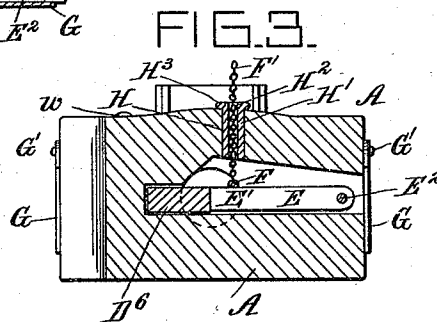
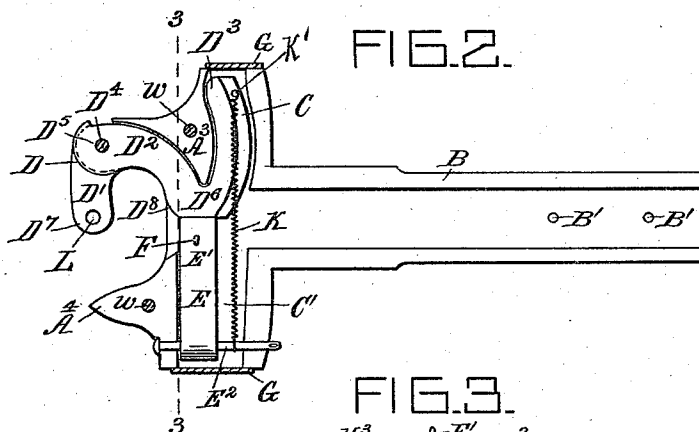
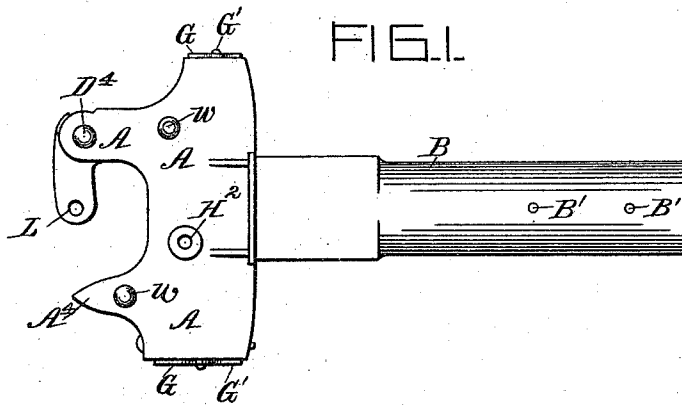


T. KLEIMEIER.
CAR COUPLING.

No. 537,611.

Patented Apr. 16, 1895.



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H. Smith

Inventor:
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FIG. 4.

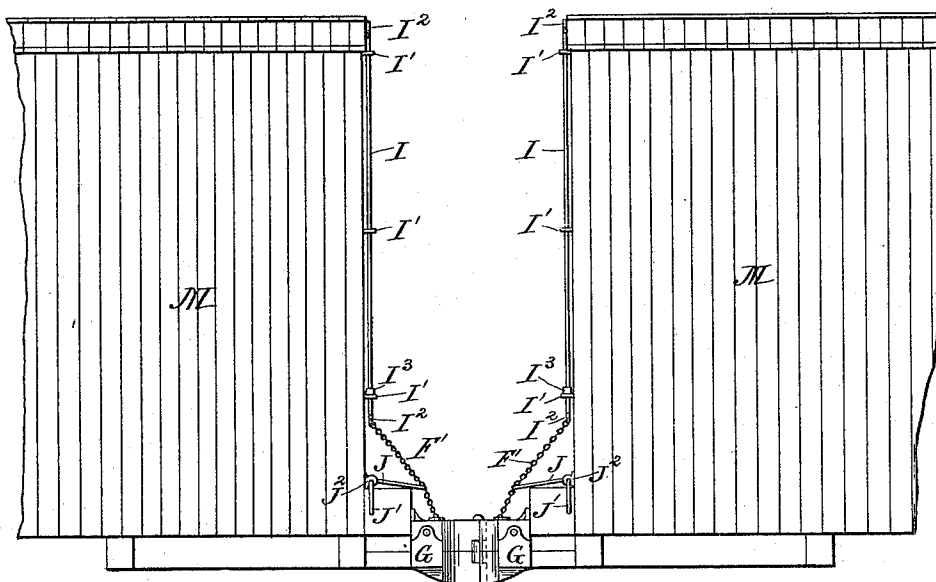
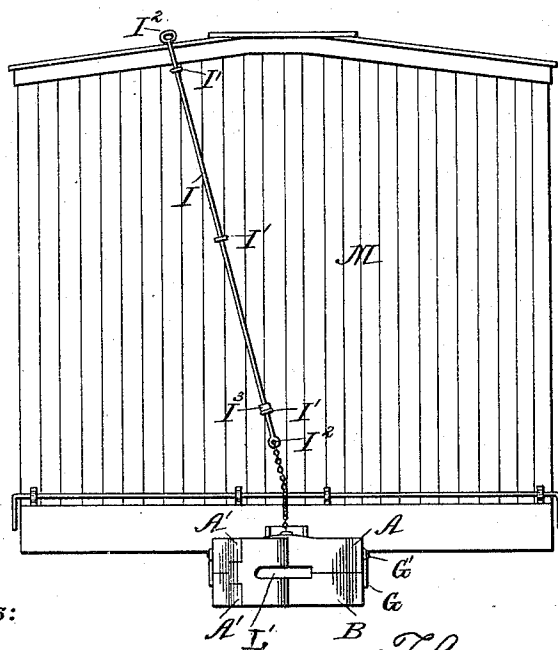


FIG. 5.



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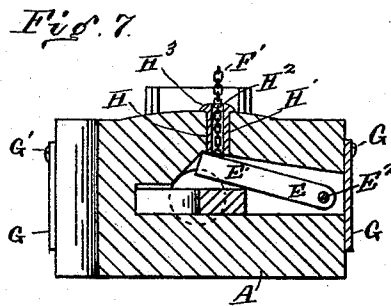
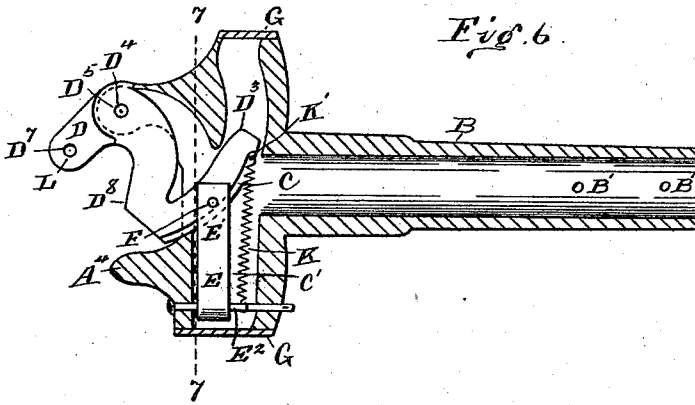
(No Model.)

3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

THEODOR KLEIMEIER, OF COVINGTON, KENTUCKY, ASSIGNOR OF ONE-HALF
TO ALEXANDER DAVEZAC, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 537,611, dated April 16, 1895.

Application filed March 11, 1893. Serial No. 465,510. (No model.)

To all whom it may concern:

Be it known that I, THEODOR KLEIMEIER, a citizen of the United States, and a resident of the city of Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

The several features of my invention and the various advantages resulting from their use, conjointly or otherwise, will be apparent from the following description and claims.

In the accompanying drawings making a part of this specification, and in which corresponding letters indicate corresponding parts, Figure 1, Sheet 1, is a plan view, of a draw-head and draw bar embodying my invention. Fig. 2, Sheet 1, is a view of the interior of the draw head and the working parts therein, after the upper half of the shell of the draw head and the upper half of the draw bar have been removed. Fig. 3, Sheet 1, is a vertical cross section taken in the plane of the dotted line 3 3 of Fig. 2, that side of the section being seen which faces toward the left. Fig. 4, Sheet 2, is a side elevation of the adjacent end portions of two freight cars, provided with means for coupling together, illustrating a preferred mode of the application of my invention to freight cars. Fig. 5 is an end elevation of a freight car thus provided with my invention. Fig. 6, Sheet 3, is a horizontal section of the case, other parts being shown in plan. This figure shows the parts in the position they occupy when unlocked, the free end E' of the lock piece E resting upon the arm D³ of the oscillatory hook. Fig. 7 is a vertical transverse section of the device shown in Fig. 6, taken in the plane of the dotted line 7 7 of Fig. 6.

A indicates the shell or frame of the draw head.

B indicates the draw bar. This bar is preferably secured to the proper part of the gearing of the car by bolts passed through the bolt holes B', B', of the draw bar B. The draw bar is preferably axially hollow, as shown.

In a curved groove C of the draw head is located the rear end or arm D³ of the S-shaped hook D and capable of sliding in said groove. This arm D³ is continued into and forms one with the central portion or middle limb D² of said hook D, and the latter is continued and

forms one with the outer limb or hook D' of the said hook. The middle portion D² increases in thickness toward the hook D'. The latter has a bolt hole L through its free end to pass through a coupling link when the latter is used, for any reason, as for instance, when a car having my coupling device is connected to a car which has not my said device. A horizontal slot L' in the hook receives said link. The hook piece D has a hole at D⁵, and those projections A', A', of the draw head A immediately above and below the hook piece have like holes D³, and through these holes passes the pivot bolt D⁴, whereon the hook piece D is pivoted and turns. A raised portion A³ of the draw head constitutes a lug or shoulder which prevents parts D² and D³ of the hook from going too far toward that side of the draw head which is at the top in Figs. 2 and 3. A part, viz: A⁴ of the head, also acts as a stop to prevent the hook from being thrown too far back. A spring as K is strained between a stud or fastening K' on the hook piece D and a suitable projection as pivot E², thereby continually tending to draw the arm D³ toward the pivot E² and throw back and open the hook D'.

A locking piece E is present and lies in the groove C' of the draw head A, and is pivoted on bolt E² fixed in the draw head. The free end E' of this locking piece can oscillate up and down. When down, its free end E' is against the part D⁶ of the hook piece D, and the hook D' is thereby kept shut, and in place as shown in Figs. 1 and 2. When the locking piece is thus raised, the spring K as aforementioned throws back the hook D' and opens the coupler in position for coupling with a similar coupler on the next car.

Sufficient room is provided in the drawhead for the free end of the locking piece to be raised up and out of connection with the hook piece D. The preferred means for raising the free end of this locking piece is as follows: A chain or cord F' is connected at one end to an eye or fastening F, F, on the free end of the locking piece. The chain then passes up through a passage way H in the draw head. I make this passage way much larger than the chain, in order that the chain may be readily fastened to the eye or fastening F. In this passage way is located a cinder guard (plug) H' having an axial perforation H², just large

enough to allow the chain F' to pass through it, and therefore cannot clog the operation of the parts. A flange H³ is located around and on the upper edge of the guard plug and when
 5 the plug is in place this flange rests on the top side of the draw head and extends beyond the opening or way H. Thus the guard H', H² prevents the cinders from entering the draw head through the way H.

10 The ends of the openings in the draw bar are preferably closed. As the mechanism within the draw bar sometimes needs to be reached for cleansing, or a possible repair, and readjustment, each end is covered by a
 15 lid G, suspended from a pivotal connection at G'. A preferred description of such connection is a bolt passed through an eye on the upper edge of the lid, and screwed into the draw bar.

20 The draw head A is provided with a projection A⁴ opposite the hook D', and the purpose of this projection will be hereinafter described.

In the application of my device to freight
 25 cars, a preferred means for raising the locking piece E consists of a long rod I, extending from the top of the car down the end of the latter to a point I², where it is connected to the chain F' lengthened for this purpose. The
 30 rod works through guides I', fixed to the car. A suitable stop I³ on the rod prevents the latter from dropping below the desired elevation. On the car is an oscillatory angulated brace J, pivoted at J' to the car. The free end of
 35 this brace holds the chain out from the car and in position for enabling it to be drawn upward with little friction against the walls of the passage way H. Drawing the brace upward lifts the locking piece E. The weight
 40 of the rod I causes it to descend when allowed to do so. The angle arm J' of the brace J prevents the brace J from descending beyond the desired limit. This it does by impinging against the car end.

45 The mode in which the coupling devices operate in coupling and uncoupling cars is as follows:—It is understood that each car is provided with couplers similar to that described, and shown in Figs. 1 and 2. In the
 50 adjacent couplers on the end of the car to be coupled, the hooks point in a direction the reverse of one another. In each coupler, the locking piece is lifted, and thus thrown out of engagement with the hook piece. The
 55 spring K now draws the parts D², D³ of the hook piece toward the pivot E², and moves the hook piece D' out and back. Each coupler is now open so that the hook of the opposite coupler can enter the space between the
 60 hook and projection A⁴ of the other coupler. The cars are moved toward one another and the couplers approach. The hook of the one coupler passes the hook of the other coupler, each hook entering between projection A⁴ and
 65 the part D² of the hook piece D of the opposite coupler. The outer free end D⁸ of each hook impinges against the part D⁸ of the opposite hook

piece, and forces the said part D⁸ back thereby moving the parts D² and D³ of the hook piece D toward the side (upper side in drawings, Figs. 70 1 and 2) of the coupler, and allowing the locking piece room to descend in front of the part D⁶ of the hook piece. The locking piece makes this descent, and locks the hook piece as shown in Fig. 2, and heretofore mentioned. At the
 75 same time, the hooks D' of each coupler have advanced toward their respective opposing projections A⁴, and have interlocked. They cannot now be unlocked so long as the cars remain on the track, until the locking pieces
 80 are operated, as aforementioned.

Aside from the advantages of economy of manufacture, and simplicity of construction possessed by my invention, the fact that the hook remains open when the coupler is un-
 85 locked and is closed and locked in such a simple and effective manner, is a great advantage of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is— 90

1. In a draw head, the combination of the hook piece having hook D', pivot connection D⁴, arm D², and arm D³, spring K, strained between arm D³, and a point on the draw head and the locking piece, bearing against
 95 the hook piece and locking the same, substantially as and for the purposes specified.

2. In a draw head, the combination of the hook piece D', D², D³, pivoted at D⁴, and stop piece A³ and stop A⁴, and elastic means K, for
 100 drawing the arm D³ toward the locking piece E, and this locking piece E vertically oscillatory, substantially as and for the purposes specified.

3. In a draw head, the combination of the
 105 hook piece D, pivoted at D⁴, and having bearing D⁸, and bearing D⁶ located substantially as shown, and locking piece E', pivoted at E², and spring K, strained between the hook piece and pivot E², and chain F attached to locking
 110 piece E and passing up through the draw head, substantially as and for the purposes specified.

4. In a draw head, the combination of the hook D, carrying the hook tail piece D², D³,
 115 having a bearing D⁶, pivoted at or near the junction of the hook D with the hook tail piece, and the spring K in connection with the free end of the hook piece D², D³, and the lever E pivoted at one end and having its
 120 oscillatory free end adjacent to the hook piece D², D³, for locking the hook by having its front end against the surface of the hook portion D², D³, at the bend of said hook and when lifted and unlocked from said hook
 125 resting upon the limb D⁸ of the hook piece D², D³, the hook piece D², D³ being adapted to receive and uphold the free end of the lever E when unlocked, substantially as and for the purposes specified.

THEODOR KLEIMEIER.

Attest:

C. J. MCDIARMID,
 K. SMITH.