

(No Model.)

J. S. BOYD.
CAR COUPLING.

Patented Jan. 28, 1896.

No. 553,505.

Fig. 1.

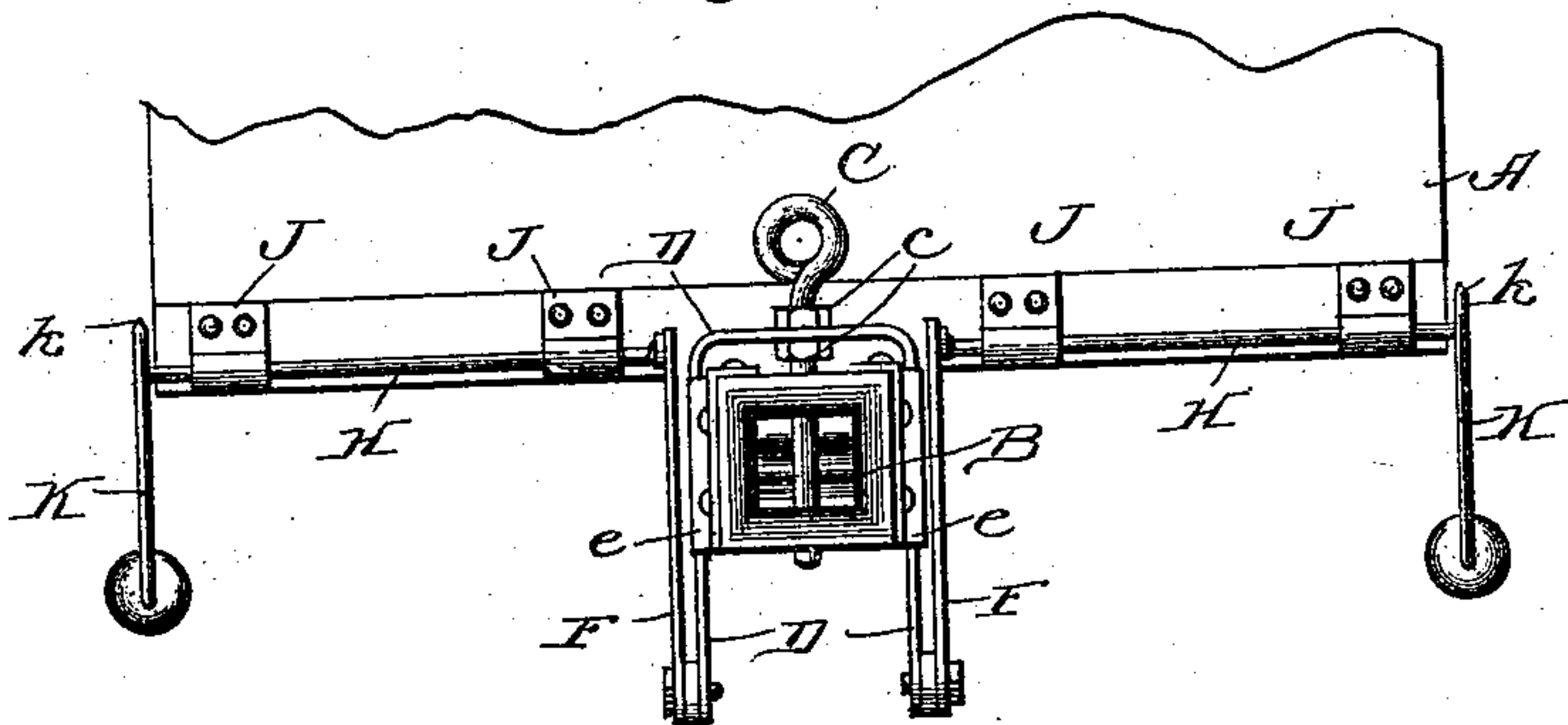


Fig. 2.

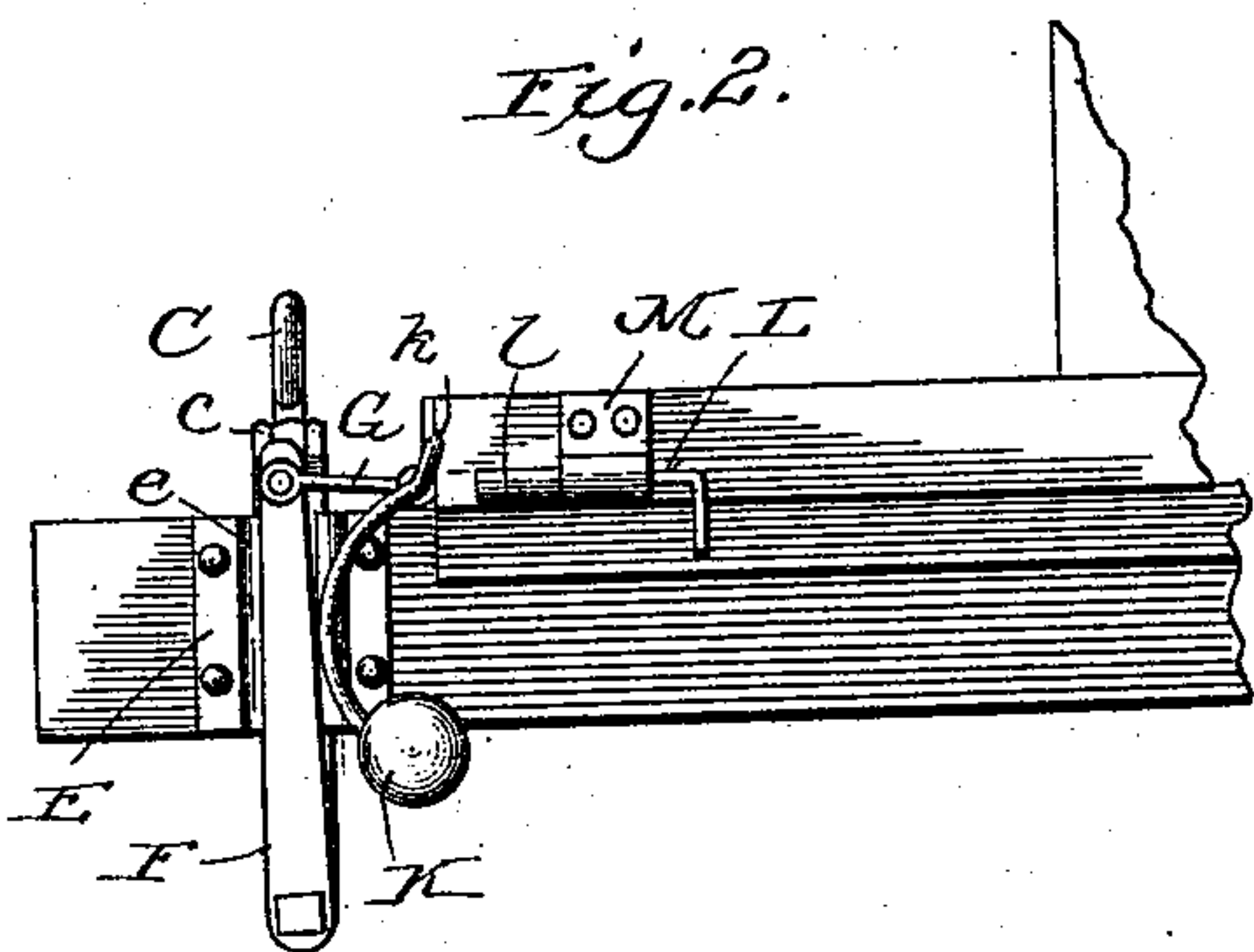


Fig. 3.

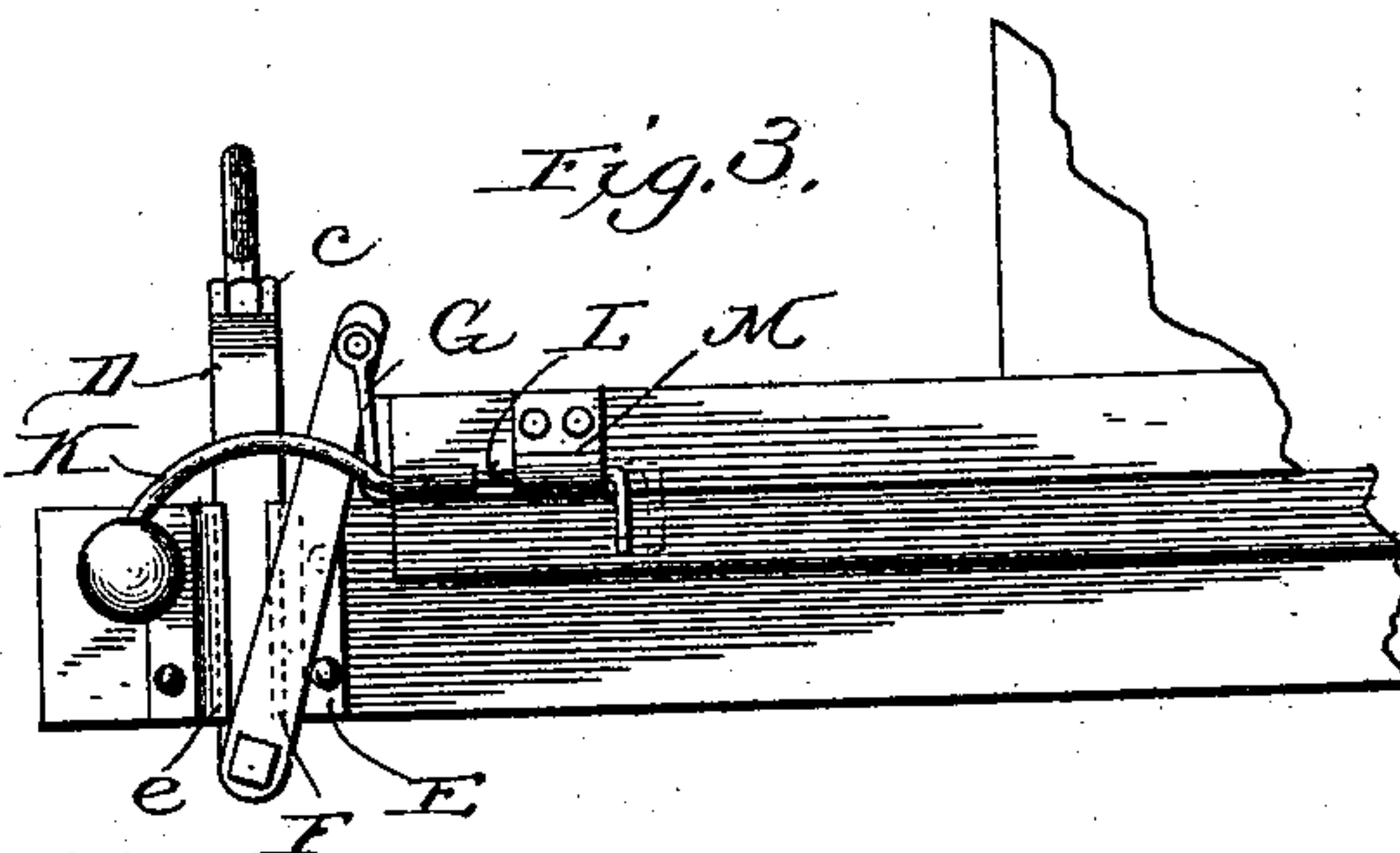


Fig. 4.

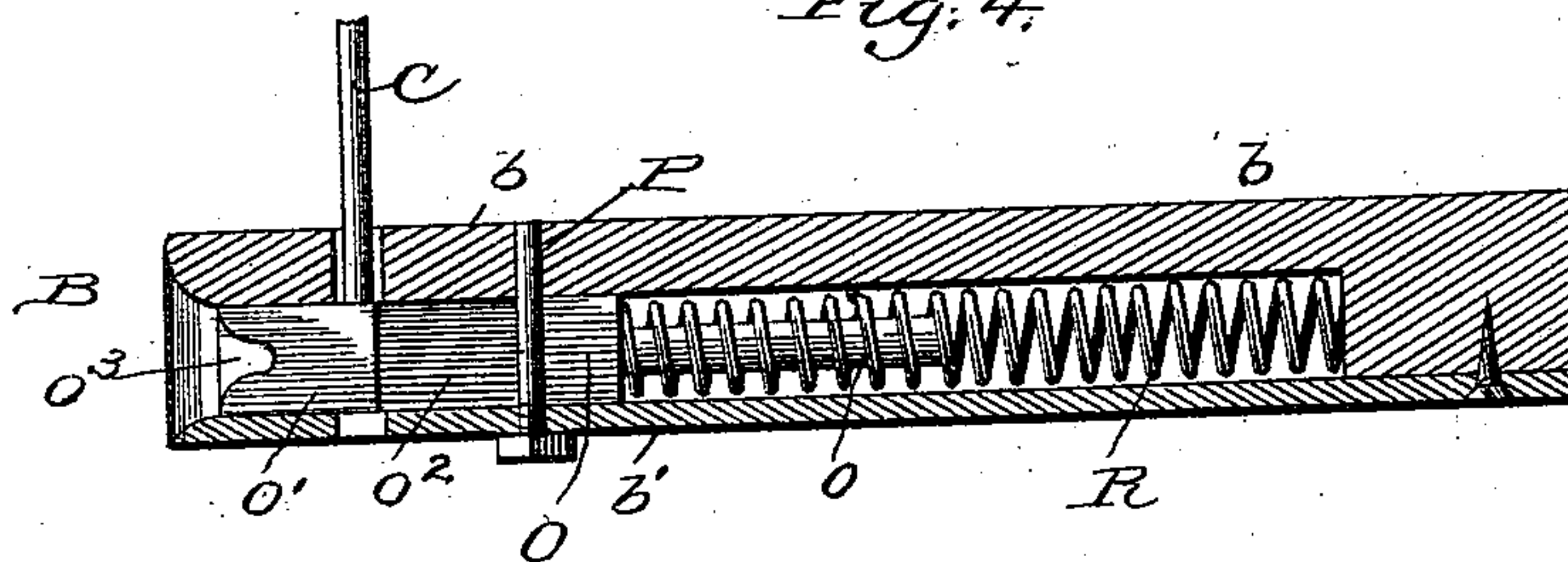
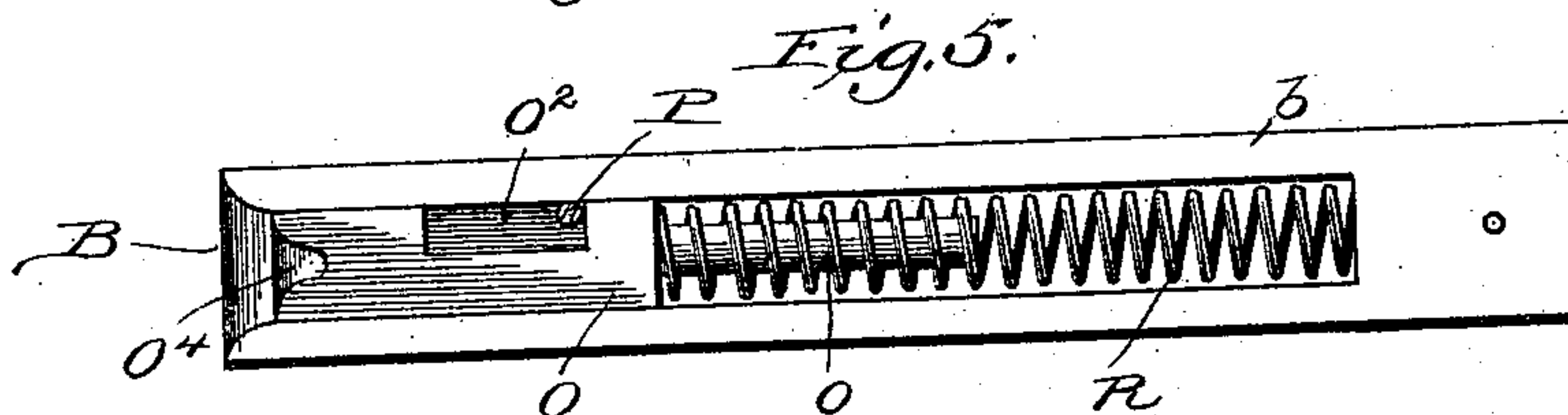


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES S. BOYD, OF GREENVINE, TEXAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 553,505, dated January 28, 1896.

Application filed May 28, 1895. Serial No. 550,928. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. BOYD, a citizen of the United States, residing at Greenville, in the county of Washington and State of Texas, have invented certain new and useful Improvements in Car-Couplers; 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.

My invention relates to automatic link-and-pin car-couplers, and my object is to provide improved means for operating said couplers from either side of a car, and avoid the danger incident to passing between the cars to couple or uncouple the same.

It is also my object to provide an improved automatic coupler which shall be adapted to couple cars having draw-bars of unequal height.

It is also my object to provide an automatic car-coupler of this description with means for rendering the same non-automatic in action when it is desired to back and shift the cars without coupling the same.

In the accompanying drawings, forming a part of this specification, my invention is shown as applied to a platform-car, in which—

Figure 1 is a front elevation of the end of a car, showing my coupler and its attachments applied thereto and coupled with a link. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation, partly in section, showing the position of the parts when the coupling-pin is stayed from automatic coupling. Fig. 4 is a central vertical section of the draw-head and draw-bar, and Fig. 5 a bottom plan view of the same with the bottom plate detached.

Referring more particularly to the drawings, A denotes the car-body.

B denotes the draw-head having beveled jaws and the usual perforations for the coupling-pin. Said draw-head may be formed integral with the draw-bar, and consists of two pieces *b* and *b'*, the former being of an inverted trough shape, and the latter serving as a bottom plate or closure for the same and secured in place by screws in order that it may be readily detached for the inspection and repair of the parts housed within the draw-head.

C denotes a coupling-pin having its upper end bent over to form a head and eye. *c c* denote nuts which engage with a thread cut on said pin and serve to hold said pin in position and permit its removal when worn or broken.

D denotes a yoke perforated midway of its horizontal portion to admit the passage of the coupling-pin, and mounted by its side arms to the sides of the draw-head in brackets E E, having vertical guides or ways *e e*.

F F denote arms pivoted at their lower ends to the lower ends of the yoke. The upper ends of said arms are pivoted to cranks G G, rigidly secured to or formed integral with rockshafts H H, which are mounted to the end sills or other convenient point, depending upon the construction or character of car. J J denote metal plates secured to said sills, doubled and bent to form bearings for said rockshafts. K K denote hand-levers rigidly secured to said shafts or formed integral therewith and provided with rearwardly-extending bolts *k k*, rigidly secured thereto. Said hand-levers are arc-shaped and extend forward and downward from the end of a car. Their free ends are weighted by metal knobs, which also serve as handles.

L L denote arms adapted to slide longitudinally in bearings M M, formed of metal plates, secured to the sides of the car or other convenient place. Said arms have their rear ends bent at right angles and project downward, forming handles for operating the same. The forward ends of said arms are provided with sleeves *l l*, rigidly secured to the same, projecting outwardly therefrom and adapted to fit over the bolts *k k* when the hand-levers are turned up.

O denotes a sliding block, (shown in Fig. 5,) formed of a tailpiece *o* and head-piece *o'*, having a recess *o²* in the central portion of the block. The tailpiece is tapered and provided with a shoulder, and the face of the block is dished and provided with a horizontal groove *o³* for the entrance of the link. *o⁴ o⁴* are two short vertical depressions arranged at right angles to said groove across the face of the block and serve as bearings for the coupling-pin.

P denotes a bolt screw-threaded near its head and secured through the bottom plate *b*.

Said bolt projects into the recess o^2 , serving to limit the forward and backward movement of the sliding block.

5 R denotes a coiled spring mounted in the rear end of the draw-head, its forward end encircling the tailpiece and abutting the shoulder thereof. Said spring serves to press the sliding block forwardly into the jaw or throat of the draw-head.

10 By beveling the jaws of the draw-head and providing the dished face of the sliding block with the groove o^3 and depressions $o^4 o^4$, I am enabled to present the link either in a horizontal plane or raise it above or depress it
15 below said plane, and in either event the pressure of the sliding block forcing the rear end of the link against the pin will hold said link in the position presented. Thus said block acts as a link-support and holds the
20 same while the cars are being coupled either in a horizontal position or at an angle when so adjusted for coupling cars having draw-heads of unequal height. Again, the depressions $o^4 o^4$ afford a greater contact-surface between the pin and dished face, avoid-
25 ing sharp edges and consequent wear upon the parts. Moreover, these depressions allow the pin to drop sooner and avoid the liability of the link rebounding from the draw-head
30 before the pin falls.

It will be seen that the several parts of my coupling and its attachments are constructed of detachable sections, which may be readily duplicated and renewed when worn or
35 broken without detaching or removing adjacent parts.

My coupler and attachments operate as follows: When it is desired to stay the pin or prevent it forming a coupling with a link of
40 an approaching car, the hand-levers are raised to the position shown in Fig. 3. This

movement will cause the bolts $k k$ to turn backward until they are presented opposite the sleeves $l l$, when by pushing the arms
45 $m m$ forward said sleeves will engage the bolts and lock the parts together. Fig. 4 shows the position of the parts when the coupling is free to couple automatically. The link of the approaching car forces the sliding block back into the draw-head against
50 the pressure of the coiled spring until said block clears the pin C, when it will drop instantly into the jaws of the draw-head and confine the link. To withdraw the pin and release the coupling it is only necessary to
55 raise the hand-levers from either side of the car to the position shown in Fig. 3. This will cause the crank-arm to turn up and backward and elevate the pivoted arms F F, which in turn elevate the yoke and pin. 60

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

In an automatic link and pin car-coupler, the combination of the sliding-block, the
65 coupling pin normally resting thereon, the yoke rigidly secured to said pin and mounted in vertical guides to the sides of the draw-head, the arms F F pivoted to said yoke, the rock shafts having cranks pivoted to said
70 rods and hand levers for operating said cranks, bolts rigidly secured to said hand levers adapted to turn rearwardly, and means for locking said bolts whereby the coupling pin is stayed in an elevated position. 75

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

JAMES S. BOYD.

Witnesses:

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D. C. GIDDINGS.