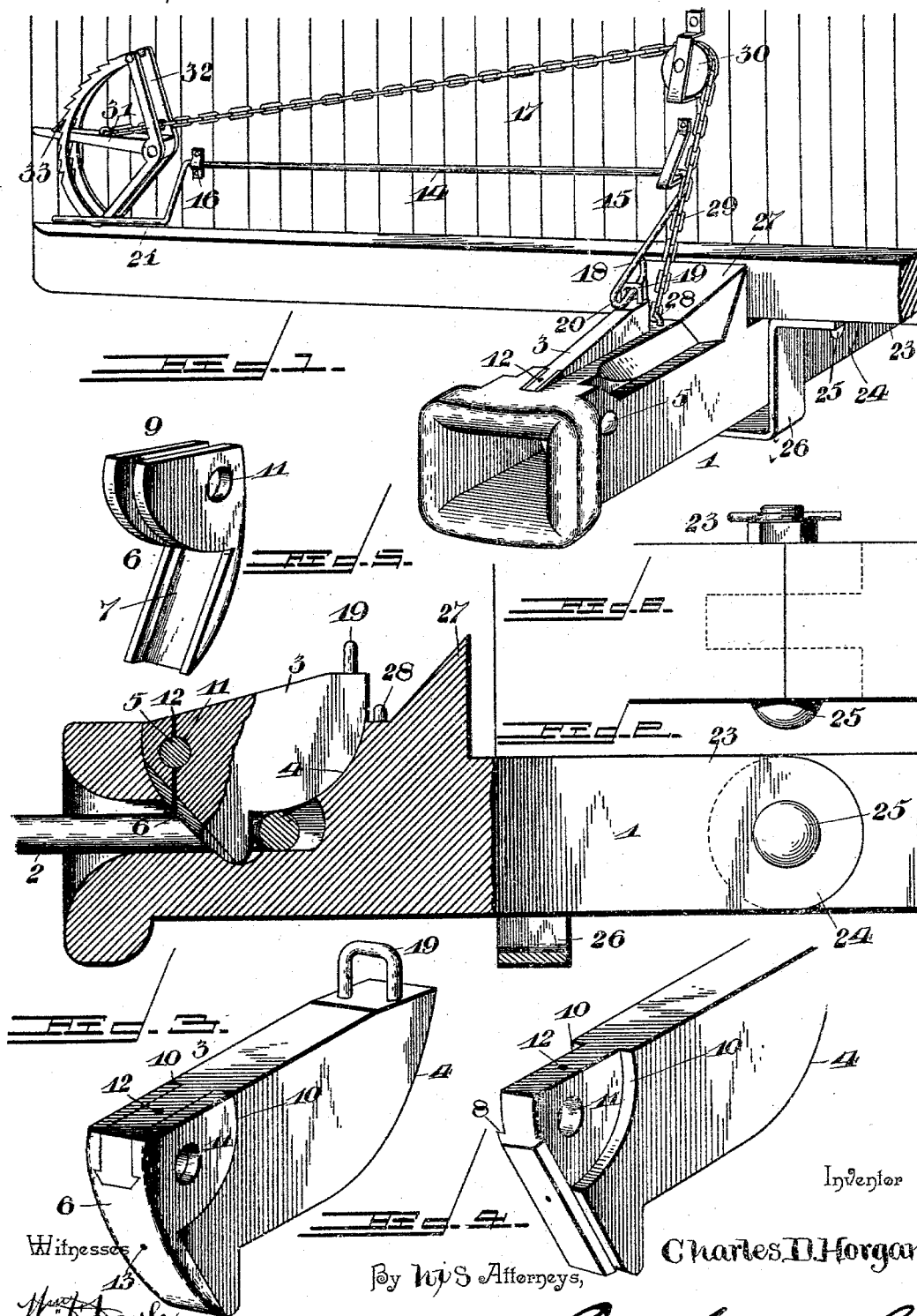


C. D. HORGAN.
CAR COUPLING.

Patented June 30, 1896.



Inventor

Charles D. Horgan

By his Attorneys,

Cash on h/o.

ANDREW B. GRAHAM, PHOTO-UTHO, WASHINGTON, D.C.

UNITED STATES PATENT OFFICE.

CHARLES D. HORGAN, OF VICTOR, COLORADO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 562,827, dated June 30, 1896.

Application filed May 19, 1896. Serial No. 592,142. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. HORGAN, a citizen of the United States, residing at Victor, in the county of El Paso and State of Colorado, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car-couplings.

10 The object of the present invention is to improve the construction of car-couplings, and to provide a simple, inexpensive, and efficient one, capable of coupling automatically, and adapted to be readily uncoupled without going between cars.

15 A further object of the invention is to provide a car-coupling in which the draw-head will be capable of vertical adjustment to adapt it to be arranged at an elevation to suit the height of the draw-head of another car.

20 Another object of the invention is to improve the construction of swinging catches, and to provide one which may be readily renewed when worn, without discarding the entire catch.

25 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

30 In the drawings, Figure 1 is perspective view of a car-coupling constructed in accordance with this invention. Fig. 2 is a central longitudinal sectional view of the same. Fig. 3 is a detail perspective view of the catch. Fig. 4 is a detail view of the catch, the shoe being removed. Fig. 5 is a detail perspective view of the shoe. Fig. 6 is a detail view illustrating the manner of hinging the draw-head.

35 Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a draw-head having a flaring mouth and provided with a longitudinal link-opening for the reception of a link 2, which 45 is engaged by a swinging catch 3, and the latter is pivotally mounted in the longitudinal slot of the draw-head. The catch, which is substantially triangular, presents an inclined 50 front edge adapted to be engaged by a link

entering the draw-head, whereby the catch is automatically lifted to effect the operation of coupling, and its lower point or apex is received within a notch of the bottom of the draw-head. The rear side of the catch is recessed to receive the end of the link, and the upper portion of the rear edge of the catch is curved at 4 and bears against a curved portion of the draw-head to relieve the transverse pivot-pin 5 of strain.

60 It has been found by experience that catches, by being struck by links, become rapidly worn and have to be entirely discarded, and in order to enable a catch to be renewed without discarding it entirely a removable shoe 6 is provided. The shoe 6, which is preferably constructed of chilled steel in order to withstand the wear, is arranged at the front edge of the catch in position to be struck by a link entering the draw-head, and is provided with a longitudinal dovetail groove 7, which interlocks with corresponding dovetail flanges 8, and the shoe, which is inserted on the catch from the top thereof, is provided at its top with a pair of flanges 9, located at opposite sides of the catch, arranged in recesses 10 thereof, and provided with registering perforations 11 to receive the transverse pivot-pin 5, whereby the shoe is securely fastened to the catch. The flanges 8, which extend from the bottom of the catch to within a short distance of the top of the same, are located at the opposite sides thereof, and are formed by recessing the catch, and the shoe completes the front of the catch and has its outer faces flush with the outer faces of the same.

Should the shoe become worn or broken, it may be readily removed from the catch by withdrawing the transverse pin 5, and a new shoe can be quickly applied without discarding the entire catch.

The catch is provided with an oil-hole 12, extending from its upper edge downward to the opening or perforation for the reception of the pivot-pin 5, and then downward to its front edge, and the shoe is provided with a corresponding perforation 13, which registers with the lower end of the oil-hole 12, and by supplying oil, or other lubricant to the top of the oil-hole 12, the pivot 5 is lubricated and

also the front face of the catch, thereby greatly reducing the wear and enabling the end of the link to lift the catch without injuring the shoe.

5 The upper portion of the catch extends above the draw-head in order that the catch may have sufficient weight to engage the link positively, and to prevent absolutely any liability of the catch becoming accidentally
10 thrown out of engagement with the link by jars, and the like, incident to the passage of a train over a rough road-bed.

The operation of uncoupling is performed by a transverse rock-shaft 14, journaled in
15 inner and outer bearings 15 and 16 of a car 17, and provided, at its inner end, with an arm 18, which engages an eye 19 of the catch. The eye 19 is located at the rear end of the catch and the arm 18 has its outer end bent
20 downward and inward on itself to form a longitudinal loop 20, which is linked into the catch, and which permits the necessary play of the draw-head. The rock-shaft is provided, at its outer end, with a handle 21, which
25 extends normally outward and downward at an angle to the car, and when the catch is in engagement with the link the inner arm also bears against the upper portion thereof, so that the weight of the rock-shaft is borne by
30 the catch to increase the weight of the latter. By pivoting the catch at the upper front corner thereof, the strain, incident to drawing a car, operates to hold the catch in engagement with the link and to prevent it from swinging
35 backward and upward. The inner bearing 15, which receives the transverse rock-shaft, is provided with a substantially triangular loop to permit the necessary play of the draw-head, and also to accommodate itself to the
40 adjustment thereof.

In order to enable the draw-head to be adjusted vertically to accommodate itself to the height of the draw-head of another car so that a straight link may be employed, the
45 shank or draw-bar 23 of the draw-head is provided with a hinged joint 24, consisting of a pair of ears, arranged at opposite sides of the front section of the draw-bar or shank, a centrally-arranged ear located at the front end
50 of the inner section of the shank or draw-bar and fitting between the side ears, and a transverse bolt or fastening device 25, which passes through the perforations of the ears. The outer portion of the draw-bar or shank is arranged within a rectangular frame or stirrup
55 26, which depends from the car, and which is secured at its top to the same. This rectangular frame or stirrup comprises a horizontal bottom portion and vertical sides, and the latter have their upper ends bent outward at right angles to form attachment-plates, which are bolted, or otherwise secured, to the framework of the car.

The draw-head is provided in rear of the
65 catch, between the same and the flange 27, with an eye 28, into which is linked one end

of a chain 29, and the latter extends upward and passes over a pulley 30. The pulley 30 is mounted on the car, and the chain 29 extends therefrom to one side of the car and is
70 connected with an operating-lever 31, which is fulcrumed in a double ratchet 32, and which carries a pawl 33, arranged to engage the teeth of the ratchets. The outer end of the lever forms a handle, and by swinging it up-
75 ward or downward the draw-head is raised or lowered and the pawl is adapted to hold the draw-head at any desired elevation.

It will be seen that the car-coupling is exceedingly simple and inexpensive in construction, that it is positive and reliable in
80 operation, and that it is capable of automatically coupling and of being readily uncoupled without going between cars. Furthermore, it will be apparent that the draw-head
85 is capable of vertical adjustment to bring it into the same horizontal plane as the draw-head of another car, and that the catch may be readily renewed, when worn, without entirely discarding it. It will also be apparent
90 that by lubricating the pin and the front face of the catch the durability of the parts is greatly increased.

Changes in the form, proportion, and minor details of construction may be resorted to
95 without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. In a car-coupling, the combination of a
100 draw-head having a link-opening and provided with a longitudinal slot, a swinging catch arranged in the slot, provided at opposite sides with a recess and having at its front dovetail flanges, a removable shoe having a
105 dovetail groove interlocked with the dovetail flanges of the catch and provided at its top with side flanges fitting in the recesses of the catch, and a transverse pivot-pin passing through the side flanges and the catch, pivot-
110 ing the latter in the draw-head and securing the shoe to the same, substantially as described.

2. In a car-coupling, the combination with a car, of a draw-head provided at its shank
115 with a hinged joint and capable of a limited upward and downward movement, a pulley mounted on the car and located above the draw-head, a chain secured to the draw-head, passing over the pulley and extending to one
120 side of the car, an operating-lever connected with the chain, a ratchet, and a pawl carried by the lever and engaging the ratchet, substantially as and for the purpose described.

3. In a car-coupling, the combination of a
125 draw-head, a swinging catch arranged therein, provided with a transverse perforation and having a hole extending from its upper edge to its front edge and intersecting the transverse perforation and adapted to receive
130 a lubricant, a removable shoe arranged at the front of the catch, interlocked therewith

and provided with side flanges embracing the same, and a transverse pivot passing through the side flanges and the perforation of the catch, locking the shoe to the latter and pivoting the catch to the draw-head, substantially as and for the purpose described.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in the presence of two witnesses.

CHAS. D. HORGAN.

Witnesses:

JOHN H. SIGGERS,
THEODORE DALTON.