C. HALL.

CAR-COUPLING.

No. 192,503. Patented June 26, 1877.

Fig. 1.

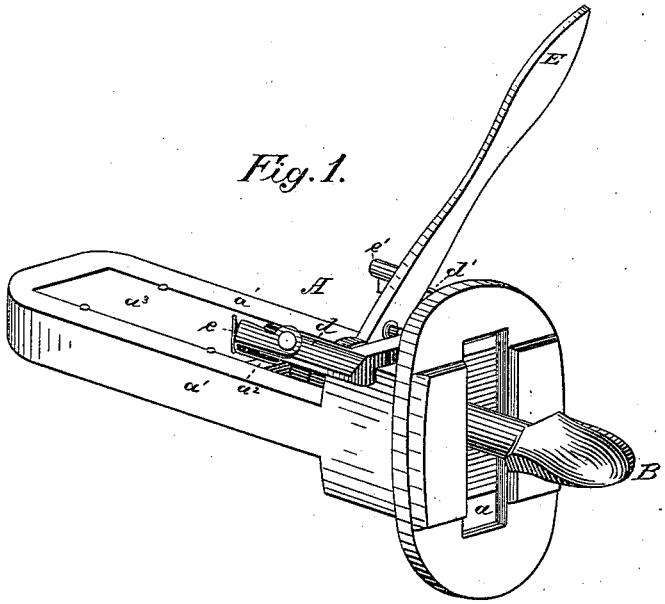


Fig. 3.

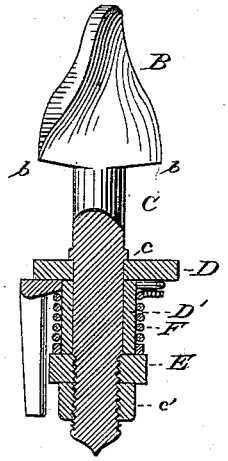


Fig. 4.

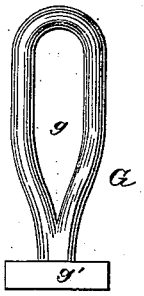
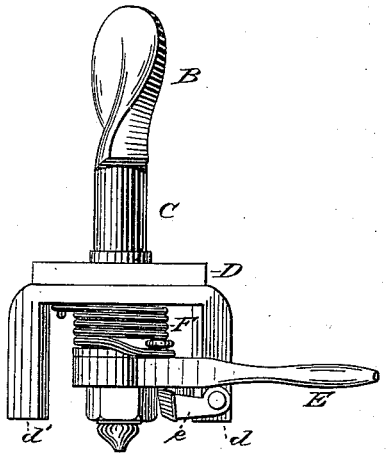


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHANCEY HALL, OF WASHINGTON TOWNSHIP, MACOMB COUNTY, ASSIGNOR OF ONE-HALF HIS RIGHT TO DANIEL WOODIN, OF ROMEO, MICHIGAN.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **192,503**, dated June 26, 1877; application filed October 1, 1875.

To all whom it may concern:

Be it known that I, CHANCEY HALL, of the township of Washington, in the county of Macomb and State of Michigan, have invented a new and useful Improvement in Car-Couplings; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a view, in perspective, of a single draw-head, with the spiral coupling-hook and operating mechanism in position; Fig. 2, a separate top view of the spiral coupling-hook and its supporting frame or box; Fig. 3, a central vertical section of the same; and Fig. 4, a view of the link used to couple with the ordinary link-and-pin draw-head.

The object I have in view is an automatic car-coupling which will be simple in construction, may be arranged so as to allow the cars to come together without locking, and can be conveniently adapted to couple with the ordinary link-and-pin coupling; and my invention therein consists, first, in the peculiar removable frame or box which supports the spiral coupling-hook and its operating mechanism; secondly, in the combination of the parts for operating the spiral coupling-hook; and, further, in the peculiar link for use to couple with the ordinary link-and-pin draw-head.

In the drawings, A represents the draw-head, having in its face a vertical slot or opening, *a*. The sides a^1 of the draw-head extend backward, leaving an open rectangular space between them to the rear of the vertical slot, which space is terminated by a cross-bar, a^2, connecting the side pieces. This cross-bar a^2 is backed up by a block, a^3, of wood or other suitable material, secured between the side pieces. B is the spiral coupling-hook, which is formed spear-shape on the end of its bar or bolt C, and is twisted into the spiral form shown. At the widest part of the coupling-hook (its inner end) are formed two square shoulders, *b*, which engage, when coupled, with shoulders on the interior of the opposing draw-head to each side of its vertical slot or opening. The bolt C passes through the rectangular plate D of a supporting-frame, and through a sleeve, D′, secured centrally to the back of such plate, and is journaled at its rear end, when in position, in the cross-bar a^2. The bolt is provided with a shoulder, *c*, which bears against the face of the plate D, while the end of the bolt projecting through and beyond the sleeve is screw-threaded. Upon this screw-threaded end the shank of the lever E is turned, and is held securely in position by a nut, *c*′. F is a spiral spring, coiled around the sleeve D′, and secured at one end to the lever E and at the other to the plate D, so as to throw such lever to the right (facing the coupling) and hold the spiral hook in the position shown in Fig. 1. Two rearwardly-projecting arms, *d d*′, are attached to the top of the plate D, to limit the movement of the lever in either direction. The lever is thrown by the spring against the arm *d*′, and a catch, *e*, is secured to the arm *d*, which hooks over a pin, *e*′, on the lever, to hold such lever to the arm *d*, when desired. The coupling-hook with its bolt, supporting-frame, and operating-lever, can be easily removed from the draw-head by throwing the lever against the arm *d* and securing it by the catch *e*. This movement turns the spiral hook into a vertical position, and allows the same to be drawn backwardly through the slot and lifted from the draw-head.

In use, when it is desired to couple two cars, the draw-head of one car is provided with the spiral coupling-hook, while the opposing draw-head has the said coupling-hook and accompanying mechanism removed therefrom, or is constructed substantially like the draw-head before described. The lever and spiral hook rest in the position shown in Fig. 1. The two draw-heads coming together, the point of the spiral hook enters the vertical slot in the other draw-head, and, from its form, turns itself into a vertical position and passes through the slot, when the spring again throws it into a horizontal position, and locks the draw-heads. When it is desired to uncouple, the lever is thrown over and caught against the arm *d*, holding the hook in the position shown in Fig. 2, and allowing the same to pass freely through the slot of the opposing draw-head. If it is desired to have the

cars come together without coupling, the lever is secured in the position shown in Fig. 2. When it is found necessary to couple my improved coupling with an ordinary link-and-pin draw-head, the spiral hook and supporting-frame are removed from the draw-head, and the link G, Fig. 4, put in their place. This link has a body, *g*, oblong in form, which is secured at one end to a rectangular iron plate, *g'*. The body of the link is passed through the slot from the rear, and turned so as to rest in a horizontal position, with the plate bearing against the shoulders on each side of the vertical slot. In this position the link can be used to couple with the ordinary link-and-pin coupling.

Having thus fully described my car-coupling, what I claim as new therein, and desire to secure by Letters Patent, is—

1. The combination, with the draw-head A, having the vertical slot *a* and a space to the rear of the same, of the spiral coupling-hook B and its supporting-frame, when the said hook and frame are adapted to be entirely removed from the draw-head, substantially as described and shown.

2. In a car-coupling, the combination, with the draw-head, of the spiral coupling-hook B, bolt C, lever E, and spring F, substantially as described and shown.

3. The combination, with the spiral coupling-hook, bolt C, and spring F, of the lever E and catch *e*, substantially as described and shown.

4. The link G, for the purpose set forth, having the oblong body *g*, having an uninterrupted opening extending the whole length of the same, and the rectangular plate *g'*, secured to one end of said body, constructed and arranged substantially as described and shown.

CHANCEY HALL.

Witnesses:
T. A. SMITH,
JOHN W. HALL.