No. 859,871. PATENTED JULY 9, 1907.

G. A. CHAPMAN.

CAR COUPLING.

APPLICATION FILED OCT. 20, 1906.

Fig. 1.

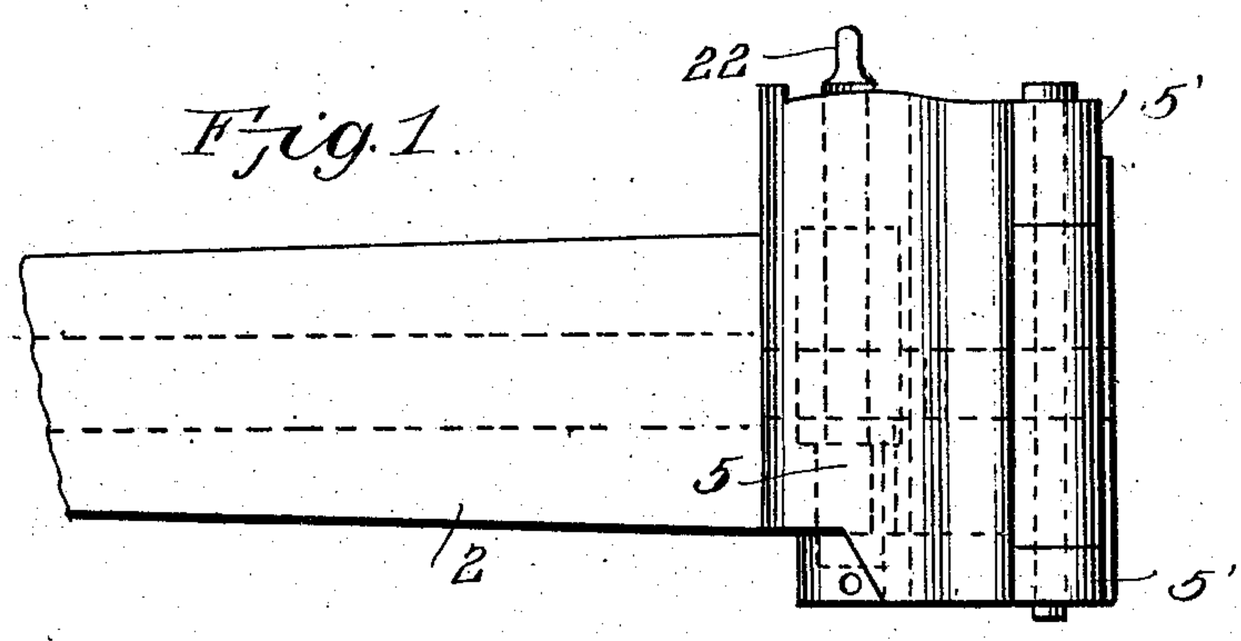


Fig. 2.

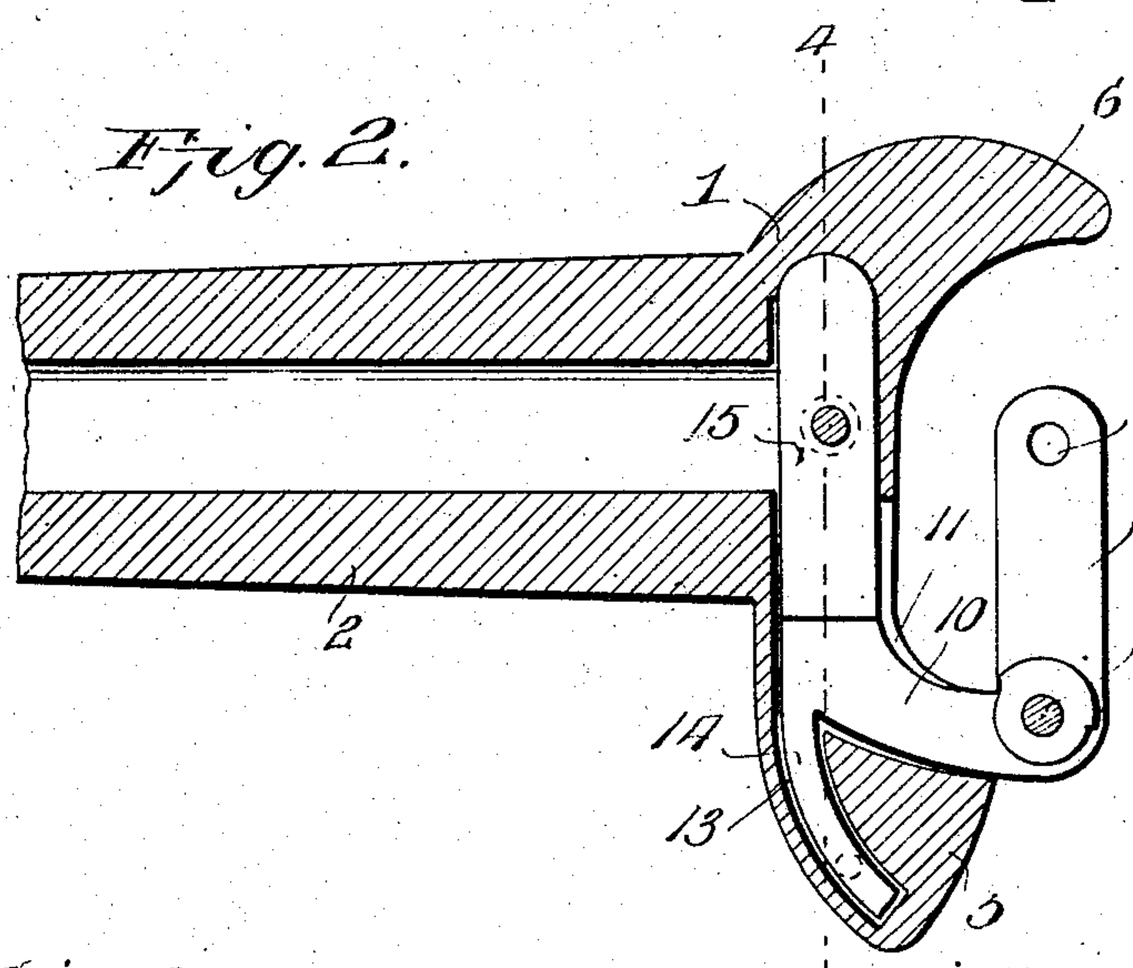


Fig. 3.

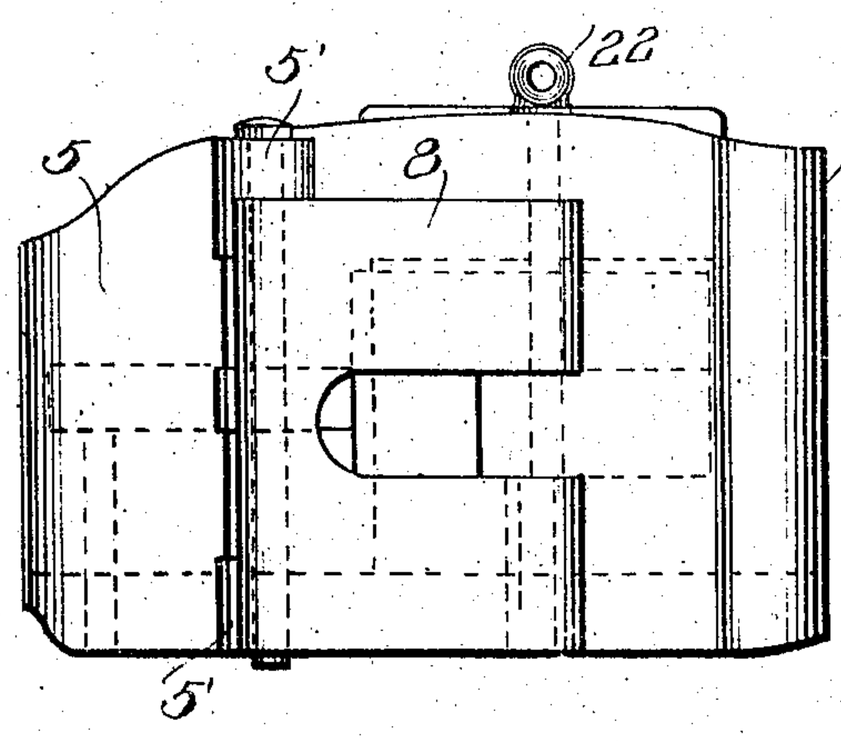
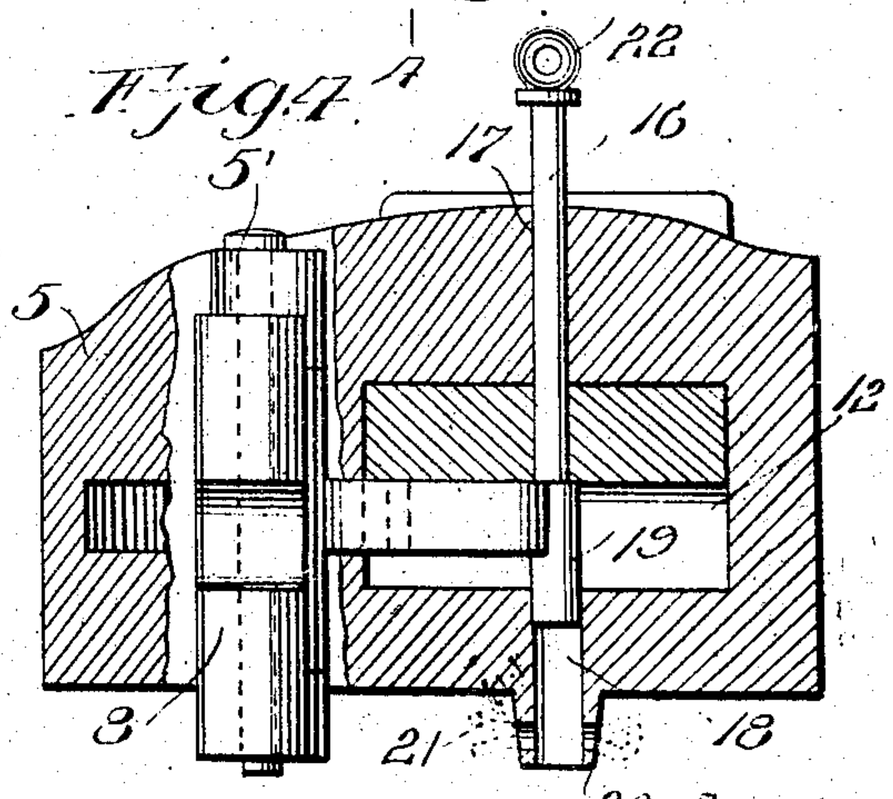


Fig. 4.



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UNITED STATES PATENT OFFICE.

GILES A. CHAPMAN, OF AUGUSTA, GEORGIA.

CAR-COUPLING.

No. 859,871. Specification of Letters Patent. Patented July 9, 1907.

Application filed October 20, 1906. Serial No. 339,835.

To all whom it may concern:

Be it known that I, GILES A. CHAPMAN, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented new and useful Improvements in Car-Couplers, of which the following is a specification.

The invention relates to car couplers of the swinging knuckle type, the main object of the invention being to provide an improved construction of coupler body and knuckle and improved means for locking the knuckle in open and closed positions, the form and arrangement of the parts being such as to secure great strength and durability to resist the breaking and crushing strains to which they are subjected in use.

In the accompanying drawing: Figure 1 is a side elevation of a car coupler embodying my invention, Fig. 2 is a central horizontal section through the coupler, showing the knuckle locked in closed position, Fig. 3 is a front elevation of the coupler, Fig. 4 is a vertical cross section through the drawhead thereof on line 4—4 of Fig. 2.

The body of the coupler is composed, as ordinarily in couplers of this type, of a drawhead 1 provided with a rearwardly extending shank 2, preferably cast in an integral structure.

The drawhead 1 is formed as usual with the pivot lug 5 and guard 6, the lug 5 being provided with perforate ears 5′ for the passage of a fulcrum pin 7 pivotally connecting the knuckle 8 thereto. The free end of the knuckle is formed with a vertical passage 9, adapted for the reception of a pin in the connection of the coupler with the ordinary type of pin coupler.

The tail piece 10 of the knuckle is arranged for movement within a slot or recess 11 which communicates at its inner end with a chamber 12 formed in the body of the drawhead and at its outer end with an arcuate chamber or recess 13, the latter being adapted to slidably receive an arm 14 projecting laterally from the tail piece. The arm 14 is curved to have free movement in the chamber 13 and thus forms a guide as well as a brace to adapt the tail piece to swing in a true path and to reinforce it against undue strain in the movement of the knuckle.

The chamber 12 is provided for the reception of a cast metal locking block 15, which is arranged to slide vertically therein, said block being apertured for the passsage of an operating pin or rod 16 slidable vertically in alined openings 17 and 18 in the top and bottom of the body of the drawhead. A shoulder 19 is formed at the lower end of said pin and slides in the opening 18 and bears against the underside of the block, whereby the latter is adapted to be manually lifted and to drop by gravity when the pin is released, but the pin may be operatively connected with the block in any other preferred manner. The guide passage 18 is lengthened by a tubular projection 20 formed upon the bottom of the drawhead, said extension being transversely apertured for the reception of a cotter pin or other suitable stop device adapted to limit the downward movement of the operating pin 16. The upper end of the operating pin is provided with an eye or other suitable means for attaching it to any desired type of operating mechanism.

Fig. 2 shows the knuckle 8 in closed or coupling position, from which it will be seen that the rear end of the tail piece 10 is wholly arranged within the recess 11 and abuts against the outer end of the block 15, which is in lowered position and thus locks the knuckle from opening movement. Inward movement of the knuckle beyond its coupling position is prevented by the inner wall of the recess 11 and the bracing action of the arm 14. When the block 15 is raised the tail piece 10 is free to swing into the chamber 12 beneath said block, thus adapting the coupling to be swung open, as shown in Fig. 4.

By the use of the block 15, which is adapted to withstand great crushing strains, the coupler is given greater strength and durability than couplings of ordinary construction in which a locking pin or locking bar is provided to hold the knuckle against movement. The construction as a whole is also adapted to generally increase the strength and durability.

Having thus described the invention what is claimed as new, is:—

A car coupler comprising a draw head provided with pivot and guard lugs, said head being formed with a vertical chamber closed at top and bottom and extending transversely across the meeting portions of the lugs, and also being formed with a receiving recess opening through the forward portion of the pivot lug and communicating with the adjacent side of the chamber, and a segmental guide passage in the guard lug communicating at its inner end with the rear end of said recess, a knuckle pivoted to the pivot lug and provided with a segmental tail piece occupying said recess when the knuckle is closed and adapted to move into the chamber when the knuckle is open, said tail piece being formed with an arm projecting laterally therefrom and movable in said guide passage, a locking block vertically movable in the chamber, the head being formed in the top and bottom portions thereof with vertical openings extending into said chamber, the lower opening being of greater diameter than the other and the bottom of the draw head being further provided with a tubular projection communicating with said bottom opening, a locking rod having portions of different diameter slidably fitted in the said top and bottom openings, the lower portion forming a shoulder bearing against the block, and a key passing through the tubular projection to limit the downward movement of the rod.

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

GILES A. CHAPMAN.

Witnesses:
G. L. PREACHER.
CLAUDE P. BACON.