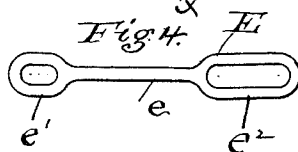
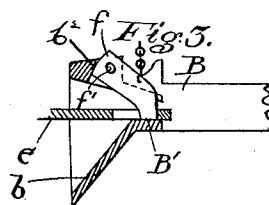
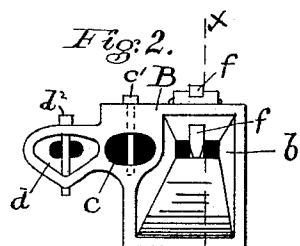
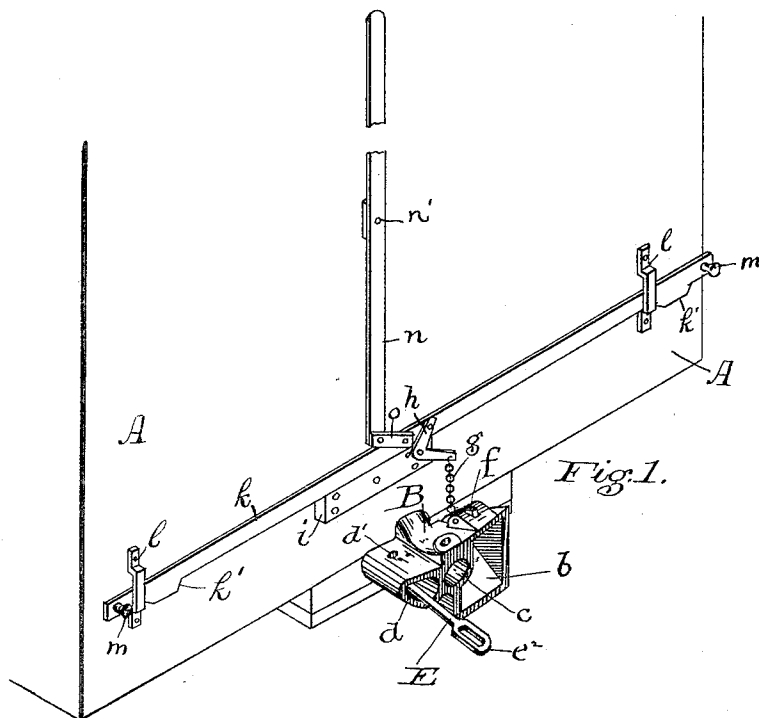


(No Model.)

O. W. & L. A. CLEMENT.
CAR COUPLING.

No. 461,071.

Patented Oct. 13, 1891.



Witnesses:
Jas. A. Cook.
Geo. A. Clark

Inventors:
Galen M. Clement
Leslie A. Clement
by J. M. Bates their atty.

UNITED STATES PATENT OFFICE.

OWEN W. CLEMENT, OF WATERVILLE, AND LESLIE A. CLEMENT, OF
PALMYRA, MAINE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 461,071, dated October 13, 1891.

Application filed October 22, 1888. Serial No. 288,864. (No model.)

To all whom it may concern:

Be it known that we, OWEN W. CLEMENT, of Waterville, in the county of Kennebec and State of Maine, and LESLIE A. CLEMENT, residing at Palmyra, in the county of Somerset and State of Maine, have invented certain new and useful Improvements in Car-Couplers; and we do hereby 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.

Our invention relates to car-couplings and to certain new and useful improvements therein. Its object is to provide a device simple and inexpensive in its construction by which cars may be coupled automatically.

A further object of our invention is to provide means for manipulating the car-coupling without going between the cars, as in the use of the old car-coupler; and a further object is to combine with such a car-coupler the old link-and-pin device.

Our invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the end of a car with our coupler in position. Fig. 2 is a front elevation of the coupler. Fig. 3 is a section through the line xx of Fig. 2. Fig. 4 is a view of the link.

In the drawings, A is the car, and B the draw-head. This draw-head has a central link-opening c , adapted to receive the old-fashioned link. On one side of the center there is a second link-opening d , adapted to hold permanently the smaller end of the special link E, which is provided with a small loop e' at one end, a larger or longer loop e^2 at the other end, and a shank e , forming the center or body of the link. The link-opening d is adapted to receive the small end of the link, and the lower edge of the opening or entrance is formed into a V-shaped recess, in which the shank of the link always rests when uncoupled. It will be readily seen that this link always centers itself in this V-shaped recess. d' represents the hole for the link-pin. At the opposite side of the draw-head is the flaring link-opening b . (Shown in section in Fig. 3.) Within a slot formed above this link-opening is pivoted the latch f by means

of a pivot f' . The lower end of the latch f rests on the horizontal surface B' , Fig. 3, formed in the rear of the link-opening. The hole in the latch through which the pivot f' passes is made somewhat elliptical, so that when a strain is exerted on the foot of the latch tending to pull it outward the head of the latch will be allowed to move back to a bearing against the shoulder b^2 , formed in the draw-head over the opening b . Thus the pivot f' is relieved from the strain, which is taken by the shoulder b^2 , formed integral with the body of the draw-head, and hence adapted to bear a very great strain. A lifting device (here shown as a chain g) is secured to the latch for raising it to release the link. This chain g is secured by its upper end to one arm of an elbow-lever h , pivoted to a block i , which is attached to the car. To the other arm of the lever h is pivoted the center of a horizontal bar k , each of the ends of which rests in a support l , secured to the car near the side. Each end of the bar k is provided with a knob or handle M, by which it is pushed back and forth. On the under side or edge of the bar k , near the support l , is a projection k' , the extremities of which are here shown as having a slope or inclination in opposite directions, so that the projection will pass over the support l in either direction when the bar is pushed horizontally; but sufficient resistance will still be offered to prevent its shifting lengthwise by the motion of the car or by other accidental cause. A vertical lever n extends to the top of the car, its upper end being formed into a handle, and it is pivoted at n' to the car-body. At the lower end of the lever n is pivoted a link o , which is also pivoted to the bar k . The movement of the lever n pushes the bar k back and forth longitudinally.

The operation of our device is evident from its construction. It is understood that each end of each car is to be provided with our coupler, so that as they approach each draw-head carries a link E, projecting centrally from the recess d , as explained. The large end of each link enters the link-opening b in each coupler, lifting the latch f , which catches and retains the link. The opening b is made vertically sufficiently large to allow for any

probable difference in the height of different cars, and the link E being always central, as before pointed out, the device couples automatically. The face of the draw-head is curved horizontally to allow for the play of one face against the other in going around curves. When it is desired to uncouple the cars, the latch *f* is lifted by pulling out the bar *k* horizontally, thus raising the end of the lever *h* to which is attached the chain *g*. This can be accomplished from either side of the car or from the top, as desired. The projection *k'* then slides to the other side of the support *l*, holds the rod in position, and prevents the latch from falling. The bar *k*, when pulled out as described, rests on the block *i* the same as when in the other position. The use of the projection *k'* or an equivalent device furnishes a yielding fastening for the latch and avoids the difficulty which is experienced where the latch is fastened positively.

It will be seen that two links being used there is always a double connection between the cars, and in case one link fails to couple when the draw-heads come together the other will be sufficient to hold the strain between the cars.

It will be observed that in our coupler there are no recesses which are liable to become clogged with ice and snow—a fault common to many car-couplers. The link-opening containing the latch *f* being continuous and open from front to rear will be cleared from snow and ice by the entrance of the end of the link, which will push any obstruction directly through, causing it to fall out at the rear of the draw-head.

We claim—

1. In a car-coupler, a draw head having a central link-opening, a flaring link-opening on one side thereof, and a latch pivoted there-

in for engaging the end of the link, in combination with a link-opening on the opposite side, having a V-shaped recess at its entrance, and a link for use therein having a single shank, substantially as described.

2. In a car-coupler, a draw-head having at one side of the center a link-opening adapted to receive and retain permanently the end of one link and at the other side an opening having a flaring entrance, and a latch pivoted to the forward upper part thereof and having its lower or free end resting on a horizontal surface in rear of said entrance, substantially as described.

3. In a car-coupler, a flaring link-opening, a latch therein adapted to retain the link, an elbow-lever pivoted to the end of the car and having one of its ends connected to said latch by a chain or link, a horizontal bar pivoted to the other end of said lever and having one end resting in a suitable support, and a projection on the lower edge of said bar, having oppositely-inclined ends adapted to strike against said support to hold said bar in position, substantially as described.

4. In a car-coupler having a link-retaining latch, a block secured to the end of the car, having a horizontal upper surface, an elbow-lever pivoted thereto, a chain or link connecting one end of said lever to said latch, a horizontal bar resting on said block and pivoted to the other end of said elbow-lever, and a support for supporting the end of said bar, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

OWEN W. CLEMENT.
LESLIE A. CLEMENT.

Witnesses:

S. W. BATES,
WILBUR F. LUNT.