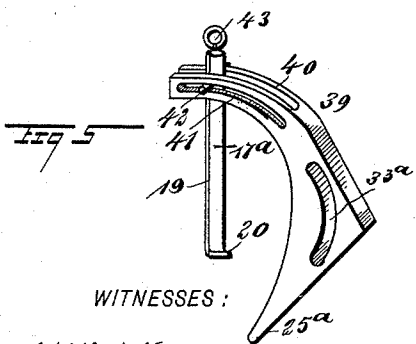
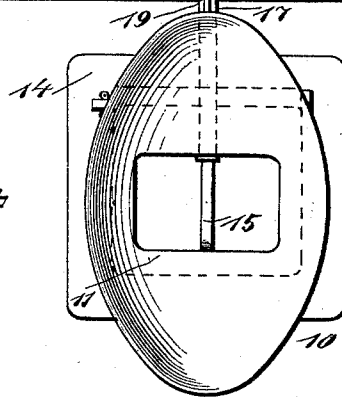
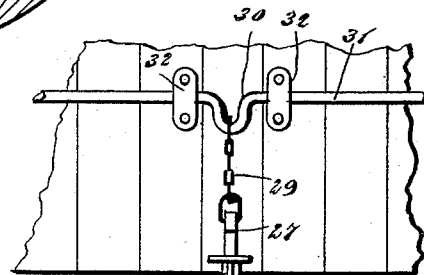
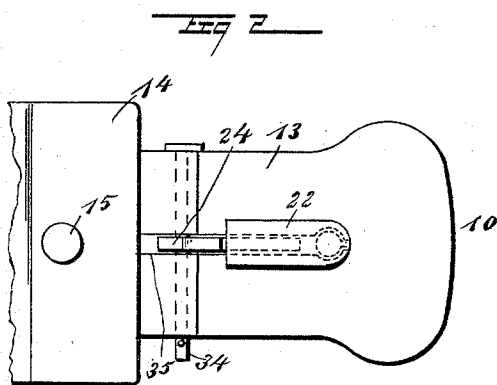
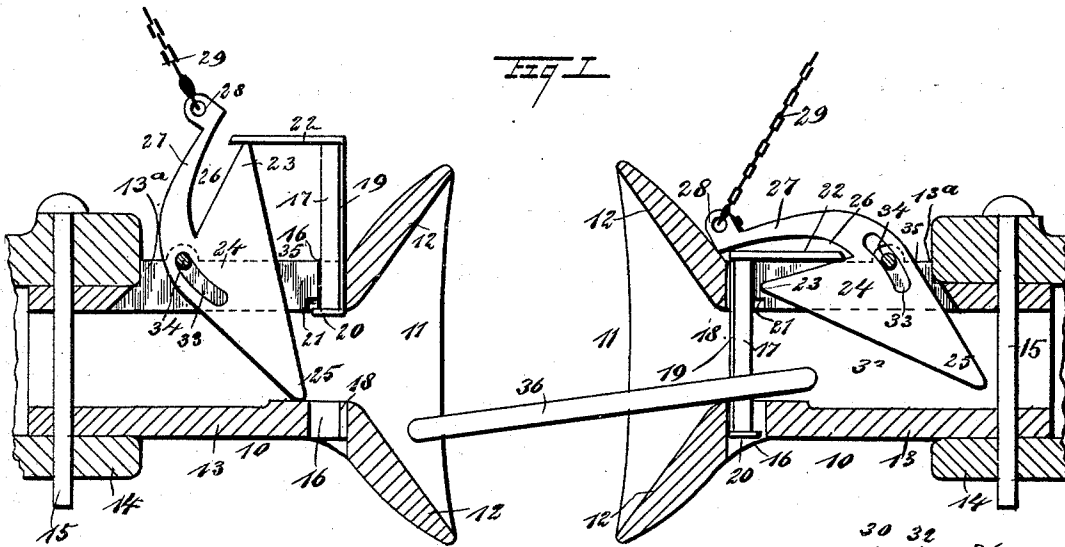


(No Model.)

H. G. WOOD.
CAR COUPLING.

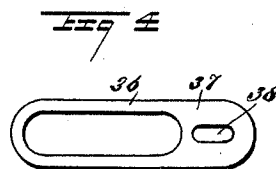
No. 486,011.

Patented Nov. 8, 1892.



WITNESSES:

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BY

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

HORATIO G. WOOD, OF NEWPORT, RHODE ISLAND.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 486,011, dated November 8, 1892.

Application filed February 17, 1892. Serial No. 421,846. (No model.)

To all whom it may concern:

Be it known that I, HORATIO G. WOOD, of Newport, in the county of Newport and State of Rhode Island, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

My invention relates to improvements in car-couplings, such as are adapted especially for use on freight-cars, and more particularly to that class of couplings using a link and pin, as this class of couplings is generally considered more reliable than any other.

The object of my invention is to produce a simple, durable, cheap, and efficient coupling which may be applied to new cars or to any of the common link-and-pin couplings, which will enable two cars to be automatically coupled together from mere contact, and which may be easily operated to couple or uncouple from the top or sides of the car, so that the brakeman will have no occasion to pass between two cars.

To this end my invention consists in a car-coupling, the construction of which will be hereinafter described and claimed.

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

Figure 1 is a broken detail longitudinal section of two couplings in the act of coupling. Fig. 2 is a plan view of one of the couplings. Fig. 3 is a front end view of the same, showing, also, the apparatus for lifting the pin. Fig. 4 is a plan view of the coupling-link, and Fig. 5 is a detail perspective view of a modified form of pin and lifter.

The draw-head 10 is provided with an open flaring mouth 11, the upper and lower sides 12 of which extend well above and below the central opening of the coupling, so that a link may be readily guided into the draw-head and the couplings may be used conveniently when coupling cars of different heights. The draw-head has a hollow shank 13, which is adapted to fit within the draw-head 14, which draw-head is the common old-fashioned kind, and the shank 13 has a shoulder 13^a, which abuts with the draw-head 14, and the shoulder receives the thrust of the cars and makes the attachment strong. The shank 13 is held within the draw-head 14 by means of the

coupling-pin 15, which extends downward through both shank and draw-head. The draw-head 10 is provided with a vertical pin-hole 16, extending entirely through the draw-head, the hole being located immediately behind the flanges 12, and a coupling-pin 17 is held to slide vertically in the hole, the pin having on its front side a rib 19, which fits in a vertical groove 18, which opens from the front side of the hole 16, and the rib and groove cause the pin to slide smoothly and always be in the right place. The pin has at its lower end a flange 20, which is adapted to enter a recess 21 in the top wall of the draw-head and which prevents the pin from being withdrawn. The lower portion of the hole 16 is large enough so that the flange may drop readily through it, as shown in Fig. 1.

At the top of the pin 17 is a rearwardly-extending arm 22, which is adapted to engage the point 23 of an essentially-triangular lever 24, which lever serves as a pin-lifter and is pivoted at the rear of the coupling-pin, the lower point 25 of the lever being adapted to rest on the bottom of the draw-head 10 and in the path of the coupling-link, as shown in Fig. 1. The lever 24 is provided near the top with a rearwardly-extending recess 26, which when the cars are coupled is adapted to receive the arm 22 of the pin 17, as shown at the right hand in Fig. 1. Above this recess is an arm 27, which terminates at its free end in a lug 28, and this is connected to a chain 29, which extends upward and rearward and is secured to a crank 30 on the rod 31, which rod is pivoted in keepers 32 on the end of the car and extends to the sides thereof, and the rod may be provided with the usual cranks, so that by turning it the lever 24 and the pin 17 connected therewith may be lifted. In the back portion of the lever 24 is an elongated slot 33, which is curved slightly, so as to permit the easy movement of the lever, and this slot receives a pin 34, which extends transversely through it and across the top of the draw-head 10, the pin forming the pivot of the lever. The lever is held to swing in a slot 35 in the top of the draw-head, and the operation of the lever will be described below. The link 36, used in connection with the coupling, has one nearly-solid end 37, in which is a slot 38 to receive a pin 17, and the object of this

arrangement is to provide for holding the link so that it will not be pushed too far back in the draw-head.

In Fig. 5 I have shown a modified form of the pin-lifter and pin, and, as here shown, a lever 39 is provided with a slot 33^a near the center thereof, which slot is adapted to receive the pin 34, and this lever has a forwardly-extending point 25^a to rest on the bottom of the draw-head, as is the case with the lever 24, and the upper end of the lever 39 extends forward and is provided with a vertical slot 40 to receive the pin and with curved side slots 41, which receive trunnions 42 on the sides of a pin 17^a, which is substantially like the pin 17, having the rib 19 and flange 20; but it has a top ring 43, to which the chain 29 may be attached, and it will be understood that this chain may be operated by the rod 31, as described above, or it may be extended to the top of the car, so as to be raised from said point.

The operation of the coupling is as follows: When the couplings are to be coupled, the point 25 of one lever 24 will be well forward in its draw-head 10 and just behind the hole 16, the pin 17 will be raised and its arm 22 will rest upon the point 23 of the lever. When two couplings come together, the link 36, which will be held in one coupling, as shown in Fig. 1, will enter the mouth 11 of the opposing coupling and, guided by the flaring flanges 12, it will enter the bore of the draw-head, strike the point 25 of the lever 24, and push the lower end of the lever backward, the pivot-slot permitting this to be readily done. When the lower end of the lever is thrown backward, the upper end will be thrown forward and the arm 22 of the pin will enter the recess 26 of the lever and the pin will drop, so as to pass through the link 36.

The construction of the lever 24 is such that when its upper end is thrown forward to couple the cars the weight will be forward of the center line of gravity, and consequently it will push down upon the pin, so as to drive it through any ordinary obstruction—such as snow—and the weight will also serve to prevent the displacement of the pin.

When the cars are to be uncoupled, the upper end of the lifting-lever 24 is raised by means of the chain 29 and its connections, and the point 23 of the lever, striking the arm

22 of the pin, will raise the pin so as to release the link 36, the lower point 25 of the lever being thrown forward ready for another operation. Here, again, it will be noticed that the shape of the lever will cause its weight to be thrown back of the center line of gravity, and consequently it will remain in the position shown at the left hand in Fig. 1.

From the foregoing description it will be seen that the coupling is extremely cheap and that it cannot fail to operate.

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

1. A car-coupling comprising a draw-head having a flaring mouth and a vertical pin-hole in the rear of the mouth, a coupling-pin held to slide in the pin-hole and having an arm at the top, and a swinging pin-lifting lever pivoted in a slot in the draw-head, the lower end of the lifter extending downward into the path of the link and the upper end of the lever being adapted to engage the arm of the pin, substantially as described.

2. A car-coupling comprising a hollow draw-head having a flaring mouth, a vertical pin-hole in the rear of the mouth, and a slotted top, a pin held to slide in the pin-hole, and a weighted lifting-lever pivoted in the slot and loosely connected with the head of said pin and having its lower end extended into the path of the coupling-link, the upper end of the lifting-lever being adapted to connect with a lifting-chain, substantially as described.

3. The combination, with a draw-head having a vertical pin-hole with a groove in one wall, of a coupling-pin having a bottom limiting-flange and having a rib to slide in the groove, substantially as described.

4. The combination, with the slotted draw-head and the vertically-movable pin held to slide therein and having a rearwardly-extending arm, of a swinging weighted lifting-lever pivoted in the rear of the pin, the lever having its lower end adapted to extend into the path of a coupling-link and having its upper end recessed to receive the arm of the pin, and a crank mechanism for operating the lifting-lever, substantially as described.

HORATIO G. WOOD.

Witnesses:

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WM. GILPIN.