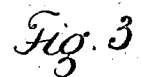


H. O. MILLER.
CAR COUPLING.

No. 490,811.

Patented Jan. 31, 1893.



WITNESSES :

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G. J. Rollandet
Wm. M. Connell

INVENTOR

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H. O. Miller
BY *A. J. Zien*
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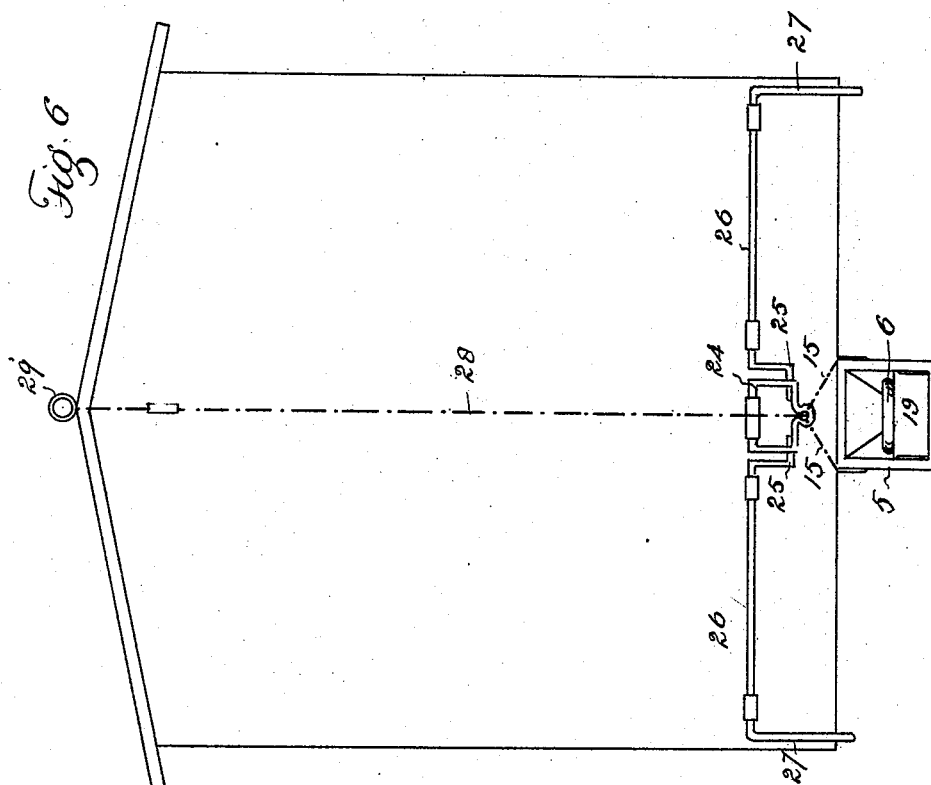
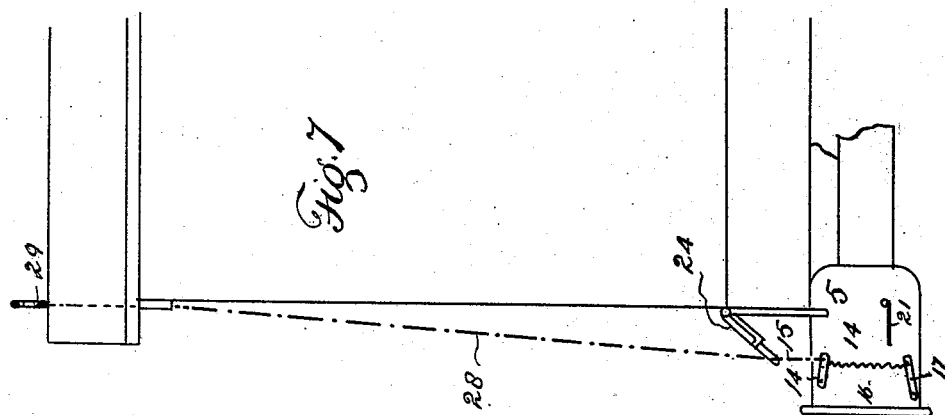
(No Model.)

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UNITED STATES PATENT OFFICE.

HENRY O. MILLER, OF EATON, COLORADO, ASSIGNOR OF ONE-HALF TO
AARON J. EATON AND EDGAR F. HURDLE, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 490,811, dated January 31, 1893.

Application filed April 11, 1892. Serial No. 428,588. (No model.)

To all whom it may concern:

Be it known that I, HENRY O. MILLER, a citizen of the United States of America, residing at Eaton, in the county of Weld and State of Colorado, have invented certain new and useful Improvements in Car-Couplers; and I do 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 make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in car couplers and the object of the invention is to provide a coupler which shall be of simple and economical construction, reliable, durable, thoroughly practicable and perfectly automatic in use, and by the use of which the cars may be uncoupled from either side or from the top of the car. To these ends my improved coupler consists of the features arrangements and combinations hereinafter described and claimed.

The invention will be fully understood by reference to the accompanying drawings in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a longitudinal vertical section taken through the center of the drawhead, showing the link in place but partially broken away. Fig. 2 is a side elevation of the drawhead, the concealed operating parts being shown in dotted lines. Fig. 3 is a top or plan view of the drawhead. Fig. 4 shows a top and side view respectively of the link supporting device. Fig. 5 shows a detail of construction. Fig. 6 is an end view of a car provided with my improved coupler and showing means attached to the end of the car for uncoupling the drawhead. Fig. 7 is a side view of the same.

Similar reference characters indicating corresponding parts or elements of the mechanism in the several views, let the numeral 5 designate the drawheads open in front to receive the link 6 and centrally recessed for the reception of the coupling hook 7 and the locking bar 8. The coupling hook is pivoted in the rear central portion of the drawhead, and when the cars are coupled occupies the position shown in full lines in Fig. 1, while when the

cars are uncoupled this hook assumes the position shown by dotted lines in the same figure. The forward portion of this coupling hook is provided with a recess 9 open at the top to receive the rear extremity of the link, while its rear portion extends upward above the top of this recess and is engaged by the rear extremity of locking bar 8 when the cars are coupled. This hook is supported in position by a spindle 10 passed transversely through the drawhead and journaled in suitable apertures formed in the sides thereof. The construction of this spindle is shown in Fig. 5. It is angular where it engages the locking hook and fits in an opening therein of corresponding shape. Hence each movement of the coupling hook gives the spindle a corresponding partial rotation. The rear lower extremity of hook 7 is provided with a short lug or projection 7^a adapted to engage a ledge 12 formed in the rear of the hook and thus prevent the same from moving forward and downward too far when the cars are uncoupled.

The locking pin 8 is rigidly secured to a pin or spindle 13 which passes transversely through the upper extremity of the drawhead and moves with the bar. The extremities of pin 13 project sufficiently outside of the drawhead to permit the attachment of arms 14. One extremity of each of these arms is rigidly secured to an extremity of this pin, the opposite extremity of each arm being connected with a chain 15 leading from the unlocking mechanism, hereinafter described, and whereby said bar is raised from engagement with the coupling hook, or to the position shown by dotted lines in Fig. 1, when it is desired to uncouple the cars. To each arm 14 is also attached one extremity of a coil spring 16 located on the outside of the drawhead, and having its opposite or lower extremity connected with one end of an arm 17, the opposite end of which is made fast to a transverse spindle 18 journaled in the sides of the drawhead and to which is attached the inclined link-supporting or adjusting plate 19 located in the lower portion of the front opening of the drawhead. This plate 19 is shown in detail in Fig. 4 being rigidly secured to spindle 18 and provided with projections 19^a which

enter recesses 20 formed in the sides of the drawhead, which recesses limit the movement of the plate both upward and downward. Plate 19 supports the link in the horizontal position and ready at all times to enter the recess of the opposite drawbar. It will thus be seen that the normal tendency of springs 16 is to maintain bar 8 at its downward limit and plate 19 at its upward limit of movement.

The drawhead is recessed or cut away in the rear to allow the coupling hook sufficient latitude of movement for all practical purposes. The hook, however, when the cars are coupled is maintained in engagement with the locking bar, or at its forward limit of movement when in the coupled position, by springs 21, having one extremity of each fixed in the sides of the drawhead while their opposite extremities engage short lugs or projections 22 secured to or formed integral with the extremities of spindle 10. The springs normally hold the coupling hook in what may be called the upright position or in engagement with the rear extremity of the locking bar. The upper extremity of the drawhead is provided with an open slot 23 to permit the required movement of the coupling hook and locking bar, the latter being raised through this slot in the operation of uncoupling the cars.

The chains 15 connected with arms 14 lead to a stirrup-shaped hanger 24 movably secured to the end of the car in any suitable manner, and normally supported by crank arms 25 of horizontal bars 26 suitably attached to the ends of the cars and provided with handles 27 located close to the outside of the car or within easy reach of the trainman without going between the cars. These handles project slightly below the bottom of the cars whereby they may be easily grasped for uncoupling purposes. By raising either handle 27 bar 26 is rotated and the hanger 24 is lifted, this drawing the locking bar 8 upward to the position shown by dotted lines in Fig. 1. The coupling hook being thus released falls by gravity to the uncoupled position shown by dotted lines in Fig. 1, since the spindle 10 passes through the coupling hook in the rear of its center of gravity, thus releasing the link. Or in any event the coupling hook being released from engagement with the locking arm, will be drawn forward by the link as the cars move apart.

To uncouple the cars from the top, a chain 28 is employed which extends from the top of the car to hanger 24 to which it is made fast. Its upper extremity is provided with a hand piece 29 which supports the chain in the proper position, being located above an aperture in the top of the car through which the chain passes but which is too small to allow the ring or hand piece to pass through.

From the foregoing description the operation of my improved car coupler will be readily understood.

As two cars come together the link in one

drawhead engages the coupling hook of the other and forces the same backward to an upright position when the link falls into recess 9 and the locking bar 8 drops to engagement with the front face of the coupling hook, thus locking the same in the coupled position. To uncouple it is only necessary to raise bar 8 from engagement with the coupling hook by the use of the uncoupling attachments secured to the end of the car and heretofore fully explained.

Having thus described my invention what I claim is:—

1. In a car coupler the combination with the drawhead, the coupling hook and the locking bar, of the hanger suitably attached to the end of the car, means for connecting the hanger with the locking bar, and means for manipulating the hanger from either side or from the top of the car, substantially as described.

2. In a car coupler the combination with the drawhead, the coupling hook and the spring actuated locking bar, of the hanger suitably attached to the end of the car and connected with the locking bar, and bars suitably attached to the end of the car and provided at their inner extremity with crank arms engaging the hanger, and at their outer extremity with handles whereby the hanger may be manipulated from either side of the car and the cars uncoupled without stepping between the same.

3. In a car coupler the combination with the drawhead, the coupling hook and the locking bar, of a hanger suitably attached to the end of the car and connected with the locking bar and means for operating the hanger from the top of the car consisting of a rope, cord or chain connected with the hanger at one extremity and with a suitable hand piece located at the top of the car at the opposite extremity, substantially as described.

4. In a car coupler the combination with the drawhead, the coupling hook, the spindle journaled in the sides of the drawhead and to which the coupling hook is made fast, its extremities being provided with lugs or projections located outside of the drawhead, and springs attached to the drawhead at one extremity and engaging said lugs or projections at the opposite extremity whereby the coupling hook is normally maintained at its forward limit of movement when the cars are coupled, and suitable means for locking said hook in the coupled position, substantially as described.

5. In a car coupler the combination of the drawhead, the coupling hook, the locking bar, the spindle journaled in the sides of the drawhead and to which the locking bar is made fast, spring actuated arms secured to the extremities of said spindle outside of the drawhead, whereby the locking bar is normally maintained in the locked position, and means attached to the end of the car and connected

with said arms whereby the locking bar is raised and the car uncoupled, substantially as described.

6. In a car coupler the combination of the
5 drawhead the coupling hook, the locking bar, the spindle journaled in the drawhead and to which the locking bar is made fast, arms connected with the extremities of the spindle outside of the drawhead, springs connected with
10 said arms whereby the locking bar is normally maintained in the locked position and means attached to the end of the car and with said arms whereby the bar is raised and the cars uncoupled, from either side or from the top
15 of the car, substantially as described.

7. In a car coupler the combination with the drawhead and link, of the spring actuated link-supporting or adjusting plate pivoted in the front part of the drawhead beneath the
20 link when in place, substantially as described.

8. In a car coupler the combination with the drawhead and link, of the link supporting and adjusting plate, the spindle journaled in the sides of the drawhead and to which the plate
25 is made fast, and spring actuated arms at-

tached to the extremities of the spindle outside of the drawhead and automatically supporting the plate at its upward limit of movement, substantially as described.

9. In a car coupler the combination with the
30 drawhead and link, of the link supporting and adjusting plate located in the front part of the drawhead, the spindle journaled in the sides of the drawhead, the arms attached to the extremities of the spindle outside of the
35 drawhead and springs attached to the arms at one extremity and to the drawhead at the opposite extremity whereby said plate is normally maintained at its upward limit of movement, substantially as described.
40

10. In a car coupler the combination with the drawhead and link, of the coupling hook, the locking bar and the spring actuated link-supporting plate, substantially as described.

In testimony whereof I affix my signature in
45 presence of two witnesses.

HENRY O. MILLER.

Witnesses:

W. M. GOODAN,

W. H. WIGHTMAN.