

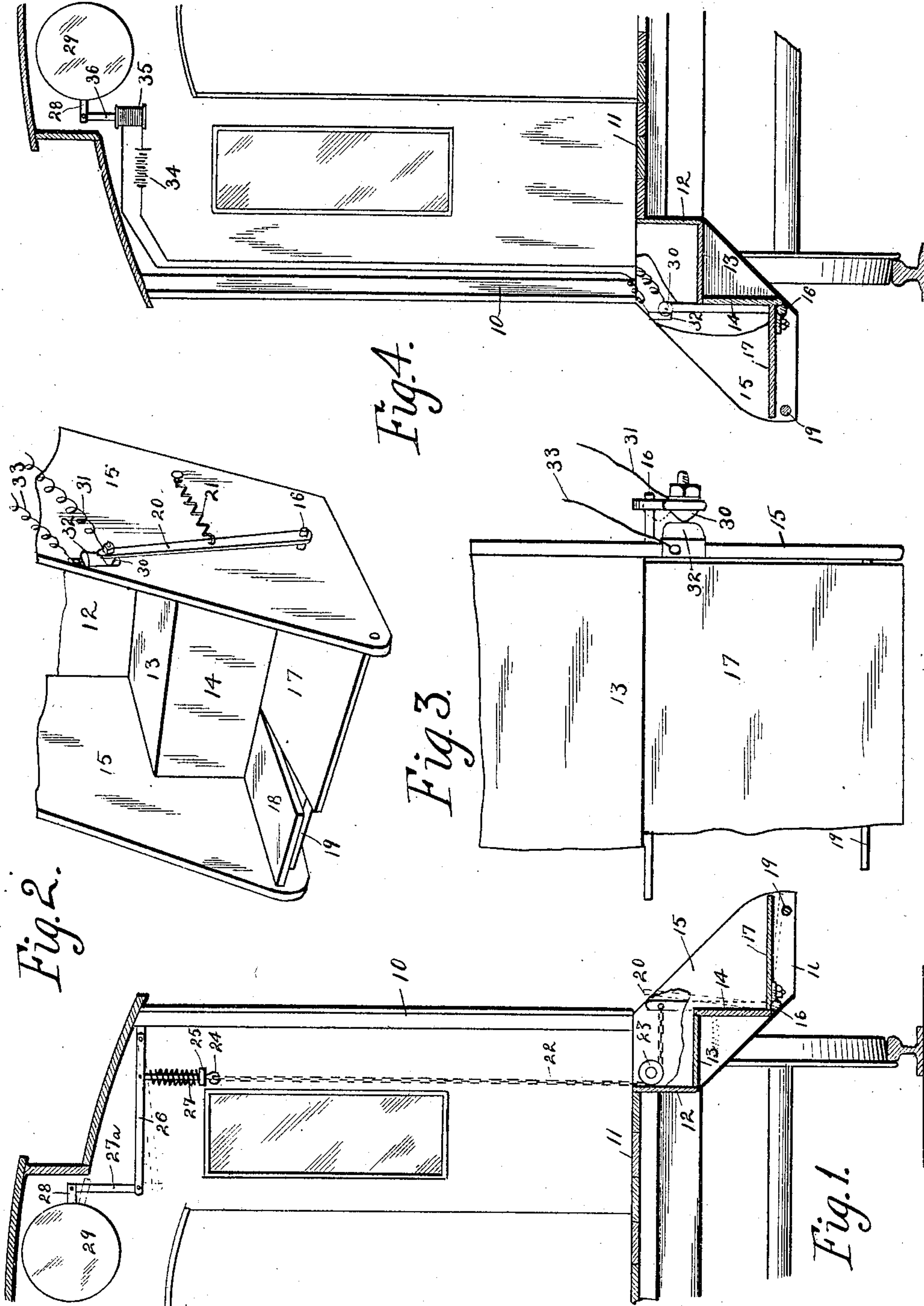
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H. S. BUTLER.  
AUTOMATIC REGISTER FOR CARS.

APPLICATION FILED MAY 4, 1903.

NO MODEL.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## AUTOMATIC REGISTER FOR CARS.

SPECIFICATION forming part of Letters Patent No. 755,592, dated March 22, 1904.

Application filed May 4, 1903. Serial No. 155,558. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY S. BUTLER, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented certain new and useful Improvements in Automatic Registers for Cars, of which the following is a specification.

The objects of my invention are to provide a device of simple, durable, and inexpensive construction that may be applied in the nature of an attachment to street-cars or other vehicles and which when applied will automatically register each person that enters or leaves the car, so that it may be accurately determined how many passengers rode on the car on each trip. This may be done by dividing the number by two, as each person operates the register both when he enters and leaves the car.

A further object is to provide a device of this class in which a person may enter and leave the car without registering by stepping upon a portion of the step especially designed for this purpose, the object of which step is to provide means by which the conductor or any person not desiring to register may enter and leave the car without registering.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which—

Figure 1 shows a sectional elevation through the rear platform of a car having my registering attachment applied thereto. Fig. 2 shows a detail perspective view of the car-steps with a modified form of my device applied thereto. Fig. 3 shows an enlarged detail top view of a portion of the two lower steps of a car with the modified form of registering device applied thereto and by dotted lines showing the contact-breaker at different positions of its movement, and Fig. 4 shows a sectional elevation through the rear platform of a car provided with the modified form of registering device.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indi-

cate that portion of the car shown. 11 indicates the car-platform; 12, the riser of the top step; 13, the stationary tread of the top step, and 14 the stationary riser of the lower step. The numeral 15 indicates the sides of the step, all of which are of the ordinary construction.

The reference-numeral 16 indicates a shaft mounted in the sides of the step and extended directly under the riser 14. Fixed to this shaft is a tread portion 17 of the lower step. This tread portion extends only throughout a part of the lower step, and a rigid tread portion 18 is fixed to one of the sides 15, so that it may not move with the tread portion 17. I have provided means for limiting the downward movement of the tread portion 17 by means of a cross-rod 19, mounted in the sides 15 beneath the outer end of the tread portion 17. On one end of the shaft 16 is a lever 20, extended straight upwardly beside one of the sides 15, and a contractile coil-spring 21 is fixed to said lever and to the side 15 to normally hold the tread portion 17 to its upward limit of movement. Obviously when a person steps upon the tread portion 17 it will be forced downwardly until it strikes the supporting-rod 19. In this connection it is my purpose to provide a spring 21 of such resilience that small children stepping upon the tread portion 17 will not stretch the spring 21 enough to lower the tread portion 17, so that only adults or persons weighing above a certain amount will depress the tread portion 17 as required to register.

The reference-numeral 22 indicates a chain fixed to the upper end of the lever 20, passed under a direction-pulley 23 and attached to a rod 24, which is passed through a stationary bracket 25 and then pivoted to a lever 26, fulcrumed to a part of the car 10. Mounted on the rod 24 is an extensile coil-spring 27 to normally hold the lever 26 upwardly and thereby hold the chain 22 taut. The end of the lever 26 is pivoted to a link 27<sup>a</sup>, which link is pivoted to lever 28, projecting from a register 29. This register is of the kind ordinarily used on street-cars and is actuated to register once each time the lever 28 is drawn downwardly. I contemplate using any of the ordinary registers for this purpose, and hence



have not shown or described in detail the construction thereof.

From the foregoing description it is obvious that the movable tread portion 17 is normally held at its upward limit by the spring 21, and the chain 22 is normally held taut by the spring 27. When a person of sufficient weight to overcome the resiliency of the spring 21 steps on the tread 17, the tread portion is then moved downwardly until it strikes the rod 19, and during this movement the lever 28 of the register is actuated. Obviously this register will be operated by each person that enters the car and each person that leaves the car. In use it is frequently necessary for the conductor to enter and leave the car frequently, and when he does so he steps upon the fixed tread portion 18, which portion is placed at one side of the step, so as to be nearly inaccessible, and so that passengers would not be likely to step upon it in entering or leaving the car.

In the modified form shown in Figs. 2, 3, and 4 I have illustrated means whereby the register may be actuated electrically, as follows: On the top of the lever 20 is a rounded contact-point 30, and an electrical conductor 31 is attached thereto. Fixed to the side 15, adjacent to the contact-point 30, is a yielding contact-plate 32 and an electrical conductor 33 is attached thereto. These electrical conductors 31 and 33 are included in a circuit in which there is a battery 34 and an electromagnet 35, the armature 36 of the magnet being pivoted to the lever 28. The contact-points 30 and 32 are so arranged relative to each other that when the tread portion 17 is

at its upper limit of movement the contact-point 30 will be out of engagement with the plate 32, as shown by dotted lines in the upper part of Fig. 3. When a person steps upon the tread portion 17 and depresses it, he will force the contact-point 30 into engagement with the plate 32, thus completing the circuit and operating the lever 28 of the register. In other respects the electrical device works in the same way as the mechanism formerly described.

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

In a device of the class described, the combination of a car and a fare-register, of a shaft, a stairway tread portion fixed to the shaft, a stop for limiting its movement, a lever fixed to the shaft and projected upwardly at one side of the stairway, a spring attached to said lever and to the stairway, normally holding the tread portion upwardly, an electric contact-point carried by the lever, a rounded stationary contact-point secured in the path of the contact-point carried by the lever, said contact-points engaging each other when the tread portion is lowered, an electric circuit in which the said contact-points are included, and an electromagnet also included in the circuit and operating the fare-register when the circuit is closed, arranged and combined substantially in the manner set forth, and for the purposes stated.

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Witnesses:

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