

No. 817,095.

PATENTED APR. 3, 1906.

C. R. SALMEN.
AUTOMATIC CAR COUPLING.
APPLICATION FILED NOV. 10, 1905.

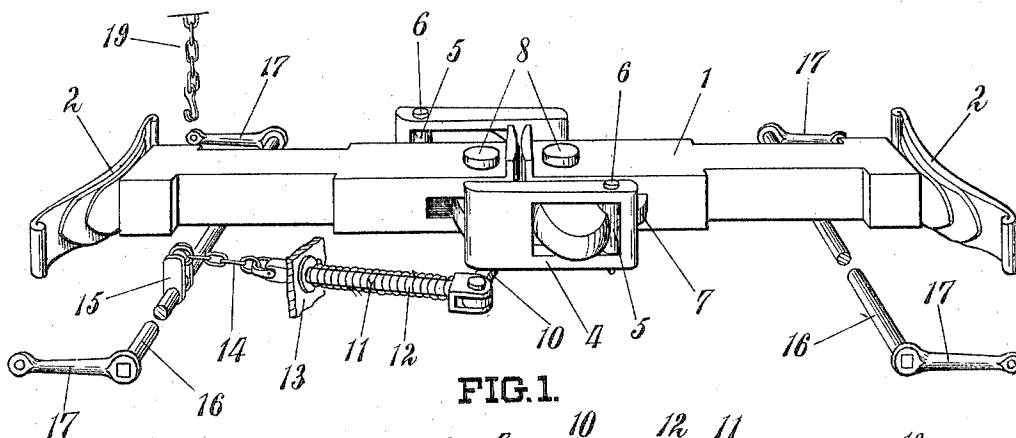


FIG. 1.

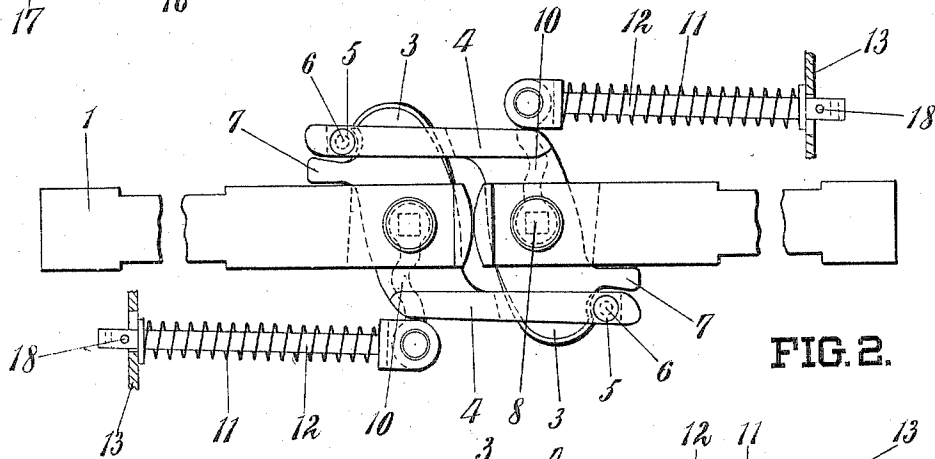


FIG. 2.

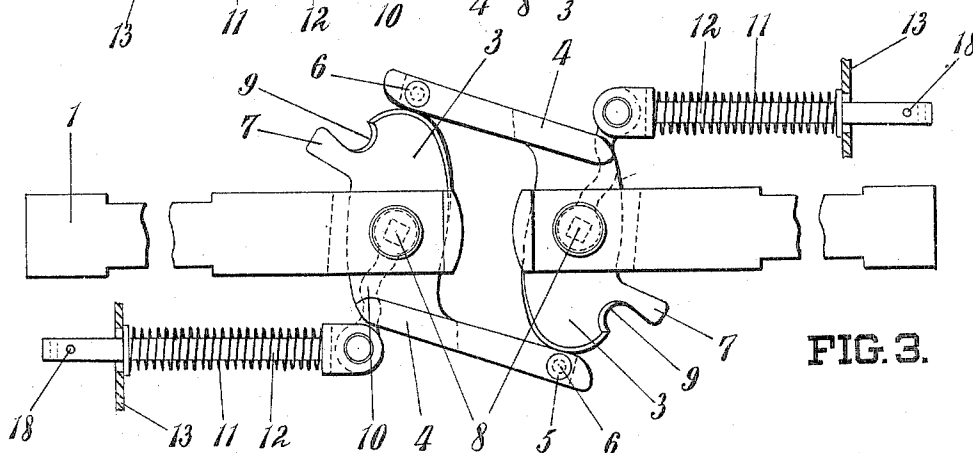


FIG. 3.

WITNESSES

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CARL RUDOLF SALMEN, OF MONTREAL, CANADA, ASSIGNOR OF ONE-FIFTH TO JOHN FISHER AND ONE-FIFTH TO FRANCIS SARLAY, OF CATASAUQUA, PENNSYLVANIA, AND ONE-FIFTH TO JOHN MRAZAY AND ONE-FIFTH TO EDWARD FIRNESZ, OF MONTREAL, CANADA.

AUTOMATIC CAR-COUPLING.

No. 817,095.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed November 10, 1905. Serial No. 286,636.

To all whom it may concern.

Be it known that I, CARL RUDOLF SALMEN, of the city of Montreal, in the Province of Quebec and Dominion of Canada, have invented certain new and useful Improvements in Automatic Car-Couplers, of which the following is a full, clear, and exact description.

My invention relates to car-couplers; and the object is to provide an automatic device that will be simple and inexpensive in construction and that will operate positively and effectually to couple cars or similar vehicles together without the use of pins or other external appliances.

A further object is to provide a coupler that may be quickly and easily uncoupled without the necessity of going between the cars and which may be locked in inoperative position in the most simple manner.

A still further object is to provide a coupler having a cushion or buffer to protect the cars from damage when they are shunted together with too great a force.

Still further objects and advantages will be apparent from the following description and drawings.

In the drawings, Figure 1 is a perspective view of my device, showing the position of the parts locked in operative position. Fig. 2 is a plan view of Fig. 1, showing the coupler locked in position. Fig. 3 is a plan view of my device, showing the position assumed by the parts immediately before the coupling operation is effected.

Referring to the parts, 1 represents the beams or draw-bars, each abutting against a yielding resistance 2, which is fixed to the car-body. As shown in Fig. 1, this yielding resistance consists of a built-up flat spring; but it will be obvious that a coil-spring may be used instead with equally good results. A coupling-jaw 3 is rigidly mounted on a square pin 8 in a transverse slot in the free end of the draw-bar 1. The pins 8 are provided with round ends and are journaled to revolve in the ends of the draw-bars. One side of the coupling-jaw 3 is provided with a shallow curved notch 9, while the opposite side carries an integral slotted link 4, extending away from the car-body. The link 4 car-

ries in the outer end of its slot a vertical roller 5, mounted on a pin 6, the purpose of which will be hereinafter explained. The lug or stop-block 7 is formed integrally with the coupling-jaw 3 between the notch 9 and the draw-bars 1. The crank-lever 10 is rigidly attached at one end to the square pin 8 and at the other end is pivotally connected to the forked end of a spring-post 12. The other end of the post 12 passes through a slot in the rigid abutment 13, which is broken away, as shown in Fig. 1. Mounted on the post 12 is a helical compression-spring 11, which is retained between the abutment 13 and the forked end of the post 12. On the opposite side of the abutment 13 is a stop-pin 18, driven through the post 12. A chain 14 is attached at one end to the post 12 and at the other end to a crank or drum 15, mounted underneath the car and terminates at both ends in a crank-lever 17. Hook-chains 19 or other suitable means are attached in juxtaposition to the lever 17 for the purpose of locking the coupling device in inoperative position. It will thus be seen that I provide each draw-bar with exactly similar but oppositely-disposed coupling jaws and links, which operate simultaneously and coact with each other to lock themselves in the positions shown in Fig. 1.

The operation of my device is as follows: On shunting two cars together the ends of the links 4 come in contact with the curved faces of the jaws 3, as shown in Fig. 3. The free ends of the links 4 swing outwardly from the center, while the coupling-jaws turn through a small angle on the journals of the pin 8. This action allows the links to pass partly around the jaws, so that the rollers 5 come in contact with the outer rounded surface of the jaws 3, thus allowing a very smooth and frictionless coupling. The parts are now in the position shown in Fig. 3. As the cars are brought together the links 4 pass around the outer face of the jaws 3, so that the rollers 5 drop into the notches 9, as shown in Figs. 1 and 2. The cars are thus firmly coupled and the parts are held in position by the spring 11 bearing against the levers 10.

To uncouple the cars, it is only necessary to turn one of the hand-levers 17, which operation winds the chain 14 against the spring 11 and draws the notched jaw on one car from engagement with the link on the other car and at the same time removes the roller-bearing link from the notch in the oppositely-disposed jaw. The rollers 5 in the ends of the links greatly facilitate this movement.

10 If desired, the parts may be retained in inoperative relation by means of the chain 19, which is hooked to the hand-lever 17 and contacts therewith to hold the lever against the expansive action of the spring 11. In this position cars may be shunted without being coupled until the lever 17 is released from the chain. The lugs 7 serve as stops for the links 15 4 in case of violent impact of the cars and also prevent the motion of the jaws from being reversed at the moment of impact.

20 The stop - pins 18 in the spring - posts 12 serve to prevent the reflex action of the springs 11 from withdrawing the posts 12 from the abutment 13. The yielding abutment 2 acts as a cushion or buffer to take up the jar of impact and prevent damage to the cars.

30 The advantages of my device will be obvious. As no coupling-pins are required, it will never be necessary for brakemen to go between the cars. The operation of uncoupling may be performed from the side of the car, while the operation of coupling is absolutely automatic and complete in itself. 35 The drawing stress is equally divided and is in a straight line with the direction of the cars.

40 While I have shown the preferred form of my device, I do not wish to limit myself to the precise form shown, as many changes may be made which fall within the scope of my invention.

45 Having now particularly described and ascertained the nature of my said invention, so that the same may be readily understood by those skilled in the art to which it appertains,

what I claim, and desire to secure by Letters Patent, is—

1. In a car - coupler, oppositely - disposed jaws, pivotally mounted on the draw-bars, 50 slotted links rigidly attached to one side of the jaws, recesses formed in the opposite side of said jaws, and spring-actuated levers adapted to retain said links in position.

2. In a car - coupler, oppositely - disposed 55 jaws rigidly mounted on square pins journaled on the draw-bars, recesses formed in one side of the jaws, slotted links formed integral with the opposite side of said jaws, stop-lugs adapted to limit the motion of the 60 jaws, spring-actuated levers coacting with said coupling-jaws, and a manually-operated lever for throwing the coupler out of operation.

3. In a car - coupler, oppositely - disposed 65 jaws rigidly attached to square pins pivotally mounted on the draw - bars, recesses and stop-blocks formed on one side of the jaws, slotted links rigidly attached to the opposite side of said jaws, vertical rollers mounted in 70 said slots, spring-actuated levers mounted on the coupler-pins, manually-operable levers coacting with said spring-actuated levers, and means for retaining the coupling-jaws in operative position. 75

4. An automatic car - coupler comprising oppositely-disposed, pivotally-mounted jaws, recesses formed in one side of the jaws, slotted links carrying vertical rollers formed integral with the opposite side of said jaws, 80 stop-blocks mounted on said jaws, spring-actuated levers coacting with said jaws, manually-operated levers adapted to throw the jaws out of grip, and means for maintaining the coupler in inoperative position. 85

In witness whereof I have herunto set my hand in the presence of two witnesses.

CARL RUDOLF SALMEN.

Witnesses:

STUART R. W. ALLEN,
WILLIAM G. ARMSTRONG.