No. 850,673. PATENTED APR. 16, 1907.

T. J. O'NEILL.

STATION INDICATOR.

APPLICATION FILED APR. 7, 1906.

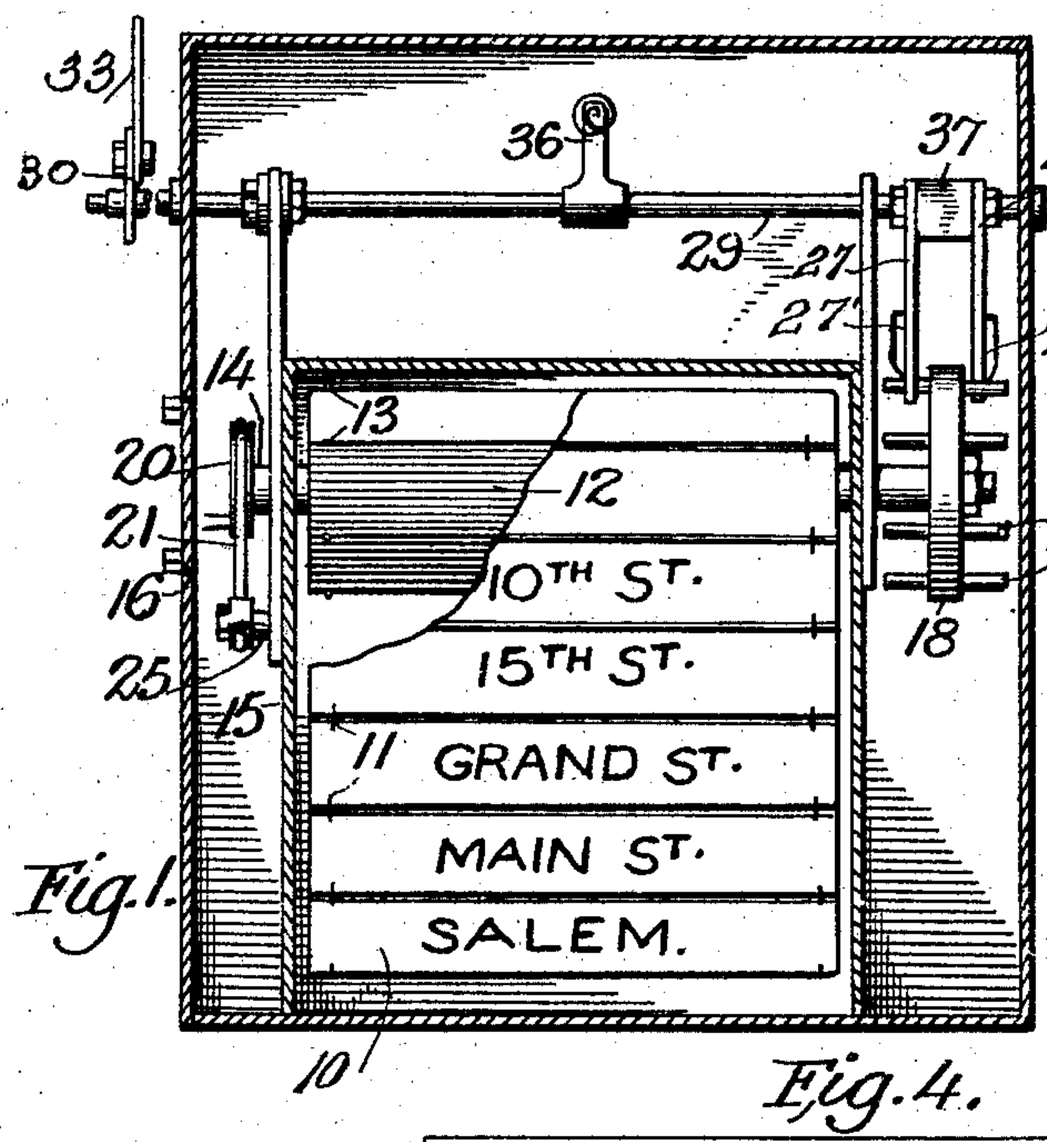



Fig. 1.

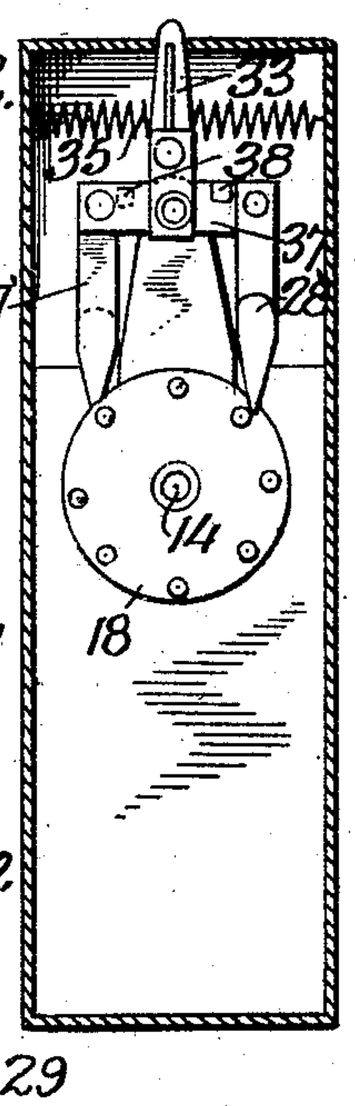



Fig. 4.

Fig. 2.




Fig. 3.

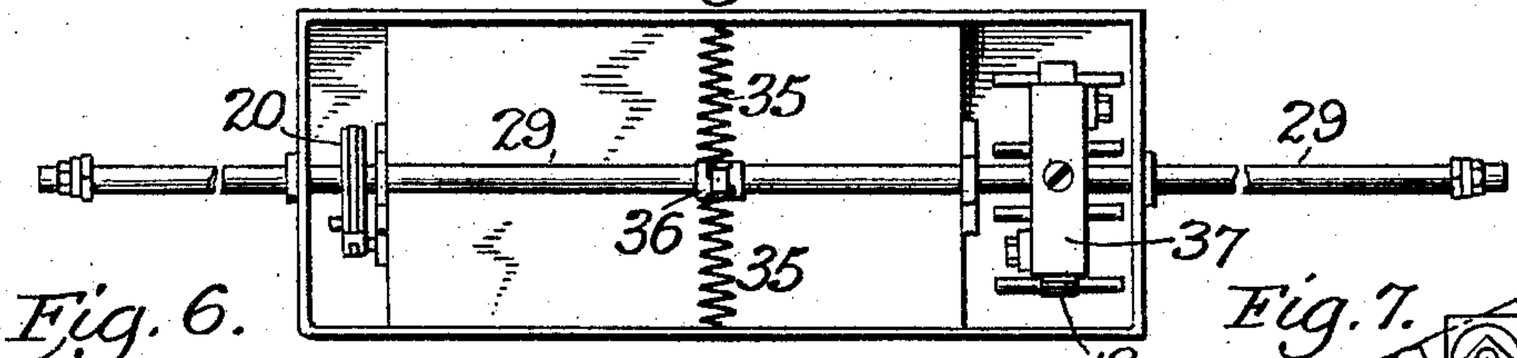



Fig. 6.

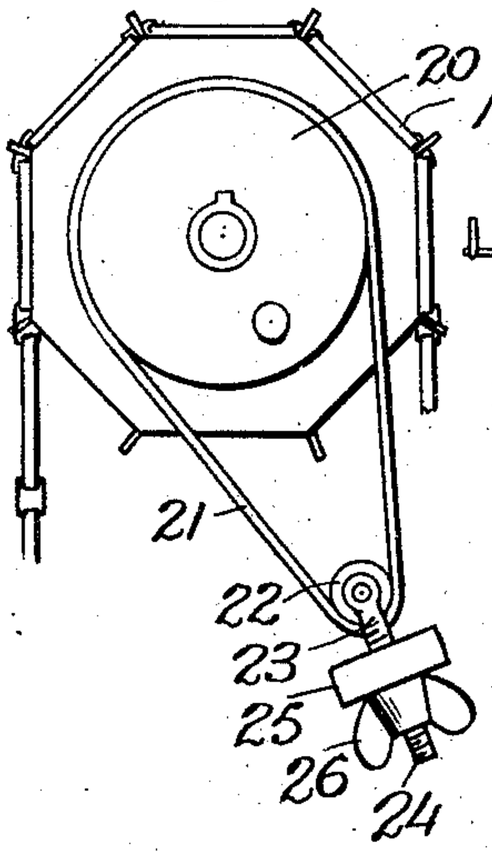



Fig. 5.

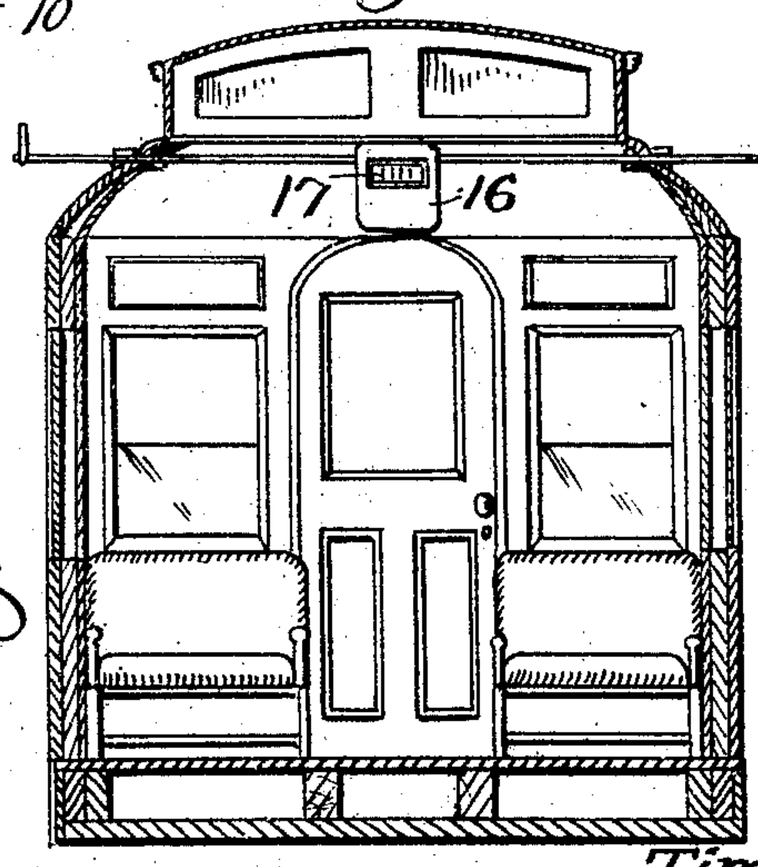
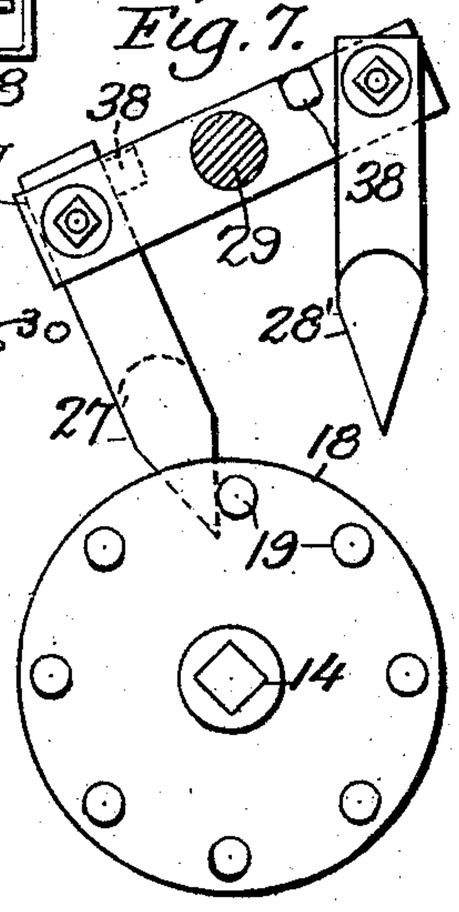



Fig. 7.

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TIMOTHY J. O'NEILL, OF NEW YORK, N. Y.

## STATION-INDICATOR.

No. 850,673. Specification of Letters Patent. Patented April 16, 1907.

Application filed April 7, 1906. Serial No. 310,538.

*To all whom it may concern:*

Be it known that I, TIMOTHY J. O'NEILL, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Station-Indicators, of which the following is a specification.

My invention relates to station-indicators for use in cars and similar vehicles and which are adapted to be operated automatically by the car previous to its approach to a station, when by the use of certain means the name of the said station is automatically displayed. These and other objects and details of my invention are more fully described in the following specification and set forth in the appended claims.

In the drawings accompanying this application like reference-numerals are used to designate the same parts in the various figures.

Figure 1 is a front view of my device with the casing broken away to more clearly show the operating mechanism. Fig. 2 is a vertical section. Fig. 3 is a perspective view of one of the operating-arms. Fig. 4 is a plan view of the device with the top of the boxing removed. Fig. 5 is a cross-sectional view of the car, showing the location of my indicator and its operating-arms. Fig. 6 is a detail view of the brake applied to the display-drum. Fig. 7 is a detail view of the actuating-dogs and the disk with which they coöperate.

In displaying the names of the stations I use a plurality of slats 10, having suitable names on their outer face and linked together by the rings 11, so as to form a continuous series or endless band of these names, and they are carried on a drum 12, having a number of flat sides, each side wide enough to contain one of the slats, and the dividing edge between each of the flat sides is provided with pins or spurs 13, adapted to fit in the space between the slats and propel the band as the drum 12 is rotated.

The drum 12 is mounted on a shaft 14, which is journaled in a case 15, carried within the large boxing 16, the latter having an opening 17, fitted with glass, if found necessary, through which is displayed the name of the street or station, which can be readily seen from the exterior, while the balance of the mechanism is completely inclosed and shielded from dust and protected from damage. The shaft 15 carries at one end a disk 18, having a number of pins 19 projecting laterally from each side, and on its other end the shaft carries a friction wheel or drum 20, over which passes a band 21, in which also plays a small tension-wheel 22, mounted in the fork 23 of a threaded stem 24, which passes through a lug 25 on the side of the housing 15 and on its lower end carries a thumb-nut 26, which is adapted to adjust the fork 23 and its roller so as to increase or decrease the tension of the band 21 on the brake-wheel 20.

The disk 18 is actuated by a means of dogs 27 and 28, which are pivoted on a cross-arm 37, secured to a shaft 29, journaled above the housing 15, passing through the case 16, through the sides of the car, and carrying on its outer ends the upright arms 30, which are slotted, as at 31, for the passage of a screw 32, which latter is carried at the lower end of an extension 33, having a rib 34 to fit in the groove in one face of the arm 30. These latter parts are to provide for the adjustment of the extension 33 on the arm 30, so that the arm may be thrown outward and lengthened or adjusted inward and shortened so as to strike certain obstructions, so that the shaft 29 may be oscillated and the dogs 27 and 28 thrown to a position such as shown in Fig. 7, so that the dog 27 may strike its pin 19 and turn the disk 18 and its shaft, with the drum 12, a one-eighth revolution, thus moving the band of slats one space and displaying a new name.

A cross-arm 37 is normally held in horizontal position by springs 35, which are interposed between the front and rear walls of the casing 16 and an arm 36, secured to the shaft 29. With the cross-arm 37 in horizontal position the dogs 27 28 are vertically suspended, disposing their free or weighted ends 27′ 28′ in operative relation to the pins 19. When the shaft 29 is oscillated, one of the dogs is engaged by one of a pair of lugt carried by the cross-arm 37 and is moved in a direction to impart motion to the shaft 14 through the medium of one of the pins 19.

The operation of this device is free no matter in which direction the car may be moving, and if to the right of Fig. 2 the obstruction will strike the arm 33 on its right side and feed the slats 10 upward on the front side, displaying the series of streets which are being approached by the moving train. If, however, the train is moving toward the left of Fig. 2, the dog 28 becomes operative and actuates

the disk 18 so that the slats are fed downward on the front side, reversing the streets or stations which have been displayed when the train was moving in the opposite direction. This enables the indicator to operate without any resetting or alteration when the train reaches its destination and starts on its return trip.

When it is desired to omit certain stations, their operating obstruction may be slightly higher than the preferred stations. In this case the extension 33 is so regulated and lowered that it will strike the obstructions at the preferred stations only, which may be useful in cases of express trains. Likewise I may use several obstructions at one station in case express service is used and where it is intended to cut out several stations, so that the arm 30 may be given three impulses on leaving a station in order to indicate the next station where the stop will occur.

Changes in the form, proportions, and minor details of construction may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what I claim as new is—

1. In a station-indicator, the combination with a series of slats arranged as an endless band and carried within a case, of a shaft held in a normal position by means of equalizing-springs, a cross-arm carried by the shaft, and normally vertical dogs hung on the cross-arm, adjustable arms carried by said shaft for actuating the same and means carrying the band and adapted to be operated by the dogs so that the said band is advanced one slat at a time.

2. In a station-indicator, the combination with a series of slats containing the names of stations, of a drum carrying the same, a ratchet-wheel connected with the drum, a brake with adjustable band on the drum-shaft, a shaft held in one position by equalizing-springs and carrying gravity-dogs adapted to operate the ratchet-wheel and operating-arms carried at the ends of said shaft and adapted to be adjusted to accommodate various operative obstructions.

3. In a station-indicator, the combination with a journaled drum, a belt mounted thereon, and a disk secured to the drum and provided with pins; of a shaft, a cross-arm secured to the shaft, dogs secured to the cross-arm and disposed in operative relation to the pins, and means by which the shafts may be oscillated.

4. In a station-indicator, the combination with a journaled drum, a belt mounted thereon, and a disk secured to the drum and provided with pins; of a shaft, a cross-arm secured to the shaft, dogs pivotally secured to the cross-arm and having their free ends disposed in operative relation to the pins, and means by which the shaft may be oscillated.

5. In a station-indicator, the combination with a journaled drum, a belt mounted thereon, and a disk secured to the drum and provided with pins; of a shaft, a cross-arm secured to the shaft, dogs secured to the cross-arm and disposed in operative relation to the pins, and means by which the shaft may be oscillated, said means being adjustable.

6. In a station-indicator, the combination with a journaled drum, a belt mounted thereon, and a disk secured to the drum and provided with pins; of a shaft, a cross-arm secured to the shaft, means by which the cross-arm is normally held in horizontal position, dogs secured to the cross-arm and disposed in operative relation to the pins, and means by which the shaft may be oscillated.

7. In a station-indicator, the combination with a journaled drum, a belt mounted thereon, and a disk secured to the drum and provided with pins; of a shaft, a cross-arm secured to the shaft, means engaging the shaft and adapted to normally retain the cross-arm in horizontal position, dogs carried by the shaft and disposed in operative relation to the pins, and means by which the shaft may be oscillated.

8. In a station-indicator, the combination with a journaled drum, a belt mounted thereon, and a disk secured to the drum and provided with pins; of a shaft, a cross-arm secured to the shaft, an arm secured to the shaft, springs engaging the arm to normally retain the cross-arm in horizontal position, dogs carried by the cross-arm and disposed in operative relation to the pins, and means by which the shaft may be oscillated.

9. In a station-indicator, the combination with a journaled drum, a belt mounted thereon, and a disk secured to the drum and provided with pins; of a shaft, a cross-arm secured to the shaft, an arm secured to the shaft, springs engaging the arm to retain the cross-arm in horizontal position, dogs pivotally secured to the cross-arm and disposed in operative relation to the pins, and an adjustable means carried by the shaft and by which the shaft may be oscillated.

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

TIMOTHY J. O'NEILL.

Witnesses:
JAMES F. DUHAMEL,
HARRY C. HEBIG.