

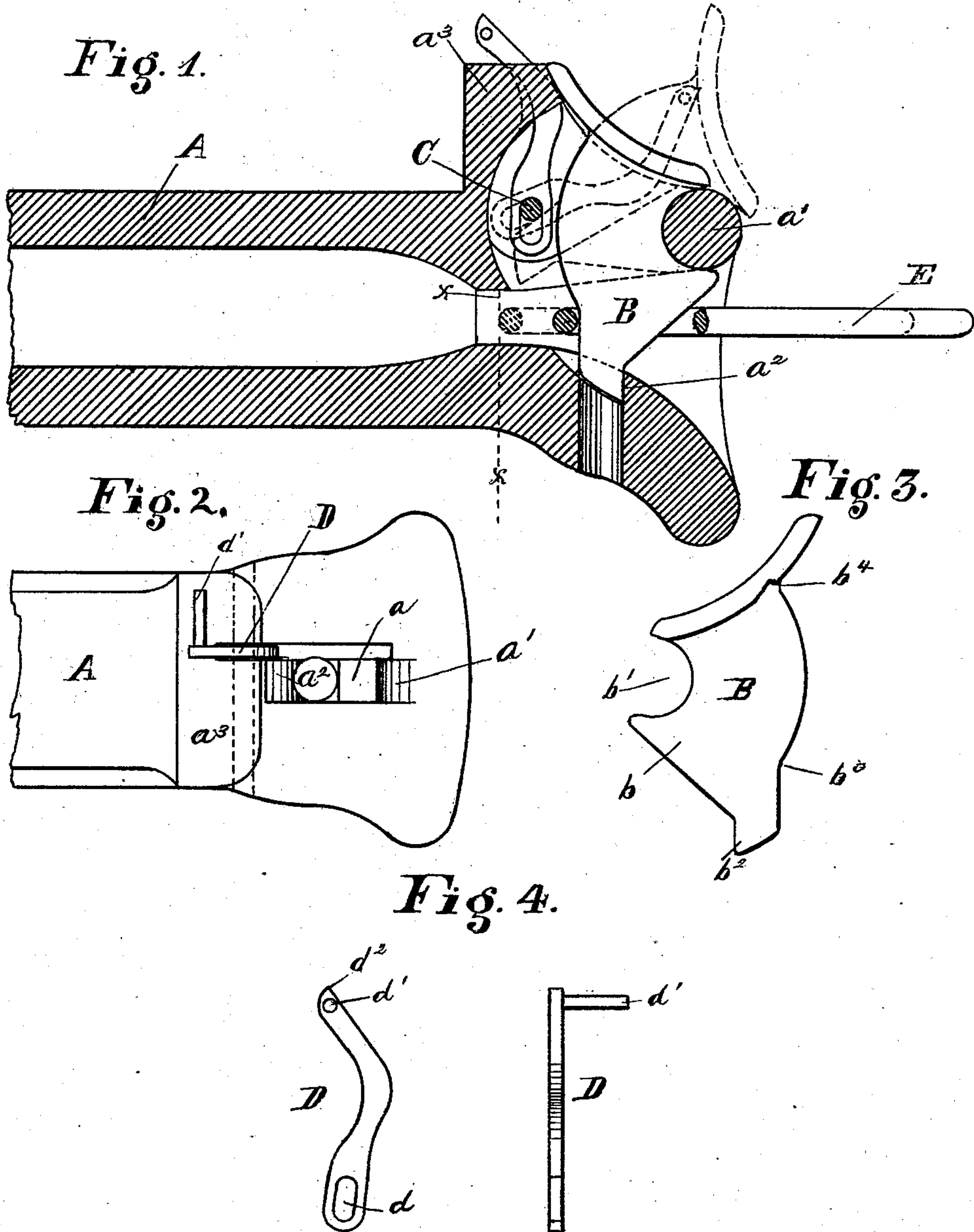
(No Model.)

J. D. VANCE.

CAR COUPLING.

No. 279,845.

Patented June 19, 1883.



Attest

Joseph W. Sims
Engineer A. Pooler

Inventor
John D. Vance
By John W. Hall

UNITED STATES PATENT OFFICE.

JOHN D. VANCE, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO JOHN J. LE BEAU, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 279,845, dated June 19, 1883.

Application filed May 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. VANCE, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

The nature of my invention consists in the construction and arrangement of an automatic coupling, principally for freight-cars, which will be hereinafter fully described.

In the accompanying drawings, Figure 1 is a longitudinal elevation of my invention; Fig. 2, a plan of draw-bar with coupling-pin removed; Fig. 3, a detached view of coupling-pin, and Fig. 4 a detached view of arm for the support of the coupling-pin while shifting cars.

Similar letters of reference indicate similar parts.

A is a draw-bar of the form now in general use for freight-cars, and made of cast-iron. This member is provided with an aperture or mortise, *a*, which is rectangular in plan and partially circular in longitudinal section in the upper portion thereof, the forward end of which aperture is bounded by a convex surface, *a'*, which forms a journal-bearing for the coupling-pin, as will appear hereinafter.

B is the coupling-pin, provided with the forward extension, *b*, which terminates in a concave seat, *b'*, which corresponds in dimensions and form with the journal-bearing *a'* of the draw-bar. The lower end, *b²*, of the coupling-pin B is formed to fit into the recess *a²* of the draw-bar, to furnish a bottom support to the pin while drawing a load.

C is a cross-pin driven through the lug or housing *a³*, cast upon the upper portion of the draw-bar, which, in conjunction with the recessed back *b³* of the coupling-pin B, prevents the removal of the latter from the draw-bar until the cross-pin C is first withdrawn. By this construction the coupling-pin B cannot be jolted out of the draw-bar in making the coupling between cars—a fault common to several of the automatic couplers previously invented. This cross-pin C also serves to secure the arm or lever D, which turns upon it, as shown in Figs. 1 and 4, and is used to set the pin B

clear of the link E while shifting cars in the yard, as clearly indicated in the drawings.

b⁴ is a flange or shoulder, which serves to support the coupling-pin B on the lever D, and to permit of the coupling-pin being raised by the lever D. The arm D is provided at its lower end with a slot, *d*, which, when the arm is down, as shown in solid lines of Fig. 1, prevents its following and holding up the coupling-pin B while making a coupling automatically, but permits it to be raised by handle *d* and dropped under the head of the coupling-pin when the latter is to be set clear of the link, as shown in solid lines of Fig. 4. The point *d²* of the arm or lever D is made acute to engage with shoulder *b⁴* of the coupling-pin.

The dotted lines of Fig. 1 show that the coupling-pin B is revolved on its bearings *b' a'* when link E is thrust into the draw-bar, and that directly the link has passed into the draw-bar to the position shown by dotted line X X of Fig. 1, the pin B returns by gravity to its normal position, and engages with the link, as shown in solid lines of same figure. The upward movement of the pin C is limited by the cross-pin D, as already explained.

It will be observed that the coupling-pin B is of such a form in longitudinal elevation as to furnish great strength, much in excess of the ordinary round or flat pin now in general use, and that it has a full bearing in the upper and lower halves of draw-bar, thereby furnishing an arrangement of draw-bar and coupling-pin which, while simple in construction, is extremely strong and durable, and not easy of derangement in use.

I am aware that an automatic coupling for railway-cars containing a draw-bar and an oscillating coupling-pin, which falls by gravity after the link has passed into the mouth of the draw-bar, and engages with the link to draw the load, is not new, and this I do not claim.

Having described my invention, what I claim is—

1. The combination, with draw-bar A, having an aperture, *a*, convex bearing *a'*, recess *a²*, and housing *a³*, of the coupling-pin B, having a bearing, *b'*, recessed back *b³*, cross-pin

C, and link E, for the purpose and substantially as shown and described.

2. The combination, with draw-bar A, having an aperture, a , convex bearing a' , and
5 housing a^3 , of the coupling-pin B, having bearing b' and shoulder b^4 , cross-pin C, and lever or arm D, substantially as and for the purpose described.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

JOHN D. VANCE.

Witnesses:

JOHN W. HILL,
F. C. TROWBRIDGE.