No. 848,298. PATENTED MAR. 26, 1907.

W. P. ENNIS.

STATION INDICATOR.

APPLICATION FILED SEPT. 14, 1906.

Fig. 1

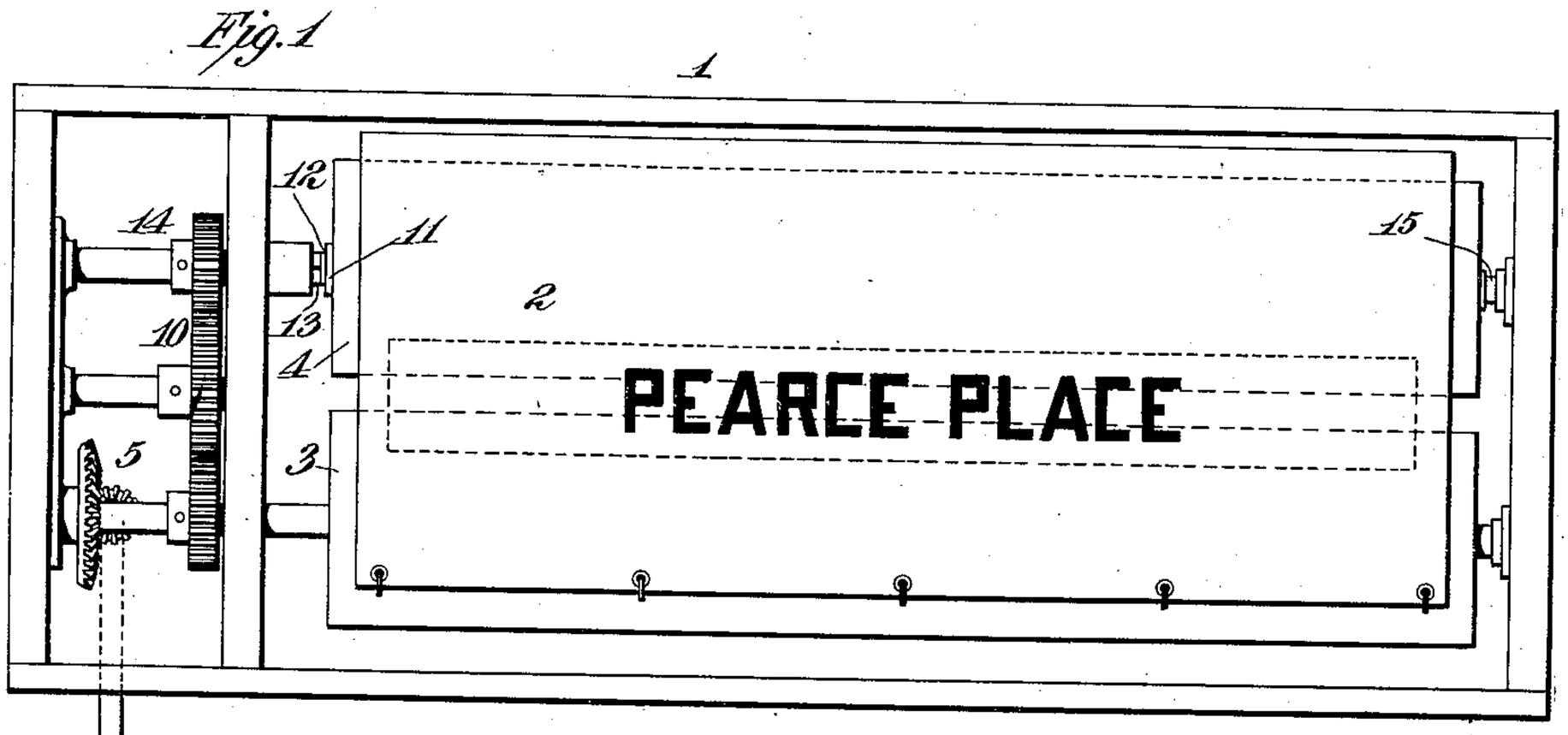


Fig. 2

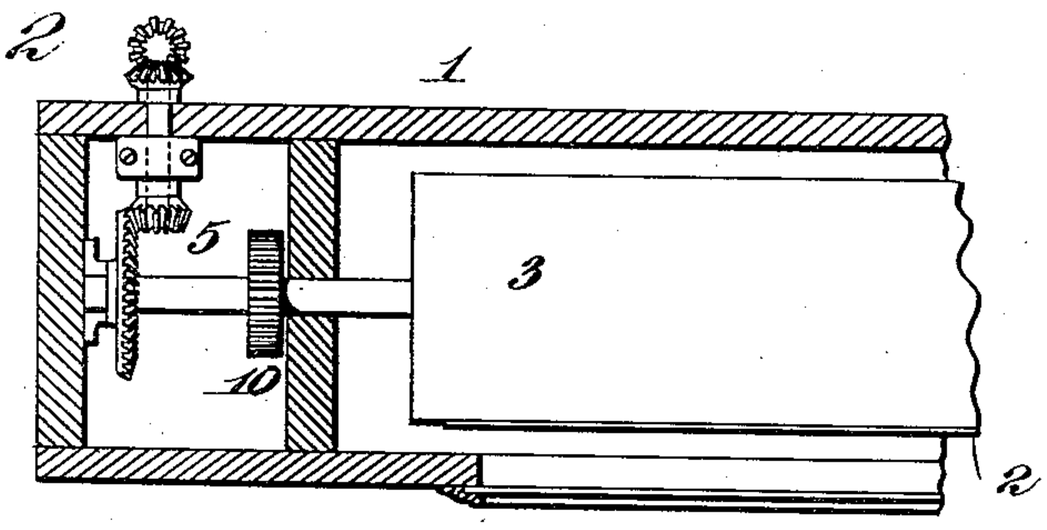


Fig. 3

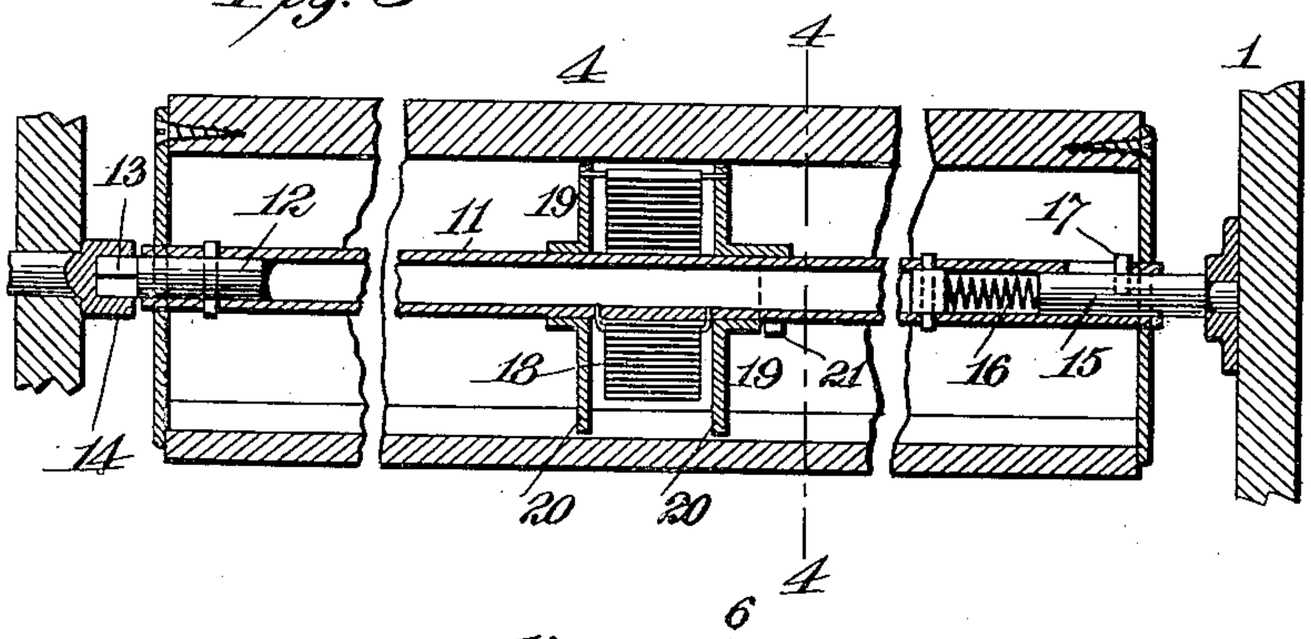


Fig. 4

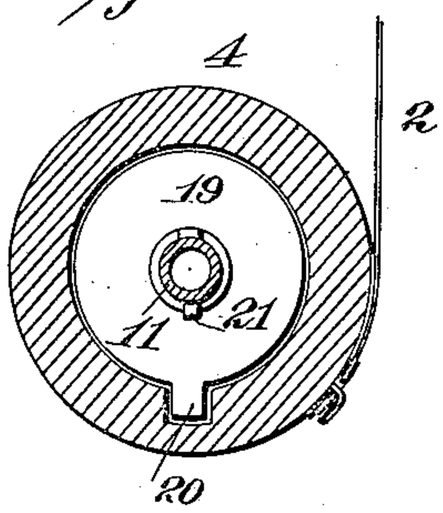


Fig. 5

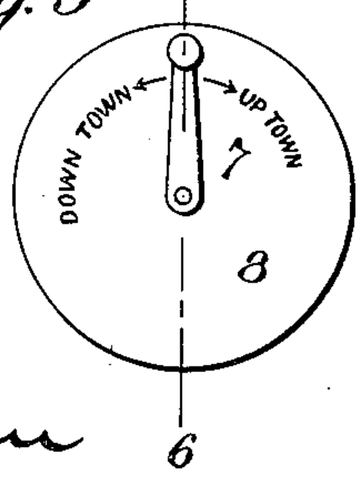
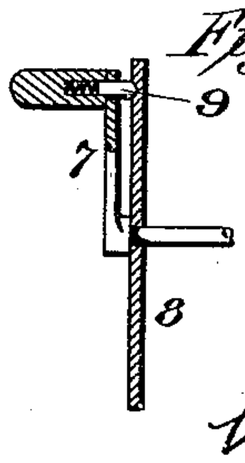


Fig. 6



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UNITED STATES PATENT OFFICE.

WILLIAM P. ENNIS, OF THE UNITED STATES ARMY.

STATION-INDICATOR.

No. 848,298. Specification of Letters Patent. Patented March 26, 1907.

Application filed September 14, 1906. Serial No. 334,560.

To all whom it may concern:

Be it known that I, WILLIAM P. ENNIS, of the United States Army, a resident of West Point, in the county of Orange, State of New York, have invented a Station-Indicator, of which the following is a specification.

The object I have in view is the production of a device for indicating to passengers the name or number of the next station which the car is to reach, which device will be simple and positive in its operation.

A further object is to produce a device in which the sheet carrying the list of stations may be removed and another substituted when the route of the car is changed.

Other objects will appear from the following specification and drawings.

The invention is particularly applicable to urban and suburban cars, and more especially to street, elevated, and subway systems.

The drawings illustrate one embodiment of the invention.

Figure 1 is a front elevation of the box with the cover removed and other portions of the device. Fig. 2 is a horizontal section of a part of the operating mechanism. Fig. 3 is an enlarged longitudinal section of one of the rollers. Fig. 4 is a transverse section of the roller shown in Fig. 3, taken on the line 4 4 of Fig. 3. Fig. 5 is a front elevation of the operating-handle and indicating-plate; and Fig. 6 is a sectional view thereof, taken on the line 6 6 of Fig. 5.

In all of the views like parts are designated by the same reference characters.

The device comprises a box 1, having a glass in the front, (not shown,) so that the names or numbers of the streets appearing upon the flexible sheet 2 will be successively exposed. This sheet is supported upon the rollers 3 4 and is properly stretched between them. The rollers may be rotated by the guard or conductor to successively bring the numbers or names of the streets in front, so that they may be read by the passengers in the car. The roller 3 is mounted upon a shaft, which is rotated through a system of bevel-gearing 5 and a diagonal shaft 6, which is actuated by a crank 7 on the platform. The crank 7 turns around a plate 8, Fig. 6, having indications to show which way the crank is to be turned, depending upon the direction of travel of the car. A pin 9 is forced by a spring into a shallow groove in the plate 8, so as to lock the crank 7 in a definite position and to insure it being held in such a position that the name or number of the street will appear fairly in the opening in the front of the box.

The roller 4 is mounted on a shaft, which is rotated as the roller 3 is rotated and in the same direction through spur-gears 10. The flexible sheet 2 is provided with a row of holes, which secures its edge to both rollers by means of a series of hooks, as shown in Fig. 1. The roller 4 is removable, so that it can be taken out and the flexible sheet changed or another roller with another sheet substituted. It is connected to its supporting-shaft, so as to always hold the flexible sheet 2 under tension, preventing the latter wrinkling or becoming slack as it is wound up upon one roller and the diameter of the latter increases. The roller 4 is best shown in Figs. 3 and 4. The supporting-shaft 11 is in the form of a tube. At one end is a plug 12, having a squared extremity 13, which engages in a square opening in the shaft 14, so that the rotation of the shaft 14 will rotate the roller 4. The other end of the tube 11 is provided with a sliding plug 15, having a reduced portion which engages within a bearing in the other side of the box 1. This plug is forced outward by means of a spring 16, a pin 17, sliding in a slot in the tube 11, limiting its movement. By means of the sliding plug 15 the roller 4 may be taken out or put in the box 1, like a spring shade-roller. The spring 18 has one extremity secured to a staple on the tube 11 and the other extremity to a reel 19, which is mounted to turn around the tube 11. A pair of lugs 20 (see Fig. 4) on the reel engages within a longitudinal groove formed on the inside of the roller 4 and prevents the reel from rotating, but allows it to be slid in from one end when the parts are assembled. The hub of the reel 19 is provided with a slot, within which engages a pin 21 on the tube 11 for the purpose of limiting the extent of movement of the reel. This insures the keeping of the spring 18 always under tension; but when the roller 4 is removed from the box the tube 11 will not rotate more than one revolution. It is thereby thus possible to remove the roller from the box without the necessity of winding up the spring every time the roller is removed.

In accordance with the provisions of the patent statutes I have described the principle of operation of my invention and the preferred means by which it is carried out; but I

desire it to be understood that such means are merely illustrative and that the invention may be carried out in other ways.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A station-indicator having a roller for supporting the station-indicating sheet, a shaft within the roller and a reel on the shaft, a spring connecting the reel and shaft, the said reel having a slot therein, and a pin on the shaft engaging with the slot for limiting the extent of rotary movement of the reel.

2. A station-indicator having a roller for supporting the station-indicating sheet, the said roller having a shaft and reel thereon, a spring connecting the reel and shaft, a stop for limiting the extent of rotary movement of the reel upon the shaft, and a lug on the reel engaging within a longitudinal groove formed on the inside of the roller to prevent the reel from rotating independently of the roller.

3. A station-indicator having a flexible sheet, two rollers for the sheet, means for positively rotating both rollers, a spring under tension within one of the rollers for keeping the sheet under tension, and means for permitting the removal of that roller from the indicator without completely unwinding the spring.

This specification signed and witnessed this 3d day of September, 1906.

WILLIAM P. ENNIS.

Witnesses:
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