A. C. GOODELL, Jr.

FARE-BOXES.

No. 195,814. Patented Oct. 2, 1877

Fig. 1.

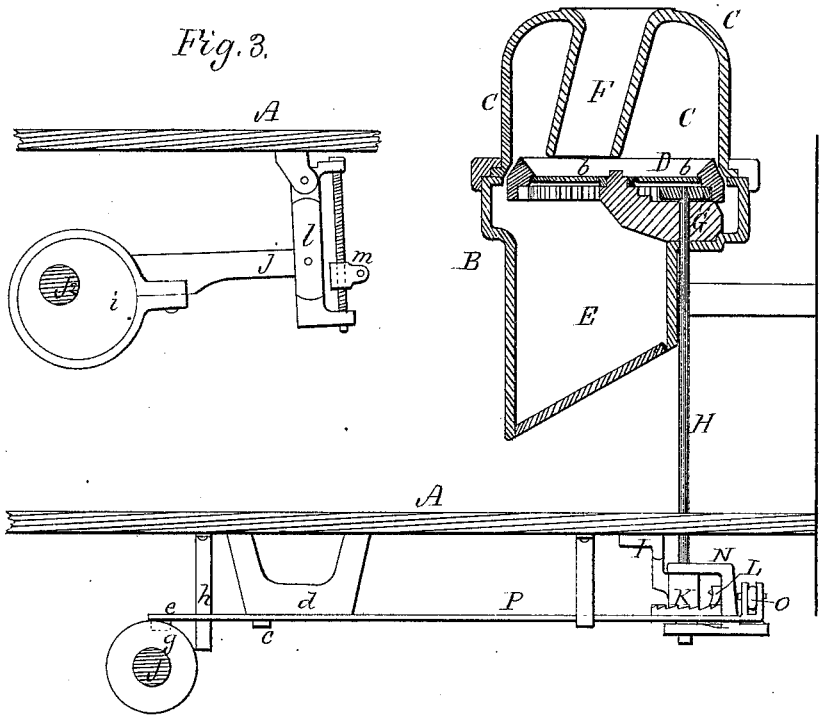
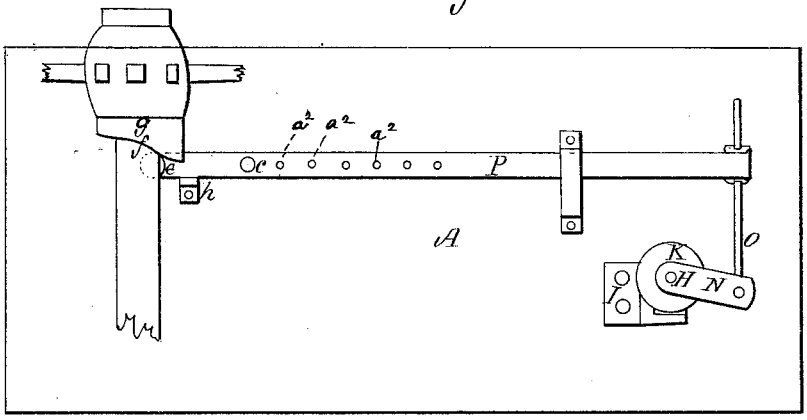


Fig. 3.

Fig. 2.



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ABNER C. GOODELL, JR., OF SALEM, MASSACHUSETTS.

IMPROVEMENT IN FARE-BOXES.

Specification forming part of Letters Patent No. **195,814**, dated October 2, 1877; application filed March 12, 1877.

To all whom it may concern:

Be it known that I, ABNER C. GOODELL, Jr., of Salem, Essex county, Massachusetts, have invented new and useful Improvements in Fare-Boxes, of which the following is a specification:

These improvements relate to a class of fare-boxes for railway-cars or omnibuses which consist of an upright cylinder or box having at top a small aperture or throat through which fares are dropped, and a changeable or movable fare-receiving table or shelf, to be operated by the driver or by mechanism, as the case may be, the fare, whether in money or tickets, being dropped into the throat and falling upon the changeable table, from whence, at a suitable time, it is precipitated into the bottom of the box.

A prominent instance of the class of fare-boxes to which my present improvements relate is seen in Letters Patent of the United States No. 153,481, issued to myself on the 28th day of July, 1874, in which I employ an upright cylinder or circular box, the upper portion of which is transparent, and within which are disposed one or more revolving perforated disks or carriages, whose apertures for the passage of fares are covered on the under side by tilting vanes, or their equivalents, so applied and provided that, as the disk rotates, the vanes automatically open to admit of the passage of the fare to the lower part of the box, and subsequently close to prevent tampering with the fares thus deposited, the purpose in providing a transparent top to the box being, in part, to permit passengers and driver to inspect the fares after being deposited, and in part to permit the interior of the upper part, which constitutes the receiving-chamber, to be illuminated by the ordinary lamp of the car or coach, and do away with the necessity of a special lamp for this purpose.

My present improvements consist in the peculiar construction of the upper portion of the fare-box, the same consisting of an internal chute or tube, constituting part of the dome, and whose lower end is disposed at such a point with respect to the apertures and changeable vanes or traps of the rotary table or carriage that the fare passed into the chute shall drop upon the vane next preceding the open one, in order that the fare may make a circuit before dropping into the lower part of the box, thus allowing the fare to be seen by the driver and passengers, and preventing access to the interior of the dome by dishonestly-inclined persons. This feature in my invention is applicable to the class of fare-boxes before alluded to, or to that shown in Letters Patent of the United States issued on the 28th day of July, 1874, No. 153,480.

My present improvements further consist in means for utilizing and transmitting the rotary movements of the coach-wheel or car-axle to effect the revolutions of the traveling table or carriage of the fare-box, as hereinafter explained, this portion of my improvements being applicable to my own letters above referred to.

The drawings accompanying this specification represent, in Figure 1, a sectional elevation, and in Fig. 2 an under-side view, of a fare-box and its operative mechanism. Fig. 3 is a modification of the devices for operating the rotary table.

Reference being had to these drawings, it will be seen that A represents a portion of the floor of an omnibus, and B the fare-box, which is situated at the forward part of the interior of said omnibus, and above the floor A, such box being composed of an upright cylinder, which may be wholly or in part of glass.

Within the cylinder or box B, and about centrally thereof, I place a horizontal rotary fare-receiving table, D, which, as before premised, serves to temporarily receive the fare dropped upon it through the chute, and display such fare to the view of the driver and passengers.

Though I have, in the present instance, to economize space, represented the rotary table as filling, or nearly so, the area of the box B, it is by no means essential that this should be so, as the operation of the table is entirely independent of the extent of its diameter to that of the box, and it will operate successfully if the relative size of the two differs infinitely, since the chute of the dome before alluded to prevents access to the part of the box below the table.

As the general arrangement of the box B, so far as relates to the reception of fares in the

upper portion C and depositing them in the lower portion E, and the operations of the rotary table D are substantially the same as shown and described in my Letters Patent above named, and constitute no part of my present invention, I shall not describe them minutely.

In carrying out one feature in my invention, I provide a transparent dome or cylinder, C, which, though it may be used as the outside of the entire box, in the present instance constitutes the upper portion of the said box; and I form this dome with an internal tube or chute, F, open at top and bottom, as shown in Fig. 1 of the drawings, and having its lower end or outlet so disposed with respect to the apertures and tilting vanes *b* of the rotary table D as to deposit a fare directly in the path of such apertures and vanes, and upon the vane next preceding the one last opened, which last-named vane, in turn, opens and closes before again arriving at the chute.

This tube or chute F prevents the insertion of an instrument into the interior of the box with the intent to dishonestly abstract fares, and accomplishes this result without casting a shadow upon any portion of such interior.

The rotary table D is driven by a spur gear or pinion, G, which is secured to the upper end of an upright shaft, H, supported in suitable bearings at the rear of the fare-box, such shaft extending downward through the floor A, and being steadied in a hanger, I, secured to the under side of such floor.

To transmit the rotary motion of the rear omnibus-wheel, in order to effect intermittent rotary movements of the shaft H in one direction, and, consequently, of the table D in the opposite direction, I proceed as follows: To the lower end of the said shaft H, I affix a ratchet-wheel, K, while operating with this ratchet is a driving-dog, L, pivoted to a yoke, N, which straddles the ratchet and turns upon the shaft H, the intermittent movements of such yoke and dog being effected by a link, O, one end of which is swiveled, in a suitable manner, to the outer side of the yoke, and the other end to the forward extremity of a rod or lever, P, such rod being in turn pivoted, toward its rear end, by a fulcrum, *c*, to a hanger, *d*, secured to the under side of the floor A, the extreme rear end *e* of the said lever P bearing against a cam-grade, *f*, formed upon the rear end of the hub *g* of the wheel, as shown in Fig. 2 of the drawings, the lever being crowded against the cam by a spring, *h*, suitably applied, and being provided with a series of holes, a^2 a^2, &c., in order that the position of its fulcrum may be changed and the throw of the ratchet-wheel increased or lessened.

Rotations of the hub *g* effect oscillating movements of the lever P upon its pivot, and, consequently, intermittent movements of the link O and yoke and dog L and N, and such movements of the dog effect intermittent advances in one direction of the ratchet K and rotations of the shaft H and pinion G.

I do not confine myself to these details of mechanism for utilizing the rotations of the omnibus-hub or car-axle to drive the rotary table D, as it is manifest that these details may be departed from to a wide extent without losing sight of this feature of my invention. For instance, the cam *f* and lever P are used by me to effect the rectilinear movements of the link O on an omnibus or other vehicle when the wheel revolves and the axle is stationary, while an eccentric, *i*, is employed (see Fig. 3 of the drawings) for producing the same movement on a car. This eccentric is secured to the car-axle, (shown at J^2,) the strap-rod *j* of this eccentric being secured at its forward end to a vibrating arm, *l*, pivoted, at its upper end, to the under side of the floor A, the end of the link O being detached from the lever P and secured to the said arm *l*, or to an adjustable pivot-block, *m*, attached to such arm, to vary the length of stroke of such link with respect to the ratchet-wheel K and its adjuncts.

Though I have represented the lever P, ratchet-wheel K, dog L, and link O, &c., as arranged below the floor of a car or omnibus, it is evident that these parts may be arranged above the floor with equally good results, so far as mechanical operation is concerned, and in such instances I may desire to dispose them in this manner.

I claim—

1. In a fare-box for railway-cars, &c., composed of an upright cylinder, within which is disposed a rotary perforated disk or carriage, and a series of tilting vanes pivoted thereto to alternately open and close its aperture, the combination, with such cylinder, carriage, and vanes, of a transparent dome or top having an internal integral chute, substantially as and for purposes stated.

2. A fare-box composed of a suitable cylinder or receptacle, a changeable carriage or table, and a transparent dome having an internal chute, said chute being integral with the dome, and the whole operating substantially as and for purposes stated.

3. The combination, with a car-axle or a wheel-hub, of the ratchet K, dog or pawl L, yoke N, and lever P, whereby the rotary motion of such axle or hub is adapted to effect advances of the table or carriage D, essentially as and for purposes stated.

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