No. 813,017. PATENTED FEB. 20, 1906.

J. F. OHMER.

FARE RECORDER.

APPLICATION FILED AUG. 25, 1905.

4 SHEETS—SHEET 1.

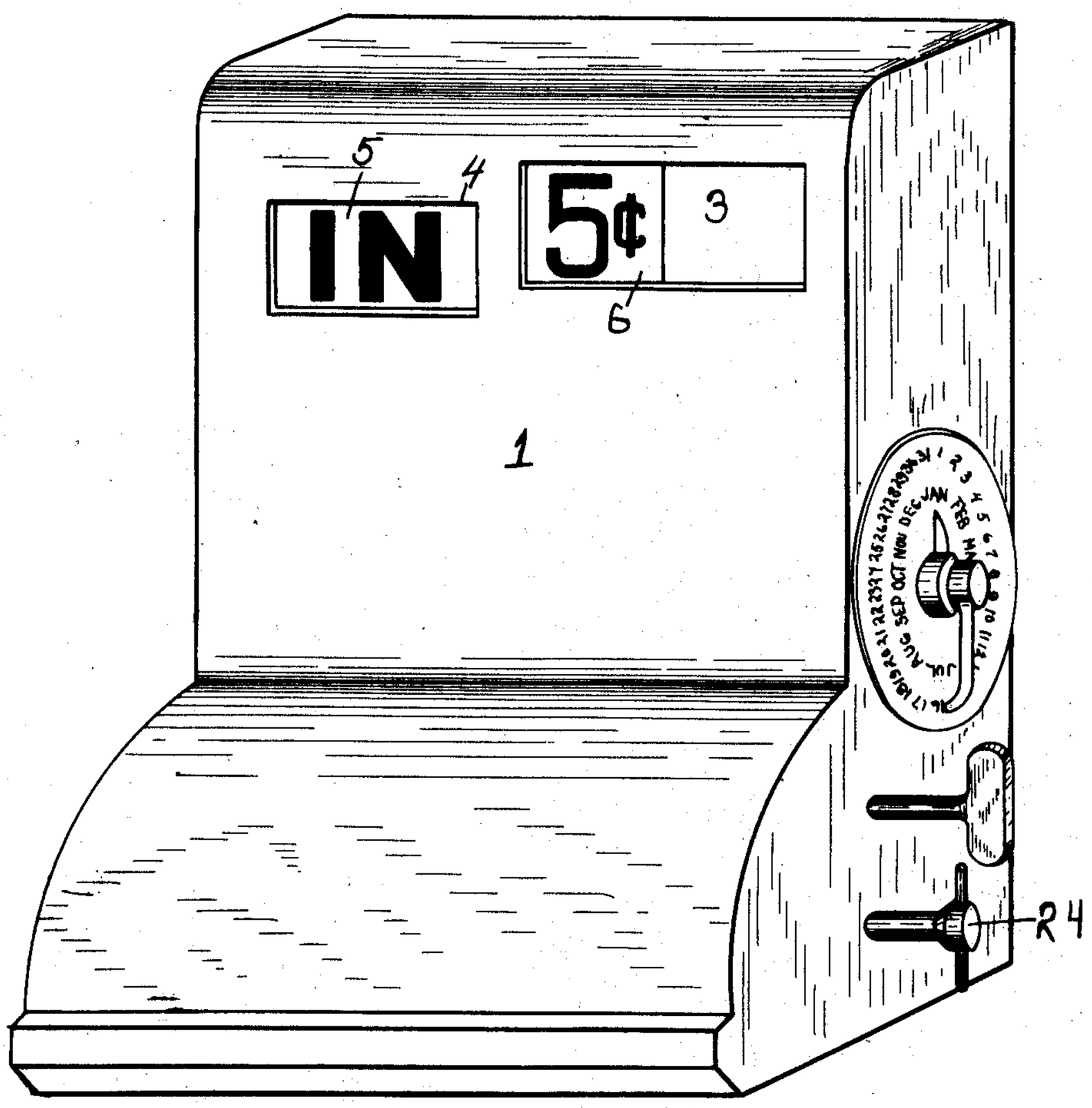

Fig. 1.

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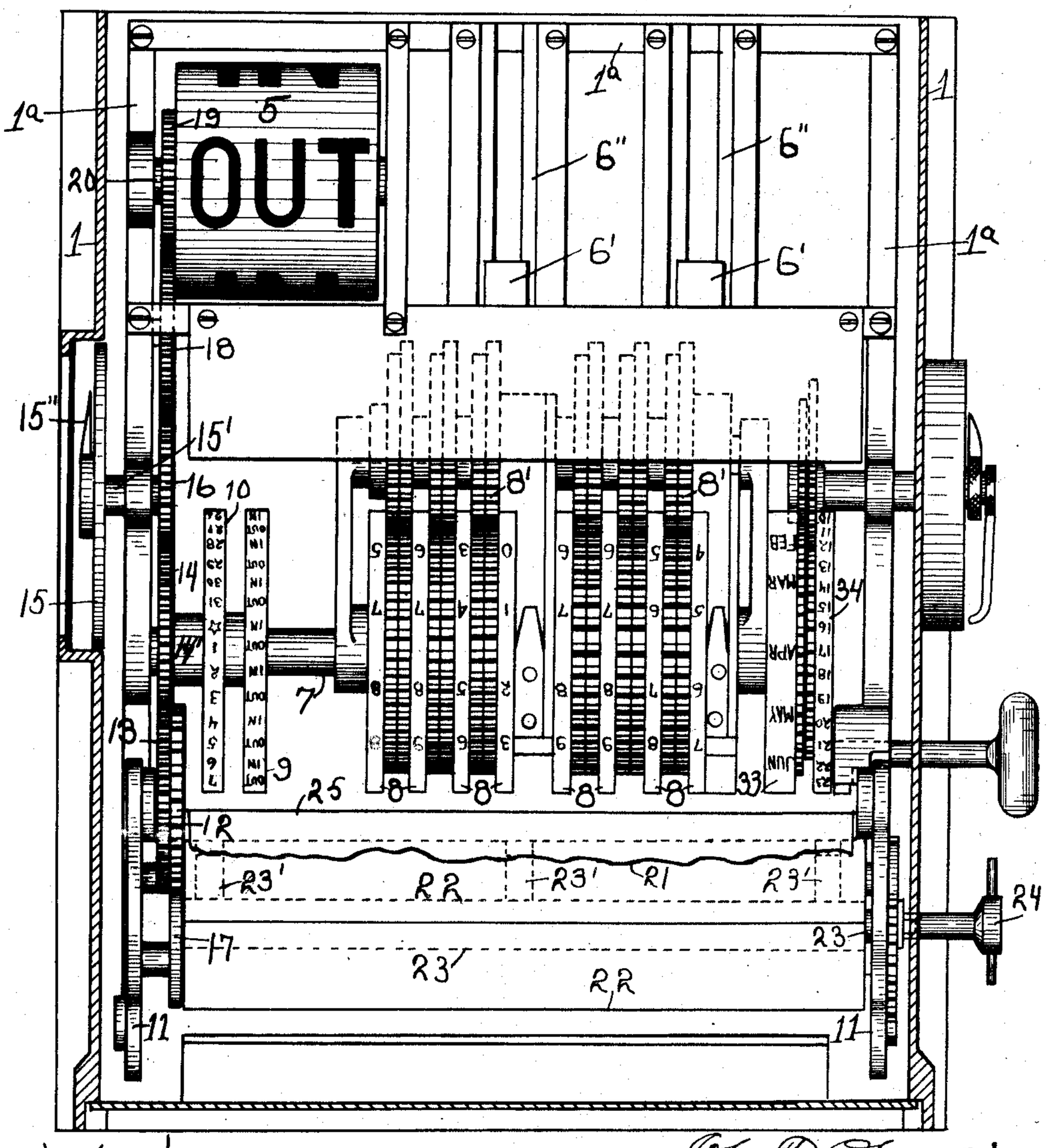
4 SHEETS—SHEET 2.

Fig-2-



WITNESSES

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4 SHEETS—SHEET 3.

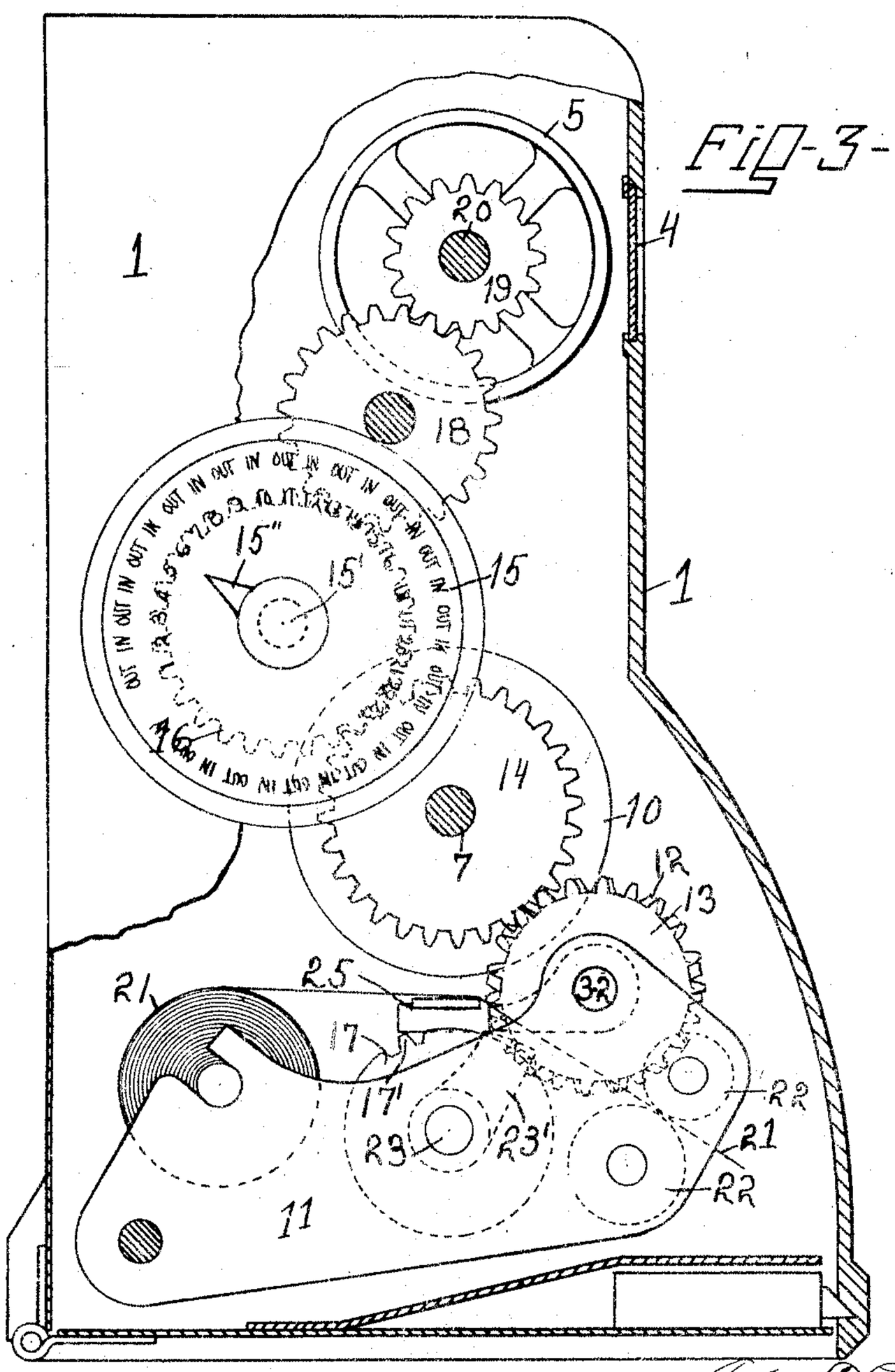

Fig-3-

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4 SHEETS--SHEET 4.

14	IN	0	2	1	9	0	1	1	6	AR	JUL 25	213
13	OUT	0	2	0	1	0	1	0	9	AR	JUL 25	213
12	IN	0	1	7	3	0	1	0	5	AR	JUL 24	125
11	OUT	0	1	5	6	0	0	9	7	AR	JUL 24	125
10	IN	0	1	3	9	0	0	9	0	AR	JUL 24	125
9	OUT	0	1	2	0	0	0	8	2	AR	JUL 24	125
8	IN	0	0	9	8	0	0	7	4	AR	JUL 24	125

Fig-6-

Fig-5-

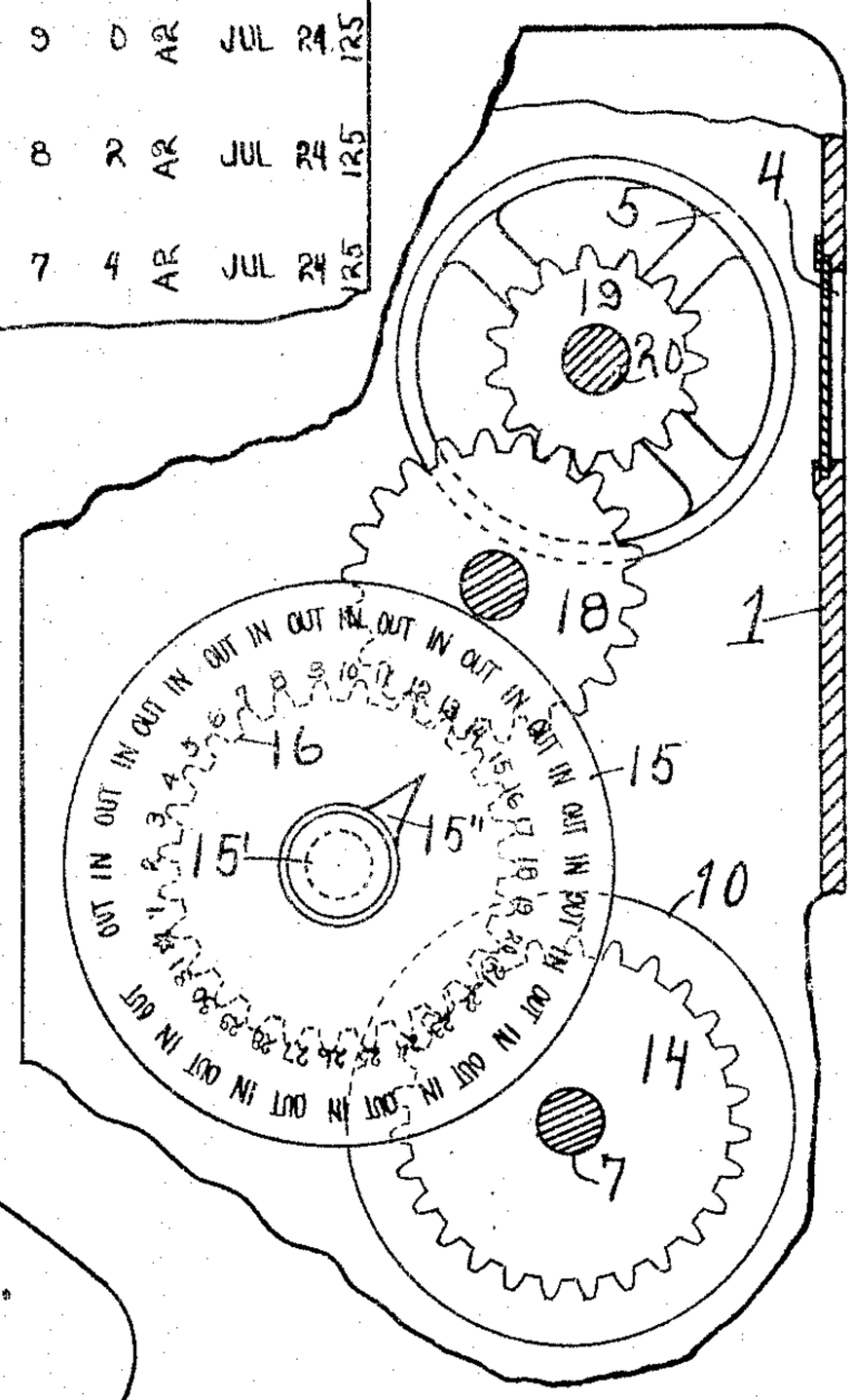
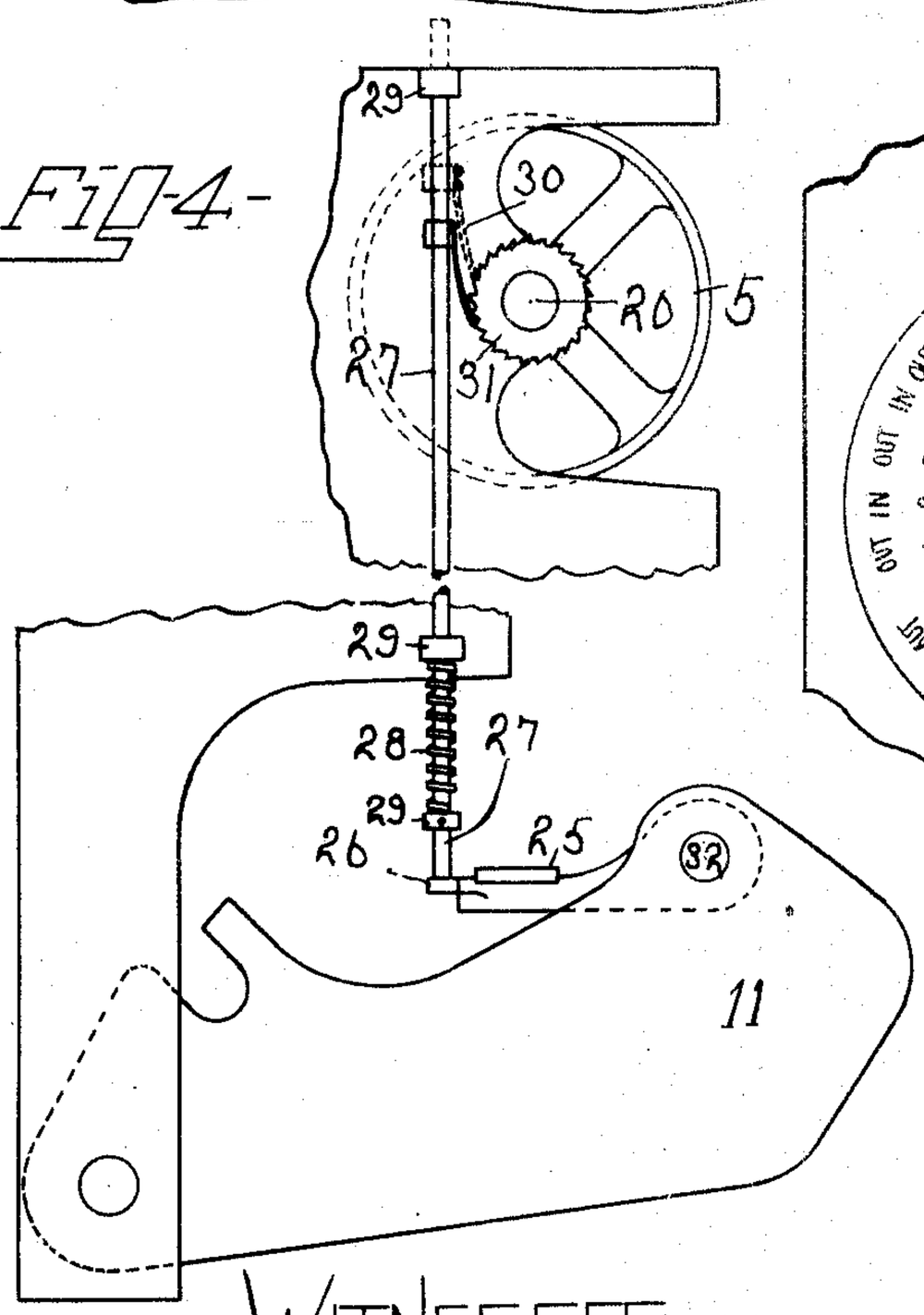


Fig-4-



WITNESSES

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UNITED STATES PATENT OFFICE.

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FARE-RECORDER.

No. 813,017. Specification of Letters Patent. Patented Feb. 20, 1906.

Application filed August 25, 1905. Serial No. 275,719.

To all whom it may concern:

Be it known that I, JOHN F. 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 Fare-Recorders; and I 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 fare recorders and indicators of the type which employs a plurality of specific fare-printing counters, their individual actuating mechanisms, and specific fare-indicators, as more fully disclosed in several of my former patents, among which may be mentioned the following patents: No. 646,757, of April 3, 1900; No. 694,322, of February 25, 1902, and No. 715,129, of December, 1902, and other patents.

The object of the present invention is to provide a visible direction-indicator associated with means for printing the directions in accordance with the indications on said visible direction-indicator upon statements or records taken from the fare-printing counters and mechanism operated from the movements of the impression or printing devices whereby the visible direction-indicator and the direction-printer are actuated simultaneously to the next operative positions during said operation of taking the printed statements or records. These printed statements or records are usually taken at the end of each trip, and instead of setting the direction-indicator by the same means which is employed to set the passenger-indicator wheels, as heretofore, the above mechanism is employed, whereby, as before stated, upon each operation of taking a statement or printed record the direction-indicator and the direction-printer are actuated.

A further object of the invention is to provide means whereby the direction-indicator and the direction-printer may be operated independently of the operations of the printing mechanism and independently of the operations of setting the trip-wheels to zero.

It may be generally stated that the object of the invention is to provide a direction-indicator and a connected direction-printer which are operated independently of the operations of setting the trip-wheels to zero in order that such direction-indicator and direction-printer may be employed in a fare-recorder in which the trip or passenger indicator wheels are not employed. Means are also shown whereby the direction-indicator and the direction-printer may be operated independently of the printing devices or the trip or passenger indicator wheels.

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

Figure 1 is a front perspective view of a fare-recorder and indicator having its interior mechanism constructed in accordance with my invention. Fig. 2 is a front elevation with the casing removed, also the fare-indicators and the passenger or trip indicator wheels removed. Fig. 3 is a side partial sectional elevation with the fare-indicators and the passenger or trip indicator wheels removed. Fig. 4 is a detail view of mechanism for operating the direction-indicator and direction-printer from the printing devices. Fig. 5 is a similar view showing different mechanism for connecting the direction-indicator with the printing devices. Fig. 6 is a view illustrating a printed statement or record that may be taken from the machine, showing the number of specific fares that have been recorded, the direction of the trips, the number of the trips, the dates, the identification-mark of the person taking each statement or record, and the number of the register.

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

The casing 1 of any suitable design or configuration may be employed, having suitable sight-openings 3 and 4, through the former of which the fare-indicators 6 of each specific class of fares are exposed, and the direction-indicator 5 is likewise exposed. The various mechanisms are mounted on a suitable framework 1^a, in the lower portion of which the printing devices are mounted between side plates 11, said printing devices consisting of a roll of paper 21, feed-rollers 22, the platen

or impression-bar 25, and arms 23′ for elevating the platen or impression-bar 25 to carry the paper in contact with the printing-wheels on shaft 7. These printing-wheels consist of the specific fare-printing counters 8, which in the present illustration consist of two groups or printing-counters, each of which records and prints a specific class of fares; but it will be understood that a greater number of such specific fare-printing counters may be employed, as illustrated in many of my former patents. Upon the said shaft 7 there is also the month and date printers 33 and 34, the direction-printer 9, and the trip-number printer 10. The impression-bar or platen 25 is mounted upon shaft 32, and upon said shaft is also mounted an actuating spur-wheel 13, which engages the spur-wheel 14. Upon the shaft 23 there is a wheel 17, having a single tooth 17′, said wheel being rigidly mounted upon the shaft 23. 12 is an adjacent spur-wheel on shaft 32, which is engaged by the tooth 17′ upon each complete revolution of the wheel 17 to impart a step-by-step movement to the shaft 32, upon which said wheel 12 is mounted. The shaft 23 is operated from the outside of the machine through a finger-piece 24, and arms 23′, which are mounted upon said shaft 23 in the proper position, are also moved to engage the platen or impression-bar 25 at the proper time to elevate the paper against the fare-printing counters and other printers hereinbefore referred to on shaft 7. The result of this operation is a statement or printed record such as is shown in Fig. 6. This statement may be printed or embossed. Therefore suitable inking mechanism may be employed, such as is shown and illustrated in my previous patent, No. 646,757, or such inking mechanism may be dispensed with, the record or statement being complete and distinct whether printed or embossed. Fixed to the spur-wheel 12 and on the same stub-shaft therewith is a spur-wheel 13′, which gears with a similar spur-wheel 14, which is on a sleeve 14′, upon which the direction-printer 9 and the trip-printer 10 are also mounted, the said sleeve 14′ being loose upon the shaft 7. The month and date printers 33 and 34 are upon the opposite end of the shaft 7, and their operation is independent of the other printing-wheels through the mechanism shown and described in my former patents before referred to. The actuating spur-wheels 8′, through which the specific fare-printing counters are operated, have also been described in my former patents and are actuated in a manner set forth in said patents.

The direction-indicator 5 is mounted upon an independent shaft 20 and is connected with the spur-wheel 14 through the following gears, which constitute a complete train of gears from the shaft 20 to the shaft 23: 19 is a spur-gear fixed to one end of the direction-indicator 5 and in mesh with a transmission-gear 18, the latter gear being in mesh with a gear 16, which engages the gear 14. The gear 16 is on the shaft 15′, to which is fixed the pointer 15″, which indicates the directions on the dial 15 at a side of the machine. From this arrangement of gearing it will be readily seen that the direction-indicator 5 may receive movement through the shaft 23 during the operations of the platen or impression-bar 25 in taking printed statements or records, and at which time the direction-printer 9 and the trip-printer 10 will also receive similar movement. The said direction-indicator 5 and the printers 9 and 10 may also receive movement independent of the operation of the printing devices through the rotation of the dial-hand 15″ when setting the dial to the proper points to indicate the directions thereon, as in Fig. 5.

In Fig. 4 different means are shown for operating the direction-indicator 5 and the printers 9 and 10 from the printing devices. These means are illustrated in Fig. 4 and consist of a reciprocating plunger 27, which has an expansion-spring 28 inclosed between collars 29 thereon. The normal position of this spring is expanded. Therefore when the plunger 27 is elevated the effect of the spring is to return it to its lower or normal position. The said plunger is operated from the platen or impression-bar 25, which has a projection 26 on one end thereof, which supports the lower end of said plunger. The said plunger is guided in a suitable number of collars 29 on the side of the frame and carries upon its upper end a spring-pawl 30, which engages a ratchet-wheel 31, fixed to the axis of the direction-indicator 5 and upon the shaft 20 thereof. In the upward oscillating movement of the platen 25 the plunger 27 is elevated to effect a proper engagement of the pawl 30 with the ratchet-wheel 31, and when said plunger is lowered under the expansion of spring 28 the said direction-indicator is rotated to the proper extent. It will be understood that in the event the mechanism shown in Fig. 4 is employed the train of gears 19, 18, 16, and 14 would be employed to impart the necessary movement to the direction-printer 10 and the direction-pointer 15″.

The fare-indicators 6 are of a construction similar to that shown and described in many of my former patents, and they are also mounted in a similar manner upon the slides 6′, which move in guides 6″, attached to the framework of the machine. The indicator-slides 6′ are moved simultaneously with the transmission-gears 8′, which are themselves moved by their corresponding device, fully described in my former patents.

Having described my invention, I claim—

1. In a fare-recorder, the combination with a set of printing-counters denoting the number of fares recorded, of a type-wheel denoting

the direction, impression devices for taking statements or records from said printing-counters and said type-wheel, and means connecting the direction type-wheel and the impression devices by which said direction type-wheel is moved each time an impression is taken.

2. In a fare-recorder, the combination with a set of printing-counters denoting the number of fares recorded, of a type-wheel denoting the direction, a tablet or dial for indicating the direction, impression devices for taking statements from said printing-counters and type-wheel, and means for simultaneously moving the direction-indicator, the type-wheel denoting the direction, and the said impression devices.

3. In a fare-recorder, the combination with printing-counters assembled in groups and each group denoting a specific class of fares, an indicator denoting the directions, type letters or characters corresponding to the direction-indicators and moving simultaneously therewith, impression devices, the movement of which, actuates the direction-indicator and its corresponding type letters or characters.

4. In a fare-recorder, the combination with groups of printing-counters denoting the specific classes of fares, a direction-printer located in a plane with said printing-counters, a direction-indicator, impression devices, and means interposed between said impression devices, said direction-printer, and said direction-indicator for simultaneously actuating said direction-printer and direction-indicator upon each operation of the impression devices.

5. In a fare-recorder, the combination with a plurality of groups of printing-counters denoting specific classes of fares, a similar number of specific-fare indicators, and means for simultaneously actuating the fare-printing counters and the fare-indicators, of a direction-indicator, a direction-printer, impression devices, and means interposed between said impression devices and the direction-indicator and direction-printer for simultaneously moving said direction-indicator and said direction-printer from each movement of the impression devices.

6. In a fare-recorder, the combination with printing-counters denoting the fares registered, of a direction-printer mounted in line with said fare-printing counters, a direction-indicator, a platen or impression-bar, and connections between said impression-bar or platen, and the direction-printer and the direction-indicator, whereby upon each operation of taking a statement or record from the printing-counters and the direction-printer, the direction-printer and the direction-indicator are simultaneously set.

7. In a fare-recorder, the combination with groups of printing-counters, each group denoting a specific class of fares, an indicator to exhibit separately the fares of each class, month and date printers, a direction-printer, a direction-indicator, and connections between the direction-indicator, the direction-printer and the actuating member of the printing devices, whereby, in each printing operation, the direction-indicator and the direction-printer are simultaneously set.

8. In a fare-recorder, a plurality of groups of printing-counters denoting the different classes of fares, a stationary dial indicating the directions, a pointer on said dial, a rotating member also indicating the directions, a direction-printer, and means interposed between said pointer, said direction-printer, and said rotating direction-indicator for simultaneously actuating said rotating direction-indicator, and the direction-printer in setting the pointer to indicate the directions.

9. In a fare-recorder, the combination with printing-counters denoting different classes of fares, and printing or impression devices, of a direction-indicator, a direction-printer, and means connecting said direction-indicator, said direction-printer and the actuating member of the printing or impression devices, whereby upon each operation of taking a statement or record, the direction-indicator and the direction-printer are simultaneously operated.

10. In a fare-recorder, the combination with a plurality of fare-indicators, of a direction-indicator, a direction-printer, impression devices, and means interposed between said impression devices and the direction-indicator and said direction-printer to move said direction-indicator and said direction-printer with each movement of the impression devices.

11. A direction-printer, an indicator, means for taking a print or impression from said direction-printer, said means controlling the positions of the direction-printer and the indicator.

12. A fare-printing counter, a direction-printer, and means for taking a print or impression from said fare-printing counter and direction-printer, said means controlling the position of the direction-printer.

13. A fare-printing counter, a direction-printer, means for taking prints or impressions from said fare-printing counter and said direction-printer, and means connecting said direction-printer with said means for taking said prints or impressions, whereby the direction-printer is controlled by said means for taking the prints or impressions.

14. A fare-printing counter, a direction-printer, an indicator, and means for taking an impression from said printing-counter and controlling the shifting operation of the direction-printer and the indicator.

15. A fare-printing counter, a direction-

printer, a direction-indicator, and means for taking impressions from said fare-printing counter and said direction-printer, said means controlling the shifting operation of the direction-printer and the direction-indicator.

16. A direction-printer, a direction-indicator and an auxiliary indicator connected to said direction-printer and direction-indicator and adapted to shift said direction-printer and said direction-indicator in the movements by which said auxiliary indicator is made to exhibit the indications thereon.

17. A direction-printer, a direction-indicator connected to said direction-printer, and an auxiliary stationary indicator having a pointer, said pointer being connected to the direction-printer and the direction-indicator and adapted to shift the direction-printer and the direction-indicator to operative positions upon each movement of said pointer to indicate upon the auxiliary dial.

18. A direction-printer, a direction-indicator and an auxiliary direction-indicator having a pointer connected to the direction-printer and the first-named direction-indicator, said pointer being adapted to shift the direction-printer and the first-named direction-indicator upon each movement of said pointer to positions to indicate on the auxiliary direction-indicator.

19. A direction-printer, a direction-indicator, an auxiliary direction-indicator connected with said direction-printer and the first-named direction-indicator, and means for taking an impression from said direction-printer and for controlling the shifting operation of said direction-printer and said direction-indicators.

20. A fare-printing counter, a direction-printer, a direction-indicator, an auxiliary direction-indicator, and means for taking an impression from said printing-counter and said direction-printer and for controlling the shifting operations of said direction-printer and said direction-indicators.

21. A direction-printer, a direction-indicator and an auxiliary direction-indicator, the latter being fixed as to rotation, a pointer movable to the indications on said auxiliary indicator, said pointer being geared to the direction-printer and the first-named direction-indicator and adapted to move the same concurrently to operative positions in the movements which indicate upon the auxiliary indicator.

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

JOHN F. OHMER.

Witnesses:
CAROLYN M. THEOBALD,
J. FRED HENBERGER.