H. BLACKMORE.

Car Coupling.

No. 42,041. Patented Mar. 22, 1864.

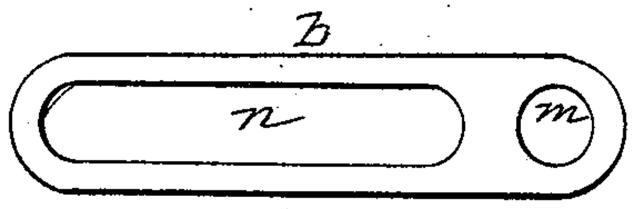


Fig. 5

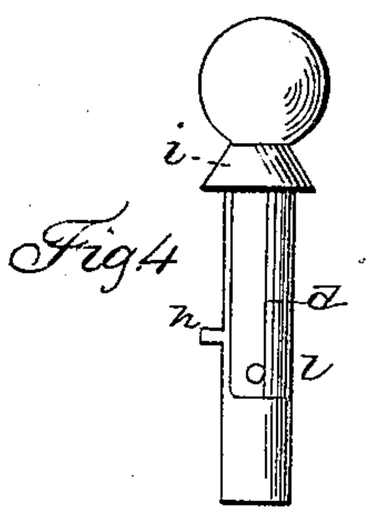


Fig 4

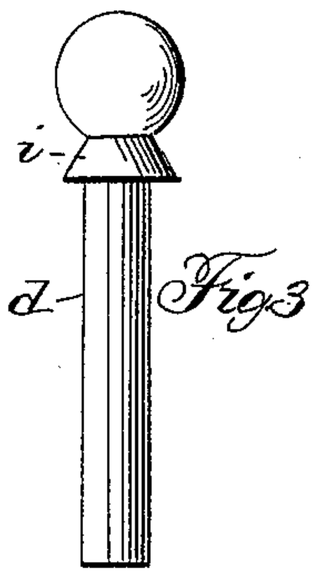
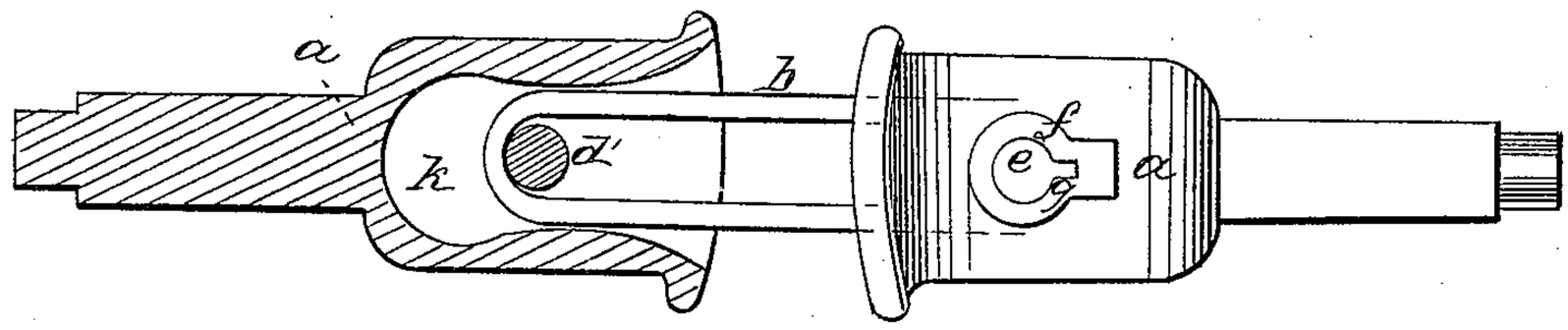


Fig 3

Fig. 1



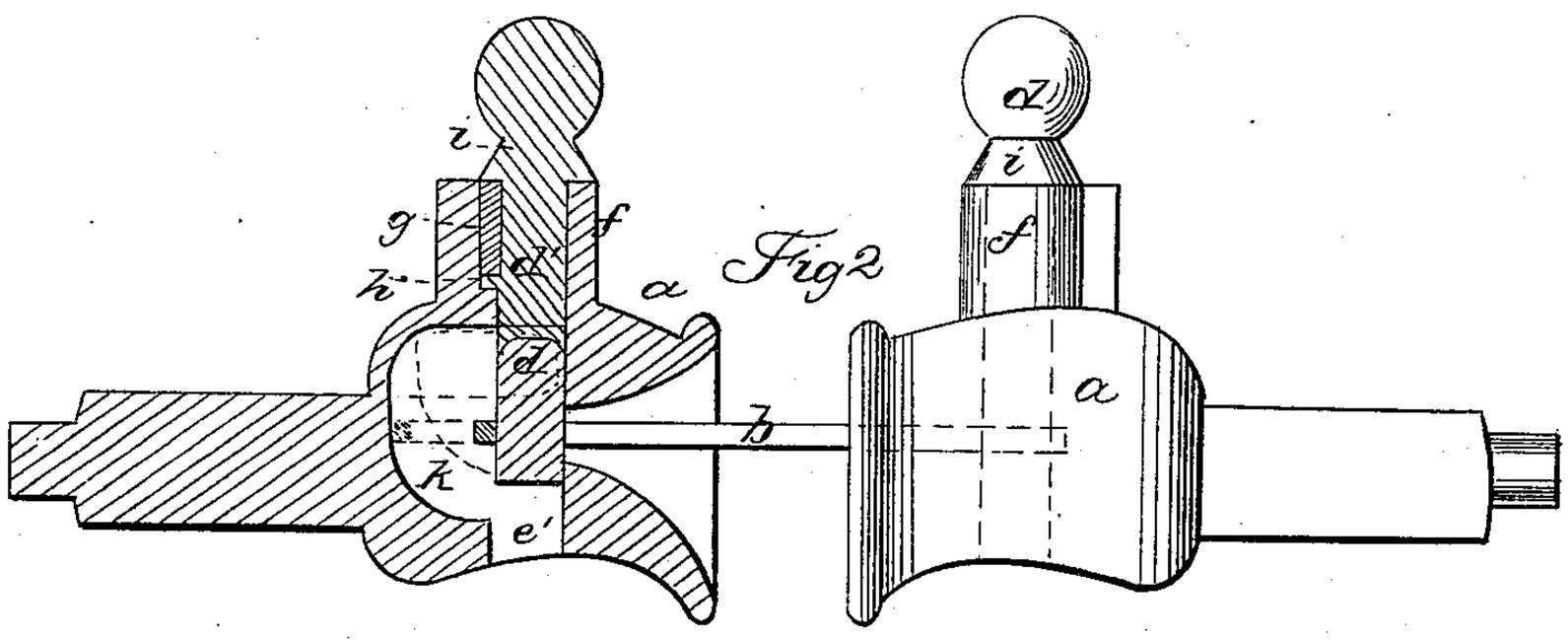


Fig 2

Witnesses
W. Bakewell
John M. Neal.

Inventor.
his
Henry + Blackman
mark

UNITED STATES PATENT OFFICE.

HENRY BLACKMORE, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND ADAM APPLE.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **42,041**, dated March 22, 1864.

To all whom it may concern:

Be it known that I, HENRY BLACKMORE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a top view of my improved coupling, one of the coupling-boxes being shown in section. Fig. 2 is a side view of my improved coupling, one of the coupling-boxes being shown in section. Fig. 3 is a representation of one of the coupling-pins, and Fig. 4 is a representation of the other or hinged coupling-pin. Fig. 5 is a top view of the draft-bar or coupling-link.

The ordinary coupling, consisting of a pair of coupling-boxes or buffers—one attached to each end of the cars—a wrought-iron link or draft-bar, and two wrought-iron pins passed vertically through the coupling-boxes and engaging the link, is so simple and in many respects superior to others that its use is almost universal, notwithstanding the various devices invented of self coupling attachments for railroad-cars.

My improvement is designed to preserve the general features of the old and well-known coupling and add to it the important feature of automatic action without making it complicated in construction or liable to derangement or breakage.

To enable others skilled in the art to construct and use my improved car-coupling, I will proceed to describe its construction and operation.

In the drawings, Figs. 1 and 2, *a a'* are the coupling-boxes, which are similar in construction and are attached, one to each end of every car in the ordinary manner. The mouth or opening of the coupling-boxes, as shown in the sections in Figs. 1 and 2, is flaring, more so in the vertical section, Fig. 2, than in the horizontal section, Fig. 1, the cavity contracting in the vertical section, so as to leave little more than room sufficient for the entrance of the draft bar or link *b*, and yet admitting of sufficient motion up and down. This contraction of the cavity of the coupling-box gives a better bearing for the coupling-pin *d*, and makes it much less liable to bend or break.

A vertical cylindrical hole, *e*, is made through the coupling-boxes to receive the coupling-pin *d*. The hole *e* is surrounded on the upper side of the coupling-box with a collar or box, *f*, the shape of which is shown in Figs. 1 and 2, and on one side of the collar or box *f* is a rectangular notch, *g*, designed to receive the bit *h*, which projects from the side of the hinged coupling pin *d'*, the object of which is to prevent that coupling-pin from turning on its axis in the coupling-box. The other coupling-pin, *d*, Fig. 3, is of the ordinary construction, being a straight rigid rod of iron with a flanged head, *i*, the flange around the head of the pin resting on the collar *f*, thus preventing the coupling-pin from dropping through the hole *e* in the coupling-box. The rigid coupling-pin *d* has no bit *h*. The hinged coupling-pin *d'* has a flanged head, *i*, like the pin *d*; but it is shorter than the rigid pin, so that its lower extremity will not enter the hole *e'* in the lower side of the coupling-box below the cavity *k*, but is long enough to pass below the throat of the coupling, so as to give a bearing to the coupling-pin *d'* against the coupling-box below as well as above the draft bar or link *b*. The coupling-pin *d'* is hinged at the point *l*, above the throat of the coupling-box so that the lower or movable piece of the coupling-pin shall have a bearing against the coupling-box in its hole *e'*, below the hinge or point *l*, as seen in Fig. 2, and thereby the hinge or pivot *l* is relieved of all strain. The bit *h* on the hinged coupling-pin *d'* is so situated in relation to the hinge *l* and the notch *g* in the collar of the coupling-box that when the coupling-pin *d'* is in place in the coupling-box the movable piece of the coupling-pin *d'* shall be able to move backward only in the direction of the dotted lines in the coupling-box shown in section in Fig. 2. The cavity *k* in the coupling-box is enlarged in the rear of the hole *e*, so as to allow room for the movable parts of the coupling-pin *d'* to turn backward on its pivot *l*.

The draft-bar *b* may be a link of ordinary shape, or of the shape shown in Fig. 5, having a round hole, *m*, at one end for the passage of the rigid coupling-pin *d*, and a long slot, *n*,

extending from the other end of the link to within a short distance of the round hole *m*. This description of draft-bar is preferred, because the rigid coupling-pin will serve to hold the draft-bar up and prevent its dropping too low to enter the mouth of the other coupling-box when the cars are being connected.

As the two coupling-boxes are exactly similar in construction, the pivoted coupling-pin may be used in either or both of them.

The operation of my improved coupling is as follows: The draft-bar *b* is inserted with the end having the round hole *m* in one of the coupling-boxes, and the rigid coupling-pin *d* dropped into the hole *e* in the coupling-box and passed through the hole *m* in the coupling-bar. The pivoted coupling-pin *d'* is inserted in its hole in the other coupling-box. When the cars are brought together, the projecting or slotted end of the draft-bar *b*, striking the inside of the flaring throat of the opposite coupling-box, is thereby guided into the narrow throat of the coupling-box, where it meets the movable part of the coupling-pin *d'*, which is pushed backward, allowing the end of the draft-bar *b* to pass to the rear end of the cavity *k* in the coupling-box to the position shown by dotted lines in the sectional portion of Fig. 2. The movable part of the coupling-pin *d'*, turning freely on its pivot *l*, then drops down, entering the slot *n* in the draft-bar *b*, thus locking the draft-bar inside of the coupling-box, from which it cannot be removed otherwise than by drawing the coupling-pin *d'* from the coupling-box.

If preferred, a hinged coupling pin may be used in both coupling-boxes at the same time.

Having thus described my improved coupling for cars, what I claim as my invention, and desire to secure by Letters Patent, is—

The use, in combination with a coupling-box, of a hinged pin so constructed, substantially as described, that the draft-bar will push the hinge piece of the pin back when it enters the coupling-box, and that so soon as the draft-bar has entered the cavity of the coupling-box the movable part of the coupling-pin will drop down into the draft bar or link, thus securely locking it in place.

In testimony whereof I, the said HENRY BLACKMORE, have hereunto set my hand.

his
HENRY × BLACKMORE.
mark.

In presence of—
W. BAKEWELL,
JOHN M. NEAL.