Sept. 4, 1928. 1,683,575

K. O'BRIEN

STREET AND STATION INDICATOR

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Fig. 1.

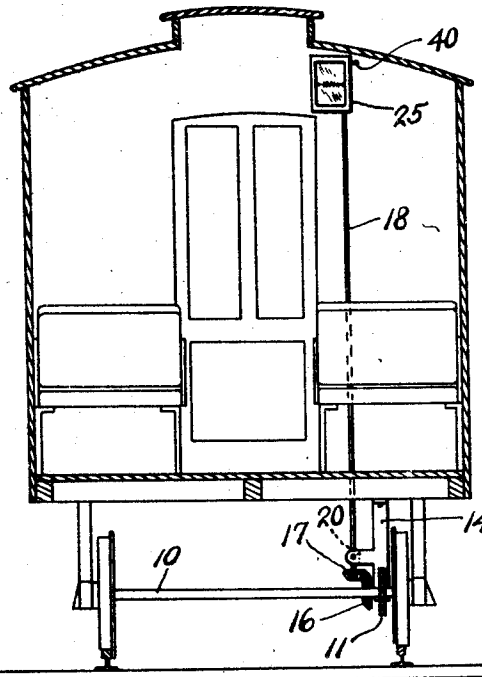
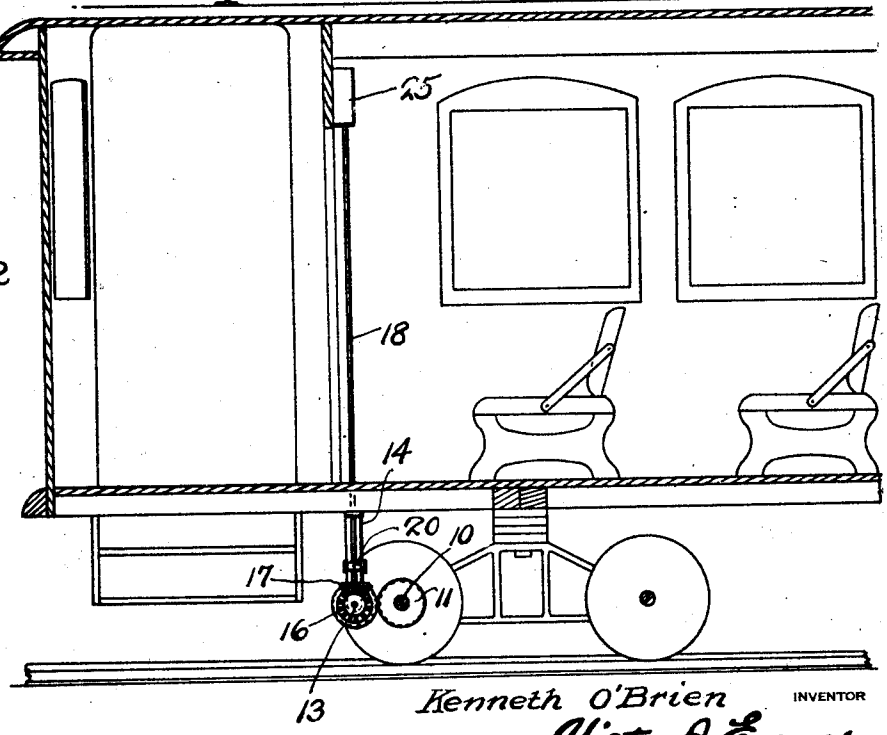


Fig. 2



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WITNESS:

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STREET AND STATION INDICATOR

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Fig. 3.

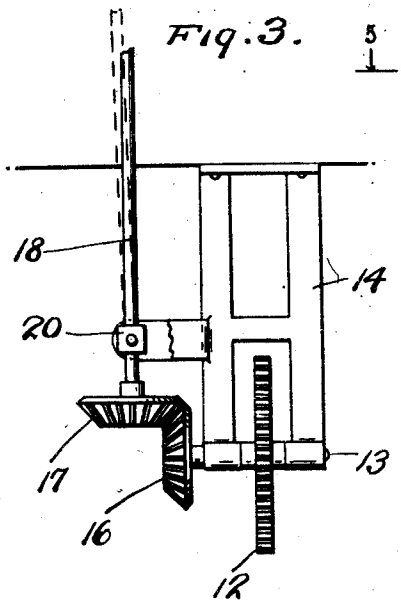

Fig. 4.

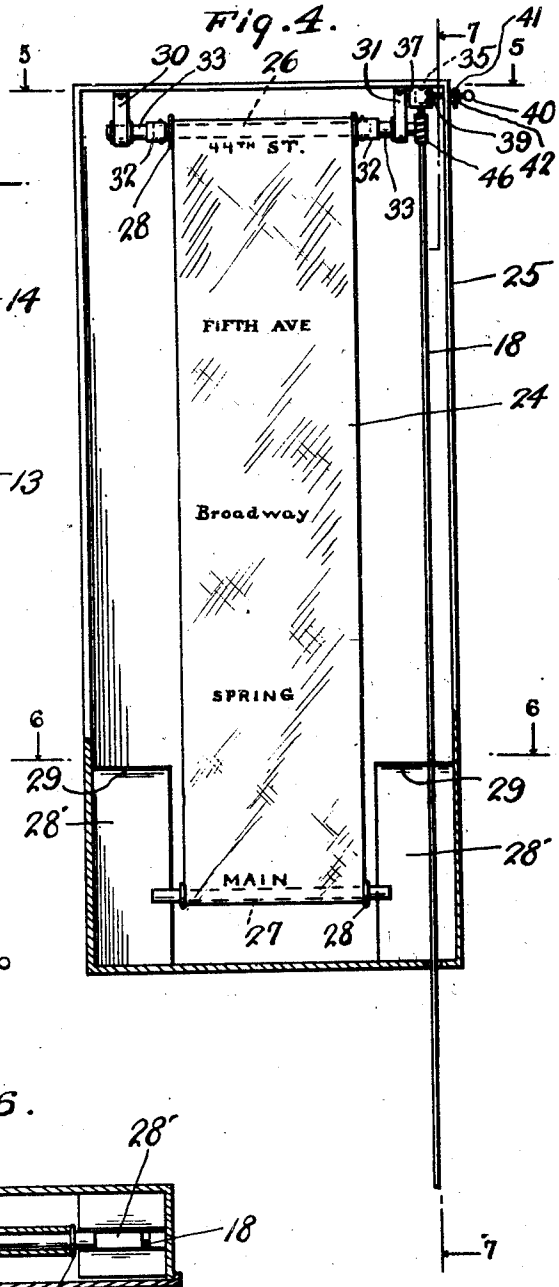

Fig. 5.

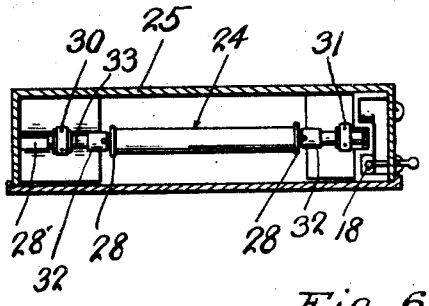

Fig. 6.

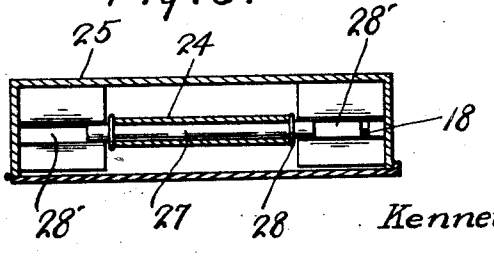

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Fig. 7.

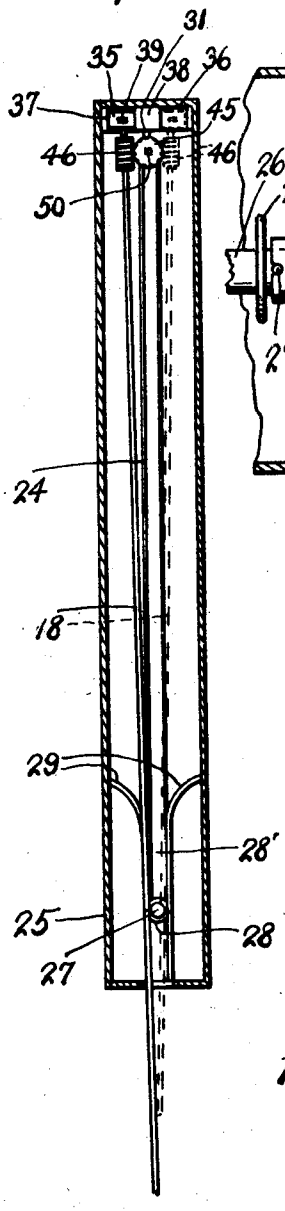


Fig. 8.

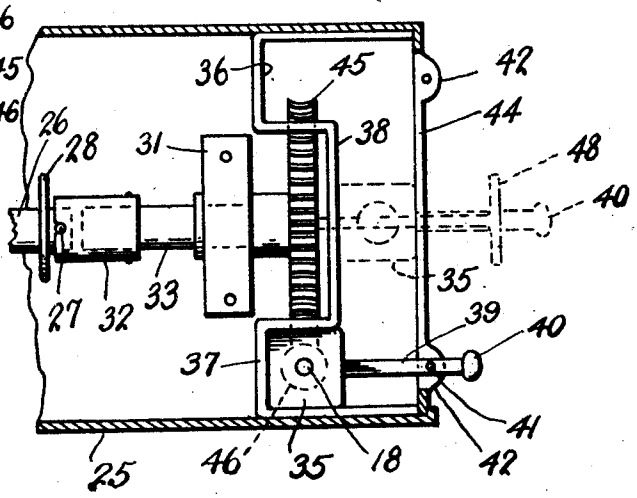


Fig. 9.

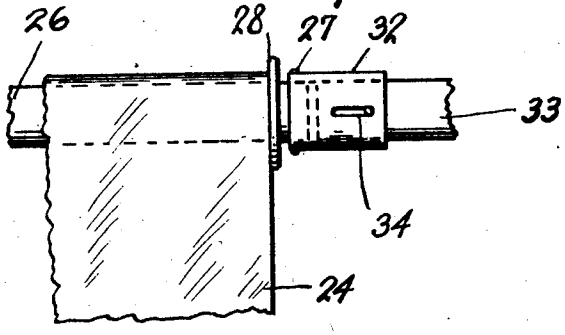
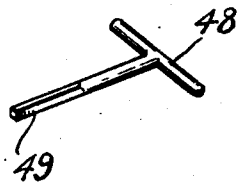


Fig. 10.



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UNITED STATES PATENT OFFICE.

KENNETH O'BRIEN, OF CALPINE, CALIFORNIA.

STREET AND STATION INDICATOR.

Application filed December 14, 1925. Serial No. 75,415.

The object of this invention is to provide means operated from a car axle for indicating the streets or stations at which the car will stop, these means including an endless travelling element carrying the matter to be displayed, and special means being provided for shifting one of the elements of the bearing imparting movement to the endless element, when the movement of the car necessitates the operation indicated.

A further object is to provide a device adapted for the display of advertising matter, and the like.

A still further object is to provide special roller marking means for the endless element.

With the foregoing and other objects in view, the invention consists in the novel construction and arrangement of elements described, illustrated and claimed, it being understood that modifications may be made within the scope of the claims, without departing from the spirit of the invention.

In the drawings forming part of this application,

Figure 1 shows the device in elevation, as mounted within a car, the body of which appears in vertical section.

Figure 2 shows the device in elevation, from another angle, the body of the car appearing in vertical longitudinal section.

Figure 3 is a detail view, in elevation, showing a portion of the bearing in the lower part of Figure 2.

Figure 4 shows the housing for the operative element mounted within the car, and shows the endless travelling element carrying the streets designations, in front elevation.

Figure 5 is a section on line 5—5 of Figure 4.

Figure 6 is a section on line 6—6 of Figure 4.

Figure 7 is a section on line 7—7 of Figure 4.

Figure 8 is a section through the upper part of the casing or housing, showing the drive for the upper roller, and the movable bearing box for the vertical shaft, in top plan.

Figure 9 is a fragmentary view showing the manner of mounting the upper roller between slidable sleeves, which are rotatable with the shaft mounting the sleeve or sleeves.

Figure 10 is a perspective view of a key used for setting the movable elements in correct position, in accordance with the location of the car carrying the device.

In Figure 1 a car axle is designated 10 and carries a gear wheel 11 adapted to mesh with gear wheel 12 mounted at 13 in a frame 14 positioned beneath the car floor.

Gear wheel 12 is mounted on axle 13 and carries a bevelled gear wheel 16, rigid therewith, and meshing with gear wheel 17 on vertical shaft 18. The lower portion of shaft 18 has a bearing in box 20, which is mounted to permit of slight lateral movement of the box and of the shaft, in order that the position of the vertical shaft, especially at its upper end, may be changed from the full line position of Figure 7 to the dotted line position.

A housing or casing for the endless travelling element 24, is designated 25, and said element 24 moves over an upper roller 26, and around a lower roller 27, each of these rollers being provided with flanges, such as 28 for retaining the travelling members in proper position with reference to the rollers. The lower roller 27 is heavy, and retains the travelling element in a vertical position, it being understood that this device 24 carries the names of the streets or stations, and if desired, suitable advertising matters, or other display material.

The ends of the lower roller 27 are movable in guides 28, as shown in Figure 6, the elements forming the vertical channels or guides having upwardly and outwardly curved portions as shown at 29. Brackets 30 and 31 support the upper rotating element or elements and provide suitable bearings. The sleeves 32 engage the ends of the upper roller 26, and are secured thereto at 27, the sleeves being slidable but non-rotatable with reference to shaft members 33. In order to effect this result, pin and slot connection is provided at 34, the sleeves being detachable at one end by removing the retaining device.

An important feature of the construction is found in the means for determining the position of the vertical drive shaft 18. The box 35 is adapted to be received within the U portion 36 or 37 of a frame 38, and to be shifted from one position to another by means of stem 39 having a handle member 40 at the outer ends thereof, and being retained by means of pin 41 passing through ears such as 42 carried by the housing. The lever is movable through a transverse slot, one wall of which is designated 44, and when the box 35′ is in neutral position, as shown in dotted lines in Figure 8, there is no drive from shaft

18 to the endless travelling element. However, when the shaft 18 is thrown to either operative position, at 36 or 37, a worm wheel 45 on the shaft of the upper roller meshes with a worm 46 carried by shaft 18, and the drive is in either direction, depending upon whether engagement with the worm wheel is effected on one side thereof, or on the other side. This change in the drive is provided for, so that when a car turns around, the endless element may operate properly in displaying the names of the street or station opposite a window in the housing. When resetting the device in order to have the travelling element in correct position, corresponding with the location of a car carrying the device, use is made of a key 48, shown in Figure 10, and having a square end 49 adapted to enter a socket 50, for rotating the element 45 to the position required.

What is claimed is:

1. In a device of the class described, an endless travelling element, an upper roller mounting said element, a lower gravity element for retaining the lower portion of the element first named, a vertical shaft, a worm carried thereby, a worm wheel engaged by the worm, means for driving the upper roller from the worm wheel, a frame including a plurality of U-shaped portions, a bearing box for the shaft, and means for moving the box manually, in order to shift the position of the worm from one side of the worm wheel to the other side thereof and from one of the U-shaped portions to the other, these U-elements acting as box retaining means.

2. In a device of the class described, an endless travelling element, a roller around which said element passes, a roller driving shaft, a wheel carried by the shaft, a second shaft, a bearing box through which the second shaft passes, devices carried by the wheel and by said second shaft for rotating one by the other, and means for receiving and determining the position of the second shaft with reference to the wheel, said means last named including frame members proportioned for receiving the box and a member adapted to guide the box from one of the frame members to the other.

In testimony whereof I affix my signature.

KENNETH O'BRIEN.