(No Model.)

S. P. MICKEY.

CAR COUPLING.

No. 397,137. Patented Feb. 5, 1889.

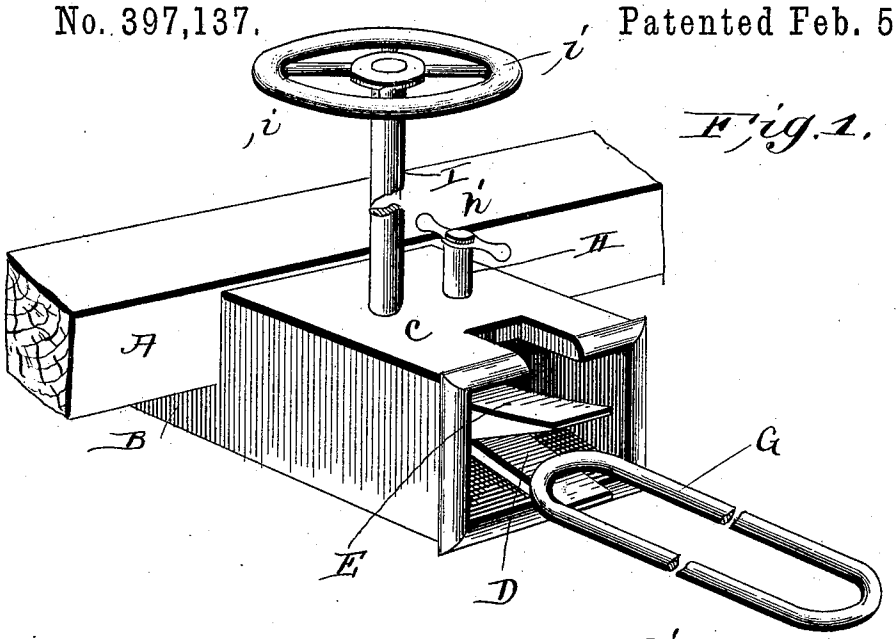

Fig. 1.

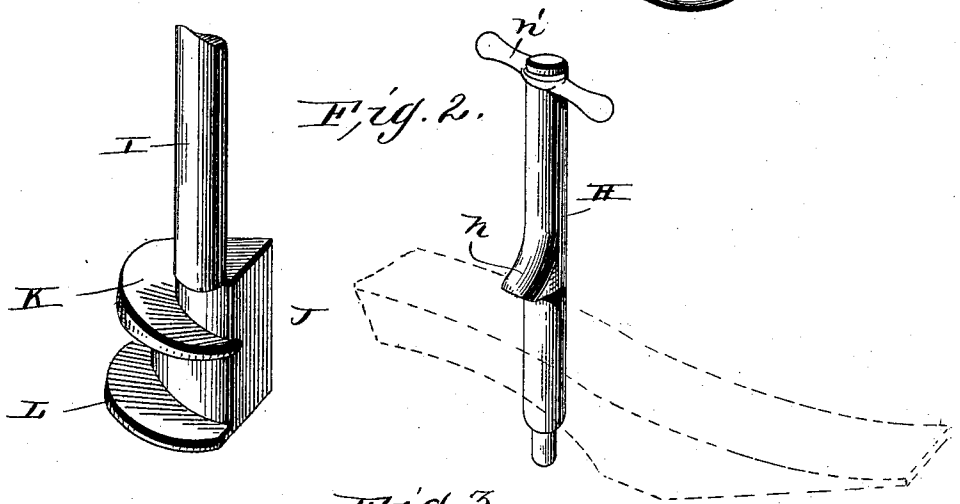

Fig. 2.

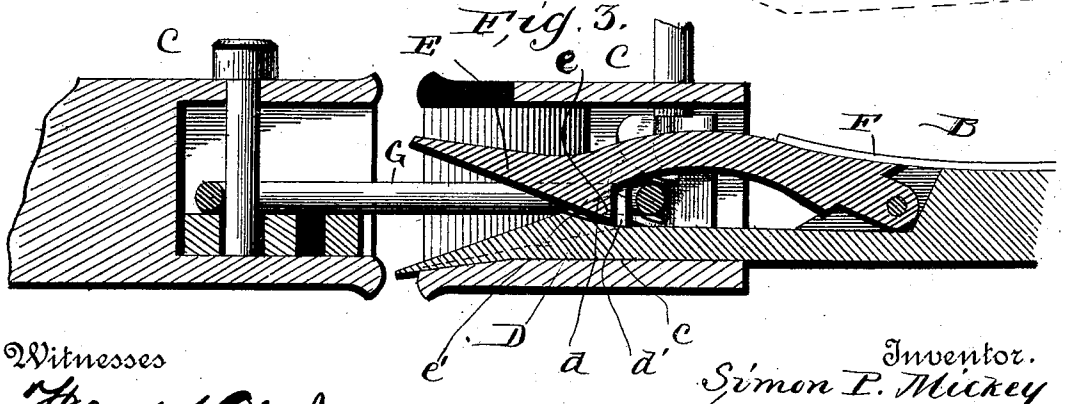

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

SIMON PETER MICKEY, OF WOOD LAWN, VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 397,137, dated February 5, 1889.

Application filed November 1, 1888. Serial No. 289,771. (No model.)

To all whom it may concern:

Be it known that I, SIMON PETER MICKEY, a citizen of the United States, residing at Wood Lawn, in the county of Carroll and State of Virginia, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

The invention relates to improvements in automatic car-couplers; and it consists in the construction and novel combination of parts, hereinafter described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of the end of a car with a coupler embodying the invention attached. Fig. 2 shows detail perspective views of the operating cam-block and the locking device. Fig. 3 is a central vertical longitudinal section through the draw-heads.

Referring to the drawings by letter, A designates the end of a car having the draw-bar B and draw-head C attached in the ordinary or other suitable manner. The draw-head has its floor and sides outwardly diverging or flaring, and the floor is provided with a central longitudinal recess, *c*, in which the lower edge of the outer portion of the draw-bar is secured. The said outer portion is formed into a coupling-hook, D, the upper edge of the point of which is about parallel with and a sufficient distance above the flaring portion of the floor of the draw-head and ends within the draw-head. Just in rear of said flaring portion of the floor is the vertical shoulder *d*, from which runs outward in the point the longitudinal recess *d'*, for a purpose hereinafter explained.

E is the upper coupling-hook, with the end of its shank reduced and pivoted in a recess in the shoulder formed by the shank of the hook D and the inner portion of the draw-bar. The hook E has its point facing the hook D, and is provided with the vertical shoulder *e* immediately above the shoulder *d* of the lower hook, and the triangular projection *e'*, that enters and fits in the recess *d'* when the upper hook is closed on the lower hook.

F is a strong plate-spring secured to the rear portion of the draw-bar, and with its free end bearing down on the shank of the hook E to force the latter into engagement with the lower hook.

G is the link of ordinary construction, the end of which in entering the draw-head will strike against the inclined edges of the two hooks, force the hook E upward, and fall behind the shoulder *d* of the lower hook, the spring then forcing the upper hook downward, as described.

It is evident that the link may be coupled at one end by a pin to a draw-head of ordinary construction.

H is a vertical shaft journaled in the roof and floor of the draw-head on one side of the coupling-hooks in rear of the points thereof, and provided with the horizontal projection *h*, which, when the hooks are engaged, can be turned upon the shank of the upper hook and prevent their disengagement, and consequently prevent the link from entering and the cars from coupling. The said shaft has on its upper end, outside the draw-head, a head or handle, *h'*, by means of which it may be turned.

I is a vertical shaft journaled in the roof and floor of the draw-head in rear of the hook-points and on the side thereof opposite to the shaft H, and *i* is a lever or hand-wheel on the upper end of the said shaft I outside the draw-head. The shaft I has secured to it within the draw-head a quadrant-shaped cam-block, J, secured at its angle to the said shaft and provided on its convex face with the inclined cam-ridge K, similar to a screw-thread, and engaging under the shank of the upper hook, E, so that when the cam-block is turned in the proper direction the said ridge will lift said hook out of engagement with the lower hook, thereby releasing the link.

L is a cam-ridge similar to and below the ridge K, which, when the latter ridge lifts the upper hook, lifts the adjacent end of the link under which it rests above the shoulder *d*, which might hold the link in the draw-head when the upper hook is raised.

The head *h'* and hand-wheel *i* may be situated above the platform of the car; but, if desired, the shafts H and I may be extended up through bearings secured to the car end, so that the head and handle will be above the

car, and the brakeman can operate them from the top thereof. This combination is shown in Fig. 1.

Having described my invention, I claim—

1. In a car-coupler, the combination, with a link of ordinary construction, of a pivotal coupling-hook having the face of its point downward and a suitable shoulder between its point and shank, and a cam-block secured to a vertical shaft journaled in the draw-head in rear of the point of the hook and provided with inclined cam-ridges that engage under the hook and the link, substantially as described.

2. In a car-coupler, the combination, with the draw-head having the outer portion of its floor inclined downward and outward and the draw-bar having its outer portion secured in a central longitudinal recess in the said floor, and formed into an upwardly-facing coupling-hook provided with a suitable shoulder between its point and shank, of a downwardly-facing coupling-hook pivoted to the upper edge of the draw-bar and provided with a suitable shoulder between its point and shank, the spring secured to the draw-bar and bearing down on the shank of the pivoted hook, and the quadrant-shaped cam-block secured to a vertical shaft and provided with inclined cam-ridges engaging under the hook and the link, substantially as described.

3. In a car-coupler, the combination, with the link of ordinary construction, the lower fixed upwardly-facing coupling-hook having a vertical shoulder between its point and shank, the upper pivoted downwardly-facing coupling-hook provided with a similar shoulder between the point and shank, and the quadrant-shaped rotatory cam-block provided with two similar inclined cam-ridges, the upper one of which engages under the shank of the pivoted hook, and lifts the point thereof out of the link, while the lower one simultaneously lifts the inner end of the link above the shoulder of the lower hook, substantially as specified.

4. The combination, with the draw-head having a flaring mouth, the draw-bar having its outer portion formed into the hook D, seated in a recess in the draw-head and provided with the shoulder *d*, and recess *d'*, the upper pivoted hook, E, provided with the shoulder *e* and projection *e'*, and the spring F, of the shaft I, journaled in the floor and roof of the draw-head, the hand-wheel *i* on the upper end of said shank, and the quadrant-shaped cam-block secured to said shaft and provided with the inclined cam-ridge K to engage under the shank of the pivoted hook, and the similar cam-ridge, L, to engage under the entered end of the link, substantially as specified.

5. In a car-coupler, the combination of the lower upwardly-facing coupling-hook secured to the floor of the draw-head, the upper downwardly-facing coupling-hook pivoted to the draw-bar, and the shaft H, journaled in the draw-head, having the handle *h'* on its upper end, and provided with the lateral projection *h*, adapted to be turned upon the shank of the upper hook and keep the latter down on the lower hook, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

SIMON PETER MICKEY.

Witnesses:
HELEN KYLE,
CAPITOLA KYLE.