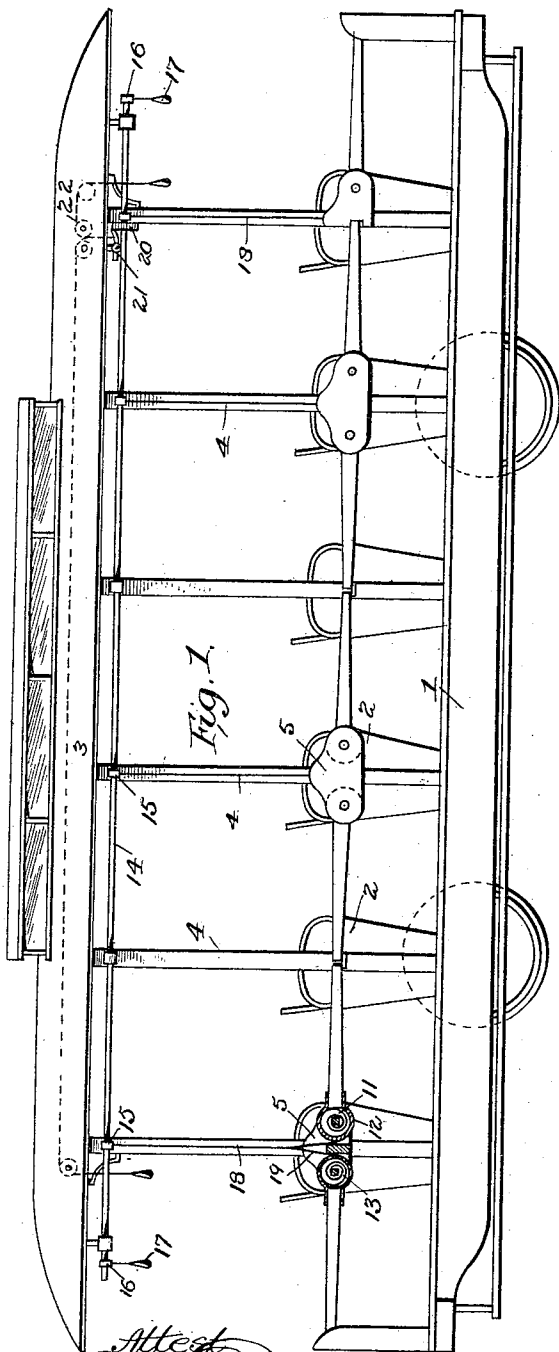


(No Model.)

F. C. CASH.
SAFETY GATE FOR CARS.

No. 473,210:

Patented Apr. 19, 1892.



Attest
Malcolm Donaldson
F. L. Middleton

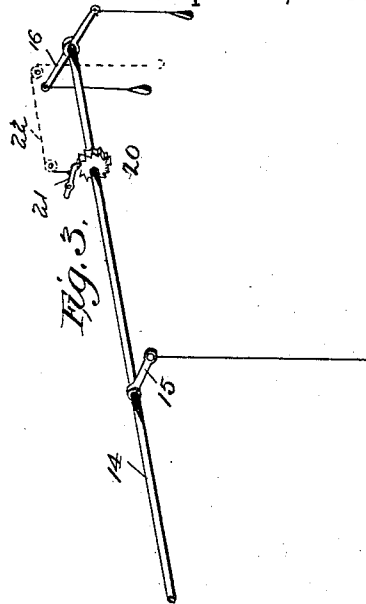
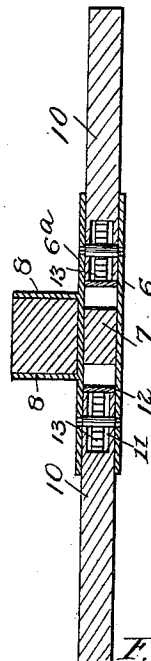


Fig. 2



Inventor
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by Spear & Hill
Attys

UNITED STATES PATENT OFFICE.

FRANCIS C. CASH, OF LYNN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO
CHARLES B. LORD, OF SAME PLACE.

SAFETY-GATE FOR CARS.

SPECIFICATION forming part of Letters Patent No. 473,210, dated April 19, 1892.

Application filed December 23, 1891. Serial No. 415,959. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS C. CASH, a citizen of the United States of America, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Safety-Gates for Cars, of which the following is a specification.

My invention is an improvement in safety-gates for cars, and is adapted to provide a simple and effective form of gate capable of being easily and quickly applied to street-cars commonly known as "summer" or "open" cars to prevent passengers from leaving while the cars are in motion or from alighting upon the left-hand side next the adjoining track.

In the accompanying drawings, Figure 1 shows a side elevation of a car with my invention applied thereto. Fig. 2 is a section on line *xx* of Fig. 2. Fig. 3 is a detailed perspective view of the operating rod or shaft.

In the drawings, 1 is the body of the car; 2, the seats; 3, the roof, and 4 4 the standards, which support the roof. 5 is the frame, in which are pivoted the gate-arms which close the spaces between the ends of the seats. This frame is composed of two parts 6 and 6^a, suitably connected, as at 7.

8 8 are arms extending out from one side 6^a of the frame, and these are representative of any desirable means for holding the frame to the standard at any suitable distance above the floor of the car.

Between the parts of the frame at each end are pivoted the gate-arms adapted to have vertical swinging movement. These arms are composed, preferably, of the sections or arms proper 10, which are secured to the drums 11, journaled in the ends of the frame by means of the bands 12. The drums are provided with springs 13, which tend to keep the arms forced upwardly normally to a vertical position parallel with and in close proximity to the standards, thus leaving the spaces between the ends of the seats free for the entrance and egress of passengers.

Near the top of the car on each side is journaled a shaft 14, which carries a number of short arms or extensions 15, one over each gate-arm or pair of arms. The ends of these shafts 14 extend out over the platform at each end of the car and are provided with

crank-arms 16, to which are attached suitable operating cords or handles 17, by means of which the conductor may rotate the shaft. From the extensions 15 a cord or rope or like suitable connection extends down the standard, as at 18, to between the drums, terminating in two branches 19, one secured to the under side of each drum. When the arms are in a vertical position, the extensions or levers 15 lie in a vertical plane parallel to the standards. If it is desired to close the spaces between the ends of the seats upon one side of the car, the conductor or driver rotates the shaft 14, raising the levers 15, and through the connecting-cords causing the drums to rotate and force the levers downward to a horizontal position across the spaces. For holding the arms in their horizontal position I have provided a ratchet-wheel 20 upon the shaft 14 and a pawl carried by one of the standards, adapted to engage the ratchet-wheel and hold the shaft in its rotated position. A suitable cord 22 is provided leading from the pawl 21 back to within reach of the conductor or driver, by means of which the ratchet-wheel may be released; or, if desirable, the cord 22 may be connected with the bell-rope, so that the ringing of the bell to stop the car will open the gates.

I have described my improved gate as formed double with two pivoted arms and attached to every alternate standard, the arms extending forward and in rear of said standard; but, if desired, a single pivoted arm may be attached at or near each standard of the car, as illustrated by the gates, closing the entrance to the platforms at each end of the car in Fig. 1. The set of gates upon one side of the car is separate from and may be operated entirely independent of the set upon the other side.

In the drawings the gates are shown as swinging upward to a vertical position; but, if desired, the springs may be so arranged as to force them downwardly instead and the cords arranged to raise them to their horizontal position.

I claim as my invention—

1. In combination with a standard at the side of the car, an arm under spring-tension pivoted at or near the standard and nor-

mally down to close the opening between the seats, means for releasing the arm to allow it to rise to a vertical position under the action of the spring, and means for positively restoring it to a horizontal position, substantially as described.

2. In combination with a post at the side of the car, a pair of arms hinged at or near the post and arranged to swing in opposite directions across the egress from the car, springs for holding the arms in a vertical position, and a cord extending vertically with two branches connected one to each arm, the said cord having connections within reach of the conductor or driver for forcing the arms to a horizontal position simultaneously, substantially as described.

3. In combination with the standards at the

side of a car, arms pivoted at or near the standards, springs to hold the arms in a vertical position, and means for forcing the arms to a horizontal position, consisting of a shaft journaled near the top of the car, arms carried by the shaft above the pivoted arms, connections between the pivoted arms and the arms on the shafts, means within reach of the conductor or driver for rotating the shaft, and means for holding it in its rotated position, substantially as described.

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

FRANCIS C. CASH.

Witnesses:

JAMES M. SPEAR,
C. H. WELCH.