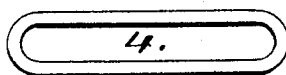
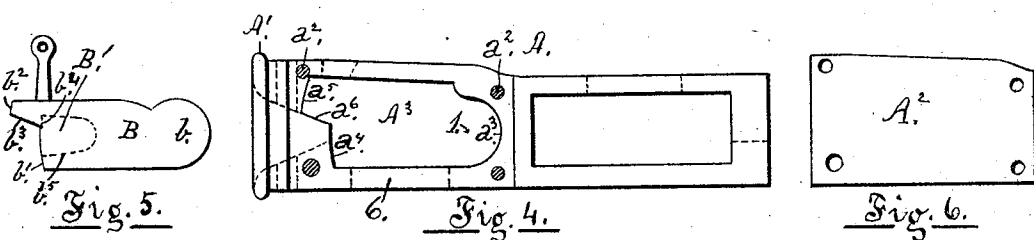
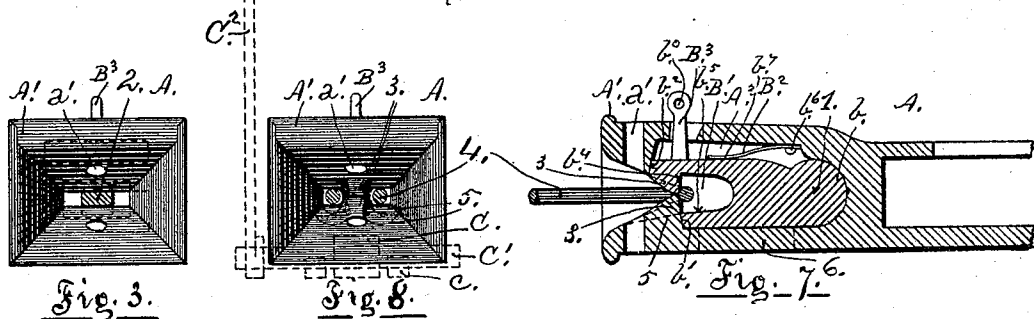
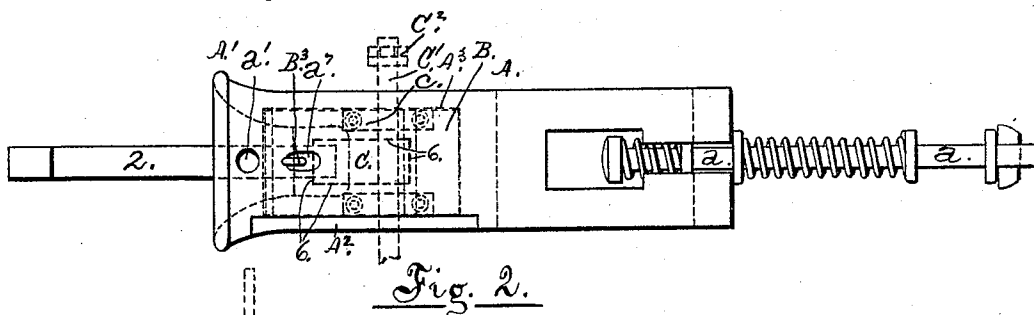
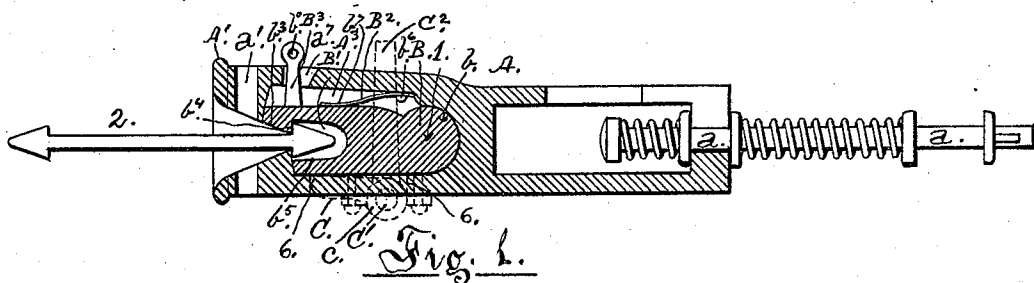


(No Model.)

A. F. GUHL.
CAR COUPLING.

No. 570,171.

Patented Oct. 27, 1896.



Witnesses:

C. Emile Urban.
Frank G. Urban

Fig. 9.

By

Inventor:

Albert F. Guhl.

Sam. H. Herr.

Attorney.

UNITED STATES PATENT OFFICE.

ALBERT F. GUHL, OF LANDISVILLE, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 570,171, dated October 27, 1896.

Application filed February 14, 1894. Serial No. 500,168. (No model.)

To all whom it may concern:

Be it known that I, ALBERT F. GUHL, a citizen of the United States, residing at Landisville, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Automatic 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.

This invention relates to improvements in an automatic car-coupling device of that class in which a specially-constructed catch or hook block is so arranged within a recess or chamber in the forward end of a draw-head as to engage a link in another draw-head when the two are brought together, automatically coupling the cars to which said draw-heads are attached.

The object of the invention is to provide means to securely link cars together in making up trains, as well as to uncouple the same, without the attendant having to go between said cars to guide their links or to disengage the same, an act which is always accompanied with more or less danger.

The elements of the invention will clearly appear in the following description and will be distinctly set forth in the claim.

The purposes of the invention are attained by the mechanism and devices illustrated in the accompanying drawings, in which similar letters and numerals of reference designate like parts throughout the several views, and in which—

Figures 1, 2, and 3 are respectively a longitudinal vertical section, a top plan view, and a front end elevation, of a detached draw-head embodying the elements of the invention. Figs. 4, 5, and 6 are elevations, from below, of the draw-head, the closing-plate, and the coupling-block detached from Fig. 2. Figs. 7 and 8 are views showing modifications of the device, and Fig. 9 is a plan of a link used in connection with Figs. 7 and 8.

In the drawings, A designates the body of a draw-head adapted to be secured, in any approved manner, to the bodies of cars, at the ends thereof, for the purpose of coupling said cars together in making up trains, and a rep-

resents a connecting pin or bolt provided with buffer-springs, by means of which said draw-head is secured in place. The forward end of the draw-head is provided with the usual bull-nose A', in the face of which is the end opening for the link to enter in coupling, and it is also provided with a vertical orifice a', through which the well-known pin is passed when the old-style link is used to couple onto a car provided with the old-style coupling. Into a side in the forward portion of the draw-head is recessed a wall-plate A², secured in place by screws or bolts a², tapped into its body, and this plate is adapted to close the coupling-block chamber and confine or house said block thereinto. This block and chamber, constituting the chief features of the present invention, will now be particularly described.

The chamber A³, extending nearly through the body of the draw-head, as is shown by dotted lines in Figs. 2 and 3, is practically rectangular in form, having the lower portion a³ of its rear end wall, as well as the lower and upper portions a⁴ and a⁵ of its front end wall, cylindrically and outwardly concaved from a common center 1 in the rearward portion of the chamber, each curve having a different radial extent. The curved portions of the front end wall are joined by a rearwardly-sloping inclined plane a⁶, and the center 1 lies in an axial line which constitutes the pivot-axis on which rotates the rear end of the coupling-block, yet to be described, to perform its functions. In the top is an orifice or slot a⁷, through which an arm or lug projects from the coupling-block to lift the same in uncoupling.

B designates the coupling-block, which is practically a rectangular body closely fitted into the lower portion of the chamber A³, just mentioned, the curved rear end b to rotate freely in the concaved rear end a³ of the chamber, and the curved portions b' and b² of the front end to ride, respectively, against the portions a⁴ and a⁵ of its front end wall, while the sloping portion b³ is adapted to rest on the incline a⁶. In the forward end of the block is a recess B' to receive the end of any approved coupling-link 2, and above, at the forward end of the recess, is a lip or hook b⁴

to engage the upper side or top notch of the link in coupling, while the smooth bottom portion b^5 is adapted to raise the link in uncoupling, and said recess must be just deep enough, allowing some freedom to the link end, to form a stop for said end to butt against and assist in coupling in the opposing draw-head. A spring B^2 , having one end secured to the draw-head by a screw b^6 and bearing downward onto the coupling-block, as at b^7 , serves to keep the coupling-block pressed downward and the link in place or engagement when cars are coupled, and B^3 is a finger or arm projecting upward through the slot a^7 , and having an orifice b^8 in its upper end may be connected with any approved device whereby the forward end of said block may be raised or lifted when cars are to be cut loose or uncoupled.

Central ridges 3 may be formed in the mouth of the draw-head, Figs. 7 and 8, on the upper lip of the coupling-block and on the lower slope of the draw-head when a closed or the ordinary link 4 may be used in coupling, (best shown in Fig. 7,) or the lower slope may be recessed on each side of the central ridge, as shown by dotted lines 5 in Figs. 7 and 8, when said closed link 4 will be held entirely by the coupling-hook 3 in the lower slope of the draw-head.

When so desired, the projecting arm B^3 of the coupling-block may be omitted, the slot a^7 in the top of the draw-head closed, and a lifting arm or cam C acts, through a slot 6 in the bottom of the draw-head, against the under side of the coupling-block, and said arm, having one end secured to a shaft C' , is journaled across the under side of the draw-head in bearings c , attached to said underside, and the shaft being provided with a handle or lever arm C^2 is adapted to raise said block in uncoupling. (All indicated by dotted lines in the drawings.) It will here be observed that this construction or application of the lifting device is preferred, because the draw-head will then be closed on top and a means

for the ready admission of water or sleet into the coupling-chamber prevented.

An inspection of Fig. 1 clearly shows a ready means for coupling cars by the use of arrow or spear headed links, and Fig. 7 one by the use of links like the one shown in Fig. 9.

Being aware that various devices using arrow-headed links and jaws have heretofore been in use for coupling cars, I do not claim my invention broadly; but

What I do consider new, and desire to secure by Letters Patent, is—

In a car-coupling of the character described, in combination: the draw-head A having the bull-nose A' and the plate A^2 secured into a side thereof; the housing-chamber in the forward end of the draw-head with the circular rear end wall a^3 and the circular front end wall portions a^4 and a^5 joined by the inclined portion a^6 , said circular portions having different radii from the common center 1, having also the link-aperture through the bull-nose end thereof opening into said chamber, and the side opening therein with the plate A^2 adapted to close said opening; the coupling-block B housed within the chamber and having the circular rear end portion b engaging the wall portion a^3 and the circular front end portions b' and b^2 engaging the wall portions a^4 and a^5 with the inclined portion b^3 resting on the inclined wall portion a^6 , said block having in its forward end the link-socket B' with the link-engaging hook b^4 and the link-lifting portion b^5 ; with mechanism provided to raise the forward end of said block, and a spring B^2 as shown to press said end normally down, all substantially as described and for the purpose hereinbefore set forth.

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

ALBERT F. GUIHL.

Witnesses:

ABRAHAM H. SHOCK,
EDWIN BOOKMYER.