

(No Model.)

2 Sheets—Sheet 1.

L. MOORE.
CAR COUPLING.

No. 506,827.

Patented Oct. 17, 1893.

Fig. 1.

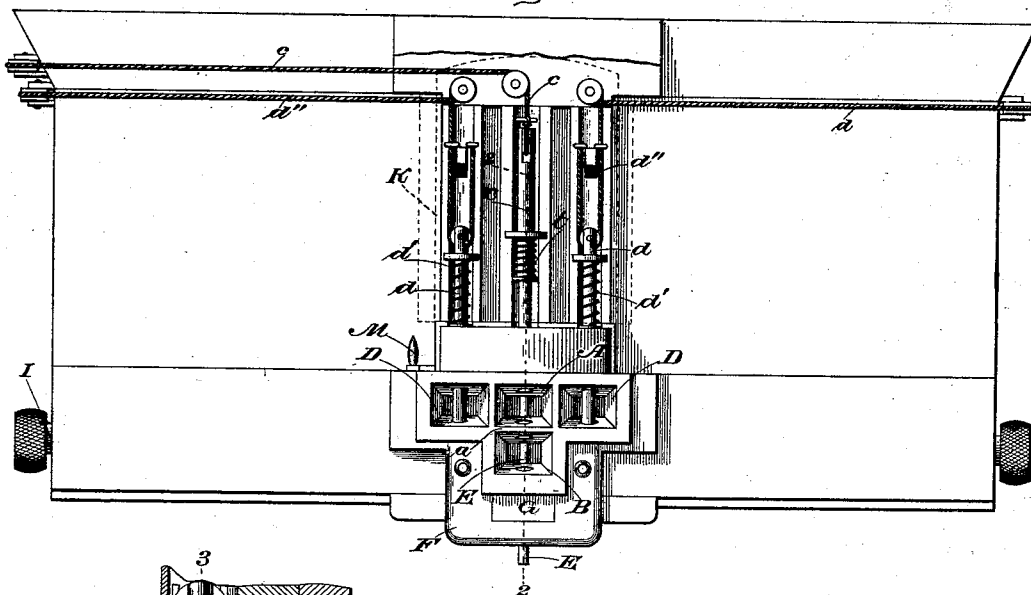


Fig. 2.

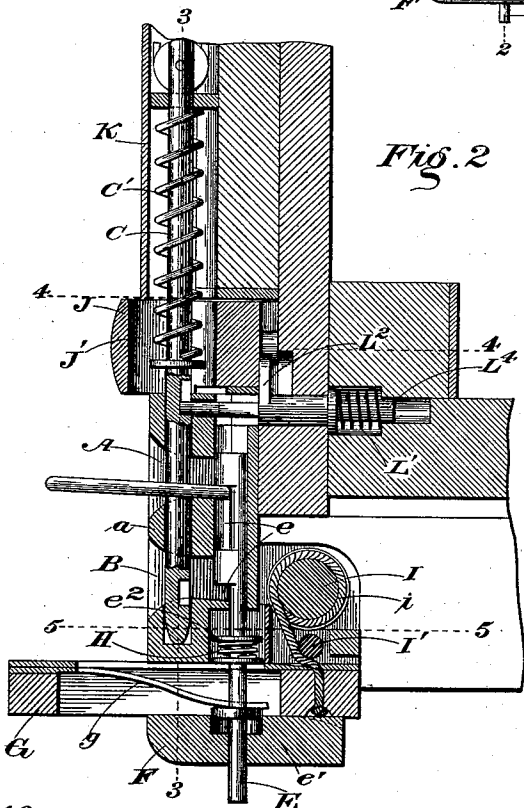
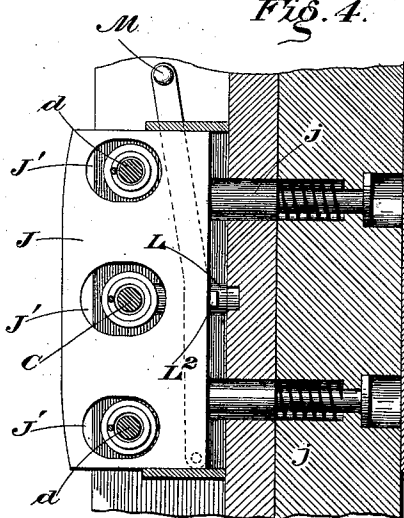


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

LEVI MOORE, OF BARABOO, WISCONSIN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 506,827, dated October 17, 1893.

Application filed May 11, 1893. Serial No. 473,825. (No model.)

To all whom it may concern:

Be it known that I, LEVI MOORE, of Baraboo, in the county of Sauk and State of Wisconsin, have invented certain new and useful
5 Improvements in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon,
10 which form part of this specification.

This invention is an improvement in couplings for railway cars, and is especially designed for locomotive tenders, although it can be applied to ordinary cars. It is more especially designed as a freight car coupling of the link and pin variety, and its objects are to provide means whereby the link can be adjusted to any position desired, either horizontal or inclined by concealed devices which
20 will not obstruct the coupling, and can be operated from the sides of the car without endangering the workman, which devices will be automatically caused to disengage the link as the coupling is effected.

Further objects of the invention are to improve the devices for upholding the coupling pins until the link has properly entered the throat of draw bar, and to provide various other improvements upon the coupling shown
30 in my Letters Patent No. 495,595, granted April 18, 1893, all of which will be clearly understood from the following description and claims.

In the drawings:—Figure 1 is an end view
35 of a tender showing my improved coupling devices. Fig. 2 is a vertical sectional view on line 2—2 Fig. 1. Fig. 3 is a transverse sectional view on line 3—3 Fig. 2. Fig. 4 is a horizontal sectional view on line 4—4 Fig. 2.
40 Fig. 5 is a similar view on line 5—5 Fig. 2. Fig. 6 is a detail perspective view.

A draw head is secured to the rear end of the tender or car in any suitable manner. As shown, this draw head has two mouths, A, B, the latter below the former and separated therefrom by a partition *a*, and suitable pin openings are formed in the draw head so that a single pin C will transfix both throats and secure links therein. The draw head is also
50 provided with a mouth D at each side of mouth A and in line therewith provided with suitable openings for the passage of pins *d*.

These several mouths enable a coupling to be effected with several links, or with one link at different positions as is best suited to the emergencies of the case. Such a draw head
55 is especially useful for shifting engines.

E designates a bar playing through vertical openings in the draw head in rear of pin C or the openings therefor, and provided with
60 a notch *e* opposite each mouth A, B, so that when a link is inserted in one of said mouths its inner end will enter one of the recesses *e*, when the bar is raised, which is normally, by means of a suitably arranged spring, or other
65 means. As shown the lower end of the bar is cylindrical and passes through a hanger F bolted to the end bar of the car below the draw head, and through a longitudinal slot in a sliding block G which is adapted to slide
70 back and forth in a guide recess in the hanger. This block is hollowed out on its under side and in it are secured spring pieces *g*, which overlie a collar *e'* on the bar E and are so bent that when the block is drawn outward they
75 will cause the bar to descend. When the block is pushed inward the bar is raised by means of a spring H interposed between the top of the block and a collar *e''* on the rod. The springs and collars may be concealed in
80 recesses made in the hanger, draw head, and end bar of car, as indicated in the drawings.

The bar is used to hold and adjust the links at different angles so as to facilitate coupling with another draw bar. When a link is inserted in mouth A or B its rear end will enter one of the notches *e* of bar E, and when the latter bar is depressed the inner end of link will be pressed down by the upper edge of the notch *e* as is evident, and consequently
90 the outer end of link will be more or less elevated according to the depression of the bar. The floor of the mouths may be slightly depressed at rear, or a rib may be formed in the mouth of draw bar (in the well known manner) so that the link may be set at any angle
95 desired with its outer end either raised or lowered. The bar is depressed as above stated when block G is drawn outward, and this block may be moved by hand, or by any
100 other suitable means as levers or chains in order to manipulate the block without going between the cars.

I have shown one device, to wit—a shaft I

which is journaled in proper bearings above the block G and in rear of mouth B. To said shaft is connected a chain or rope *i* which is carried forward over and partly around a roller or sheave I' journaled in stationary supports above the block, and its end carried back and made fast to the block as indicated in the drawings, so that by rotating shaft I in either direction, the block will be projected and bar E depressed. Shaft I can be rotated by knobs as shown or by cranks or wheels on its ends, and thus bar E adjusted from either side of the car. The block G is pushed inward by contact with the opposed draw head, or a similar block on the opposed car, in coupling, so that bar E is allowed to rise and the link freed simultaneously with the coupling being effected.

In the drawings the bumper J is shown located directly over the draw head, being provided with slots J' for the passage of the coupling pins. This bumper is cushioned by springs so as to deaden and lessen the shock of impact thereagainst as shown. The bumper is guided by pins *j* fixed to a rigid backing, and stout coiled springs are placed on the guide pins intermediate the bumper and backing so as to cushion the bumper. Normally the bumper projects over the draw head, but it is pushed back by the opposite bumper in coupling cars. As shown, springs C' and d' are slipped on pins C, d respectively above the bumper, said springs bearing against staples or guide eyes through which the pins pass, and collars on the pins, so that they serve to depress the pins and hold them depressed. I have indicated an arrangement of ropes c, d'', and pulleys by which the pins can be raised from the sides of the car, or these ropes can be extended to the conductor's caboose, or engine cab, so that the cars can be uncoupled therefrom without the need of sending a brakeman over the train.

If desired the coupling pins may be protected by a casing K which can be removably secured to the car in any suitable manner, so that rain, snow, &c., will be kept out of the pin openings and working parts.

In rear of the pin C at a point above the pin opening is a bolt L controlled by a spring L' and lying in a suitable recess in such position, that when pin C is raised so as to clear mouths A, B, the spring will force the bolt into position to prevent the descent of the pin until the bolt is forced back. The bolt has an upstanding lug L² which engages the rear edge of, or a suitable recess in, bumper J so that when the latter is forced inward in coupling, as above described, bolt L will be retracted and the pin will be permitted to drop. By this means an automatic coupling may be effected. The bolt may be retracted independently of the bumper by means of a lever M pivoted at one end to the bumper, or other suitable support, and extending out at one side of the bumper in position to be grasped and shifted by hand. By swinging

the lever inward the bolt is retracted without movement of the bumper; thus a link can be readily secured to the draw bar preparatory to coupling, to another car. As the pins d, d', are merely auxiliary I do not deem it necessary to have pin and link controlling devices therefor, but obviously they could be readily applied thereto, similar to those for pin C. It is also obvious that the pin and link controlling devices are readily applicable to a single-mouthed draw bar and I propose to use them with such.

The link controlling devices may be substituted for the link adjusting devices shown in my patent above mentioned, if desired.

Instead of operating the pin supporting bolt L from the movable bumper, the bolt might be operated by a lug engaging the draw bar when the devices are employed in connection with a draw bar connected yieldingly to the car as in my patent above mentioned, or in ordinary pin and link couplings. These various minor changes will be obvious to one skilled in the art.

When used in connection with a yielding draw bar the hanger F and block G must be suspended from the draw bar or at least made capable of moving therewith.

The pin C may be provided with notches or holes c³, c⁴, which will be alternately engaged by bolt L so as to lock the pin in either its raised or lowered position, or coupled or uncoupled.

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

1. The combination with a draw head, of a vertically adjustable bar playing through the draw bar in rear of the pin openings and adapted to bite the inner end of link and hold the same in coupling position, a spring for raising said bar, and means for depressing it, substantially as described.
2. The combination of the draw head, the link adjusting bar, and the movable block for shifting said bar, substantially as described.
3. The combination of the draw bar, a movable slotted block below the same, and a link adjusting bar playing through said draw bar and the slot in said block, and the devices whereby when the block is projected the bar is depressed, substantially as described.
4. The combination of the draw head, the link adjusting bar, and the movable block for shifting said bar, and the devices for shifting said block from the side of car, substantially as described.
5. The combination of the draw bar, a movable slotted block below the same, and a link adjusting bar playing through said draw bar and the slot in said block, and the devices whereby when the block is projected the bar is depressed, and means for shifting said block from the side of car, substantially as and for the purpose specified.
6. The combination of the draw head, the

vertically movable link adjusting bar playing through the draw head, the spring for raising said bar, and devices for depressing said bar, and for automatically releasing it when the coupling is effected, substantially as described.

7. The combination of the draw bar, a movable spring cushioned bumper, the coupling pin, and a pin catch bolt adapted to uphold the pin when raised, and devices substantially as described, whereby the catch is caused to release the pin when the bumper is pushed inward, substantially as and for the purpose set forth.

8. The combination of the draw head, the coupling pin, the pin catch bolt in rear of the pin openings, and the pivoted hand lever adapted to disengage the catch from the pin, substantially as described.

9. The combination of the draw bar, a bumper above the same having slots over the

pin openings in the draw bar, and the coupling pins engaging the pin openings in the draw bar through the slots in the bumper, substantially as described.

10. The combination of the draw head, the link adjusting bar, the coupling pin, the spring for depressing said pin, and the ropes for lifting said pin, substantially as described.

11. The combination of the draw head, the coupling pin, the pin catch bolt, the link adjusting bar, and the movable spring cushioned bumper and connections between the same and catch bolt, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

LEVI MOORE.

Witnesses:

E. O. HOLDEN,
ARTHUR P. CHEEK.