

(No Model.)

T. W. McKEE.

CAR COUPLING.

No. 376,412.

Patented Jan. 10, 1888.

Fig. 1.

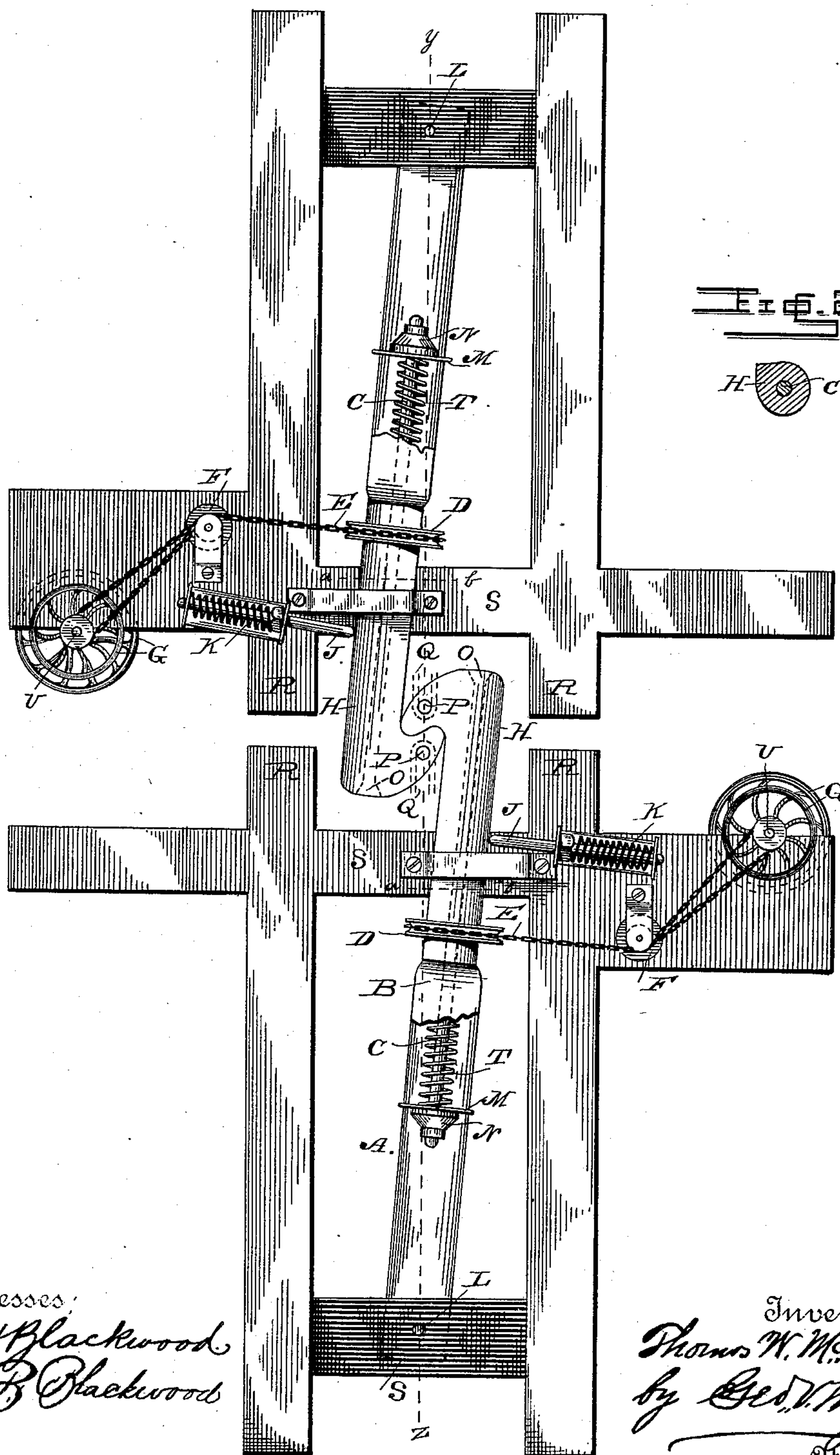
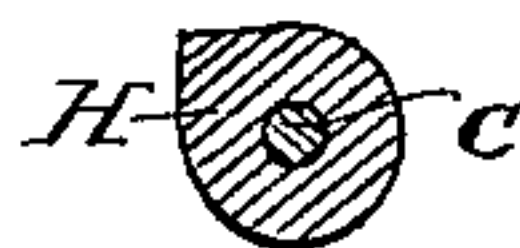


Fig. 2.



Witnesses:
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 376,412, dated January 10, 1888.

Application filed March 3, 1887. Serial No. 229,597. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. McKEE, a citizen of the United States, residing at Towanda, in the county of Bradford and State of Pennsylvania, have invented certain new and useful Improvements in 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in car-couplings; and it consists of a rotating coupling-hook, in combination with the hereinafter-described devices for operating the same in such manner as to make the coupling automatic or otherwise, as desired.

In the accompanying drawings like letters refer to like parts throughout.

Figure 1 is a plan view of the under sides of portions of two car-frames with my coupling and connecting devices for operating the same attached thereto. Fig. 2 is a vertical cross-section through coupling-hook H on line *a b*.

H represents the coupling-hook; C, a cylindrical draw-bar passing through the center of the same and upon which it revolves; A, a frame of iron, and B a solid draw-head within the same.

The rod C passes through the center of the iron head, and, continuing into the frame A, connects it therewith, and is provided with a spiral spring, T, a nut, N, and washer M on its inner end.

The frame A is composed of a wrought-iron bar bent around a solid head, B, with both ends bolted at L to the frame-work of bottom of car, leaving an open space between the car-frame S and the solid head B, which open space contains the inner end of the rod C and its spiral springs T, with nut N and washer M. The draw-head H is also provided with a pulley, D. Around the groove of this pulley is passed a chain, E.

F F represent two pulleys, one on top of the other, pivoted to the bottom of the car-frame at right angles to the single-groove pulley D.

U is a shaft extending from the bottom of the car-frame to above the platform, or, if desired, as in freight-cars, to above the top of the car-roof, and is provided with a wheel, G, on both ends. A chain, E, passes around the groove of the pulley D, thence double, bears on the two pulleys F F, and, extending to the shaft U, passes one or more times around it in opposite directions, and is securely fastened at each end, and is also bolted at or near the middle of its length to the groove of the pulley D.

J is a rod or bar loosely secured to the bottom of the car-frame, so as to slide laterally at or nearly at right angles to the line of the draw-bar. Its end is held against the draw-head by the spiral spring K, thus admitting of a lateral sliding motion of the rod. Said spring is inclosed in a box or sheath. Q represents a coupling link.

R R represent the bumpers, and S S the frame of the bottom of the car.

The main body of the coupling-hook H, through which the draw-bar C passes, is cylindrical in form, except where it passes under the bumper-beam, to which it is secured in position by a square clamp. At this point the coupling-hook H is provided with one angle of a square, which prevents it turning more than a quarter around, or sufficient to uncouple the cars, as shown in Fig. 2.

The outer part of the opening through the coupling-hook H is reamed out, so as to admit of the head O of the draw-bar C being countersunk flush with the outer surface of the hook H.

To enable cars using my improved coupler to couple with those not thus provided, a slot or mortise is made in the head of the hook H to admit a link, Q, and coupling-pin P. The centers of the pivot-bolts L and coupling-pins P (which is the center of the hook) should be in a line drawn lengthwise through the center of the cars, as shown by the dotted line Y Z.

The draw-bar C, passing through the iron head B, is close-fitting, so as to admit of no perceptible motion, except that it has some play lengthwise to relieve the shock of a sudden start of the car, and is returned to its place by the spring T. The nut N should fill the space within the frame A and be keyed

tight, so as to prevent the draw-bar revolving, and thus allow the coupler to rotate on the same.

My coupler is operated as follows, viz:
 5 When both hooks of the couplers on the approaching ends of two cars are turned in a lateral position, the coupling is automatic, and as their curved outer surfaces are forced together the draw-bars are laterally separated
 10 until the extreme ends of the hooks pass each other, when they are closed and locked by means of the spiral spring K acting on the bar J, which rests against the back of the body of the hooks H. By turning the shaft V by
 15 means of either wheel G, the chain E is wound from one end and unwound from the other. The chain being bolted at a point within the groove of the pulley D, its motion rotates the pulley, and the coupling-hook, to which it is
 20 rigidly attached, is turned up or sidewise, as desired.

When both or either of the engaging coupling-hooks are turned up, the cars will not couple automatically, but can then, by means
 25 of the shaft U and wheels G, be coupled from top of car, from platform, or from the ground by the side of the car without going between the bumpers.

Having fully described my invention, what

I claim, and desire to secure by Letters Patent, 30 is—

1. A car-coupling hook with its stem or body hollow and its outer surface cylindrical part of its length, and provided with one angle of a square on part of its surface, substantially 35 as set forth.

2. The combination, in a car-coupling hook, H, of a shaft or draw-bar, C, with shaft U upon end of car, and chain E, passing from shaft around pulley F, and around pulley D, 40 returning around lower pulley, F', to shaft U, substantially as set forth.

3. The combination, in a car-coupler, of draw-bar C, carrying revolving coupling-hook H, with shaft U upon end of car, and chain 45 E, passing from said shaft around upper pulley, F, thence around pulley D, returning around lower pulley, F', to said shaft U, and by means of wheels attached to shaft U turning said coupling-hook H upward and vertical on draw- 50 bar, substantially as set forth.

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

THOMAS W. McKEE.

Witnesses:

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 GEO. V. MYER.