W. G. SMOOT.

Car-Coupling.

No. 162 111. Patented April 13, 1875.

Fig. 1.

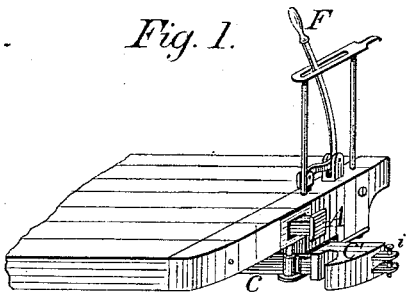


Fig. 2.

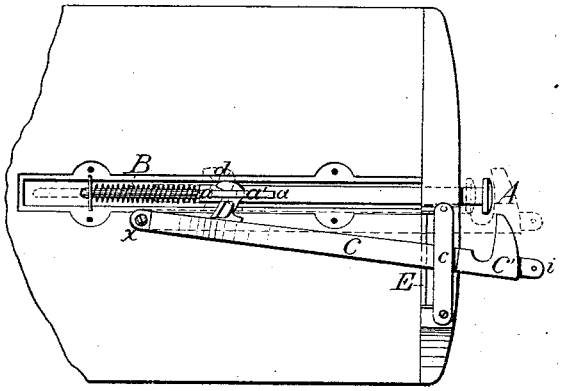


Fig. 4.

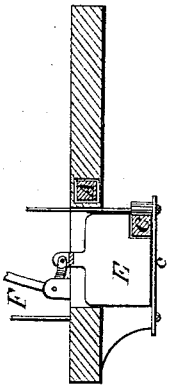
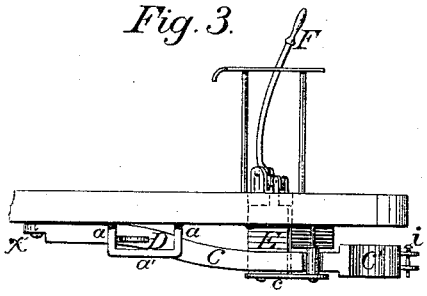


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

WILLIAM G. SMOOT, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **162,111**, dated April 13, 1875; application filed March 23, 1875.

To all whom it may concern:

Be it known that I, WILLIAM G. SMOOT, of Washington, in the county of Washington and District of Columbia, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a perspective view of a platform of a car having my improved coupling. Fig. 2 is a bottom plan of a car, with the covering-plate removed. Fig. 3 is an oblique side view of the bottom of the car and coupling; and Fig. 4 is a detailed view, showing the lock-plate in position.

Similar letters of reference indicate corresponding parts in all the figures.

This invention is an improvement upon the car-coupling described and shown in the Letters Patent No. 152,573 granted to me on the 30th day of June, 1874. By this improvement I dispense with the coupling-link, and greatly simplify the construction and arrangement of the operating parts.

In the drawing, A represents the bumper or coupling-tongue, which is forced forward by a spring, B. C is the stem of the coupling-hook C′, which has a laterally-projecting-arm, D, that engages with two downward-projecting arms, *a a*, on the bumper-stem A. These two arms may be united by the piece *a′*, as shown, but this is not necessary. The arm D has a lip, *d*, which serves to keep it and the coupling-stem in the proper position. The forward part of the coupling-stem C moves in a slot, *c*, and is, when the cars are coupled, retained in its position by the sliding plate E. This latter moves in a vertical slot in the front part of the platform of the car, and falls into position by its own weight, assisted by the weight of the bent lever F, by which the plate E is lifted when it is desired to uncouple the cars.

The operation of my improved car-coupling will be readily understood from the foregoing description.

When the lever F is raised the tension of the spring B will force the bumper A outward, and with it the projecting arms *a a*, which slide in a slot in the covering-plate. (Not shown in the drawing.) The result is that the laterally-projecting arm or bracket D, which is placed obliquely or slantingly in its relation to the coupling-stem C, is forced forward, thus impelling the coupling-stem, and with it the coupling-hook, back from the bumper. When, on the other hand, the cars come together, the pressure upon the bumper-head A will move the projecting-arms *a a* backward, thereby forcing the coupling-hook C′ into the locked or coupled position indicated by the dotted lines in Fig. 2, while the lock-plate E makes accidental uncoupling absolutely impossible. It will also be observed that the bumper-head A continues to operate, by the spring B, independent of the position of the coupling-hook C′, whether this is locked or open. By this arrangement, while the cars are coupled, the two opposite bumper-heads A will always bear against each other, thereby at all times taking up the slack.

The coupling-head C′ may be recessed to receive one end of an ordinary coupling-link, or it may have a projecting bracket, perforated to admit of the insertion of a pin, *i*, for the same purpose.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of a sliding bumper, A, operated by a spring, B, with a coupling-stem, C, pivoted to the bottom of the car, substantially as and for the purpose set forth.

2. The combination of the coupling-stem C, pivoted at *x*, with the vertically-sliding lock-plate E, substantially as and for the purpose set forth.

3. The combination of the vertically-sliding lock-plate E with the bent lever F and the coupling-stem, substantially as and for the purpose set forth.

4. The combination of the sliding bumper, operated by the spring B, and having the downward-projecting arms *a a*, with the coupling-stem C pivoted at *x*, and the vertically-sliding lock-plate E, operated by the bent lever F, all to operate substantially as and for the purpose set forth.

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

WILLIAM G. SMOOT.

Witnesses:

LOUIS BAGGER,

WM. BAGGER.