

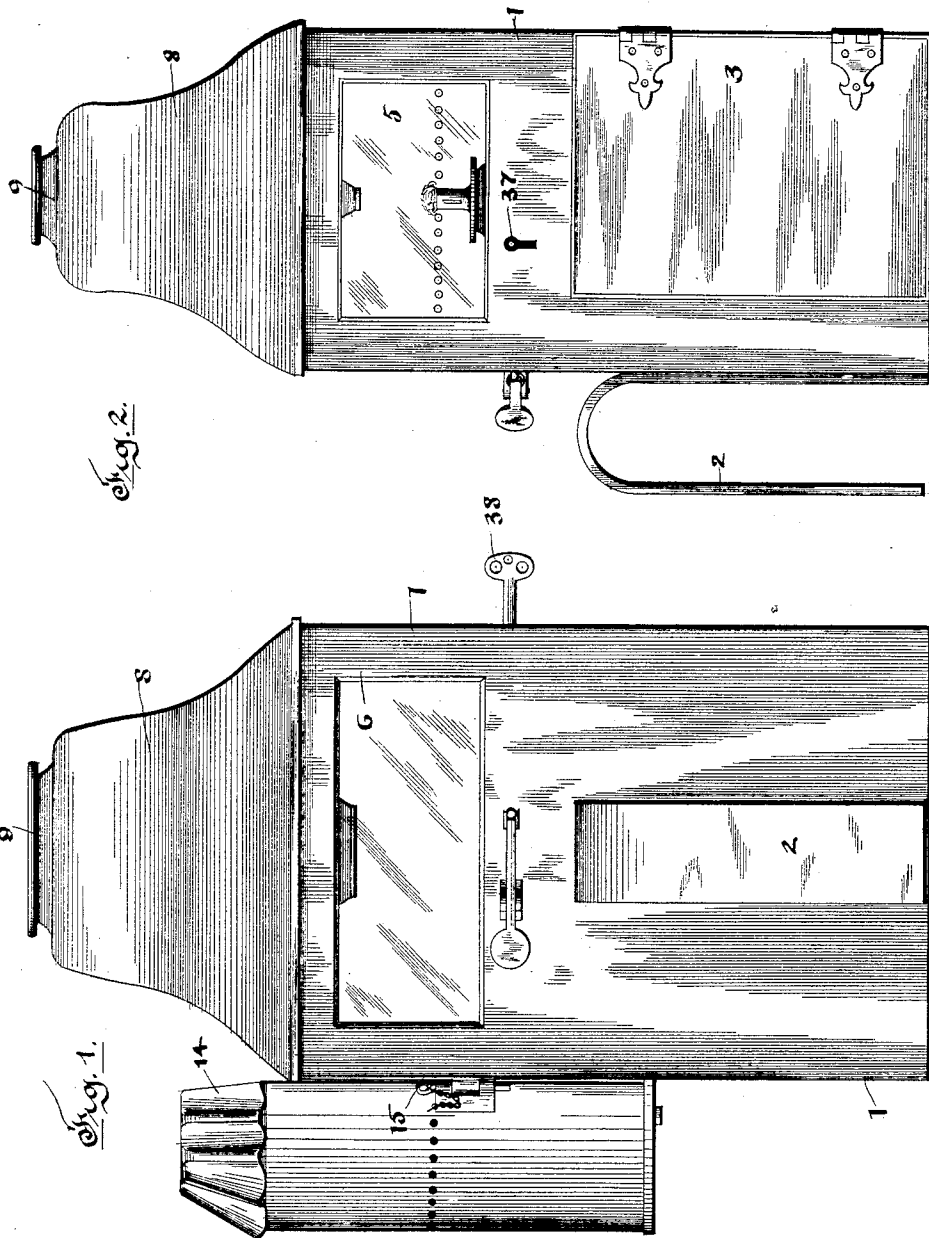
(No Model.)

3 Sheets—Sheet 1.

J. W. HAIGH & G. EXLEY.  
FARE BOX.

No. 470,933.

Patented Mar. 15, 1892.



Witnesses  
Walter L. Bowen  
R. H. Southgate

By their Attorney

Inventors  
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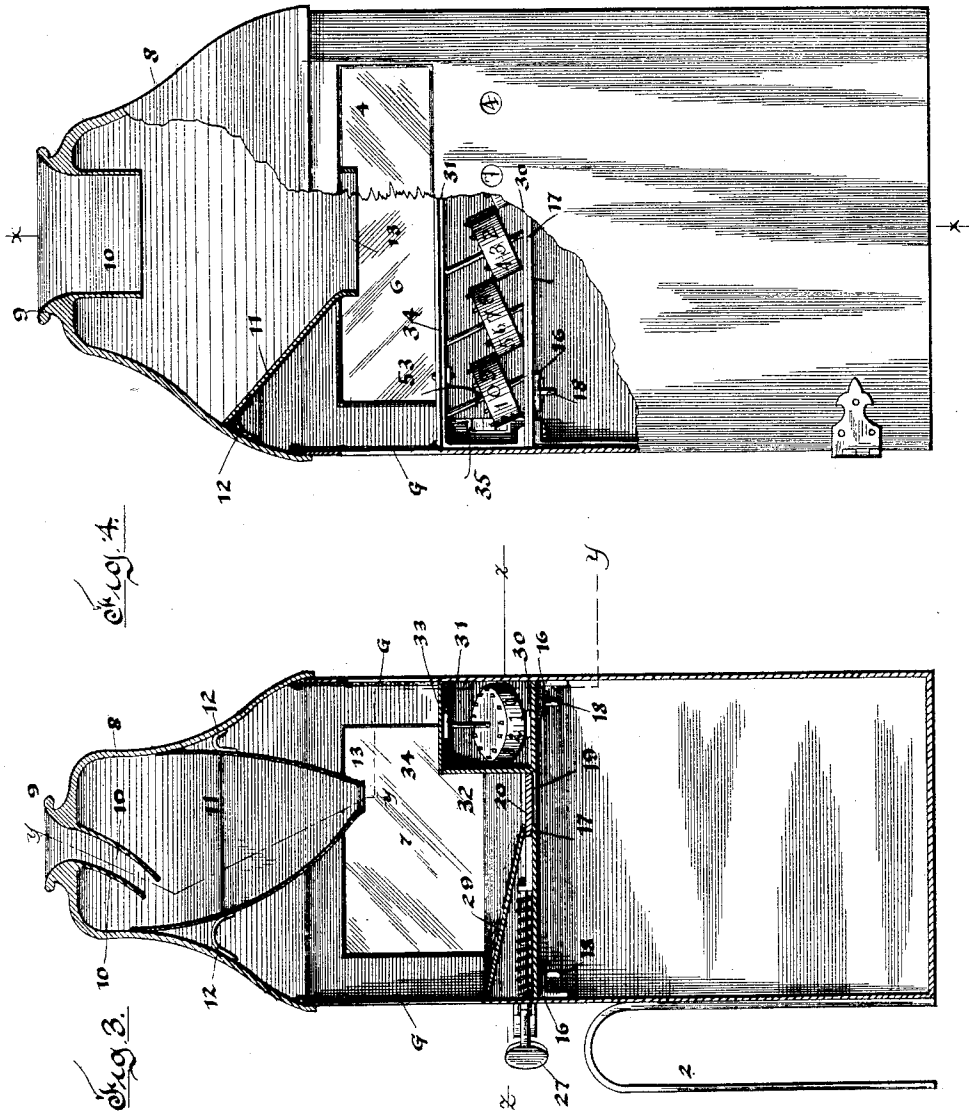
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J. W. HAIGH & G. EXLEY.  
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3 Sheets—Sheet 2

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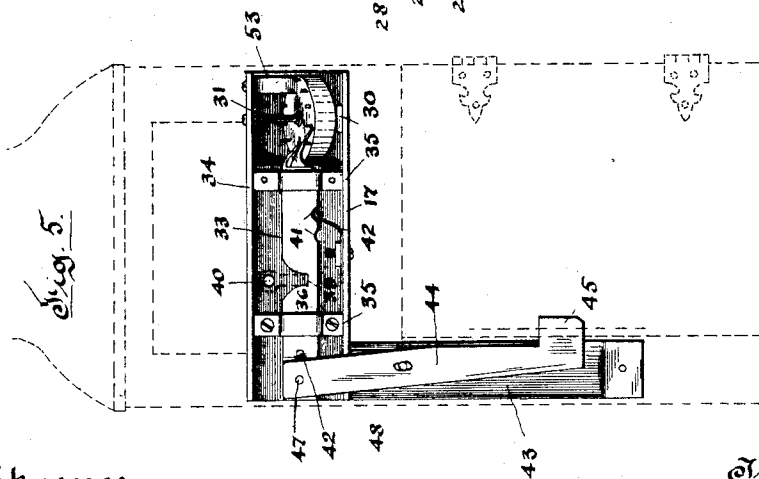
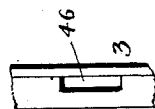
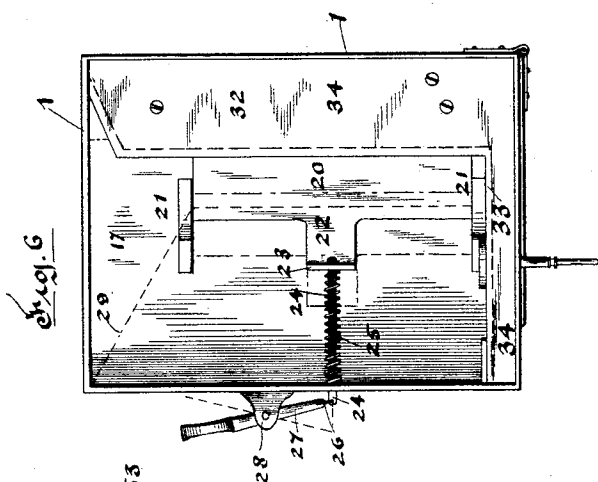
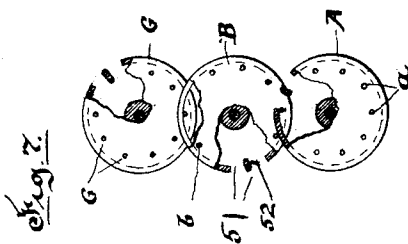
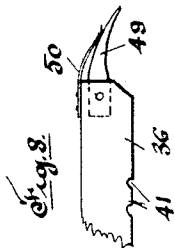
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3 Sheets—Sheet 3.

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# UNITED STATES PATENT OFFICE.

JOHN WASHINGTON HAIGH AND GEORGE EXLEY, OF WORCESTER,  
MASSACHUSETTS.

## FARE-BOX.

SPECIFICATION forming part of Letters Patent No. 470,933, dated March 15, 1892.

Application filed July 22, 1891. Serial No. 400,295. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN WASHINGTON HAIGH and GEORGE EXLEY, subjects of the Queen of Great Britain, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Fare-Boxes, of which the following is a specification.

The aim of this invention is to produce a new and improved cash or fare box or collector that may be used in horse-cars and in analogous positions.

The device, as shown, may be passed around by the conductor or the same may be attached to the side of the car.

The invention consists of the device described and claimed in this specification, and illustrated in the accompanying drawings, of which there are three sheets.

Referring to the said drawings, Figure 1 is a front elevation of our improved box; Fig. 2, a side elevation; Fig. 3, a section on line *xx* of Fig. 4; Fig. 4, a section on line *yy* of Fig. 3; Fig. 5, a side elevation of the locking mechanism. Fig. 6 is a section on line *zz* of Fig. 3; Fig. 7, a plan of the registering device. Fig. 8 is a detail of the same; and Fig. 9 is a view of the edge of the door, showing the flange and the bolt-hole in the same.

In detail, 1 represents the box proper or frame made of any suitable material and having the handle 2 by which the same may be passed around or attached to the wall. On one side of the box is hinged the flanged door 3. The frame is cut away, as at 4, 5, 6, and 7, to form windows and back of said openings. Panes of glass *G* are secured and are held in place by the cover or top 8, which is securely fastened to the top of the box or frame. This cover has the mouth 9, and the walls of this inlet are carried down into the cover, as at 10, close to one of the walls to form a chute or trap, through which coins will easily pass, but through which it is impossible to shake or pick them out. A guide-trough 11 is soldered or fastened to cover 8 by the wings 12, and the same is contracted to form the contracted mouth 13, which will

direct all the coins to the same place. A suitable lamp, as 14, may be secured to one side of the box by pins 15 passing through lugs on the side of the box and on the lamp, as shown, and the lamp is so held as to shine through one of the side windows, as 7.

On the inside of the box are secured or formed the projections 16, which may be four in number, and resting on these projections is a plate or partition 17, which may have the depending pins 18 adapted to holes in the projections 16. This partition 17 has a hole or slot 19, and working over the same is the valve 20, which is held against lateral displacement by the projections 21 on the partition 17. The valve 20 has the extending arm 22, which is turned up, as at 23, and fastened to the portion 23 is the rod 24, which extends outside the box. A spring 25 is placed on the rod 24 between the box and the ear 23, and thus the valve 20 is normally held closed. The rod 24 is connected by link 26 to the thumb-lever 27, which is pivoted to a bearing 23, fastened to the side of the box. Thus the valve may be opened at pleasure. A suitable inclined deflector 29 is secured to the box and on the top of the partition 17, so that the coins will all be guided to the valve.

Fastened on top of the partition 17, preferably at the front side thereof, is the bar 30, and fastened to the bar 30 is the  $\square$ -shaped strip 31, which thus forms a frame, in which are journaled the registering or index wheels. The index-wheels are separated from the rest of the box by the vertical partition 32, fastened to the top of the partition 17, and this partition is carried to the rear of the box, as at 33, so as to leave a narrow space between the side of the box and the part 33 of the partition. A cover 34 is fastened to the top of the partition 32 and 33, and thus the index-wheels and the locking mechanism, herein-after to be described, are completely separated from the rest of the box. Fastened to the outside of the partition 33 are the pieces 35, and sliding in the same is the bolt or key-bar 36. In the side of the box is formed the key-hole 37, and a key 38 may be inserted in

the same to engage a notch 39 in the bar 36. The key engages pin 40, and, as is readily understood, can only be removed when the bar is in the position shown. The bar has two notches 41 41, and a spring-catch 42 engages the same and holds the bar in its various positions. The motion of this bar 36 is limited by pin 42, which will strike the rear piece 35 as the bar is moved forward and the rear end of the bar which will strike the back of the box as the bar is moved backward.

Fastened to the partition 17 is the depending support 43, and the same may be also fastened to the side of the box. Pivoted to this support is the vibrating bar 44, on the end of which is formed the bolt or latch 45. The door 3 has a flange formed on the inside of the same and which fits into the box when the door is closed, and the bolt 45 engages a hole 46 cut in the flange of the door 3. The bar 44 is pivotally connected to the bolt 36 by pin 47, and is pivoted on the fixed pin 48, fast in the support 43. The hole which engages pin 48 is slightly elongated, so that the bar 44 will have the proper movement. Now it will be seen that the key can only be removed when the bolt 45 is thrown in, and this insures the box being locked when it is given to the conductor.

To the front of the bar 36 is pivoted the pawl 49, and on top of the bar is fastened the pawl-spring 50, which bears on pawl 49 and keeps the same in its depressed position. The pawl 49 engages the teeth *a* of the first registering-wheel A. These registering-wheels A B C, &c., are set in the frame 30 31, with their axes inclined so that the bottom of one wheel will bear on the top of the next wheel. On the top of each wheel is fastened a series of pins or teeth *abc*, &c., which preferably are ten in number for each wheel. Each wheel has a set of figures stamped on the periphery of the same, corresponding to the pins, and the figure on the front of each wheel is visible through a hole in the front of the box 1, as shown in Fig. 4. The under side of each wheel is grooved, and the rim thus formed is cut away, as at 51 51, and in this cut-away portion is fastened the pin 52. The pin 52 engages the teeth or pins on the next wheel and, as readily understood, will engage one of said pins and will move the wheel along one notch every time the pin 52 comes around. In all other positions the succeeding wheel will be locked by the rim passing through the pins, as shown. Thus it will be seen that the wheel B moves one-tenth as fast as the wheel A, wheel C one-tenth as fast as wheel B, &c. A spring catch or pawl 53 engages the pins of the wheel A and holds the same, and thus the entire train, in their adjusted position.

The operation is apparent. Every time the key 38 is inserted to open the door 3 to take

out the money the bar 36 must be moved to the right, Fig. 3, to withdraw the bolt from the door. As this movement takes place the pawl 49 will engage the teeth of wheel A and will move the same one notch. Thus every time the door 3 is opened the registering device is moved one number. Now, when the box is given to the conductor, this number is noted. The conductor takes the box, passes the same to each passenger for his fare, or each passenger is required to deposit his fare in the box, if the same is fixed to the wall. The conductor then can inspect the coin or ticket through the windows, and, if satisfactory, operates the valve 20, and thus allows the coin or ticket to fall into the lower part of the box. The coins, &c., cannot be shaken from the box after they have once been put in on account of the trap, and, further, if the lock of the box is picked and the door opened the registering device will be moved and will thus show that the box has been tampered with. The box is returned after use and the registering device is then noted to see if the conductor has meddled with the same. Five wheels or a one hundred thousand combination is used, so that it would require ten or twelve hours' hard work to turn the same completely around, and this of course the conductor cannot do in the limited time that he has the box. Thus a fare-box is provided which is practically safe from pilfering.

The details of construction herein shown are not, broadly, essential to our invention, and we are aware that the same may be greatly varied by a skilled mechanic without departing from the scope of our invention.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A fare-box having a door or a device by which the contents may be removed, the vibrating bar pivoted on the inside of the box and having a bolt for catching and locking the door, the sliding bar mounted on the inside of said box and pivoted to the said vibrating bar, a registering device connected to the sliding bar, and means, as a key, for moving said sliding bar, substantially as described.

2. A fare-box having a door, a locking device for the door, consisting of the sliding bar mounted behind the casing of the box and connections to lock the door, said bar having a key-notch, and a key-hole in the side of the box, the parts being so adjusted that when the said key-notch is in line with the said key-hole the door will be locked, whereby the key can only be withdrawn when the door is locked and a registering device connected to be actuated by the said bar, substantially as described.

3. A fare-box having a door by which the contents may be removed, partitions set in

said box, so as to form two receptacles, an inclosed space in front, in which is placed a registering device, and an inclosed space at the side, in which is placed a door-locking  
5 mechanism, which is connected to actuate said registering mechanism, substantially as described.

In testimony whereof we have hereunto set

our hands in the presence of two subscribing witnesses.

JOHN WASHINGTON HAIGH.  
GEORGE EXLEY.

Witnesses:

LOUIS W. SOUTHGATE,  
JAMES J. RAFFERTY.