

(No Model.)

J. M. & J. K. ATWOOD.

CAR COUPLING.

No. 358,139.

Patented Feb. 22, 1887.

Fig. 1.

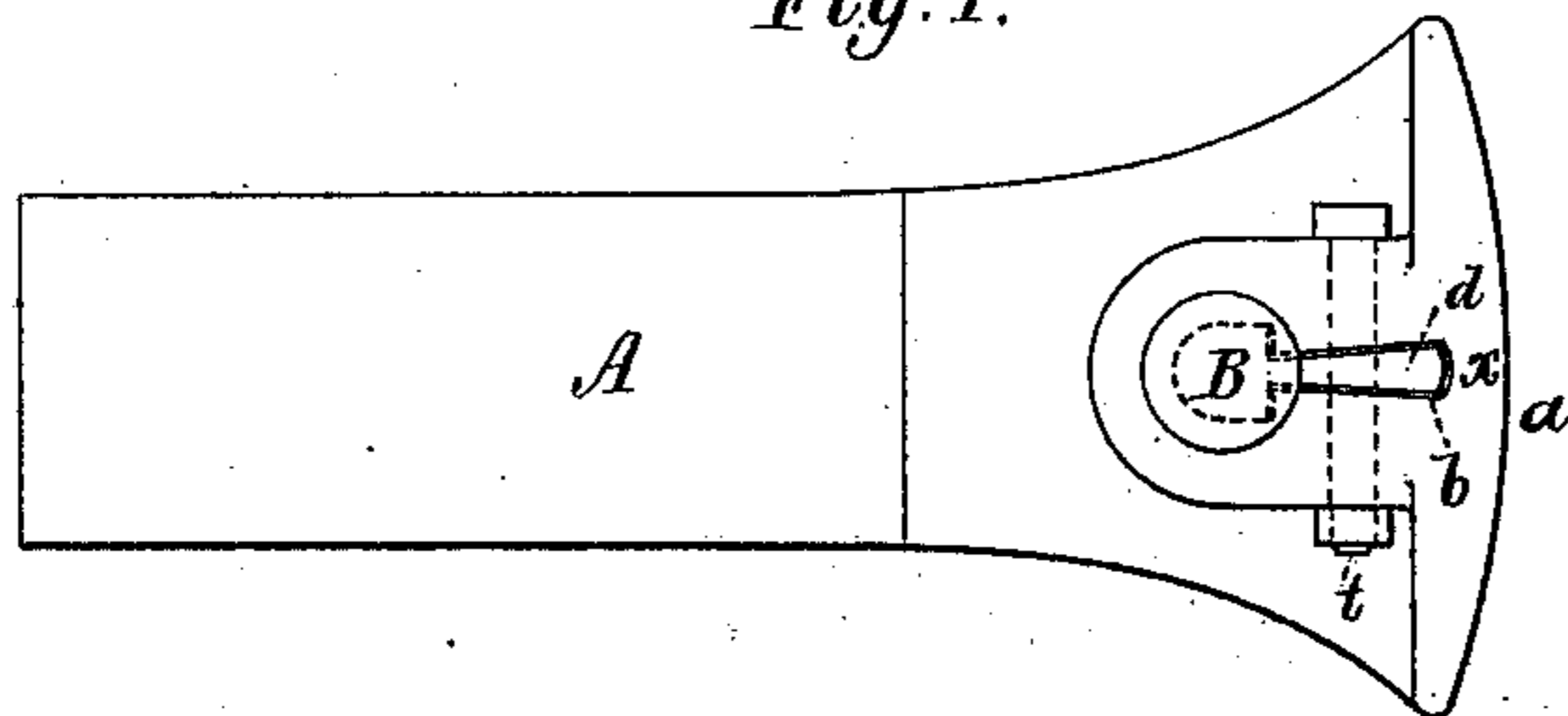


Fig. 2.

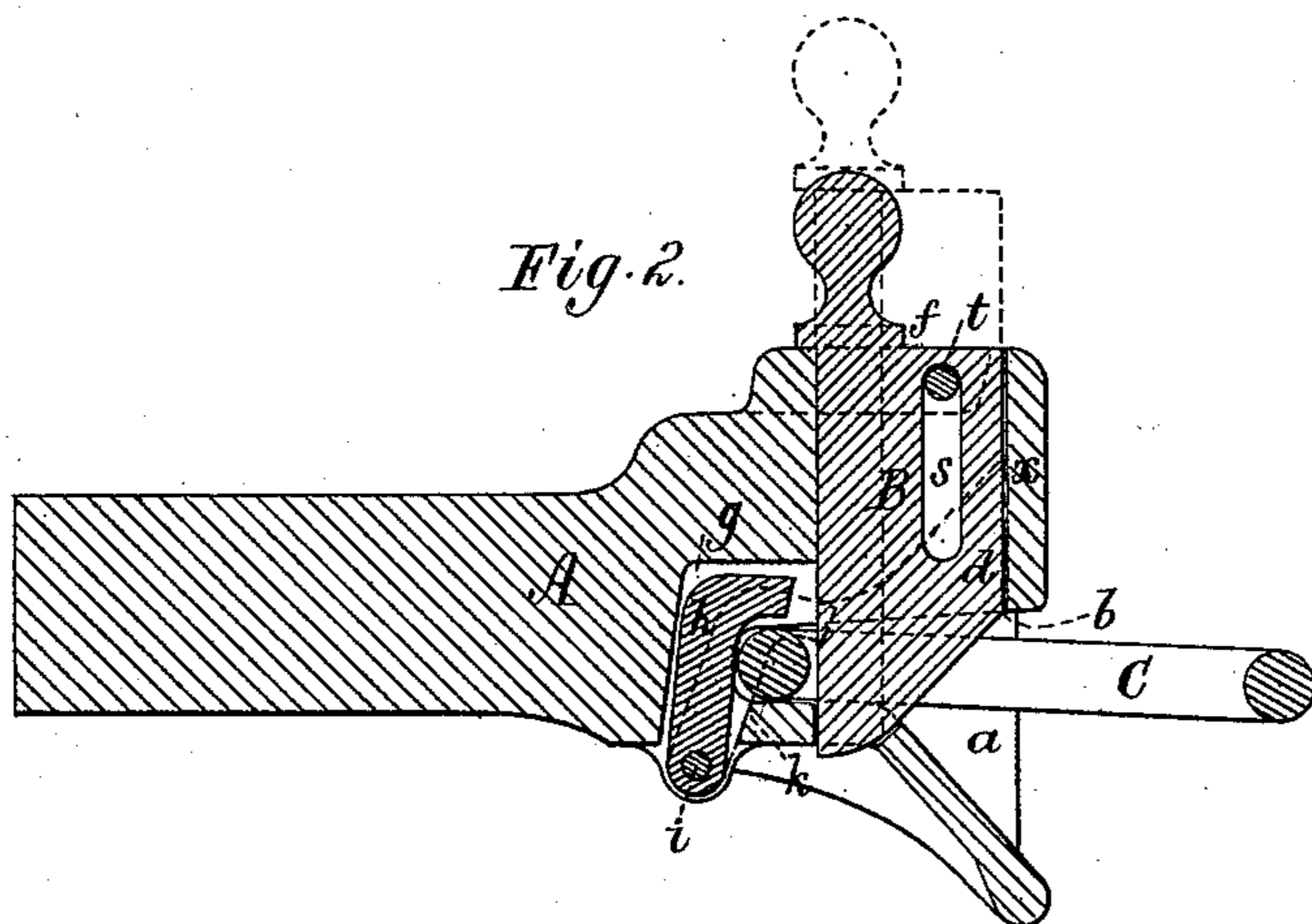


Fig. 3.

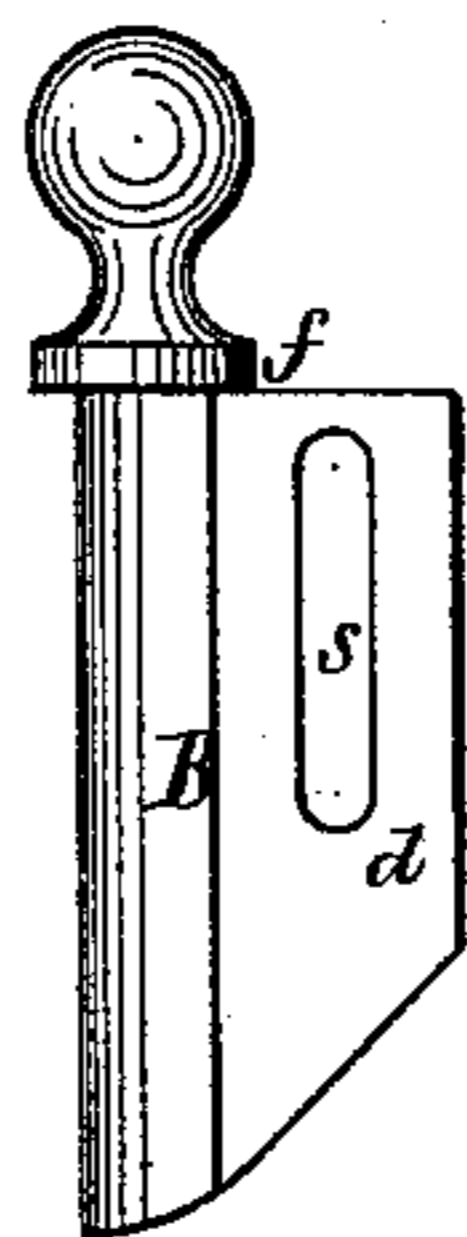


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES MONROE ATWOOD AND JONATHAN KIMBALL ATWOOD, OF LISBON, N. H., ASSIGNORS, BY MESNE ASSIGNMENTS, TO SAID J. M. ATWOOD AND J. K. ATWOOD, AND JAMES C. MITCHELL, OF LANCASTER, N. H.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 358,139, dated February 22, 1887.

Application filed December 13, 1886. Serial No. 221,370. (No model.)

To all whom it may concern:

Be it known that we, JAMES MONROE ATWOOD and JONATHAN KIMBALL ATWOOD, of Lisbon, in the county of Grafton, of the State of New Hampshire, have invented a new and useful Improvement in Railway-Car Couplers; and we do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, and Fig. 2 a longitudinal and median section, of a railway-car draw or bunter bar provided with our invention, the nature of which is defined in the claim hereinafter presented. Fig. 3 is a side view, and Fig. 4 a transverse section, of the coupling-pin and its cam used in said draw-bar.

Our invention may be considered an improvement with reference to the car-coupler described and shown in the United States Patent No. 343,473, dated June 8, 1886, and granted on an invention made by James C. Mitchell.

Instead of having that part of the bunter-bar head in which the link-pin cam slides open through the front of the head, we—in our improved bunter-bar—have such part closed, and we have the link-pin cam to extend from the bottom up to the shoulder of the pin, and have within such cam a vertical slot going through it laterally, through which slot and the bunter-head a pin is extended, to prevent the link-pin from being accidentally thrown upward out of the head, either during coupling of the cars or from other accidental cause. The front edge of the link-pin cam is parallel to the axis of the pin, the lower edge of such cam being at an angle of about forty-five degrees with the pin and straight from the top of the mouth of the draw-bar when the pin is at its lowest position in such draw-bar. By having the bunter-head above its mouth closed in front of the cam instead of open, there is very much less danger of splitting or breaking the bunter-head during the impact of another head against it than is the case when the head is open at the front of the part in which the cam slides, and, besides, other advantages result—that is to say, the pin is rendered stronger,

less liable to become bent, and works easier, and is not readily obstructed by the snow, dirt, or extraneous matters getting into the cam-passage.

In the said drawings, A denotes a car draw-bar, provided, as usual, with a flaring mouth, *a*, to receive a connection-link, C. There extends upward from such mouth a passage, *b*, for reception and working of the link coupling-pin B and its cam, such passage being closed at its front, as shown at *x* in Figs. 1 and 2. The said pin B has projecting from it, down its entire front from its shoulder *f*, a cam, *d*, whose lower edge is sloped at an angle of forty-five degrees, or thereabout, to the pin, the front edge of the cam, where above the slope, being parallel to the pin or its axis. Extending through the cam is a slot, *s*, through which and the bunter-bar head a pin, *t*, passes, such pin being firmly fixed in the head. The slot *s* and pin *t* effectually prevent the pin B from being ejected from the draw-bar head on the cam being forcibly struck by a connecting-link, as hereinbefore stated.

When in its lowest position, the pin B is supported by its shoulder *f* resting on the top of the draw-bar.

On the link being driven into the mouth of the draw-bar, such link will butt against the slope of the cam, and, continuing to advance, will force the cam *d*, and of course the pin B, upward until the link may bring up against the rear part of the mouth, which having taken place, the pin B will be free to drop, and by its gravitating power will drop down through the link.

Within the draw-bar, in rear of its mouth, is a narrow chamber, *g*, for the reception of a gravitating catch, *h*, for supporting the link-pin with the cam raised above the said mouth. This catch, formed as represented, turns freely on a pin, *i*, extending through it and the draw-bar. When forward, the catch brings up against an abutment, *k*, in the lower part of the said chamber, the catch at the same time extending underneath the link-pin.

When the pin is up and supported by the catch and the link is driven into the draw-

bar, the link will force the catch rearward from the pin, so as to allow the latter to drop into the link.

We do not claim the combination of the 5 draw-bar provided with the mouth, the catch-chamber, and pin-rib and cam-passages with a link-connection pin, its rib and cam, and with a gravitating catch, all as constructed and arranged as represented in the aforementioned 10 United States Patent No. 343,473; nor do we claim a link-pin provided with a curved cam, constructed as shown in the United States Patents Nos. 259,502 and 348,739, whereby—when the link-pin is in its lowest position in the 15 draw-bar—a portion of its front edge parallel, or substantially so, to the back or axis of the pin is extended downward into the mouth of the draw-bar, and is liable—on the link being forced into the draw-bar to couple therewith— 20 to be struck by such link, to the injury of it or the pin, unless such pin be provided, as shown in the Patent No. 348,739, with means other than the cam for raising it or moving it upward, in order for the cam and pin to be 25 forced upward by the link. In our car-coupling we have no such means as last mentioned, such not being necessary, owing to the slope of the cam and to its extending to the top of the mouth of the draw-bar when the pin is in

its lowest position, the said slope or part of 30 the cam against which the link acts to elevate the pin being straight and inclined, as described, with respect to the axis of the link, and when the link is down such slope terminates at top at or on a level with the top of the 35 mouth of the draw-bar. As a consequence, the link, in being forced at any time into the draw-bar, cannot fail to reach the straight slope and thereby press it and the pin upward without liability of injury either to such link 40 or pin.

We claim—

The combination of the coupling-pin B, provided with the cam extending down its front and slotted, as described, and having the part 45 to act against a link straight and inclined, as explained, from the top of the mouth of the draw-bar when the pin is down, with the draw-bar head chambered to receive such pin, and having the pin-chamber closed where above 50 the mouth of the draw-bar, and with a pin extended through the draw-bar head and the slot of the cam, all being substantially as set forth.

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Witnesses:

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