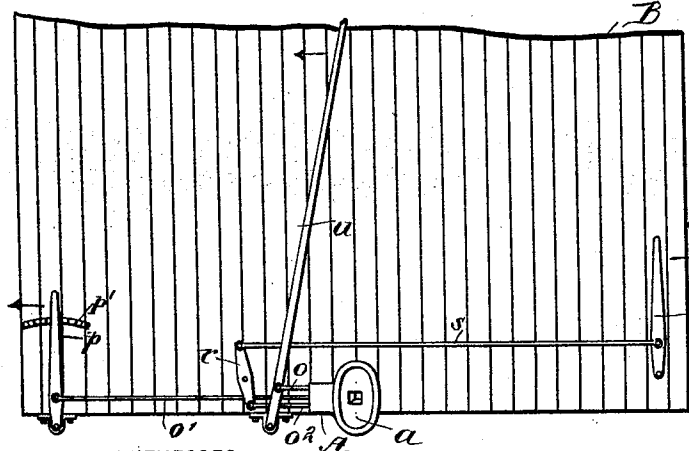
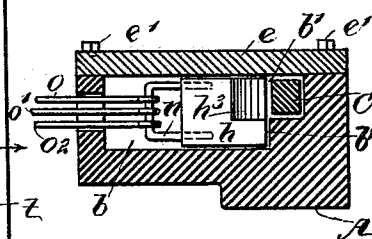
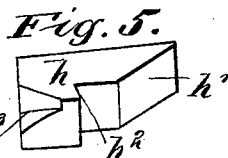
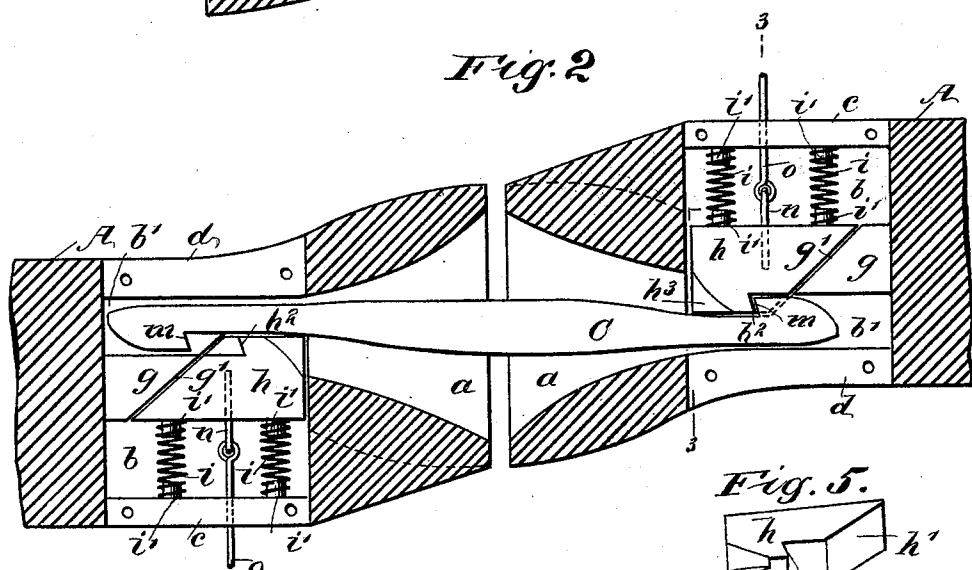
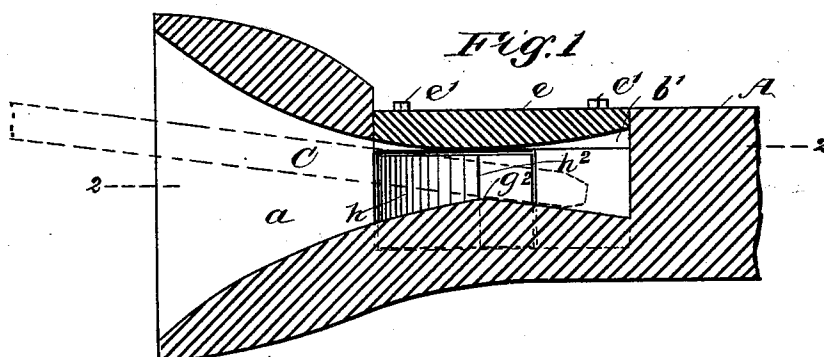


(No Model.)

E. L. BOLLES.
CAR COUPLING.

No. 521,631.

Patented June 19, 1894.



WITNESSES:

WITNESSES:
J. A. Bergstrom
C. Sedgwick

Fig. 4

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

EMERSON L. BOLLES, OF CHINA, LOUISIANA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 521,631, dated June 19, 1894.

Application filed October 31, 1893. Serial No. 489,671. (No model.)

To all whom it may concern:

Be it known that I, EMERSON L. BOLLES, of China, in the parish of Calcasieu and State of Louisiana, have invented a new and useful Improved Car-Coupling, of which the following is a full, clear, and exact description.

My invention relates to improvements in car couplings of the automatic type, and has for its objects to provide a novel, simple and practical device of the character indicated, which will afford reliable means for automatically coupling two cars whereon the improvement is placed, if said couplings are located at different heights on the cars; and also provide means for the convenient and safe disconnection of two cars having the improvement, from either side or the top of either car.

To these ends, my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side view of the improved car coupling, broken away at the rear end. Fig. 2 is a sectional plan view, showing the forward portions of two car couplings having the improvements in coupled adjustment, on the line 2—2 in Fig. 1. Fig. 3 is a transverse sectional view, on the line 3—3 in Fig. 2. Fig. 4 is a front view of the improved coupling and its connections, on the end of a car; and Fig. 5 is a perspective view of a novel detail of construction.

The drawhead A, is preferably cast into form from suitable metal, comprising a preferably rectangular rear portion that is of sufficient length for efficient service, and is adapted for attachment and a spring-cushioned support in the usual manner on the end of a car B, near the transverse center. These securing and cushioning devices may be of any approved construction, and as they are not features of the invention, are omitted from the drawings. In the front end of the drawhead A, a flaring throat *a* is produced that is vertically elongated, and at a proper distance from the front edge intersects a chamber *b*, which is extended from the throat intersection toward one side of the drawhead, for the reception of working parts, the con-

formation and area of the chamber permitting two side walls *c, d*, to remain intact with the flared side walls of the throat, and also with the bottom wall of the front portion of the drawhead. To afford access to the chamber *b b'*, for the introduction of working parts, there is a removable top wall or cover *e* provided for it, which cover is retained in place by the screw bolts *e'*, that pass loosely through perforations in the same into threaded holes formed in the top edges of the walls *c, d*, at four points, as indicated in Figs. 1 and 3. Between the side walls *c, d*, of the chamber *b b'*, a parallel wall *g* is formed or secured, which extends from the rear wall of said chamber forwardly a short distance, the front end being sloped rearwardly and toward the wall *c*, so as to provide a diagonal abutment wall *g'*, shown in Fig. 2. A latch block *h*, is provided, having a thickness and height equal with these dimensions of the intermediate wall *g*, and has its rear end *h'* diagonally sloped an equal degree with the diagonal wall *g'*, whereon it is designed to impinge when the latch block is in a normal condition.

The space *b'* between the walls *d* and *g*, is of a suitable width to form a rearward extension of the throat *a*, and is substantially parallel on the sides. The bottom wall of the space *b'* is sloped upwardly from its rear end, to a point *g²* near the longitudinal center of the chamber of which said space *b'* is a subdivision, and from the point *g²* the bottom wall is forwardly and downwardly pitched, becoming a continuation of the rearwardly and upwardly inclined bottom wall of the throat *a*; and as shown in Fig. 1, the cover *e* is convex curved on its lower surface so as to have its lowest portion above the point *g²*. The chamber subdivision *b*, is level on the bottom and deeper than any portion of the throat extension *b'*, and is extended a short distance within the latter named space at the front of the intermediate wall *g*, to accommodate the latch block *h*.

As shown, the block *h* is made of greater width forwardly, and at *h²* is shouldered by reducing its lateral dimensions, thus producing a hook-like formation at that point. The portion of the latch block embraced between the hook shoulder *h²* and the front end of the block, is parallel on the sides except where

the side having said shoulder as a rear terminal is cut away on the upper front corner, as represented in Fig. 5 at h^3 ; and the portion below being rectangular at said corner has its upper surface sloped outwardly and downwardly toward the angle, so as to adapt it to conform with the sloped surface on the bottom of the throat extension b , at this point. The latch block h is pressed toward the wall d by the similar spiral springs i , that at their ends are engaged with the studs i' , which oppositely project from the wall c and rear wall of the latch block, said springs being sufficiently separated to permit them to press each end of the block with equal force toward the wall d . The pressure of the springs i , projects the hook shoulder h^2 within the space b' , the degree of projection being determined by the impinge of the block on the vertical shoulder b^2 , that is the division wall between the chamber divisions b b' , forwardly of the intermediate wall g .

The link bar C, is of a peculiar form, and consists of a metallic bar having a suitable length to serve as a coupling link between two of the improved car couplings, a hook shoulder m being produced on opposite sides of the bar near each end. The top and bottom faces of the link bar are parallel, and forwardly of the shoulders m the ends are arrow-shaped to adapt said ends to readily enter the throats a , of two drawheads A, which are to be coupled. The width of the end portions of the link bar at the hook shoulders m , is so proportioned that these end portions will loosely fit within the spaces or throat extensions b' , when introduced, as represented in Fig. 2, the peculiar construction of the latch block h and its spring support permitting the link bar to be shoved within the throat a , of the drawhead A, and effect an interlocking engagement with the shoulder h^2 of the latch block.

Near the longitudinal center of the latch block h , a shackle loop n , is secured in the side of the block whereon the studs i' are located, it being projected toward the wall c of the drawhead and in a vertical plane, as indicated in Figs. 2 and 3, and from said loop three connecting rods o , o' , o^2 , are projected through a slot in the wall c . The rod o' is extended from the drawhead A, to a point near one side of the car body B, where it is pivoted to the upright lever p , which is supported to rock on the end of the car body, and is retained at any point of rocked adjustment by the rack p' , which the lever is adapted to detachably interlock with, as shown in Fig. 4. The rod o^2 is pivoted to the lower end of the rocking arm r which is fulcrumed at its center on the end of the car, and at its upper end the draft rod s is pivotally connected, and thence extended toward the opposite side of the car body near which it loosely engages the upright lever t . The remaining connecting rod o , is jointed to the upright rocking lever u , which is pivoted at its lower end on

the car, and extends upwardly of a length that will permit its convenient actuation from the roof of the car body.

In service, it will be seen that the thrust of a link bar C, within the oval throat a of the drawhead A on one coupling, will support the projecting part of the link bar for a coupled engagement with another similar coupling, the formation of the bottom wall of the throat extension b' , and the vertical oval elongation of the throat a , permitting the link bar to be adjusted at different angles from a horizontal plane, for the entrance of its projecting end within a similar drawhead throat that may occupy a higher or lower plane, on a car that is to be coupled with the one having the link bar projected from the drawhead of its coupling.

The provision of the link bar C, having its hooks on opposite side edges near the ends, permits the car couplings to be made identical in construction, and receive the bar to which their latch blocks will lock, if the hooks on the link bar are entered so as to impinge the latch blocks.

When the coupled connection of two cars having the improvement is to be released, this can be safely and conveniently effected by the actuation in a proper direction of either lever p , t or u , so that a trainman on the roof or at either side of a car can by manipulating one of said levers, draw back the latch block of one coupling and release the link bar which is retained in the other coupling for connection with another car coupling, or it may be removed if preferred.

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

1. In a car coupling, a drawhead having a vertically oval throat, a lateral chamber, a spring-pressed latch block hook-shaped at one side and movable transversely in said chamber, a hook ended link bar adapted to engage said block, a shackle loop on the block and links and levers connected with the block and adapted to retract the same, substantially as described.

2. In a car coupling, a drawhead having a flared vertically elongated throat at the front end, and a narrower throat extension at the rear of the flared throat, the bottom wall of which is upwardly swelled between the flared throat and the rear end of said extension, substantially as described.

3. In a car coupling, the combination, with a drawhead having a flared throat at the front end, a narrower throat extension at the rear end of said flared throat, and a chamber at one side of the throat extension, of a spring-pressed latch block in the lateral chamber, projecting its hook in the throat extension, three pivoted levers, and links connecting said levers with the latch block to retract said latch block, substantially as described.

4. In a car coupling, the combination, with a drawhead having a flared throat at the

front end, and a transverse chamber at the rear end of the flared throat, partly divided by a longitudinal wall that is diagonally cut at its front end producing a throat extension, 5 of a spring-pressed latch block in one part of the chamber the hook of which enters the throat extension, and a device to retract the latch block, substantially as described.

10 5. In a car coupling, the combination, with a drawhead having a vertically oval flaring throat at the front end, a narrow throat extension at the rear end of the flaring throat, the bottom wall of which is swelled near its

longitudinal center, a lateral chamber, and a removable cover for the chamber and throat 15 extension, of a spring-pressed latch-block in the lateral chamber, projecting its hook shoulder in the throat extension, and a device adapted to retract the latch block by manipulation from the sides or roof of a car, sub- 20 stantially as described.

EMERSON L. BOLLES.

Witnesses:

W. L. MACVEY,
ALEX. G. ALCOCK.