

(No Model.)

W. M. EDWARDS.
CAR COUPLING.

No. 475,269.

Patented May 17, 1892.

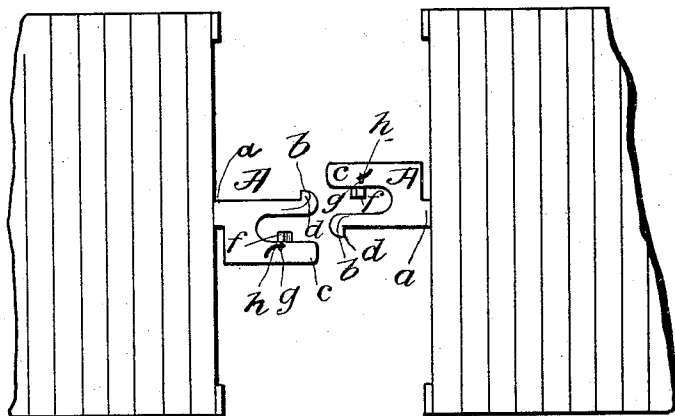
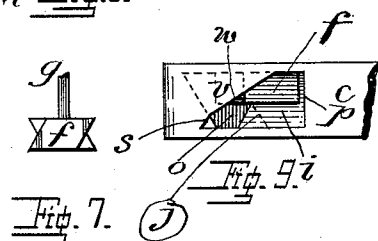
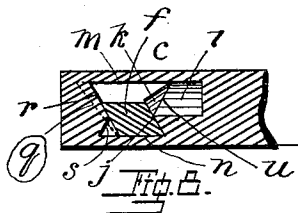
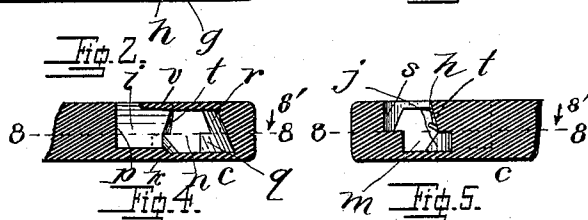
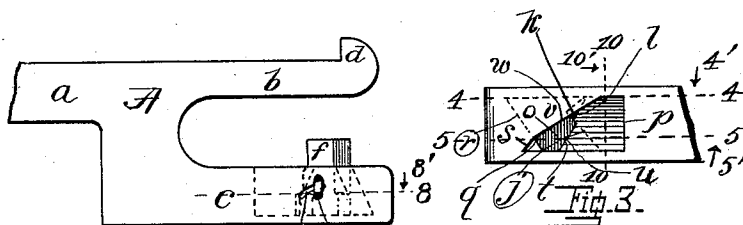
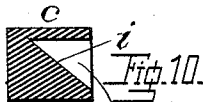


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIE M. EDWARDS, OF ATLANTA, GEORGIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 475,269, dated May 17, 1892.

Application filed August 22, 1891. Serial No. 403,465. (No model.)

To all whom it may concern:

Be it known that I, WILLIE M. EDWARDS, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Car-Couplings; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

This invention relates, as above stated, to car-couplings, relating particularly to the class of couplings known as "automatic hook-couplings," the object being to construct a coupling of this class without the use of springs or small latches; and to this end the invention consists of a draw-head, a peculiarly-shaped recess therein, and a gravity-latch adapted to engage an arm of the opposing draw-head, all substantially as will be hereinafter specified.

In the accompanying drawings, Figure 1 is a plan of two flat cars with the device attached, the entire figure being somewhat in diagrammatical form and merely indicating their joint operation. Fig. 2 is an enlarged plan view of the draw-head with this device in place, showing the hook, the latch, and the slot through which the latch-lifter passes, and by dotted lines indicating the face-angles of the recess. Fig. 3 is an elevation of the recessed member from the inner side, the latch being removed. Fig. 4 is a longitudinal vertical section on the line 4 4, Fig. 3, looking in the direction of the arrow 4'; and Fig. 5 is a section on the line 5 5, Fig. 3, looking in the direction of the arrow 5' thereon. Fig. 6 is a plan of a gravity-latch, and Fig. 7 is an end view thereof, showing the raising-rod therein. Fig. 8 is a section on the line 8, Figs. 2, 4, and 5, the view shown being in the direction of the arrows 8' thereon. This figure also shows the gravity-latch in section and in its depressed position. Fig. 9 is a view the same as Fig. 3, excepting that the gravity-latch is shown in its ultimate limit of elevation. Fig. 10 is a section on line 10 10, Fig. 3, looking in the direction of the arrow 10' in that figure.

In the figures like reference-marks indicate corresponding elements of construction in all the views.

The draw-head A is composed of the tail *a*, the hooked arm or horn *b*, and the recessed horn or arm *c*. A sidewise extension *d*, projecting outwardly forms a hook on the arm *b*, which is adapted to be engaged by the hereinafter-described gravity-latch operating in the recess *e* in the arm *c*. The recess *e* is of peculiar form to receive and hold the catch *f* and to guide the same upward in a horizontal position upon the application of upwardly-acting force upon the rod *g* for which it passes through the curved slot *h*, opening from above into the recess *e*. The catch is of a form about like two metallic blocks, of rhomboidal form in cross-section, reversed in position at the two ends. As shown in Fig. 2, one corner of one of these rhomboidal blocks (the outer one) is cut away to form a broad vertical surface for contact with the hook *d*. The walls of the recesses are composed of inclined sides and sections thereof, as follows: The side *i* is set at an angle of about forty-five degrees and extends longitudinally of the arm *c* about half the length of the recess and from the inner lower corner to the outer upper corner. The side *j*, Figs. 3, 5, and 8, extends upwardly at an angle of about forty-five degrees in the outer side of the recess extending transversely of the recess about half its width. The side *k* is like the side *j*, but above it and reversed in position, its inner end being slightly nearer the tail of the draw-head than its outer, which obviously makes the corner *l*, formed by the incidence of the sides *j* and *k*, be somewhat lower at its inner than at its outer end, as shown best in Figs. 3 and 8. The sides *m* and *n*, respectively, top and bottom, are horizontal and flat and the side *o* is vertical and flat, as is also the side *p*. A side *q* is on the opposite side of the recess from the side *j* and stands approximately parallel thereto, but extends to the top *m* of the recess, and has a sidewise extension *r*, Figs. 4 and 8, of its upper half at the same angle. This side *q* and its extension *r* does not extend at right angles to the sides of the recess or the arm *c*, but stands at an angle, its inner end being nearer the tail of the draw-head than its outer end.

This will be understood by reference to the line and broken line in Fig. 8. The face *s*, Figs. 3 and 8, is below and in a reversed angle to the sidewise extension *r* and extends transversely of the arm *c* and downwardly to the side *n*. The side *t* is alongside the side *j* and is reversed in position, forming at its point of incidence with the side *i* the ridge *n*. A lip *v*, having an edge *w*, inclined as shown in Figs. 3 and 9, projects downwardly partly over the embouchure of the recess, for a purpose hereinafter specified. Said tip *v* is further shown in horizontal section in Fig. 4, and in bottom view (a portion only) in Fig. 5.

15 The operation of this device is as follows: The draw-heads *A* approach in the position shown in Fig. 1, and the arms carrying hooks *d* enter the corresponding recess and push the latch *f* into the position shown in Fig. 9, when, as soon as the hook *d* passes its end, it descends into the position shown in Figs. 1, 2, and 8, wherein it engages the hook *d*. The elevation and descent of the latch is accomplished by its turning upon the corner *u*, being balanced thereon. Said latch is held in its depressed position secure from withdrawal, as best shown in Fig. 8, by contacting with the sides *j* and *r*.

To uncouple, the cars are "slacked back" and the pin *g* lifted upon, which raises the latch into contact with the edge *w* of the flange *v*, and so forces its partial revolution.

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

1. In a device of the class specified, a bifurcated draw-head, one arm carrying an outwardly-projecting barb and the other having an inwardly-opening recess, and a latch arranged to partially revolve therein and adapted when projected outwardly to engage said barb, substantially as and for the purpose specified.

2. In a device of the class specified, the bifurcated draw-head, one arm carrying an out-

wardly-projecting barb and the other having an inwardly-opening recess having sides *j*, *q*, *r*, and *s*, arranged as specified, and a latch adapted to fit said recess, substantially as and for the purpose specified.

3. In a device of the class specified, the bifurcated draw-head, one arm carrying a barb and the other having a recess therein, said recess having side *j*, side *q*, parallel thereto, and extension thereof, sides *s* and *t*, forming a series reversed in position from the series comprising the sides *j* and *q* aforesaid, and a block of rhomboidal form on its inner end, its outer end being also of rhomboidal form for a desired distance to fit the sides *s* and *t*, for the purpose specified.

4. In a device of the class specified, a bifurcated draw-head, one arm carrying an outwardly-projecting barb and the other having an inwardly-opening recess, said recess being provided with means for holding the inner end of a gravity-latch when said latch is depressed and being provided with inclined sides *i* and *t*, forming by their incidence the inclined corner *u*, down which the latch may slide, and a latch, substantially as and for the purpose specified.

5. In a device of the class specified, the bifurcated draw-head, one arm thereof having a recess therein and being provided with a flange projecting downwardly partly over the mouth of said recess, said flange having an inclined lower edge, and a latch pivoted within said recess and projecting when depressed under said flange and the other arm of said draw-head carrying a barb adapted to engage the latch of the correlative draw-head, substantially as and for the purpose specified.

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

WILLIE M. EDWARDS.

Witnesses:

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EDWARD P. WOOD.