No. 773,519. PATENTED OCT. 25, 1904.

J. F. OHMER & E. H. BRIDENBAUGH.

OPERATING DEVICE FOR FARE REGISTERS.

APPLICATION FILED FEB. 6, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

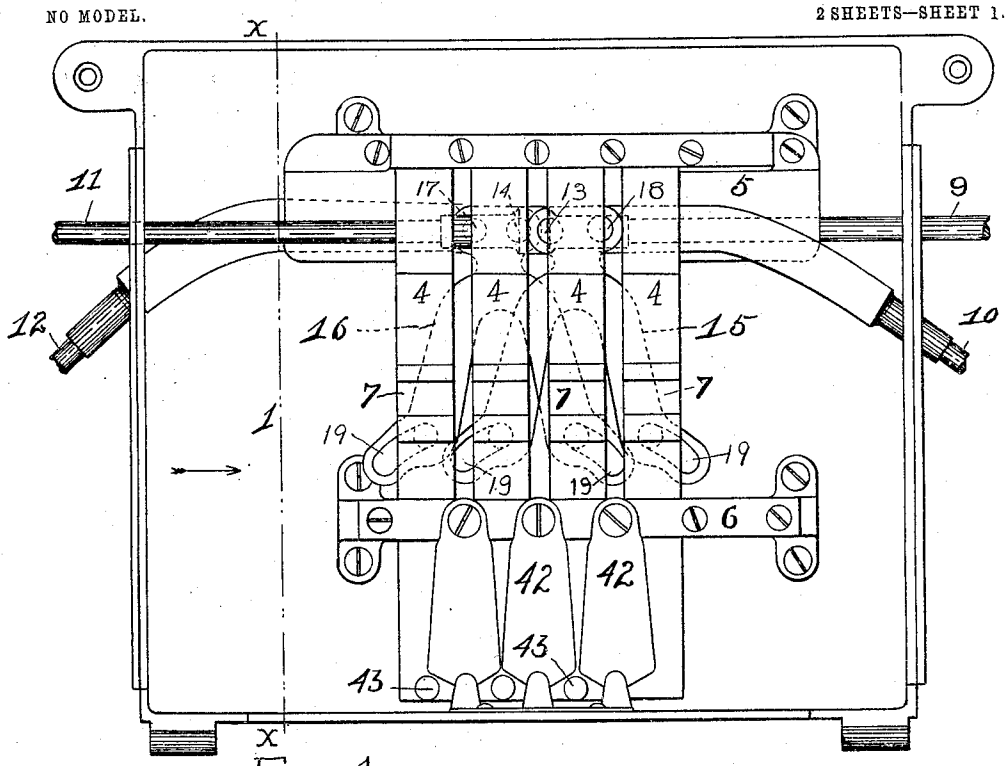

Fig. 1.

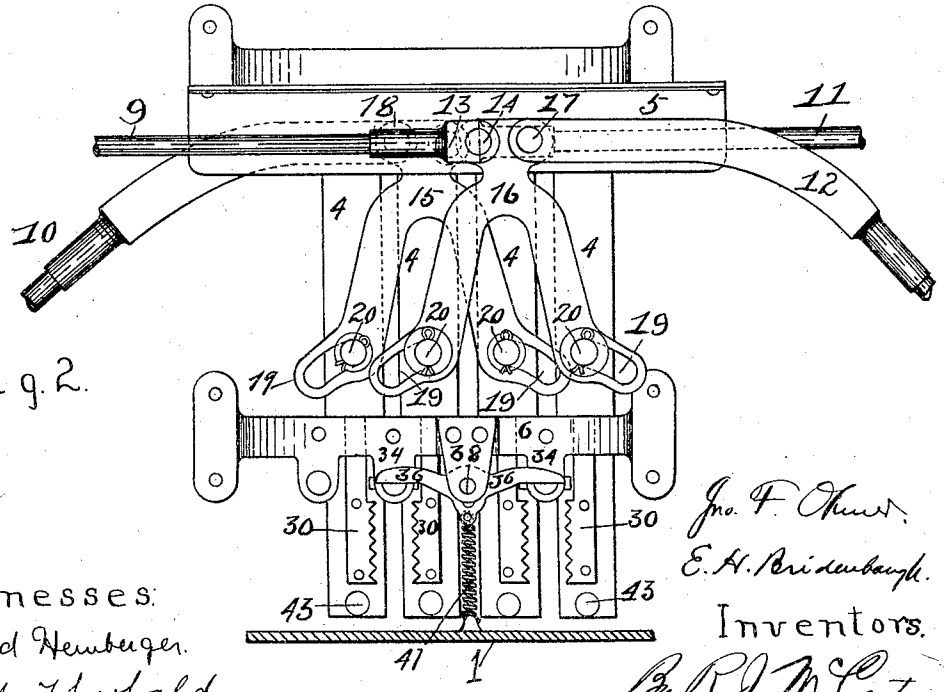

Fig. 2.

Witnesses:
J. Fred Hemberger.
C. M. Theobald.

Jno. F. Ohmer.
E. H. Bridenbaugh.
Inventors.
By R. J. McCarty.
Their Attorney.

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NO MODEL. 2 SHEETS—SHEET 2.

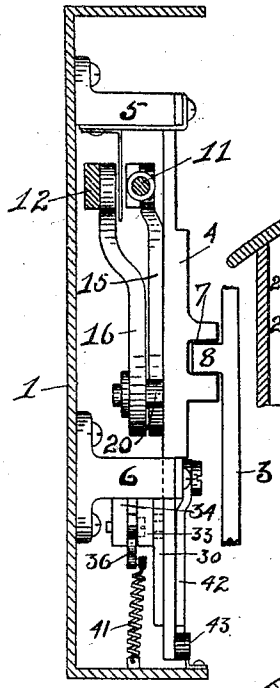

Fig. 3.

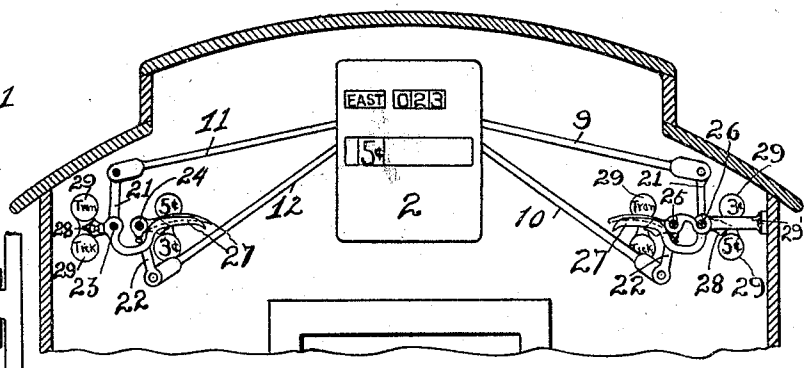

Fig. 4

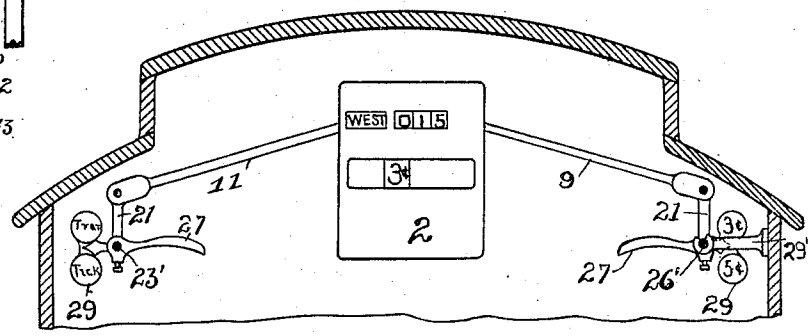

Fig. 5.

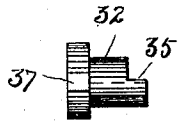

Fig. 8.

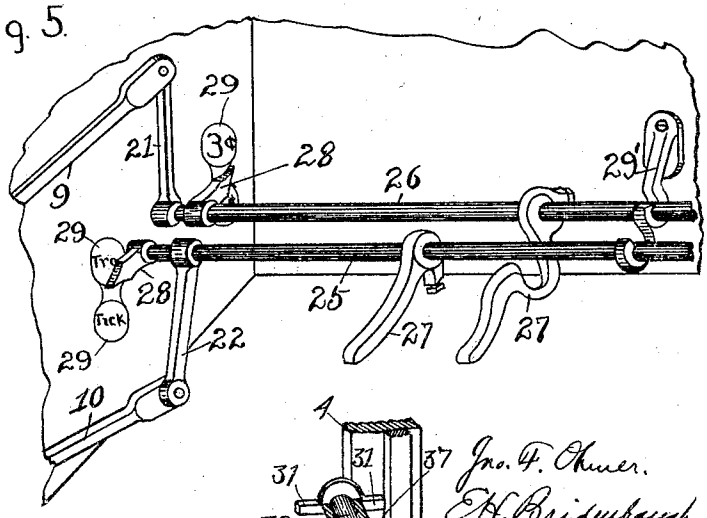

Fig. 6.

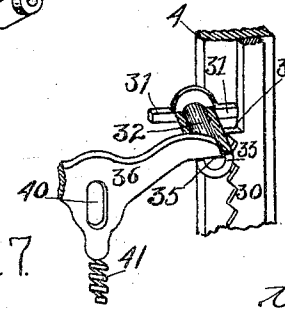

Fig. 7.

Witnesses:
J. Fred Hemberger.
C. M. Theobald.

Inventors.
Jno. F. Ohmer.
E. H. Bridenbaugh.
By R. J. McCarty.
their Attorney

No. 773,519. Patented October 25, 1904.

UNITED STATES PATENT OFFICE.

JOHN F. OHMER AND ELMER H. BRIDENBAUGH, OF DAYTON, OHIO, ASSIGNORS TO OHMER FARE REGISTER CO., OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

OPERATING DEVICE FOR FARE-REGISTERS.

SPECIFICATION forming part of Letters Patent No. 773,519, dated October 25, 1904.

Application filed February 6, 1904. Serial No. 192,300. (No model.)

To all whom it may concern:

Be it known that we, JOHN F. OHMER and ELMER H. BRIDENBAUGH, citizens 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 Devices for Fare-Registers; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in operating devices for fare-registers, and is designed to operate a fare-register which has a capacity for recording and indicating several distant classes of fares from various points of a car, as hereinafter more fully described and claimed.

Preceding a detail description of the invention reference is made to the accompanying drawings, of which—

Figure 1 is a front elevation of the operating mechanism and its casing detached from the register. Fig. 2 is a rear elevation of the operating mechanism detached from its casing. Fig. 3 is a sectional view on the line *x x* of Fig. 1. Fig. 4 is a sectional view of the front interior end of a car, showing the operating mechanism in position. Fig. 5 is a similar view showing some modifications in the connections with the operating mechanism. Fig. 6 is a detail perspective view of a portion of the interior of a car, showing the operating-rods and their connecting-cranks. Fig. 7 is a detail view of a portion of the slide-locking mechanism. Fig. 8 is a detail view of a portion of the slide-locking mechanism.

In a detail description of the invention similar reference characters indicate corresponding parts.

1 designates the casing which incloses the operating mechanisms shown in Figs. 1 and 2 and which is attachable to the rear side of the register-casing on the interior of the car, as shown in Figs. 4 and 5.

The operating mechanism within the register and which is directly affected by the mechanism of the present invention consists of a series of vertical slides 3 with projecting lugs 8. (Shown in Fig. 3 and as illustrated in the various former patents granted to John F. Ohmer, one of the applicants herein, and to John F. Ohmer jointly with Hiram Tyler, among which patents may be mentioned No. 635,343, of October 24, 1899.)

4 designates a series of slides or lifting members which are mounted within the casing 1 of the present operating mechanism and have independent sliding movements upon parallel guides 5 and 6, which are secured to the said casing. Each of the slides 4 is provided with a recess 7, which receives the lug 8, projecting, as before stated, from the register-slides 3. It will be borne in mind that each of the register-slides 3 and its companion actuating-slide 4 operate in connection with a specific class of fares which are recorded and indicated within the register 2.

The present improvements relate to means for actuating independently and from various points of the car each of the individual slides or operating members 4 and whereby a single operating member, such as operating-rods 23 24 25 26, located exterior to the register within the car, is utilized to record and indicate two distinct classes of fares, thus dispensing with the use of an additional member or element—such, for example, as a rope—in operating the register to record and indicate a fare. In other words, heretofore, as is illustrated and described in Patent No. 635,343, hereinbefore referred to, a rod is utilized for setting the operating mechanism to record and indicate a fare and afterward a rope or separate member. For example, a rope is utilized by being pulled upon to perform the function of actuating said setting mechanism to complete the operation of recording and indicating the fare.

In the present improvement the operation

of setting the mechanism is dispensed with and one operating member alone—to wit, a rod—may be utilized for operating two classes of fares. This mechanism is shown in Fig. 4 and comprises four connecting-rods 9, 10, 11, and 12, each two of which—for example, 9 and 12—are connected at 14 and 17 to opposite points of a rocker 16, and rods 10 and 11 are connected at 13 and 18 at opposite points of a similar rocker 15. The lower ends of these rockers 15 and 16 are provided with outwardly-extended terminals which have oblong slots 19, that receive studs or pins 20, that project from the slides 4. It will be seen from the mountings of these rockers that when pulled upon at their tops from either direction one or the other of the pins 20 will serve as a fulcrum for said rockers to turn upon and that the other arm of an actuated rocker will elevate one of its slides 4 to lift one of the register-slides 3 through the connection between said slides 3 and 4, as shown in Fig. 3. The connecting-rods 9, 10, 11, and 12 are pivotally connected to crank-arms 21 and 22, which in turn are fixed to the forward ends of the parallel operating-rods 23, 24, 25, and 26, which extend throughout the length of the car on both sides thereof and are supported on a suitable number of brackets 29, and are provided with a suitable number of operating-handles 27, by means of which the said rods are turned or rocked in opposite directions to impart opposite movements to the rockers 15 and 16.

By employing two operating-rods on each side of the car, as shown in Fig. 4, the four slides 4, (shown in Figs. 1 and 2,) and consequently four separate kinds of fares—for example, a "five-cent" fare, "three-cent" fare, "ticket," and "transfer"—may be operated from one side of the car. To illustrate, by rockin the operating-rod 25 in two directions by means of one of the handles 27 the two slides 4, connected with rocker 15, will be lifted, and upon imparting similar opposite movements to the other operating-rod, 26, which is connected to the other rocker, 16, the two slides 4, connected with that rocker, will be lifted. As shown in Fig. 5, there is but one of such operating-rods 23′ and 26′ located on each side of the car, so that two separate classes of fares alone may be operated from each side of the car. The said operating-rods are provided with pointers 28, which are fixed thereto and are movable to indicate on dials 29 the fare recorded and indicated at the register 2. These dials 29 are placed at suitable points in the car and serve two purposes—namely, they enable the conductor to give the proper extent of movement to the operating-rods and they also enable the occupants of the car to see the operation of recording the fares collected from them. A complete lift of each of the slides 4 is compelled through means of the following devices: 30 designates a ratchet secured to the inner lower side of each of said slides, which upon the elevation of any particular slide is engaged by a double-acting pawl 31, which is supported at its center upon a horizontal pin 32, which is loosely inclosed within a tubular support 33, said tubular support itself being a part of a hanger 34, which depends from the lower cross-guide 6. Each of the pawls 31 controls the movements of two adjacent slides 4 by the engagement of the ends thereof with the ratchets 30 upon the upward movement of a slide. The rearward ends of the pins 32, upon which said pawls are fixed, are projected beyond their tubular supports 33 and are flattened, as at 35. (See Figs. 7 and 8.) Across these flattened surfaces the arms of a slide 36 lie, the functions of which are to maintain the double-acting pawls 31 in a proper horizontal position to be engaged by the shoulders 37 at the upper terminals of the ratchets 30 and to be similarly engaged by the lower ends of said ratchets upon the complete lift and drop movements of the slides. At the times in which said pawls are engaged by the shoulders 37 and the lower ends of said ratchets the said pawls are moved slightly out of horizontal positions in engaging with the teeth of the ratchets, after which the downward pressure of the slide-arms 36 against the flattened surfaces 35 of the pins 32 cause said pawls to assume the horizontal positions. The slide 36 has some yielding movement on its pivot 38, which passes through a hanger 39 and is fixed thereto and also passes through an oblong slot 40 in said slide. A downward pull is maintained upon the slide-arms 36 by a coil-spring 41, which is attached thereto below its pivot and has a fixed connection with the lower floor of the casing.

Having described the means for compelling a complete operation of each of the slides 4, we will now detail the means for preventing any movement whatever of more than a single one of such slides at a time. These means consist of a series of pivotal hangers or stops 42, which are mounted upon the lower cross-guide 6 in the front of said slides and have their sides lying in vertical planes beyond the adjacent sides of each two of the slides 4. 43 designates round studs projecting from the lower ends of the slides 4 in positions to separate the lower ends of each of the stops 42, when any one of said slides is lifted, so that the remaining slides will be closed to the passage of the stud upon any one of the remaining slides. Upon the dropping of the slides thus elevated the stops thus separated will be allowed to assume their former positions to be again similarly affected by the lifting of the same slide or any other one of said slides.

Having described our invention, we claim—

1. In operating devices for fare-registers, a plurality of lifting members arranged in parallel relation, of rockers having their lower arms loosely connected to said members, each one of said rockers being similarly connected to two of said members, rod connections extending from opposite points of said rockers, and operating-rods connected to said rods and extending approximately throughout the length of a car, whereby means are provided for actuating each of said rockers in opposite directions from opposite sides of a car.

2. In operating devices for fare-registers, the combination with a plurality of lifting members each of which coöperates with a lifting member of fare-registering mechanism, of one or more rockers, the lower ends of which are provided with oblong slots to receive studs projecting from said lifting members and whereby connections are effected between said rockers and said lifting members, the said connections serving alternately as fulcrums upon which said rockers are moved, and as means for elevating a lifting member, rod connections between opposite points of each of said rockers and whereby opposite movements may be imparted to each of said rockers to elevate one or the other of the lifting members connected therewith, and operating-rods mounted on the interior of a car and having connections with said connecting-rods, the said operating-rods having means to indicate the fare to be recorded or the extent of movement to be imparted to said operating-rod.

3. In operating devices for fare-registers, lifting members adapted to actuate the mechanism of a fare-register, in combination with a rocker, the lower ends of which are extended and are provided with oblong slots to receive studs projecting from said lifting members, one of said studs forming the fulcrum of said rocker when the other of said studs coöperates in elevating a lifting member, a connecting-rod attached to the upper end of said rocker, and an operating-rod lying on the interior of a car and having an attachment with said connecting-rod, said operating-rod having a suitable number of handles by which it may be turned in opposite directions to impart opposite movements to the rocker.

4. In operating means for fare-registers, lifting members in combination with a rocker having its lower ends loosely connected to said lifting members, said connections serving the double purpose of a fulcrum for said rocker and for elevating the lifting members, and means for actuating said rocker.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN F. OHMER.
ELMER H. BRIDENBAUGH.

Witnesses:
R. J. McCarty,
Thomas B. Herrman.