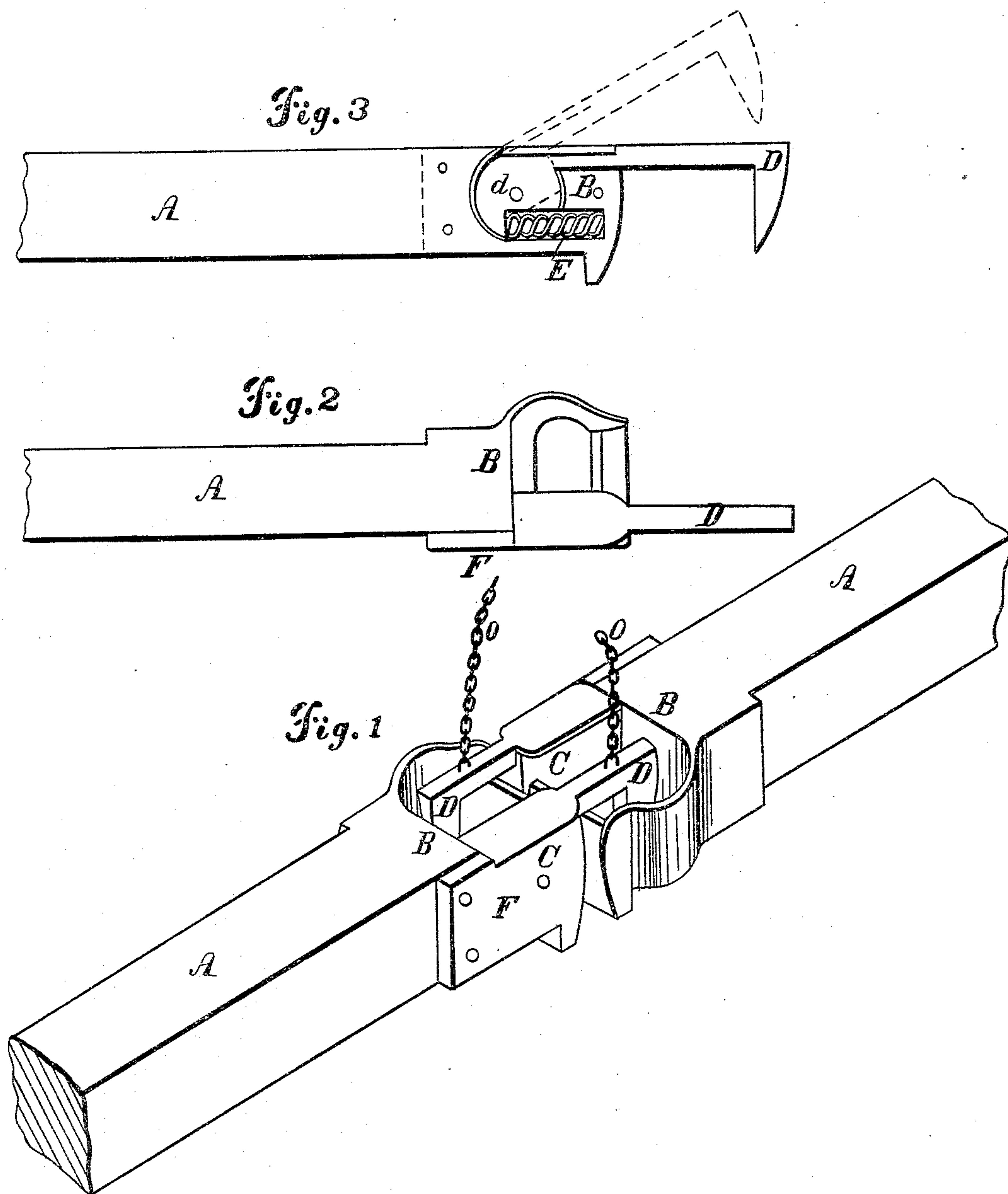


S. K. CHRISTY.  
Car Coupling.

No. 83,761.

Patented Nov. 3, 1868.



Witnesses  
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# United States Patent Office.

SAMUEL K. CHRISTY, OF NOBLESVILLE, INDIANA.

Letters Patent No. 83,761, dated November 3, 1868.

## IMPROVED CAR-COUPLER.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, SAMUEL K. CHRISTY, of Noblesville, in the county of Hamilton, and State of Indiana, have invented new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, that will enable skilled artisans to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making part of this specification.

The object of this invention is to so construct and arrange the draw-heads of cars that they will automatically couple themselves, when run together in making up trains, and so that, in case part of a train is thrown from the track in such manner as to be upset, or otherwise to jeopardize the safety of the remainder of the train, the coupling will be disengaged, and the displaced cars become detached, and leave those on the track undisturbed.

It is also so constructed that cars of unequal height will as readily couple as those of the same height.

Figure 1 is an isometric perspective of two of my improved draw-heads, coupled together;

Figure 2 is a top or plan view of the draw-head; and

Figure 3 is a side view of the same, with the plate that covers the hook and spring left off to show the internal construction.

Similar letters of reference indicate corresponding parts of the several figures.

A is the draw-bar, which is attached to the car in the usual manner. B is the draw-head, which may be made of wrought or cast-iron, in the form shown, furnished with jaws C C, in which the shank of the hook D is secured, and having an opening to receive the end of the hook in the coupling of other cars, as shown.

The form of the hook D, and the mode of attaching it, are shown in fig. 3. The rear end of the shank terminates in a circular plate, *d*, notched to form a shoulder, against which the rear end of the spiral spring E rests. The hook D and spiral spring E are housed in the side of the head B, as shown, the housings for the shank, and circular plate *d* of the hook, and the spiral spring E, all being of the proper form to receive them. The hook D is placed at one side of the draw-head, for the obvious reason that they may not interfere with each other when backing the cars together.

The centre-pin, through the circular plate *d*, serves to keep it in such position in the housing that it will play freely, without friction, against the edges, so that the hook will operate promptly, to engage with the draw-head when the cars are run together.

The shanks of the hooks are made slightly thicker

at their top edges than at the bottom, so that when in position for coupling, they will not rattle, and so that they will not be liable to jar out of position, but, when slightly raised, they will work perfectly free.

The object of making the hook with a circular plate at the rear end is, that the draught may come upon the forward edge of the circular plate, which rests against the forward edge of the housing, thus giving it a substantial support. The hook and spring are secured in their places by a plate, F, which is bolted to the side of the head. The upper edge of the hook is made with flanges, as shown, bevelled or curved, from the centre to the edges, in order to shed off the rain or snow, and to prevent their getting into the joints. The opening through the draw-head, to receive the projecting end of the hook, should be of sufficient length, transversely, to allow the hook to turn out freely, in case of an upset, and this will also allow the hook to play freely in going around curves.

The construction of the head and arrangement of the hook are such that cars of considerable difference in height will couple together as readily as those of the same height. The hook will rise to the position indicated by the red dotted lines in fig. 3, and still the forward edge of the circular plate *d* will have its bearing against the forward edge of the housing. The heads are also so formed that they will serve as bumpers in all cases where the difference in height of the cars is not too great, being designed for adaptation to ordinary heights.

It is not essential that both hooks should be engaged at the same time, as one is sufficient. It is designed to attach chains O to the hooks, as shown in fig. 1, that will extend to the top of freight-cars, in convenient position for the brakeman to unhook the couplings, by which the cars may be uncoupled without getting between them. For passenger-cars, short chains may be used, or they may be entirely dispensed with, and have a ring attached in place of the chain, by which to raise them.

I do not claim a car-coupler connected by means of two opposite hooks catching into the opposite draw-heads of a car.

What I do claim, is—

The combination of the hollow-sided draw-head B, with its hook D pivoted thereto, when said hook has a rounded end, *d*, and shoulder, and operates on a spring, E, connected to said shoulder, and in a recess in the side of the draw-head, all substantially as shown and described.

S. K. CHRISTY.

Witnesses:

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