

(No Model.)

2 Sheets—Sheet 1.

G. H. HUME.
CAR COUPLING.

No. 537,925.

Patented Apr. 23, 1895.

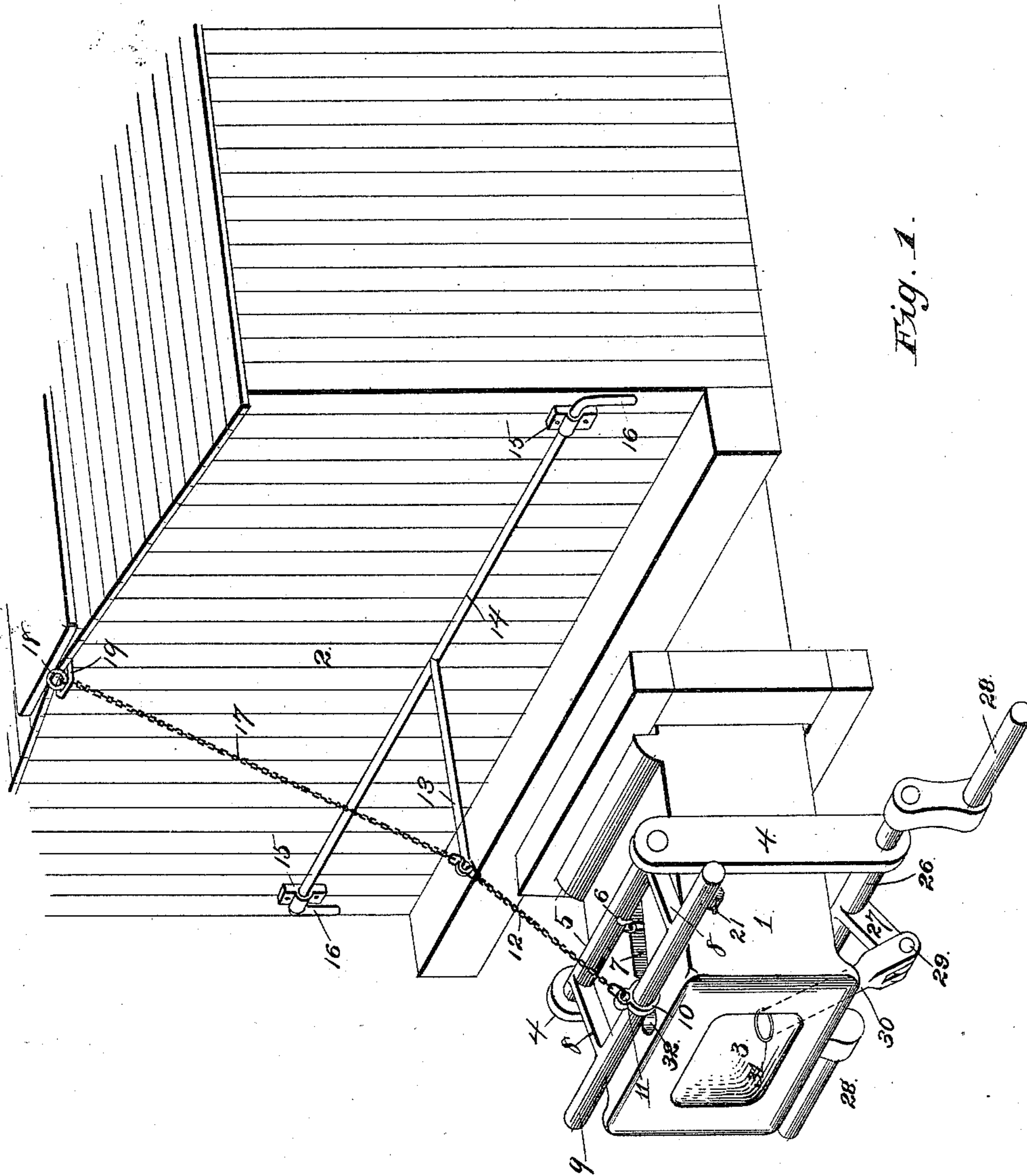


Fig. 1.

Witnesses:

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Inventor
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2 Sheets—Sheet 2.

No. 537,925.

Patented Apr. 23, 1895.



Inventor

George H. Hume.

By Hyman Higinson

UNITED STATES PATENT OFFICE.

GEORGE H. HUME, OF OSAWATOMIE, KANSAS, ASSIGNOR OF TWO-THIRDS
TO WILLIAM P. JONES AND JOHN HENRY EBY, OF DREXEL, MISSOURI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 537,925, dated April 23, 1895.

Application filed September 8, 1894. Serial No. 522,462. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. HUME, of Osawatomie, Miami county, Kansas, have invented certain new and useful Improvements in Car-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to devices for coupling cars, and my object is to produce a car-coupler which is simple, strong, durable, and comparatively inexpensive of construction, positive and reliable in operation, and which may be employed in connection with the ordinary pin and link coupler.

With these and other objects in view, the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents a perspective view of the end of a car, and of a car-coupler embodying my invention carried operatively thereby. Fig. 2 represents a vertical longitudinal section of said coupler, with the coupling-link elevated at its front end. Fig. 3 represents a similar view with the coupling-link in its normal position in the draw-head, and showing the locking-dog in position to allow the link to be withdrawn from the draw-head. Fig. 4 is a front view of a coupler with the link removed; and Fig. 5 is a perspective view of a modified form of coupling-link.

In the said drawings, 1 designates the draw-head of a car-coupler, and 2 designates a car to which it is attached in the ordinary or any preferred manner, and 3 designates the mouth of said draw-head.

4 designates a pair of vertical bars or plates, which are arranged at opposite sides of the coupler and project above and below the same, and these bars or plates may be either cast integral with the draw-head, or may be secured thereto in any suitable or preferred manner.

5 designates a rock-shaft, which extends transversely of the draw-head, and is journaled at its opposite ends in the upper ends

of the bars or plates 4, and 6 designates a hook projecting from said shaft and arranged in the vertical plane of an elongated opening 7, formed in the upper wall of the draw-head.

Projecting from the shaft 5, near its opposite ends, and extending parallel with each other, are the arms 8, and these arms, at their ends, carry a handle or cross-bar 9. This handle should be formed cylindrical about midway its length, so that the collar 10, provided with an eye 11, may rotate freely thereon, but it is not necessary that the handle should be cylindrical outward of the point of engagement with said collar.

12 designates a chain or other flexible connection, which engages at its lower end the eye 11, of said collar, and at its upper end the outer end of the arm 13, projecting centrally from the rock-shaft 14, which is journaled in bearings 15 secured to the end of the car, and said rock-shaft 14, at its opposite ends, is bent to form the handle-portions or cranks 16.

17 designates a chain or other flexible connection, which is attached at its lower end to the outer end of the arm 13, and at its upper end is provided with a hand-ring 18, and is guided through a loop 19 near the upper end of the car.

Extending transversely of the interior of the draw-head, and adjacent to the front end of the opening 7, is a cylindrical rod 20, the ends of which project through the side-walls of the draw-head, and are engaged by keys or counters 21, to hold said rod from accidental displacement.

22 designates the coupling jaw or dog, which fits snugly between the side-walls of the casing and rotatably upon the rod 20. This jaw or dog is provided with the flat faces 23 and 23^a, disposed approximately at right-angles to each other, and with the rounded or beveled face 23^b, which when the jaw or dog is in position to engage the link of an opposing coupler, is presented outwardly, or toward the opposing draw-head. Projecting outwardly from the flat face 23^a of said jaw or dog, and a suitable distance from its lower end, is a pin or loop 24, and engaging said pin or loop at its lower end, is a chain or other flexible connection 25, and said chain or flexible connection engages at its upper end the hook 6 carried

by the shaft 5. When the coupler is in operative position, that is, when coupled to an opposing draw-head, the handle of the shaft 5 occupies the position shown in Figs. 1, 2, and 4, and the coupling jaw or dog 22 occupies the position shown clearly in Figs. 2 and 4, with its flat face 23 bearing against the top-wall of the draw-head and its curved or beveled face presented outwardly. It will be apparent, therefore, that to uncouple the cars it will be necessary only to cause the disengagement of the jaw or dog and the link of the said opposing draw-head, and this is accomplished by grasping the hand-ring 18, one of the crank-handles 16, or the handle 9, as most convenient, and moving said handle toward the rear end of the draw-head, or from the position shown in Fig. 2 to the position shown in Fig. 3, and this movement, rotating the rock-shaft 5, causes the same to gather or wind up a portion of the chain 25, and thereby pivotally operate or raise the coupling jaw or dog to the inoperative position shown in Fig. 3, which position it will maintain until the handle 9 is again moved back to its original position, and it will be evident that when said coupling jaw or dog is raised the cars may be freely uncoupled.

Arranged horizontally below the draw-head and parallel with the rock-shaft 5, is a rock-shaft 26, and this rock-shaft is journaled at its opposite ends in the lower ends of the bars or plates 4, and is provided with a central and forwardly projecting arm 27; and at its opposite ends with crank-handles 28, which may be secured upon the ends of said shaft in any suitable or preferred manner. The free end of the arm 27, is pivotally mounted upon a pin 29 in the bifurcated lower end of a lift-pin 30, which engages at its upper end a vertical aperture in the lower wall of the draw-head, which aperture is vertically beneath an aperture 32 in the upper wall of the draw-head.

33 designates the preferred form of coupling-link, which I will employ in connection with and is a part of my invention, and this coupling-link is provided centrally with a vertical passage 34, and with the upwardly projecting and abrupt shoulders 35 near its opposite ends, and these shoulders are disposed inwardly or toward each other. The ends of the link are also rounded or beveled toward a point, as shown, so that the link may be freely and easily inserted within the draw-head.

If in coupling two cars provided with my improved car-coupler, one draw-head is found to be lower than the other and carries the coupling-link, one of the crank-handles 28 of the coupler provided with the link may be operated slightly to cause the lift-pin 30 to raise or elevate the outer end of said link, as illustrated in Fig. 2, and in order to successfully accomplish this it is obvious that it is desirable if not necessary that the lower side of the end of the link be rounded or beveled, so as to permit the link to be pivotally operated

to such position. It is manifest that with this lift-pin construction the free end of the link may be guided within the opposing draw-head without difficulty. As the end of the coupling-link enters said opposing draw-head and strikes the beveled or rounded portion of the coupling-jaw or dog below its pivotal point, the same is pivotally operated until the shoulder of said link has passed to the rear and out of engagement with the same. Immediately this position is reached, the coupling jaw or dog by gravity swings to its pendent and operative position, and with the flat face 23^b of the same presented toward and opposing the shoulder of the link, which is within the draw-head and in position to resist the same upon the recoil of the cars. It will be apparent that upon said recoil the strain is not endured by the rod 20 carrying said coupling jaw or dog, but is endured by the upper wall of the draw-head by reason of the flat surface 23 bearing against the under side of the same, and resisting any further pivotal movement of the said jaw or dog.

In case a car provided with a coupler embodying my invention is to be attached to a car provided with a coupler of the pin and link type, I will employ a link 36, which is provided with a shoulder 37 at one end, corresponding in construction and function to the shoulder 35, and is provided at its opposite end with a longitudinally extending slot 38, and in case the operating mechanism of my coupler is injured or broken, the lift-pin 30 may be removed so that said coupler may be employed in connection with an ordinary pin and link coupler, the coupling-pin in this instance engaging the vertically aligned apertures 31 and 32 and the interposed link, as will be understood.

In case both couplers embody my invention and one is injured, the lift-pin 30 may be removed, and a coupling-pin of the ordinary construction inserted into the apertures 31 and 32 and the interposed central aperture or passage 34 of the coupling-link 33.

From the above description, it will be apparent that I have produced a car-coupler which is simple, strong, durable, and comparatively inexpensive of construction, positive and reliable in operation, automatic in the coupling operation, and which may be uncoupled easily and expeditiously without passing between the cars if desired.

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

1. A car-coupler, comprising a draw-head having an opening in its top wall, a coupling jaw or dog pivotally mounted within said draw-head, a rock-shaft journaled above the opening in the draw-head, a flexible connection between the rock-shaft and the coupling jaw or dog, arms projecting from said rock-shaft, a handle connecting said arms, a collar rotatably mounted upon said handle and provided with an eye, in combination with a rock-

shaft journaled upon the end of a car and provided with crank-handles, an arm projecting from said rock-shaft, and a flexible connection between said arm and the eye of said collar, substantially as set forth.

2. A car-coupler, comprising a draw-head having an opening in its top wall, a coupling jaw or dog pivotally mounted within said draw-head, a rock-shaft journaled above the opening in the draw-head, a flexible connection between the rock-shaft and the coupling jaw or dog, arms projecting from said rock-shaft, a handle connecting said arms, a collar rotatably mounted upon said handle and provided with an eye, in combination with a chain engaging the eye of the said collar and provided with a hand-ring at its upper end, and a guide-loop through which said chain extends, substantially as set forth.

3. In a car-coupler, the combination with a draw-head, a coupling jaw or dog pivotally mounted within said draw-head and provided with flat faces arranged approximately at right angles to each other and with a rounded or beveled surface, a rock-shaft journaled above said draw head, and a flexible connection between said rock-shaft and said coupling jaw or dog, of a coupling-link having a beveled or tapered end and provided with an in-

wardly-disposed shoulder which is adapted to engage one of the flat surfaces of said jaw or dog and cause the other flat face to bear firmly against the top wall of the draw-head, and means to pivotally raise or elevate said jaw or dog to disengage it from said link, substantially as set forth.

4. In a car-coupler, the combination with a draw-head, a coupling jaw or dog mounted pivotally within the same, and a link engaging said jaw or dog, and having the under side of the end inward of the point of engagement with the jaw or dog curved, of a rock-shaft having crank-handles and an arm, and a lift-pin pivotally connected to said arm at its lower end, and engaging a guide-aperture in the bottom of the draw-head at its upper end and bearing against the bottom of the coupling link outward of the point of engagement between said link and the coupling jaw or dog, so that the link may rock upon the said curved surface when the pin is raised, substantially as and for the purpose set forth.

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

GEORGE H. HUME.

Witnesses:

A. H. HUME,
JOHN S. HUME.