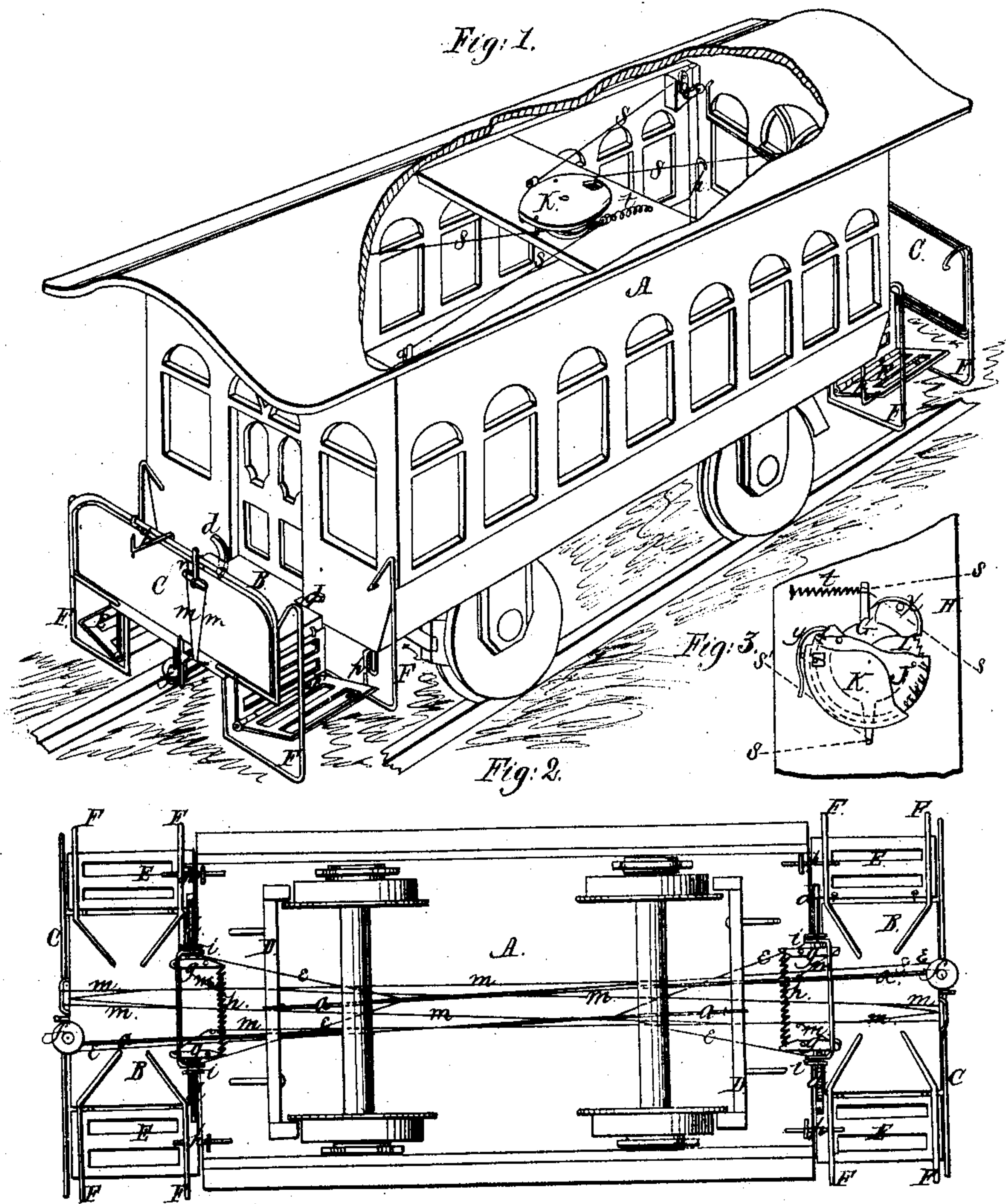


E. L. Fitch.
Horse Car Register.

N^o 104,566.

Patented Jun. 21, 1870.



Witnesses:
Harry King
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UNITED STATES PATENT OFFICE.

EUGENE L. FITCH, OF WEST EAU CLAIRE, WISCONSIN, ASSIGNOR TO HIMSELF
AND CARLOS CLOUGH, OF SAME PLACE.

IMPROVEMENT IN PASSENGER-REGISTER FOR HORSE-CARS.

Specification forming part of Letters Patent No. **104,566**, dated June 21, 1870; antedated June 17, 1870.

To all whom it may concern:

Be it known that I, EUGENE L. FITCH, of West Eau Claire, in the county of Eau Claire, and in the State of Wisconsin, have invented certain new and useful Improvements in Passenger-Registers for Horse-Cars; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and general arrangement of a passenger-register for horse-cars, and in the construction and arrangement of the devices for operating the same.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a perspective view of a horse-car with my register attached. Fig. 2 is a bottom view of the same; and Fig. 3 is a plan view, part in section, of the registering apparatus.

A represents a horse-car made in any of the known and usual ways. B B are the platforms, and C C the dash-boards, attached in any manner desired.

D D represent the brakes, connected by chains *a a* to the brake-levers *b b*, one at each end of the car—that is, the brake at the front end is connected with the lever at the rear end, and vice versa.

The steps E E are made in sections, hinged together, as seen in Fig. 1, and one of these sections hinged to the platform B. When the steps are down to allow a passenger to pass in or out of the car, the section hinged to the platform is perpendicular, while the other, hinged to the perpendicular section's lower edge, extends horizontally outward.

A frame, F, is attached to the car A and dash-board C, in which the steps E rest when down, said frame also facilitating the raising of the steps, and to hold them stationary when up. One of these frames with steps is attached at each side of each entrance to the car—that is, at each side of each of the platforms B B.

Each of the perpendicular sections of the steps E is provided with a bent lever, *d*, on the side next to the car.

The levers *d d* are by wires *e e* connected with pulleys *f f* upon the brake-iron, for the purpose of raising and lowering the steps E E. The two levers *d d* at one end of the car are connected with the pulley *f* upon the brake-iron at the other end, the wires *e e* forming the connection, being joined together at a suitable point before reaching the pulleys *f f*.

The wires *e e* are arranged in such a manner that, when the brake is put on, said wires will be slack, so as to allow the steps to fall down; and when the brake is turned off the wire will wind up on the pulley *f*, and raise the steps within the frame F. The wires *e e*, before reaching the levers *d d*, pass around pulleys or guides *i i* placed under the bottom of the car, as seen in Fig. 2.

Upon the outer end of the curved lever *d* is a catch or projection, against which a pivoted pawl, *g*, catches, so as to hold the steps up when raised by the wires *e e*, as above mentioned.

Two pawls, *g g*, are pivoted at each end of the car, so as to operate one on each of the levers *d*. At the inner ends the two pawls *g g* are connected by a spring, *h*, which throws their outer ends against the levers *d d*, said outer ends being by wires or cords *m m* connected with a T-shaped lever, *n*, upon the dash-board at the opposite end of the car.

When the brake is turned on the wires *e e*, as above described, become slack, and then the driver can, by merely turning the lever *n* either to the right or left, lower either the right or left side step, because this motion of the lever *n* turns one of the pawls *g* so as to release the catch on the lever *d*, and the step will fall down of its own weight.

When the step E is down the horizontal section rests on a slide, *p*, which passes up through the corner of the car, and is attached to or connected with a bent lever, *o*, pivoted near the roof of the car. This lever is by a wire, *s*, connected with a lever, *G*, pivoted in its center upon a cross bar or board, *H*, in the top of the car.

All of the steps of the car are provided with slides, levers, and wires connecting with the

lever G, the wires *s s* from each end of the car being attached to the same end of the lever, so that whichever step is stepped upon the lever G will always be turned in the same direction, a spring, *t*, attached to said lever, bringing it back into its original position as soon as the pressure is removed from the step. The action of this spring is such that it will raise the slide *p*, which was just depressed, and thus place the step in position again.

Upon the same shaft that pivots the lever G to the board H, and on top of said lever, is placed a cog-wheel or toothed wheel, I, provided on its upper side with a dial-plate, J, a pawl, X, attached to the lever G, working in said toothed wheel, so as to revolve the same, and with it the dial-plate J, the distance of one tooth for each time the lever is turned, as above described.

A spring, *y*, catching in the teeth on the wheel I, prevents said wheel from turning backward when the lever G is brought back by the action of the spring *t*.

On the top of the dial-plate J is placed a stationary plate, K, provided with an aperture, through which can be seen one of the numbers on the dial. These numbers are so arranged that it will take two motions of the lever G to change the number shown through the opening in the plate K, thus allowing for each passenger stepping upon the step twice—that is, going in and going out of the car.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The step E, constructed, as described, in two sections, hinged together, one of said sections being hinged to the edge of the car-platform and provided with a lever, *d*, so that both sections may be raised or lowered at will, substantially as herein set forth.

2. The levers *d d*, wires *e e*, and pulleys *f f* upon the brake-iron, all arranged as described, to enable the driver to control the position of the hinged steps at the opposite end of the car, substantially as herein set forth.

3. The pivoted pawls *g g*, spring *h*, wires *m m*, and T-shaped lever *n*, all arranged as described, to operate the steps on either side of the car, substantially as set forth.

4. The combination of the hinged steps E, the devices above mentioned for operating the same, the slides *p p*, levers *o o*, wires *s s*, and a registering apparatus within the car, constructed substantially as described, and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of September, 1869.

EUGENE L. FITCH.

Witnesses:

E. B. CRAFT,
JAMES S. VAIL.