, the vertical bracket 3, fixed thereto, the integral coupling bar and pin having a vertical movement in said draw-bar and bracket, the bifurcated lever 8 piv- 35 oted to said coupling-bar and fulcrumed in the parallel straps 9 9, pivoted in said bracket and having its rear end projecting into the

path of the transversely-crossed levers 12 12, substantially as shown and described.

2. An automatic car-coupling, comprising 40 the tubular draw-bar 1, the vertical bracket 3, fixed thereto, the integral coupling bar and pin having a vertical movement in said draw-bar and bracket, the bifurcated lever 8 piv- 45 oted to said coupling-bar and fulcrumed in the parallel straps 9 9, in combination with the follower 14, fulcrumed on the bolt 15, in said tubular draw-bar and its bifurcated forward end extending on each side of the coupling-pin, and connected to said bifurcated 50 lever by a line 18 so as to move simultaneously with said bifurcated lever, substantially as shown and described.

3. An automatic car-coupling, comprising 55 the tubular draw-bar 1, the vertical bracket 3, fixed thereto, the integral coupling bar and pin having a vertical movement in said draw-bar and bracket, the bifurcated lever 8 piv- 60 oted to said coupling-bar and fulcrumed in the parallel straps 9 9, pivoted in said bracket and having its rear end projecting into the path of the transversely-crossed levers 12 12, in combination with the follower 14, the V- 65 shaped spring 16 engaging said follower, and the yoke 19, the horizontal plate 22, fixed thereto and spiral spring 11 encompassing the parallel arms of said yoke, substantially as shown and described.

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

ROBERT E. BATES.

Witnesses:

JOSEPH REÜSCHLEIN,  
MICHAEL BUIRK.