

No. 764,758.

PATENTED JULY 12, 1904.

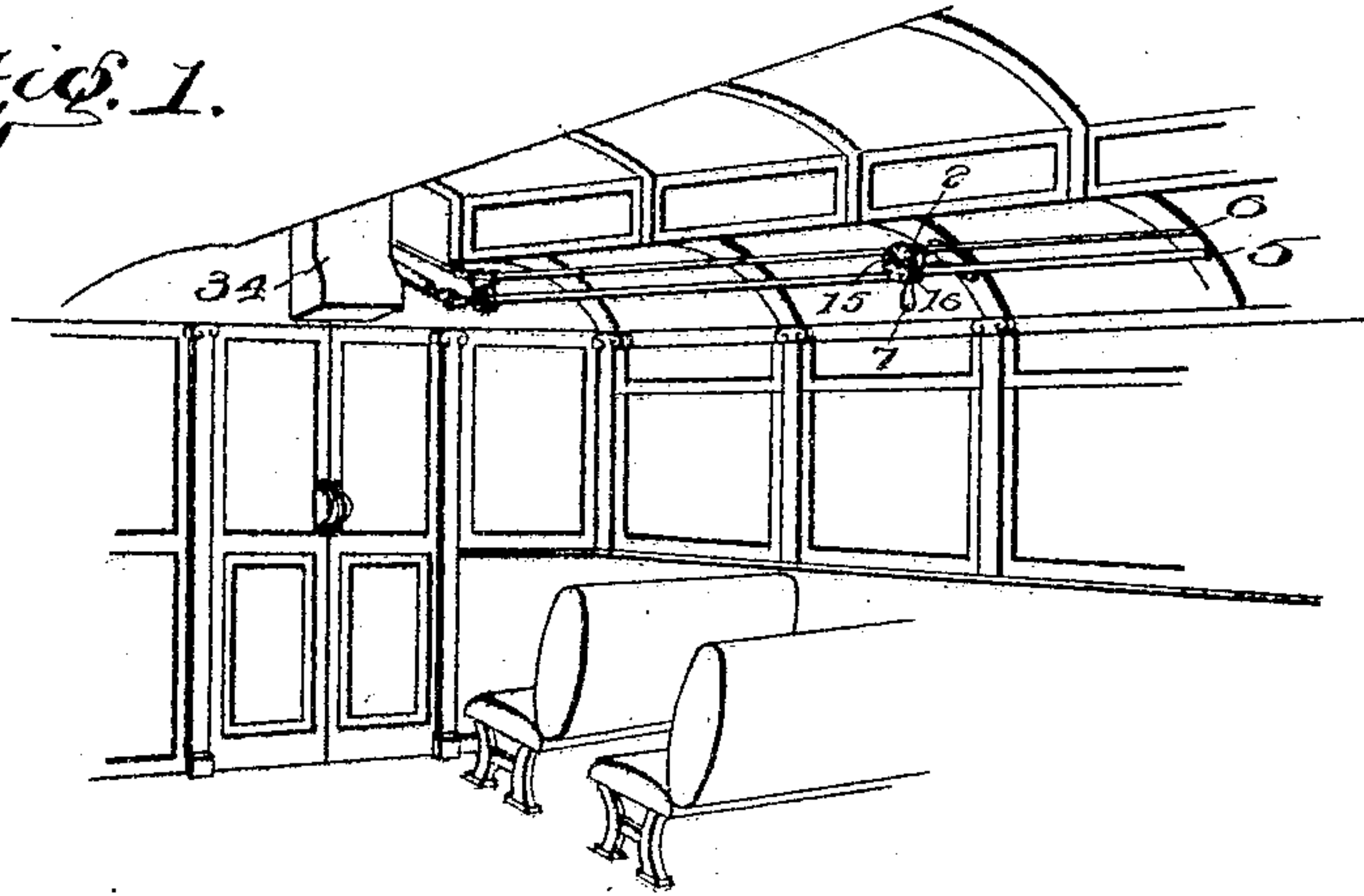
W. I. OHMER.  
OPERATING MECHANISM FOR FARE REGISTERS.

APPLICATION FILED FEB. 24, 1904.

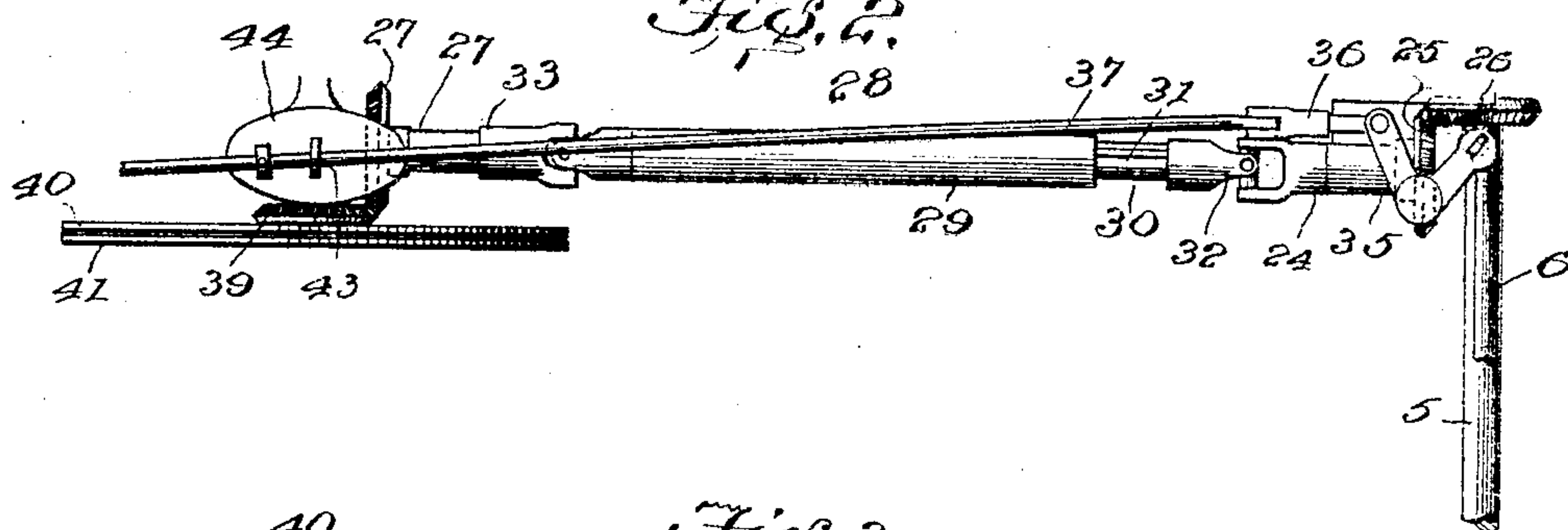
NO MODEL.

2 SHEETS—SHEET 1.

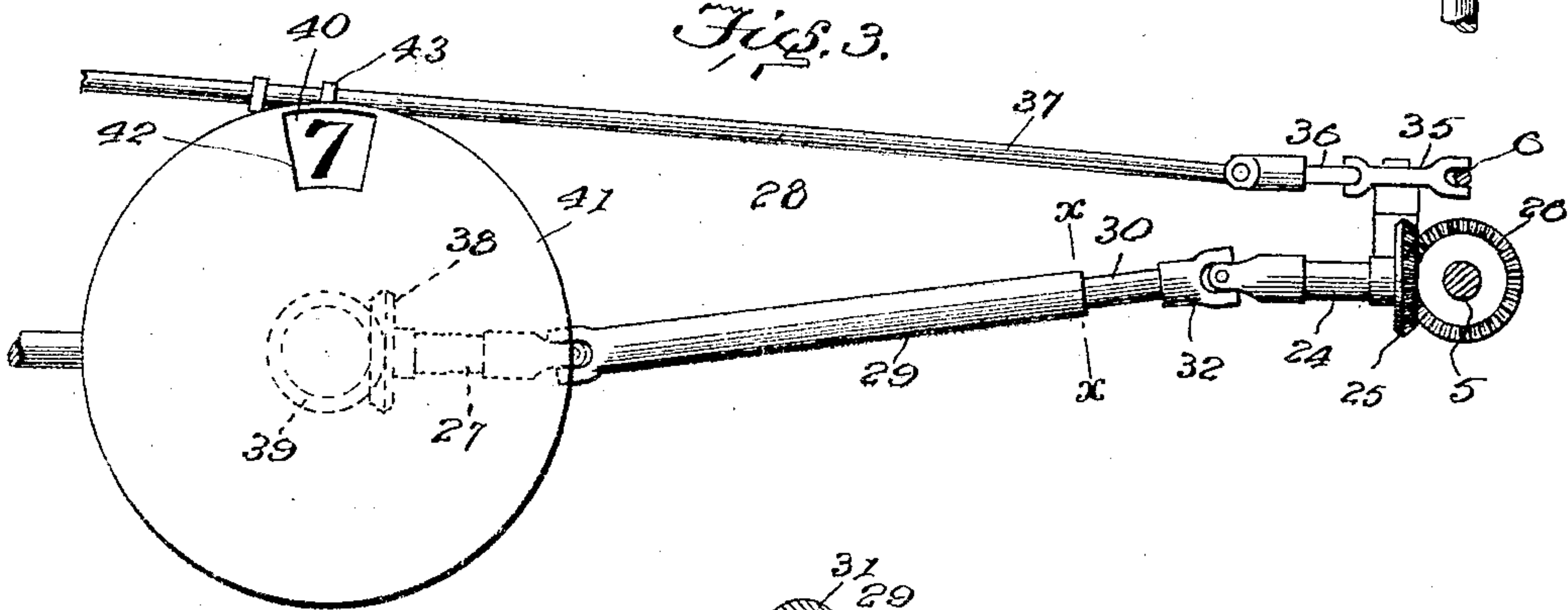
*Fig. 1.*



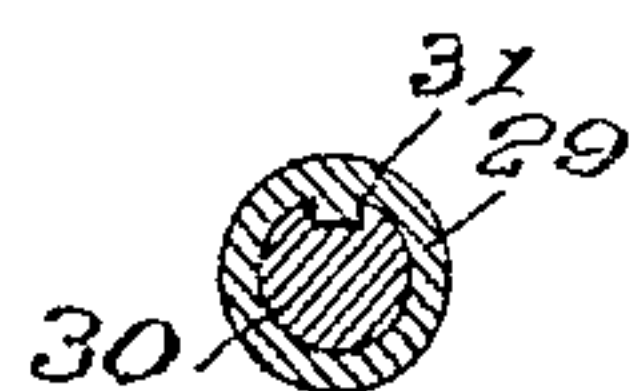
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses

G. Howard Walmsley.  
Irvine Miller.

Inventor

Wilfred I. Ohmer,

By *H. A. G. G. G.*  
Attorney

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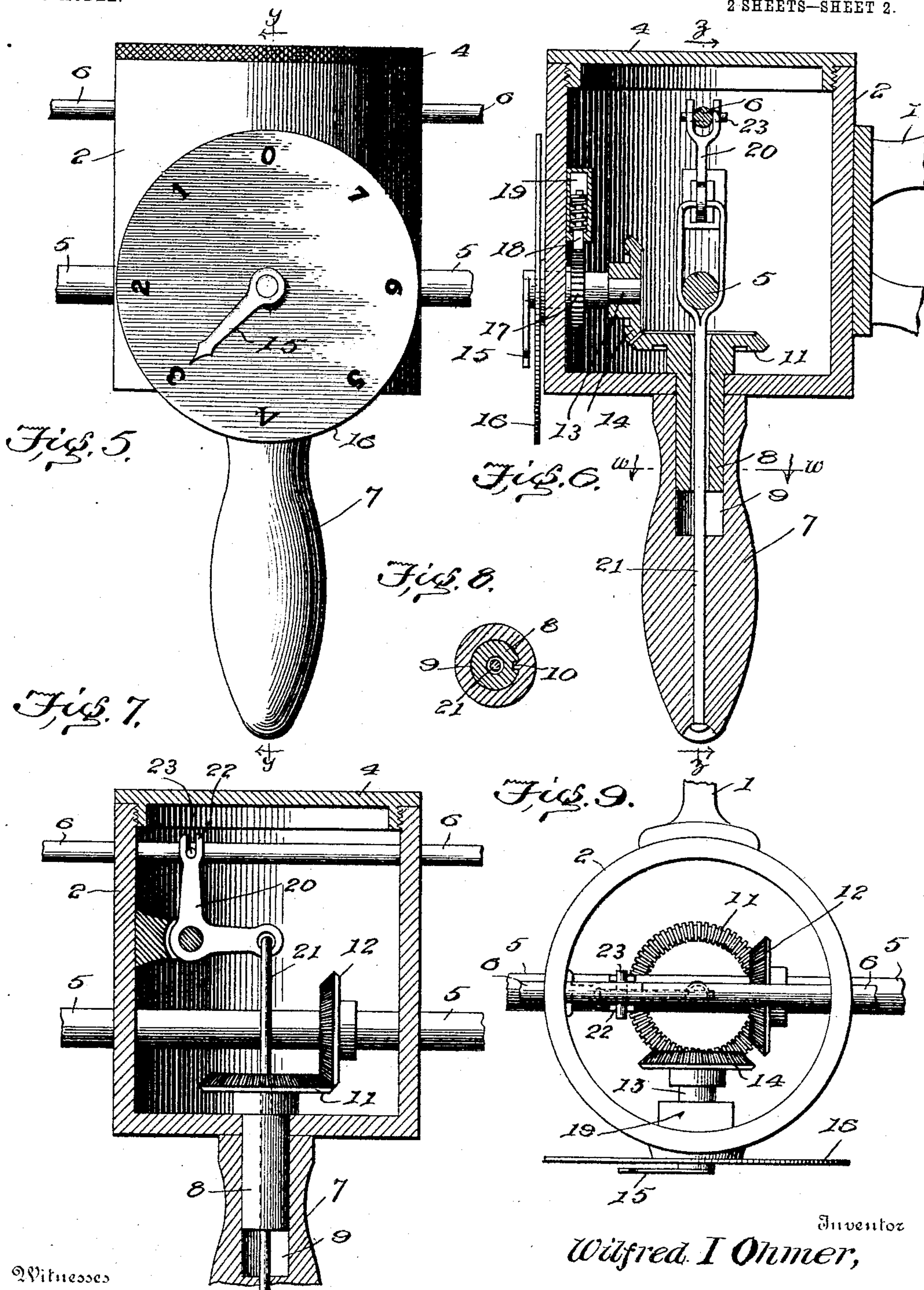
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2 SHEETS—SHEET 2.



Witnesses  
J. Howard Walmsley.  
Irvine Miller.

Inventor  
Wilfred I Ohmer,  
By J. H. A. Goulet.  
Attorney



# UNITED STATES PATENT OFFICE.

WILFRED I. OHMER, OF DAYTON, OHIO.

## OPERATING MECHANISM FOR FARE-REGISTERS.

SPECIFICATION forming part of Letters Patent No. 764,758, dated July 12, 1904.

Application filed February 24, 1904. Serial No. 195,032. (No model.)

*To all whom it may concern:*

Be it known that I, WILFRED I. OHMER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Operating Mechanism for Fare-Registers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to operating mechanism for fare-registers, and more particularly to that type of operating mechanism used in connection with registers supported upon the walls of street-cars, the construction being such that the register may be operated from different points of the car.

My present invention has for its object to provide a simple and efficient operating mechanism so constructed that it is readily adapted for use in connection with cars of different sizes and permits a wide variation in the location of the register relatively to the main operating-shaft.

To these and other ends my invention consists in certain novel features, which I will now proceed to describe and will then particularly point out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of the interior of a car having my improved operating mechanism mounted therein, the same being shown in connection with a register mounted on the end of the car. Fig. 2 is a plan view of a portion of the operating mechanism, showing the same connected to an indicator and bell. Fig. 3 is an elevation of what is shown in Fig. 2. Fig. 4 is a detail sectional view taken on the line *x x* of Fig. 3. Fig. 5 is an elevation of one of the operating-handles and its associated mechanism and housing therefor. Fig. 6 is a sectional view of the same, taken on the line *y y* of Fig. 5 and looking in the direction of the arrows. Fig. 7 is a sectional view taken on the line *z z* of Fig. 6 and looking in the direction of the arrows. Fig. 8 is a detail plan section taken on the line *w w* of Fig. 6 and looking in the direction of the arrows, and Fig. 9 is a plan view of the housing and its inclosed mechanism removed from the supporting-bracket.

Referring first to the mechanism shown more particularly in Figs. 5 to 9, inclusive, it will be noted that a plurality of devices of this character will be employed, located at suitable intervals along the car, so as to permit the conductor to operate the register from different points. Each of these devices comprises a bracket 1, adapted to be secured to the wall or roof of the car, preferably to the wall, and a housing 2 in the form of a hollow box open at the top and secured to the bracket 1, the housing being provided with a removable plate 4, which forms a top or cover for the housing. 5 indicates a shaft extending lengthwise of the car and mounted to rotate in the several housings 2, which serve to support it. 6 indicates a rod also extending lengthwise of the car parallel with the shaft 5 and also supported in the housings 2, in which it is adapted to reciprocate or move in the direction of its length. A single operating-handle (indicated by the reference-numeral 7) is employed to rotate the shaft 5 and reciprocate the rod 6, the former function being accomplished by a rotation of the handle around its longitudinal axis and the latter by a direct downward movement of the handle in the direction of its longitudinal axis by means of a downward pull thereon. To this end there is mounted in the bottom of the housing 2 a vertical shaft 8, the handle 7 being recessed longitudinally at its upper end, as shown at 9, to receive the downwardly-projecting end of the shaft 8, on which the handle is free to slide longitudinally, being connected to said shaft in such a way, however, that the two rotate in unison. This connection may be effected by a spline-and-groove connection 10, as shown in Fig. 8. The shaft 8 is provided at its upper end with a bevel-gear 11, lying within the housing 2 and meshing with a bevel-gear 12, also located within the housing and secured on the shaft 5, so that rotation of the handle 7 will correspondingly rotate the shaft 5. In order to indicate the extent of this rotation, I employ an indicator-shaft 13, mounted in the front wall of the housing and having on its inner end within said housing a bevel-gear 14, which meshes with the bevel-gear 11. The outer end of the shaft 13 is provided with a



pointer 15, which travels over a dial 16, having thereon a suitable scale corresponding with the scheme of registration of the register in connection with which the device is employed.

5 It should be understood that the shaft 5 is the setting-shaft, by means of which the register is shifted to any desired fare or amount, so that the turning of the handle 7 not only sets the register, but also indicates on the dial adjacent to the operating-handle and on all the other dials the fare or amount to be registered. In order to insure the proper positioning of the parts when the handle 7 is turned, I employ a detent mechanism comprising a

15 detent-wheel 17, mounted on the hub of the gear 14, a spring detent-pawl 18, cooperating therewith and being mounted to slide in a guide 19, secured on the inner face of the front wall of the housing 2. In order to reciprocate the rod 6, there is mounted in the housing 2 a bell-crank lever 20, one arm of which is connected with the handle 7 by means of a cord, wire, or other suitable connecting device 21. The shaft 8 is provided with a longitudinal aperture, through which this flexible connection extends from the bell-crank lever to the handle. The other arm of the bell-crank lever is forked to embrace the rod 6, and the ends of the fork extremities are slotted, as indicated at 22, to engage the ends of a pin 23, which extends through the rod and projects therefrom at each side thereof. Any other suitable connection may be employed between the bell-crank and rod to permit the former to move the latter longitudinally. The rod 6 is the actuating or operating rod, by means of which the register is actuated after having been set through the medium of the shaft 5, and it will be seen that

40 the operating-handle 7 is first rotated to set the register and then pulled down to actuate it. The rod 6 and handle 7 are returned to normal position after an operating stroke by means of a spring located in the register or elsewhere. The connection between the shaft 5 and register is effected by means of an extensible section composed of three sections—to wit, two end sections and an intermediate extensible section connected with the end sections by universal joints. 24 indicates the end section which lies adjacent to the shaft 5 and which is mounted in a suitable bearing on the end of the car, being provided with a bevel-gear 25, which meshes with a similar

55 bevel-gear 26 on the shaft 5. 27 indicates the other end section, which is connected with the setting-shaft or setting mechanism of the register. The intermediate section is indicated as a whole by the reference-numeral 28, and it comprises an outer tubular of sleeve-like member 29 and an inner member 30, fitting therein and adapted to slide longitudinally with respect thereto, so as to vary the distance between the end sections 24 and 27.

65 The members 29 and 30 are connected by a

spline-and-groove connection 31, so as to cause them to rotate in unison. The member 30 is connected by a universal joint 32 to one of the end sections—for instance, the section 24—while the member 29 is connected by a similar universal joint 33 to the other end section—for instance, the section 27. It will thus be seen that the shaft may be extended to adapt it for connection with the register, which is indicated at 34, whatever the distance between the register and shaft 5 may be, within reasonable limits. Furthermore, the universal joints adapt the device to connect the shaft 5 and register whether the register be set above, below, or on a level with said shaft. The position of the register relatively to the shaft may thus vary within a wide range where the construction which I have devised is employed. The connection between the rod 6 and the register is effected by means of a bell-crank 35, mounted at one end of the car and having one arm connected to the rod 6. The other arm of the bell-crank is connected by a vertical pivot to a link 36, which latter is in turn connected by a horizontal pivot to a rod 37, which extends to the register and is connected to its actuating mechanism. The connection is such that the position of the end of the rod 37 adjacent to the register may be varied to suit the location of this latter.

It will be understood that the register may be provided with a suitable indicator cooperating with the indicators of the several operating-handles and indicating on the register itself the fare or amount registered. The same mechanism may be employed to operate a large indicator at the other end of the car or in another compartment where the car is thus divided, and in Figs. 2 and 3 I have shown a construction in which the mechanism is so employed. In this case the shaft-section 27 is provided with a bevel-gear 38, which meshes with a similar gear 39 on the back of an indicator-disk 40, in front of which is located a disk 41, having therein an opening 42, through which the indicating-figures of the disk 40 may be exhibited. In this case I have shown the rod 37 as connected to the operating-arm 43 of a bell or audible signal 44, so that the attention of the passengers may be called to the operation of the indicator.

I do not wish to be understood as limiting myself strictly to the precise details of construction hereinbefore described, and shown in the accompanying drawings, as the same may obviously be modified without departing from the principle of my invention.

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

1. The combination, with a car, of a register mounted at one end thereof, a shaft extending longitudinally of the car, and a connecting-shaft between the said shaft and register, said connecting-shaft comprising end sections



connected respectively to the register and longitudinal shaft, and an extensible intermediate section consisting of two longitudinally-sliding members rotating in unison, and connected to the end sections by universal joints, substantially as described.

2. The combination, with a car, of a register mounted at one end thereof and provided with setting and actuating mechanism, a rotatable shaft and a longitudinally-movable rod extending longitudinally of the car, means connecting said shaft and rod respectively with the setting and actuating mechanisms of the register, and means for rotating said shaft to set the register, and for reciprocating said rod to actuate the register, said means consisting of an operating-handle capable of rotary and longitudinal movement, and connecting mechanism for transmitting the rotary movement of the handle to the shaft and the longitudinal movement to the rod, substantially as described.

3. The combination, with a car, of a register mounted at one end thereof, a longitudinally-movable rod extending lengthwise of the car, a bell-crank having one end connected to the end of said rod adjacent to the register, a rod connected to the register-actuating mechanism and extending toward the bell-crank, and a link connected at one end to said last-mentioned rod, and at the other end to the other arm of the bell-crank, the pivots at the two ends of the link being at right angles, substantially as described.

4. The combination, with a car, of a register mounted at one end thereof, a rotatable shaft extending lengthwise of the car, and an extensible shaft connecting said longitudinal shaft and the register mechanism, substantially as described.

5. An operating mechanism for car-registers, comprising a rotatable shaft and a longitudinally-movable rod, a housing in which said shaft and rod are mounted, a vertical shaft mounted in said housing and having a geared connection with the longitudinal shaft within said housing, an operating-handle mounted on said vertical shaft so as to rotate

therewith, and movable longitudinally thereon, a bell-crank lever mounted in the housing and engaging the rod to move the same longitudinally, and a connection between the operating-handle and bell-crank lever to actuate said lever when the handle is moved longitudinally, substantially as described.

6. An operating mechanism for car-registers, comprising a rotatable shaft and a longitudinally-movable rod, a housing in which said shaft and rod are mounted, a vertical shaft mounted in said housing and having a geared connection with the longitudinal shaft within said housing, an operating-handle mounted on said vertical shaft so as to rotate therewith and movable longitudinally thereon, a bell-crank lever mounted in the housing and engaging the rod to move the same longitudinally, a connection between the operating-handle and bell-crank lever to actuate said lever when the handle is moved longitudinally, and an indicator having a shaft mounted in the housing and operatively connected with the vertical shaft, substantially as described.

7. An operating mechanism for car-registers, comprising a rotatable shaft and a longitudinally-movable rod, a housing in which said shaft and rod are mounted, a vertical shaft mounted in said housing and having a geared connection with the longitudinal shaft within said housing, an operating-handle mounted on said vertical shaft so as to rotate therewith and movable longitudinally thereon, a bell-crank lever mounted in the housing and engaging the rod to move the same longitudinally, a connection between the operating-handle and bell-crank lever to actuate said lever when the handle is moved longitudinally, an indicator having a shaft mounted in the housing and operatively connected with the vertical shaft, and detent mechanism for holding the parts in indicating position, substantially as described.

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

WILFRED I. OHMER.

Witnesses:

W. H. H. ECKI,  
O. F. DAVISSON.