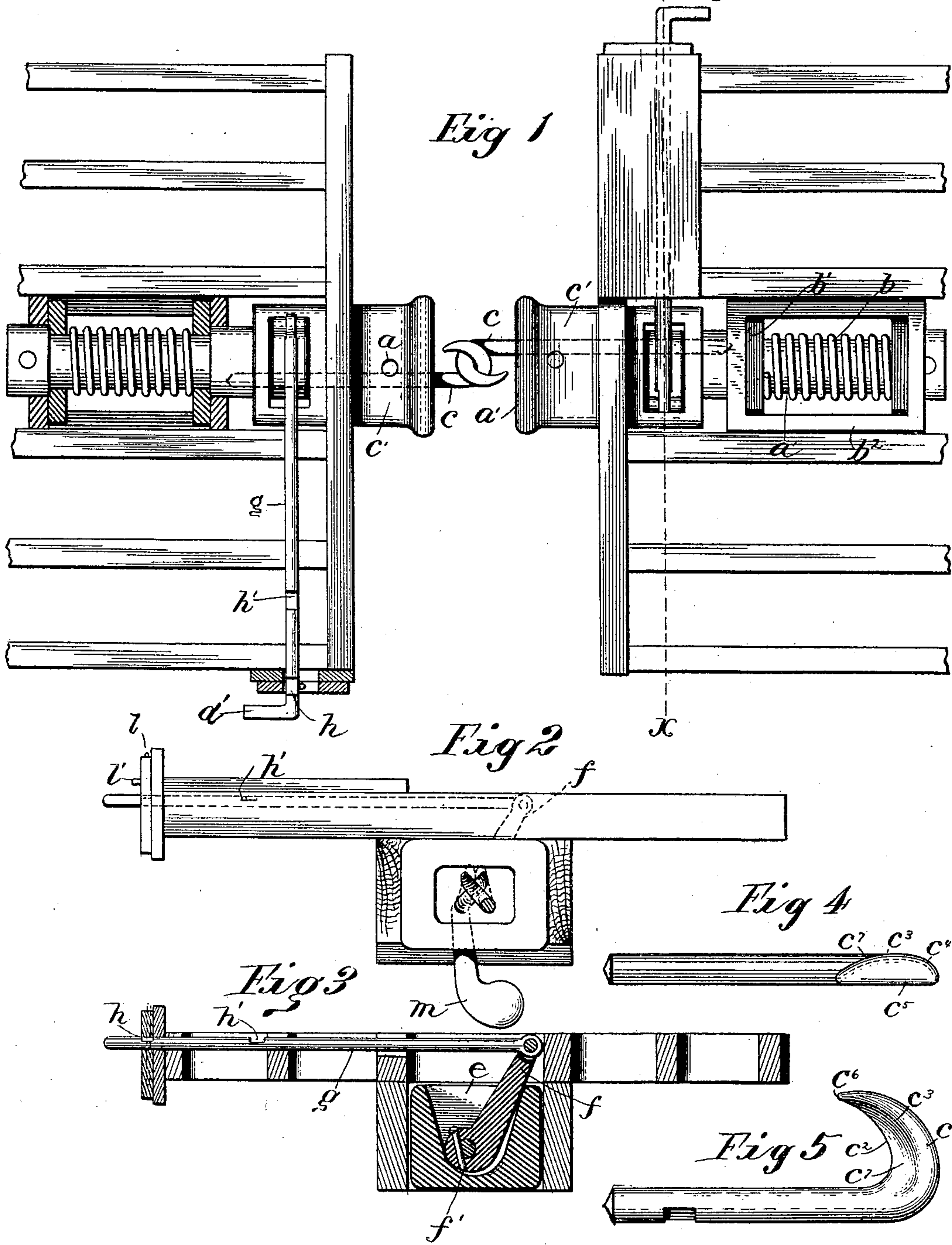


(No Model.)

M. I. WELCH.
CAR COUPLING.

No. 496,025.

Patented Apr. 25, 1893.

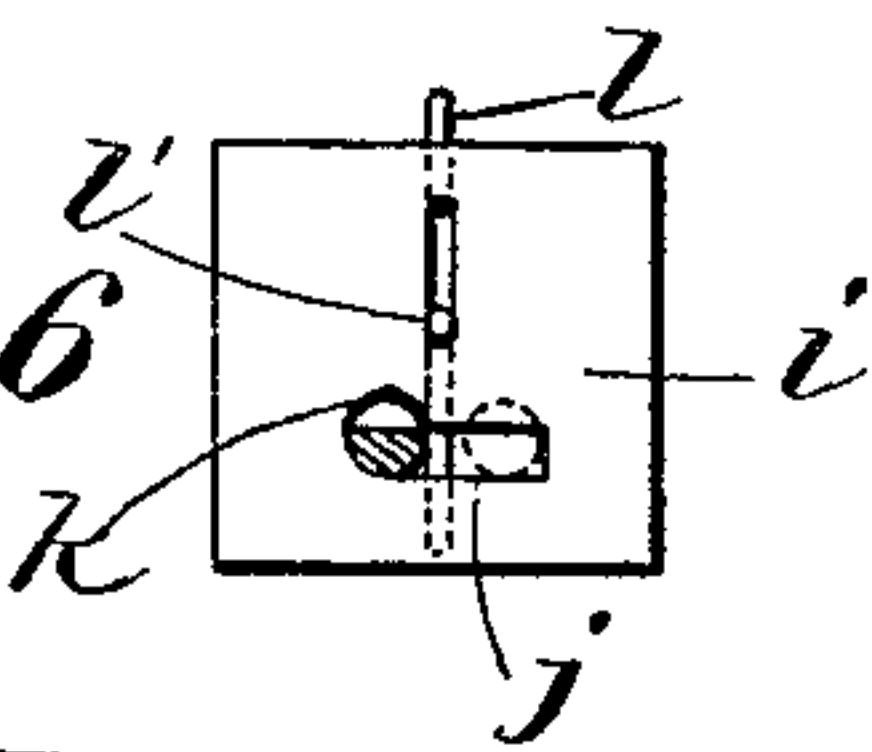


Witnesses

C. C. Bredine

J. B. Owens

Fig 6



Inventor
Michael I. Welch
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Attorneys

UNITED STATES PATENT OFFICE.

MICHAEL I. WELCH, OF CORDELE, GEORGIA, ASSIGNOR TO THE AMERICAN SAFETY CAR COUPLING COMPANY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 496,025, dated April 25, 1893.

Application filed December 5, 1892. Serial No. 454,163. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL I. WELCH, a citizen of the United States, residing at Cordele, in the county of Dooly and State of Georgia, have invented certain new and useful Improvements in Car-Couplers; 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 of reference marked thereon, which form a part of this specification.

My invention relates to that class of car couplers wherein a pair of twin rock-hooks is employed; my object being to provide a hook coupler which will be automatic in the coupling operation; simple in construction; not liable to become accidentally uncoupled; can be uncoupled without going between the cars, and which is cheap, effective, strong and durable.

To these ends my invention consists in the peculiar features of construction and combinations of parts as will be more fully described hereinafter and pointed out in the claims.

In the accompanying drawings: Figure 1 represents a plan of my invention as applied to an ordinary car body, the coupling hooks being shown coupled together; Fig. 2 an end view of the same through Y—Y of Fig. 1; Fig. 3 a cross-section through X—X of Fig. 1; Figs. 4, 5, and 6, views of details.

The reference letter *a* represents a drawhead equipped with my improvements. The two drawheads and their accompanying parts shown in the drawings being constructed exactly alike, a description of one will suffice for both. Each of the drawheads is provided with the usual flaring mouth and vertical pin-opening *a'*, so that the old form of link and pin can be substituted when emergencies require them. The usual cushioning spring surrounds the shank *a''* and is actuated by a block *b'* movable within a guide-frame *b''*. The drawhead is bored longitudinally to receive the shank *c'* of a peculiarly constructed hook *c*, to be more minutely described hereinafter. The bore which receives this hook extends through an upward flaring chamber *e* in the rear portion of the drawhead. In this chamber is lo-

cated a rock-arm *f* fixed by means of a key *f'* to the hook shank *c'*, for the purpose of rocking the hooks axially to throw them in and out of operative position. This operation is performed by means of a horizontally or laterally extending rod, *g* which is attached to the upper free end of the rock-arm, and extends beyond the side of the car where it is provided with a hook to permit the coupling to be manipulated without going between the cars. The hook may be locked in coupled or uncoupled adjustment by means of notches *h h'* in the top of the bar *g*. The rod *g* passes through a slot *j* in a plate *i* fixed to the side of the car. One end of this slot is given a circular conformity to permit the rod *g* to move endwise freely back and forth. The other portion of the slot is given a less diameter than the circular part, so that when either of the notches *h h'* is brought into coincidence therewith, the rod can be shifted to the right as shown in dotted lines in Fig. 6, and thus locked against endwise movement. The rod is confined in this position by means of a vertically movable locking bolt *l* which passes through the slot. A handle *l'* enables this bolt to be easily raised up and down to release or retain the rod.

In order to cause the hook to automatically assume a coupling position, as in Figs. 1 and 2, it is provided with a gravitating weight *m* which is fixed to the shank of the hook. In order to prevent the hooks when coupled, from clutching and binding and thereby bending and breaking, they are each given a peculiar conformation.

The hook instead of being bent in the form of a true semicircle, is only curved to describe the segment of a circle on its inner edge *c''*, and slopes from the top *c'''* down to the edge *c''*, forming an oblique surface *c'''*. The outer end of the hook is provided with a curved bevel *c''''*, and the opposite side *c'''''* of the hook, is flattened. This construction brings the shanks of the hooks when coupled, closer together and nearer in alignment, so that the strain upon the hook proper is brought more upon the shank, and the tendency to break is thus greatly reduced. A further advantage of this construction is that it prevents the hooks from uncoupling and permits them

to have a universal movement, so that in rounding curves and passing over any unevenness in the track, no twisting or wrenching takes place. The hooks are so set in the
5 drawhead that their points c^6 will extend back so near the face of the drawhead, that the space between them will be too small to permit the hook to jump out and become accidentally uncoupled. The advantages of this
10 construction are those of simplicity, cheapness, durability, certainty of action, convenience, safety and adaptability to all kinds of rolling stock. It is evident that the righting weight m could be replaced by a spring and that
15 other slight changes that might suggest themselves to a skilled mechanic, might be resorted to without departing from the spirit and scope of my invention. Therefore I do not limit myself to the exact construction shown,
20 but consider myself entitled to all such variations as come within the spirit and scope of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters
25 Patent, is—

1. In a car coupling, the herein described hook curved in the form of a segment of a circle, the outer surface of the hook being beveled, the inner surface being obliquely
30 formed to receive a corresponding surface upon the opposite hook whereby the two fit snugly together when in coupled position and

thereby enable the hooks to extend backward and overlap the opposite hook when in the said coupled position, in combination with a
35 righting weight secured to the shank of the hook, substantially as described.

2. The combination with a rocking hook-shank of a hook secured thereto, an oscillating arm secured to move therewith, an operating arm extending from said oscillating arm,
40 notches or recesses in said operating arm, and a plate provided with circular or semi-circular openings through which said operating arm extends, said openings being connected
45 by a slot which receives the notches in the operating arm, substantially as set forth and described.

3. The combination with a rocking hook-shank, of a hook secured thereto, an operating arm secured to the shank, a plate provided with openings through which said arm extends, notches in said operating arm and a slot connecting the openings in the plate and adapted to receive the notches in the operating arm, substantially as described and set
55 forth.

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

MICHAEL I. WELCH.

Witnesses:

R. G. DU BOIS,
E. A. FINCKEL.