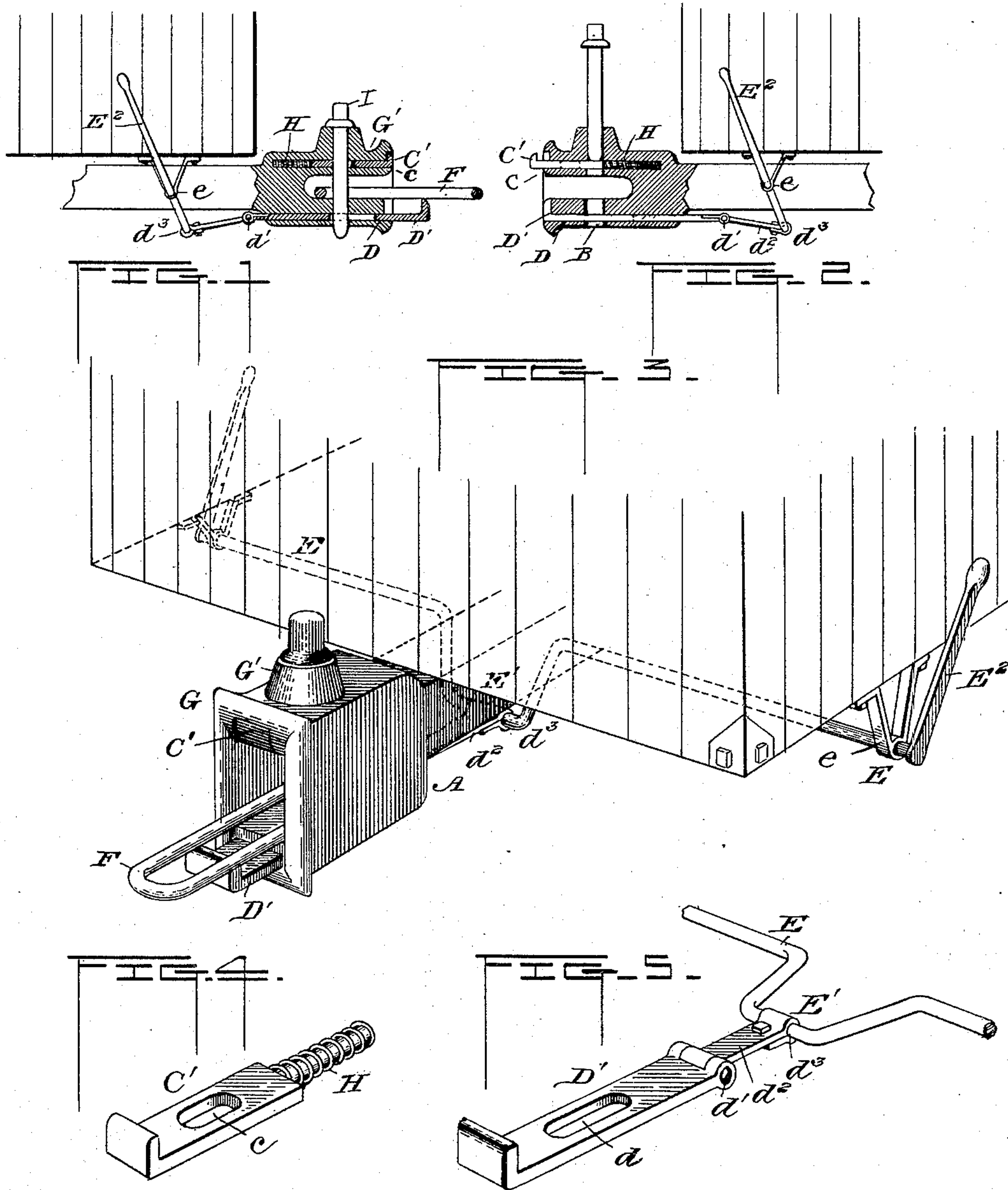


(No Model.)

G. C. SPRENG & J. C. SMITH.  
CAR COUPLING.

No. 477,466.

Patented June 21, 1892.



Witnesses

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# UNITED STATES PATENT OFFICE.

GEORGE C. SPRENG AND JOHN C. SMITH, OF AKRON, OHIO.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 477,466, dated June 21, 1892.

Application filed March 5, 1891. Serial No. 333,838. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE C. SPRENG and JOHN C. SMITH, citizens of the United States of America, residing at Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Draw-Heads and Automatic Car-Couplings; and we do hereby declare that the following is 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.

Our invention relates to improvements in draw-bar heads, which, for brevity, is called throughout the specification "draw-heads" and automatic car-couplings.

The object of the invention is to provide rail-cars with a draw-head of novel construction whereby the coupling of cars may be rendered wholly automatic, using the same link-and-pin couplings now in common use.

The invention consists in the novel construction of the draw-head in combination with the other parts, as shown and described in the annexed drawings, in which—

Figures 1 and 2 are sectional side elevations of adjacent draw-heads containing our improvements and in position as they would be for coupling by bringing said draw-heads together. Fig. 3 is a perspective view of same as attached to a car. Fig. 4 is a plan view and in detail of the pin-supporter, and Fig. 5 is a plan view and in detail of the link-supporter and its attachments.

C', the pin-supporter, is adapted to move backward and forward in the recess C. It is rounded at one end, forming a shoulder around and against which the spring H is adapted to operate, so that whenever the pin I is raised said spring forces C' forward to the front, so that the hole B is covered, the slot c being carried forward so as not to coincide with B, the point of the pin standing upon and being supported by C', as shown in Fig. 2.

C' is provided with the slot c, and its front end is turned to one side, forming a square shoulder, as shown, and whenever it is forced forward to the front it projects slightly beyond the face of the draw-head A, as shown in Fig. 2. The contact of opposing draw-heads will force C' back into the recess C, as shown in Figs. 1 and 3.

D' is a link-supporter adapted to operate in the recess D by means of its connection to and with the crank E', the shaft E, the arm E<sup>2</sup>, the pitman d<sup>2</sup>, all connected, as shown. D' is also provided with the slot d, which leaves it free to move back and forth without obstruction from the pin I. It is also provided with the hinge d', its opposite end being turned up, forming a square shoulder, as shown. By turning the lever E<sup>2</sup> back D' will be thrown forward in the slot D, its end projecting and supporting the link F in position, as shown in Figs. 1 and 3, to enter the opening in the opposing draw-head. The contact of the draw-heads when brought together will carry D' back to the position, as shown in Fig. 2.

E is a rod or shaft extending across the end of the car and attached thereto by the brackets or bearings e. It is bent in the center to form the crank E' and at its ends to form the levers E<sup>2</sup>.

The pitman d<sup>2</sup> is connected to D' by the hinge d' and to the crank E' by the hinge d<sup>3</sup>, and by the combination D' can be moved forward at pleasure to support the link F by means of the levers E<sup>2</sup>, placed at either side of the car.

The operation of coupling cars by the use of our device is extremely simple. The several parts having been provided and put in position, as shown and described, to prepare for coupling cars, the lever E<sup>2</sup> is thrown back, which brings D' forward, supporting the link F, as shown in Figs. 1 and 3, raise the pin I, and the spring H pushes forward the pin-supporter C', and I will stand thereon, as shown in Fig. 2. Now it is obvious that when the opposing draw-heads are brought together the link F will enter the opening in the opposite draw-head and that C' will be forced back in the recess C by the contact of the draw-heads, bringing the slot c to coincide with B, when the pin I must fall through the link F, coupling the cars.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent in an improved draw-head and automatic car-coupler, is—

1. The combination, in the same construction, of a draw-head provided with a slide or pin-support placed in a recess-opening on the



face of the draw-head above the usual throat or opening, and a sliding link-supporter placed in a parallel recess below the usual throat or opening, said lower recess opening 5 on the face of and extending through to the rear of the draw-head, said pin-support having a slot and being actuated by a spiral spring whenever the coupling-pin is removed, said link-supporter being connected through 10 the open recess to the rear by a hinge and pitman to a crank and being actuated by a lever, as and for the purposes substantially as set forth and described.

2. The combination, in an improved draw- 15 head and automatic car-coupler, of a draw-head provided with parallel recesses above and below the usual throat or opening, the upper recess being provided with a slide or pin-support actuated by a spiral spring, said 20 slide being provided with a slot, and the lower recess extending entirely through from the face to the rear end of the draw-head and

provided with a link-support connected by a hinge and pitman through the opening at the rear to a crank and actuated by a lever, as 25 and for the purposes substantially as set forth and described.

3. An improved draw-head provided with a recess above the usual throat or opening, carrying a slide or pin-support, said slide being 30 actuated by a spiral spring, said draw-head being also provided with a parallel recess below the usual throat or opening, adapted to carry a link-supporter, being connected to the rear through said recess to a shaft and crank 35 by a hinge and pitman, as and for the purposes substantially as set forth and described.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE C. SPRENG.

JOHN C. SMITH.

Witnesses:

HARVEY MUSSER,  
E. M. SPRENG.