

(No Model.)

2 Sheets—Sheet 1.

G. W. JACKSON, R. SMITH & E. A. BENNETT.
CAR COUPLING.

CAR COUPLING.

No. 516,601.

Patented Mar. 13, 1894.

Fig. 1.

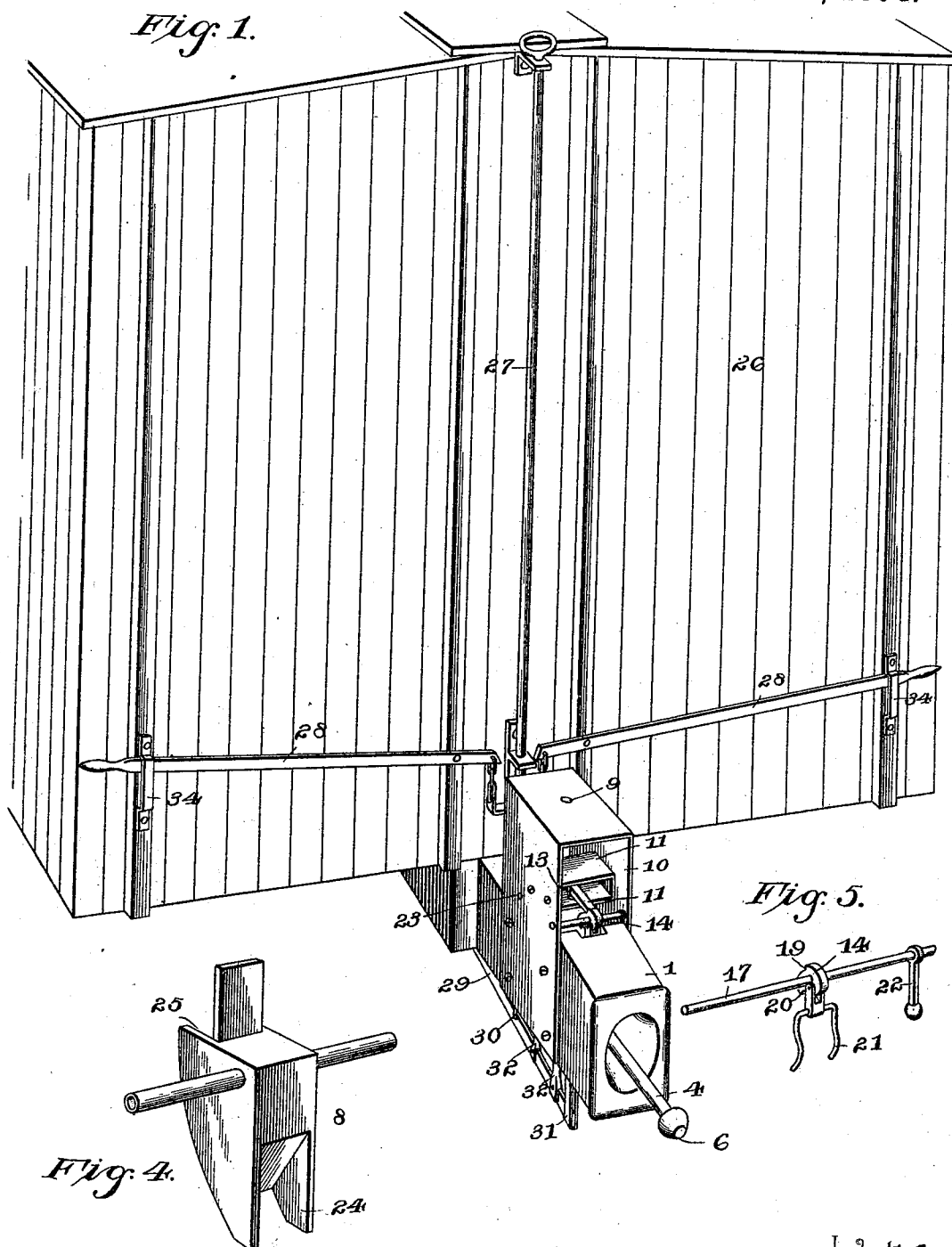


Fig. 5.

Fig. 4.

Witnesses

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By their Attorneys, *Edward A Bennett,*

Chenoweth

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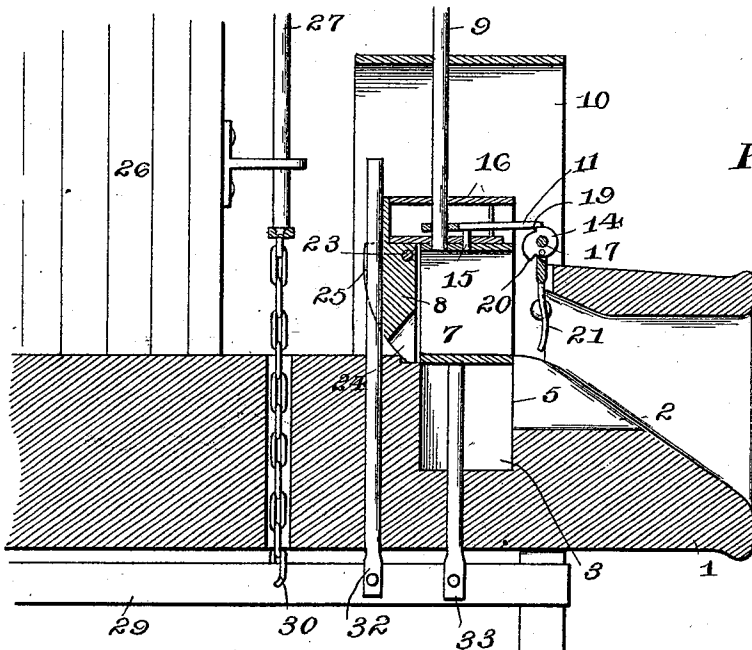


Fig. 2.

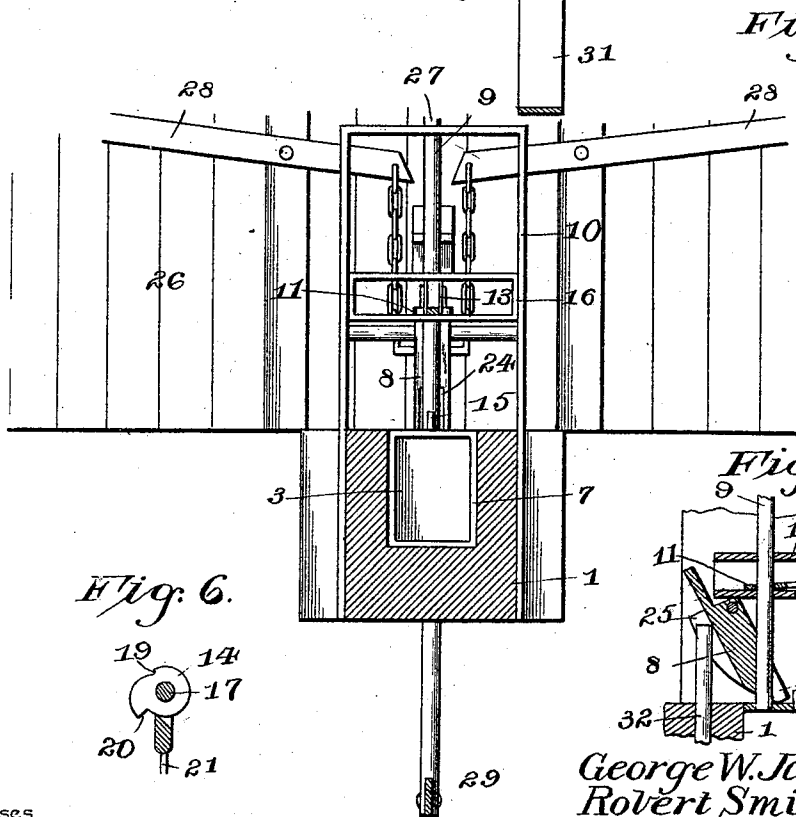


Fig. 3.

Fig. 6.

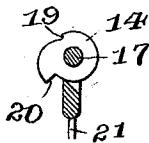
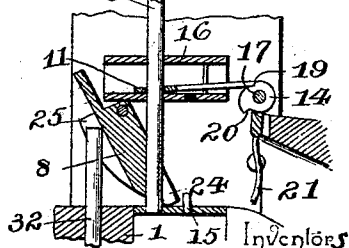


Fig. 7.



Inventors

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Robert Smith, and
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Witnesses
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H. W. Riley

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

GEORGE W. JACKSON, ROBERT SMITH, AND EDWARD A. BENNETT, OF
WESTON, WEST VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 516,601, dated March 13, 1894.

Application filed November 28, 1893. Serial No. 492,284. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. JACKSON, ROBERT SMITH, and EDWARD A. BENNETT, citizens of the United States, residing at Weston, in the county of Lewis and State of West Virginia, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car couplings.

The object of the present invention is to improve the construction of car couplings, and to provide a simple and inexpensive one, which will be positive and reliable in operation, capable of automatic coupling, and adapted to be readily uncoupled from the top or sides of a car to obviate the necessity of going between cars.

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.

In the drawings—Figure 1 is a perspective view of a car coupling constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view. Fig. 3 is a transverse sectional view. Fig. 4 is a detail perspective view of the gravity catch or latch for holding the link against accidental uncoupling. Fig. 5 is a detail perspective view of the trigger mechanism. Fig. 6 is a detail view of the eccentric. Fig. 7 is a detail sectional view showing the gravity latch in its locking position.

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

1 designates a draw-head, having a flaring mouth and provided with a narrow longitudinal opening 2, terminating in a vertical mortise or way 3, and adapted to receive a headed link, that is coupled by having its head arranged in the mortise or way and engaging shoulders formed by a contracted portion 5 of the opening 2. The link 4 consists of a cylindrical body provided at each end with a slightly tapered or rounded head 6, forming an annular shoulder at its inner face and presenting a smooth outer face adapted to readily enter the flaring mouth of the draw-head. After the link enters the draw-head its head

is received by a rectangular box or casing 7, which is elevated and set preparatory to coupling, and which after receiving the head of the link falls to carry the head of the link in engagement with the shoulders of the draw-head, and it is prevented from rising by a gravity latch 8, pivotally mounted in rear of the box or casing. The box or casing is guided by a rod 9, which is mounted for vertical reciprocation in a vertical frame 10, carried by the draw-head and forming a casing to protect the mechanism of the coupling.

The rod 9 and its box or casing 7 are held elevated by a clutch 11, which consists of a bar provided at its inner end with an opening receiving the rod 9 and being of slightly greater diameter than the same; and the bar is adapted to be slightly raised at its outer end to cause it to bind against the rod 9 to prevent the descent thereof. The clutch is arranged in a rectangular housing between vertical guides 13; its outer end rests upon an eccentric 14 when it is in engagement with the rod 9; and it is lifted in position to be supported by the eccentric 14 by means of a pin 15, projecting upward from the top of the box or casing 7 and operating through an opening in the bottom of the housing 16 of the clutch 11. The eccentric 14 is mounted on the shaft 17; it is provided with a recess 19 into which the clutch drops when the rod 9 is released; and it is provided with a depending extension 20, adjacent to which is pivoted a swinging trigger 21, arranged to be engaged by the coupling link when the latter enters the draw-head. The swinging link is approximately U-shaped; and it is provided at the top with a bifurcated portion, which is pivoted to the eccentric in advance of the extension 20, whereby, when the link enters the draw-head, the trigger in moving rearward, through contact with the link, engages the extension 20, and rotates the eccentric, and carries the supporting portion thereof from under the clutch to cause the latter to drop into the recess 19 to release the rod 9 of the box or casing 7. The shaft 18, which carries the eccentric, is provided with a depending weighted arm 22 to hold the parts in proper position.

The gravity latch 8 is pivoted by a horizon-

tal pin or bolt 23 eccentrically, and has its front and rear faces grooved at 24 and 25, and it swings forward and engages the rod 9 at the top of the box or casing 7 to prevent the latter from rising.

The coupling is set for automatic operation from the top or sides of the car 26 by a rod 27 or levers 28, which are connected with a longitudinal lever 29 by a chain 30. The longitudinal lever 29 extends along the draw-head, and is located below the same, and is fulcrumed at its rear end. It has its front end arranged in a vertical guide 31, and it is pivotally connected to a pair of push rods 32 and 33, which pass upward through the draw-head to trip the gravity latch 8, and to elevate the box or casing 7. The push-rods 32 and 33 are arranged in suitable openings or perforations of the draw-head; and a rod 32 is arranged to engage and swing forward the upper portion of the gravity latch, to withdraw the lower portion thereof from engagement with the box or casing 7 to release the same. As soon as the box or casing descends, carrying with it the head of the link, the gravity latch automatically swings into engagement with and confines the box or casing. The rod 27 extends to the top of the car terminating in a handle, and it is mounted in suitable brackets; the levers extend to opposite sides of the car terminating in handles arranged in keepers 34; and the inner ends of the levers 28 are connected by short chains with the lower end of the lifting rod 27. The chains, which connect the inner ends of the levers 28 with the lower end of the rod 27, afford a loose connection; and the chain 30 permits the draw-head to move incident to coupling and running without interfering with the uncoupling mechanism. Any suitable means may be provided for enabling the operation of uncoupling to be performed from other points of the car; and the casing 10 may if desired be closed on all sides to protect the mechanism from the weather.

It will be seen that the car coupling is simple and comparatively inexpensive in construction, and positive and reliable in operation, that it is capable of effecting the operation of coupling automatically, and that it may be readily uncoupled from the top and sides of a car to obviate the necessity of going between cars.

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

What we claim is—

1. In a car coupling, the combination of a draw-head having a longitudinal opening and provided with shoulders to be engaged by links, a link receiving box or casing mounted in the draw-head in rear of the shoulders thereof and having a vertical movement, means for setting and tripping the link receiving box or casing, and a latch for locking

the box or casing against vertical movement, substantially as described.

2. In a car coupling, the combination of a draw-head, a vertically movable link receiving box or casing mounted on the draw-head and provided with a rod extending vertically from it, a frame receiving and guiding the rod, a friction clutch mounted in the frame and having an opening receiving the rod and adapted to bind against the same, and a trigger for supporting the clutch arranged to be engaged by a link, substantially as described.

3. In a car coupling, the combination of a draw-head, a vertically movable link receiving box or casing mounted on the draw-head and provided with a vertically disposed rod, a frame receiving and guiding the rod, a friction clutch consisting of a bar having an opening to receive the rod and adapted to bind against the same, an eccentric arranged to support the clutch in engagement with the rod and provided with a recess to permit the clutch to drop out of such engagement, and a trigger depending from the eccentric and arranged to be engaged by a link, substantially as and for the purpose described.

4. In a car coupling, the combination of a draw-head, a vertically movable link receiving box or casing mounted on the draw-head and provided with a vertically disposed rod, a frame receiving and guiding the rod, a clutch bar mounted in the frame and having an opening receiving the rod, an eccentric arranged to support the clutch bar and provided with a recess, and having an extension, and a trigger hinged to the eccentric in advance of the extension and arranged to be engaged by a link, substantially as described.

5. In a car coupling, the combination of a draw-head, a vertically movable link receiving box or casing mounted on the draw-head and provided with a vertically disposed rod, a frame receiving and guiding the rod, a clutch bar mounted in the frame and arranged to engage the rod, a shaft provided with an eccentric adapted to support the clutch bar in engagement with the rod and provided with a recess and having an extension, a trigger hinged to the eccentric in advance of the extension, and a weighted arm depending from the shaft and holding the eccentric and the trigger in proper position, substantially as described.

6. In a car coupling, the combination of a draw-head, the vertically movable link receiving box or casing mounted on the draw-head and provided with a vertical rod, a frame receiving and guiding the rod, a clutch for holding the rod elevated, tripping mechanism, a swinging gravity latch mounted on the frame and arranged to engage the box or casing to hold the same against upward movement, and vertically movable push rods arranged to disengage the gravity latch and to raise the box or casing, substantially as described.

7. In a car coupling, the combination of a

draw-head, a vertically movable box or casing mounted thereon and provided with a vertical rod, a frame receiving and guiding the rod, a clutch for engaging and holding the rod elevated, means for tripping the clutch, a pivotally mounted gravity latch arranged in the frame adjacent to and adapted to engage the box or casing and having its rear face grooved, push-bars mounted in suitable openings of the draw-head and located beneath the box or casing, and a gravity latch, a lever fulcrumed beneath the draw-head and pivotally connected with the push-bars, and means for raising the lever, substantially as described.

8. In a car coupling, the combination of a draw-head, a vertically movable link receiving box or casing mounted thereon and pro-

vided with a vertical rod, a frame receiving and guiding the rod, a clutch bar mounted on the frame and provided with an opening receiving the rod and adapted to bind against the same, a pin mounted on the box or casing and arranged to engage and lift the clutch bar, an eccentric for supporting the clutch bar, and a trigger connected with the eccentric, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

GEORGE W. JACKSON.

ROBERT SMITH.

EDWARD A. BENNETT.

Witnesses:

ANDREW SOMEESTON,

W. B. MCGARY.