

No. 607,334.

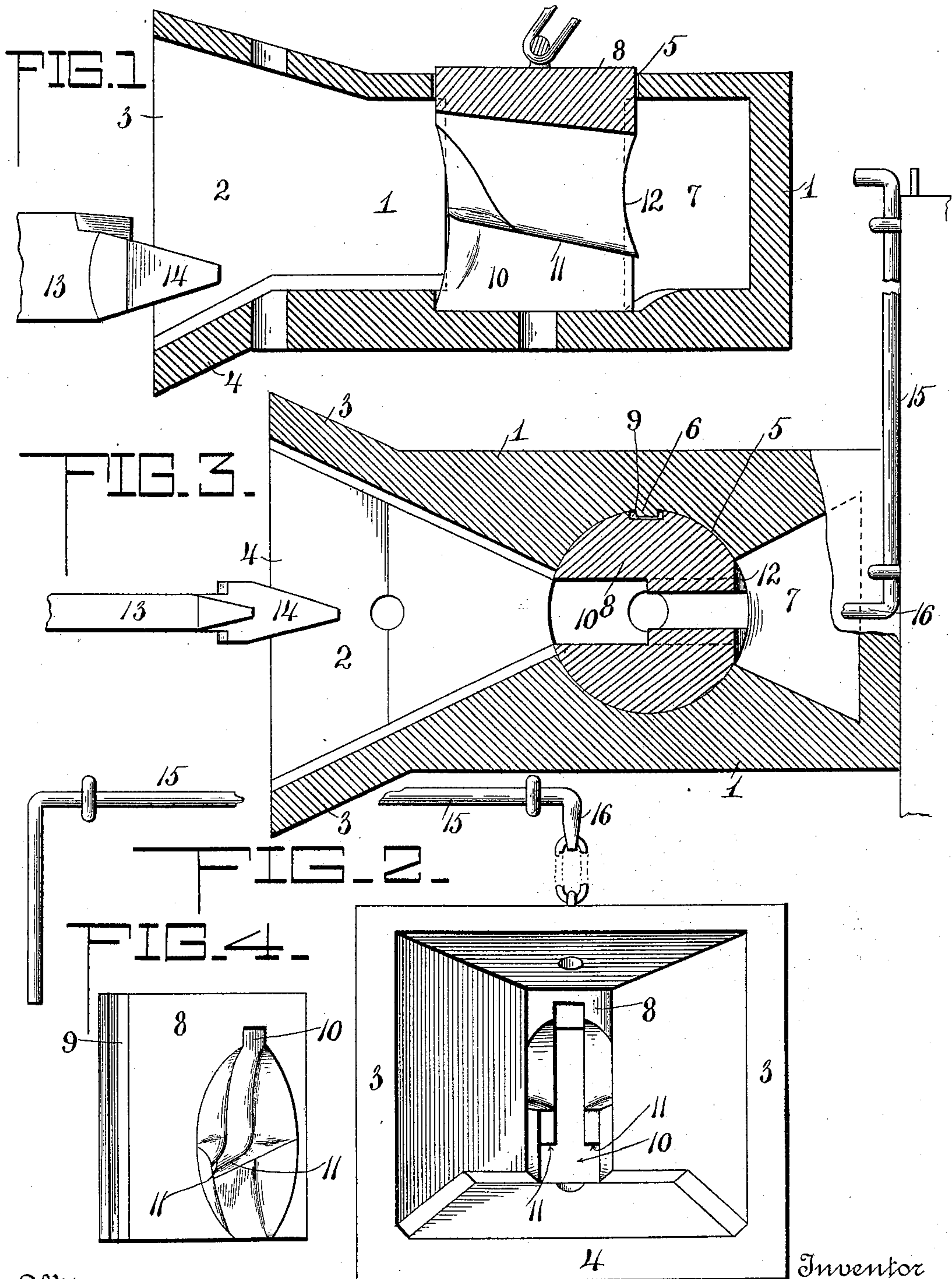
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W. H. BONWELL, JR.

CAR COUPLING.

(Application filed June 23, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 607,334, dated July 12, 1898.

Application filed June 23, 1897. Serial No. 641,932. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BONWELL, Jr., of Whitcomb, in the county of Franklin and State of Indiana, have invented certain
5 new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to
10 make and use the same.

The object of this invention is to provide a car-coupling which is automatic in its operation, the construction also accomplishing the coupling of the cars on a curve of the track,
15 and certain mechanism provided to uncouple the cars from the side or top of the car, so as not to require a trainman to go between the cars for the purpose.

With the above object in view the invention consists in a car-coupling, the same comprising in its construction a draw-head having a flaring mouth and a vertical chamber opening at the top of the draw-head to receive the coupling-pin and guide the same,
25 said coupling-pin having a vertical opening through the same at its lower portion, the forward end of which is beveled, in connection with a coupling-bar having a head which passes through the enlarged opening of the
30 coupling-pin to raise the same and permit it to drop into engagement with the coupling-bar, all as will be hereinafter described, and particularly pointed out in the appended claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a sectional view through a car-coupling constructed in accordance with my invention. Fig. 2
40 is a front elevation of one of the coupling-heads. Fig. 3 is a horizontal sectional view, and Fig. 4 is an elevation of the coupling-pin.

Referring to the drawings by numerals, 1 designates the draw-head, which is provided with a flaring mouth 2, presenting rearwardly-
45 converging side walls 3 and an inclined bottom 4. In the rear of this mouth the draw-head is provided with a vertical cylindrical opening 5, extending through the top of the draw-head and provided at one side with a
50 guide-flange 6. This cylindrical opening communicates with the mouth and also with an opening or chamber 7 in the rear end of

the draw-head adapted to receive the head of the coupling-bar hereinafter described.

Fitting within the cylindrical opening 5 of
55 the draw-head is a correspondingly-shaped coupling-pin 8, having a vertical recess 9 on one side, which is adapted to be engaged by the guide-flange in the opening to properly position said coupling-pin therein, the recess
60 being slightly larger than the flange to allow for a slight turning of the pin. It will be noted that this pin is of comparatively large diameter, and through the lower part of the same extends an opening 10, the lower portion
65 of which is enlarged to present the shoulders 11 11, which incline downwardly to the rear end of the pin. The forward end of the opening in the pin is beveled at opposite sides
70 above and below the shoulders formed therein, and the rear end of the pin is provided with curved surfaces 12 at opposite sides of the opening. The opening in the pin extends
75 nearly to the top of the same, for when the pin is seated within the draw-head the upper end is about flush with the top of said draw-head.

In connection with the coupling-pin hereinbefore described I employ a coupling-bar, (designated by the numeral 13,) which is preferably straight, and is provided at its opposite ends with arrow-heads 14, the rear ends of said heads at each side of the bar being curved outwardly, as shown, and the body
80 portion of the bar extends above the upper surface of the head, for the purpose hereinafter stated. When this coupling-bar enters the draw-head, the point of the arrow-head will engage the flared portion of the opening
85 in the coupling-pin and, passing into said opening, will engage the shoulders and lift the pin until the head passes in the rear of the same, when the pin will drop to its normal position and the sides of the head engage the same. In this engagement the curved
90 rear ends of the head will contact with the curved faces 12 at the back of the pin.

From the foregoing it will be noted that by the particular construction of the coupling head and pin the bar will properly enter the
100 mouth and engage the flared opening of the pin and will turn the same to bring the opening in the proper line for the passage of the bar through the same, the pin being raised

by the bar, as hereinbefore stated. This allows for a coupling to be effected in a very short curve in the track, and when the pin has dropped to its normal position a strong and durable coupling is made.

I anticipate providing the draw-heads with the ordinary pin-openings in the top and bottom, in order that a coupling may be made with a draw-head of the ordinary type carrying an opening coupling-link.

Having particularly described the operation of coupling draw-heads constructed in accordance with my invention employing a draw-bar with arrow-heads at their ends, it will be understood that the uncoupling of the car is effected by lifting the coupling-pin, which is accomplished either from the top of the car or the sides of the same. For this purpose the end of the car is provided with a transverse shaft 15, having centrally a forwardly-projecting arm 16, connected to the coupling-pin, the opposite ends of the shaft being turned into crank-handles, by which said shaft may be rocked. For uncoupling from the top of the car the forwardly-projecting arm, which connects with the coupling-pin, has a chain or flexible connection attached thereto and extending upwardly to a wheel or other device for pulling upon the same.

By the particular construction of the parts which constitute my improved car-coupling I provide a device of this character which automatically couples under any circumstances, and when it is desired to uncouple the cars it is only necessary to lift the pin, certain mechanical devices being provided for accomplishing this instead of requiring the trainmen to go between the cars for the purpose.

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

1. In a car-coupling, the combination of a draw-head provided with a vertical opening, a cylindrical coupling-pin having rotatable movement therein, means for limiting the rotatable movement, the coupling-pin being provided with an opening through the lower part of the same presenting downwardly-inclined shoulders, and a coupling-bar having a head to engage the pin at the sides of the reduced portion, substantially as described.

2. In a car-coupling, the combination with

a draw-head having a flaring mouth and vertical cylindrical opening therein, a flange at one side of the opening, a coupling-pin adapted to fit within the vertical opening and provided with a recess with which the flange engages, said recess being slightly wider than the flange to permit a rotary movement of the pin, the said pin also having an opening through the same which is enlarged at its lower end to form shoulders which incline downwardly; together with a coupling-bar having a head the sides of which extend beyond the sides of the body of the bar, substantially as shown and described.

3. In a car-coupling, the combination of the draw-head provided with a flaring mouth and vertical cylindrical openings in the rear of the same, a flange at one side of said opening, a coupling-pin having a recess slightly larger than the flange with which it engages, said pin being also provided with an opening through the same enlarged at its lower end forming downwardly-inclined shoulders, the rear end of the pin having concave portions at opposite sides of the narrow part of the opening; together with a coupling-bar having arrow-heads at its ends, the rear ends of the said heads being curved outwardly, substantially as shown and described.

4. In a car-coupling, the combination of a draw-head having a flaring mouth, a vertical cylindrical opening in the rear of the same and a chamber beyond said opening, a flange located at one side of the opening, and a coupling-pin having a recess which engages the flange and a vertical opening through the same enlarged at its lower ends to form downwardly-inclined shoulders, the forward end of the opening in the pin being beveled at opposite sides, a coupling-bar having arrow-heads adapted to pass through the lower part of the opening in the coupling-pin; together with devices for raising the coupling-pin consisting of a transverse shaft connected thereto, said shaft having crank-handles at its ends and connected operating devices at the top of the car, substantially as shown and described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

W. H. BONWELL, JR.

Witnesses:

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