H. P. BRACE.

STREET INDICATOR.

APPLICATION FILED APR. 19, 1909.

960,803.

Patented June 7, 1910.

3 SHEETS—SHEET 1.

Fig. 1.

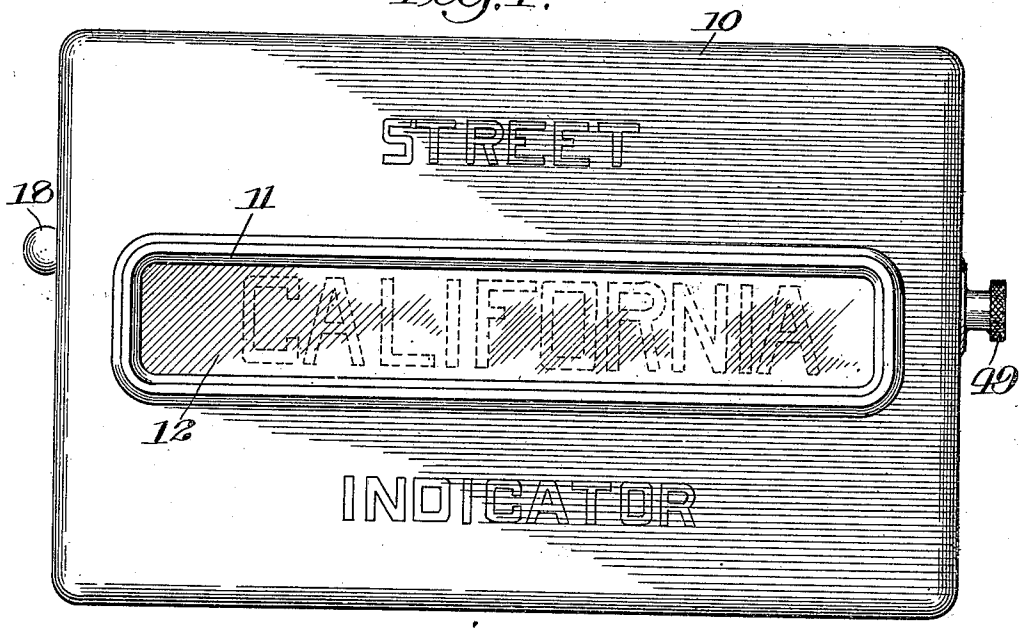
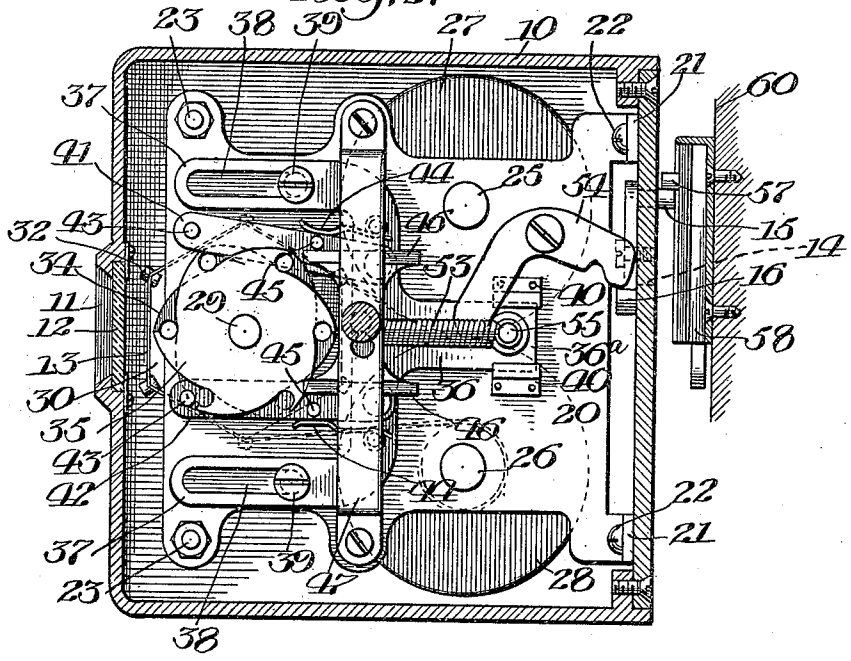


Fig. 2.



Witnesses

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3 SHEETS—SHEET 2.

Fig. 3.

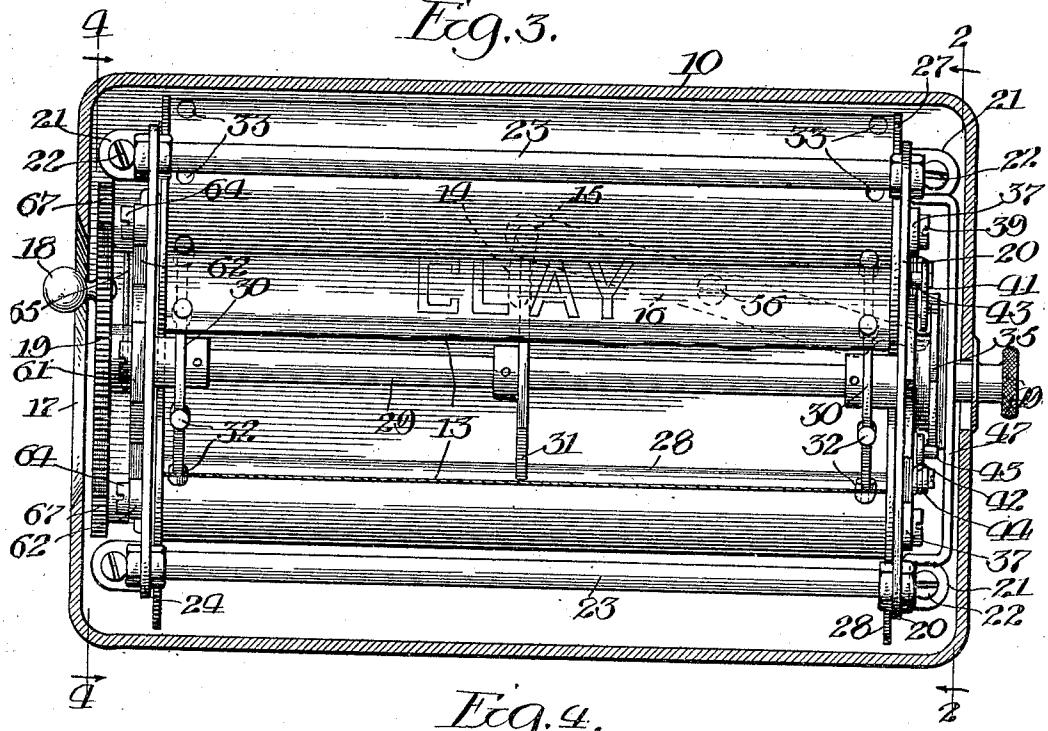
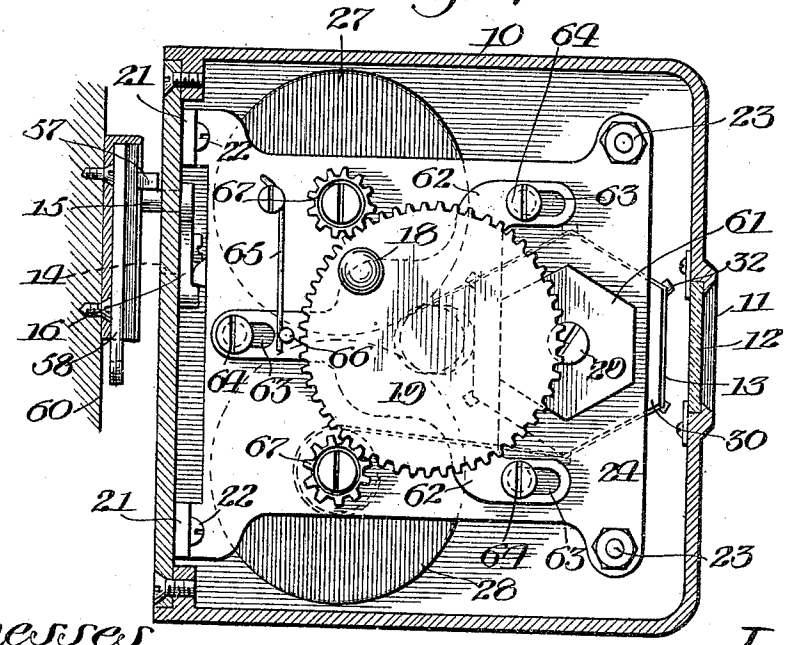


Fig. 4.



Witnesses

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3 SHEETS—SHEET 3.

Fig. 5.

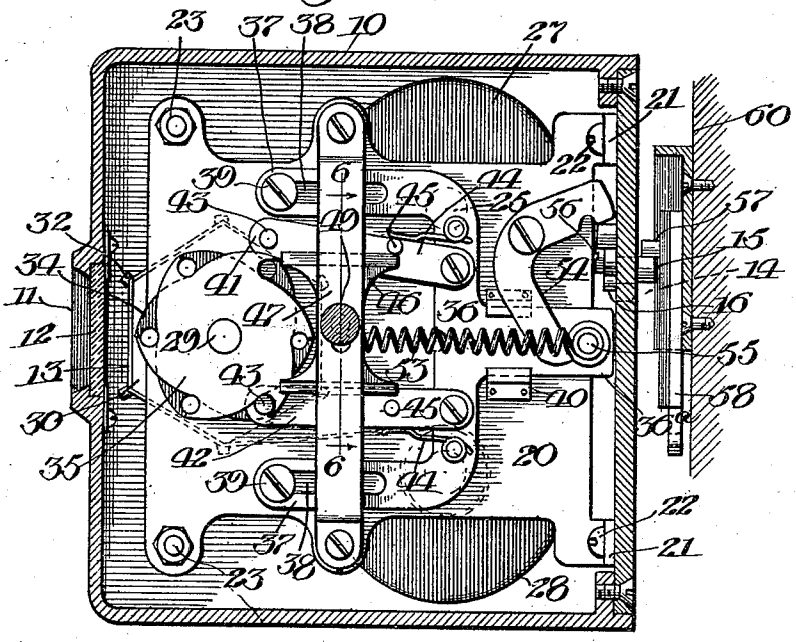


Fig. 6.

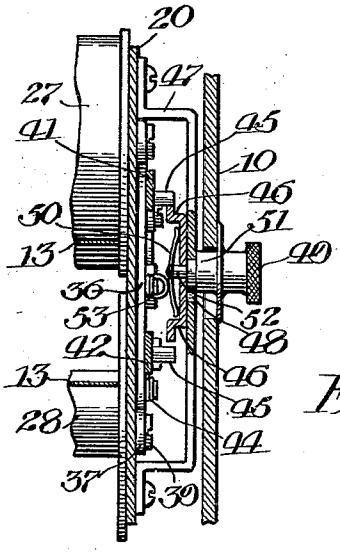


Fig. 8.

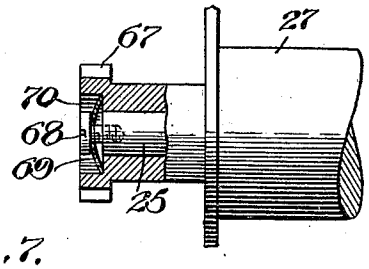
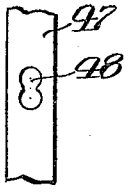


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY P. BRACE, OF CHICAGO, ILLINOIS.

STREET-INDICATOR.

960,803. Specification of Letters Patent. Patented June 7, 1910.

Application filed April 19, 1909. Serial No. 490,811.

To all whom it may concern:

Be it known that I, HENRY P. BRACE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Street-Indicators, of which the following is a specification.

This invention relates to improvements in a device to be used on electric cars, street cars and the like for indicating the names of streets, crossings or stations as the car approaches the same, and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of the invention is to provide a street or station indicator, which shall be simple and inexpensive in construction, strong, durable and efficient in operation, and so made that it may be operated by the motorman or conductor to the end that the name of the street or station will be indicated to the passengers in said car as each street or station is approached.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains, to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a front view in elevation of a street indicator embodying the invention, showing the name of a street disclosed through a glass covered opening therein; Fig. 2 is a view partly in section and partly in elevation taken on line 2—2 of Fig. 3 looking in the direction indicated by the arrows, and illustrating the mechanism for actuating the apron carrying rollers and the means for reversing the movement of said mechanism, the parts being shown in their normal positions; Fig. 3 is a front longitudinal sectional view of the casing of the indicator showing the mechanism for actuating the apron carrying rollers and illustrating a portion of the apron broken away to disclose the exhibiting roller or reel; Fig. 4 is a transverse sectional view of the casing taken on line 4—4 of Fig. 3 looking in the direction indicated by the arrows, and illustrating in elevation the mechanism for automatically assisting in holding the exhibiting roller or reel in its proper position to display the name of a street or station through the opening in the front of the casing and also the mechanism for rapidly shifting the apron from one to the other of the rollers therefor; Fig. 5 is a similar view to Fig. 2 taken on the same plane, but showing the parts in different positions from that illustrated in Fig. 2; Fig. 6 is a fragmental sectional view taken on line 6—6 of Fig. 5 looking in the direction indicated by the arrows, and illustrating the means or mechanism for reversing the action of the mechanism which actuates the apron carrying rollers; Fig. 7 is a detail view of a portion of said reversing mechanism; and Fig. 8 is a fragmental view partly in section and partly in elevation of one of the apron carrying rollers and its pinion showing compensating means therefor.

Like numerals of reference, refer to corresponding parts throughout the different views of the drawings.

The reference numeral 10 designates the casing of the indicator, which may be of any suitable size, form and material but preferably rectangular in shape as shown, and has in its front portion a horizontally disposed opening 11 which may be closed by means of a piece of glass 12 in order that the street or station names displayed at proper distances apart and transversely on an apron 13 may be seen through said opening. This casing may be mounted at one end or at any other suitable point of a car, and has in its rear central portion a slot 14 through which is extended a rearward extension 15 on the operating lever 16 for the mechanism which actuates the apron carrying rollers. One end of the casing 10 is provided with a circular opening 17 to permit of the operation of a knob or handle 18 extended therethrough used for turning a gear 19 in the operation of quickly winding the apron from one of its rollers to the other thereof. Located near one end of the casing and transversely thereof is a plate 20 which carries the mechanism for actuating the apron carrying rollers, as well as the exhibiting reel, and has at its rear edge feet 21 which are secured by means of screws 22 to the back of the casing. This plate extends forwardly to near the front of the casing, and is connected at its front portion by means of horizontally disposed rods 23 to the front portion of a plate 24 transversely located near that end of the casing in which the

opening 17 is formed. The plate 24 is also provided at its rear edge with feet 21, which are secured by means of screws 22 to the back of the casing.

Journaled one above the other in the plates 20 and 24 are shafts 25 and 26, on which are mounted spool-like rollers 27 and 28, respectively, to which the ends of the apron 13 are attached in any suitable manner, which apron, as before stated, has transversely displayed thereon at suitable distances apart the names of the streets or stations which the car will cross or pass in its progress. Horizontally journaled in the front portion of the plates 20 and 24 and directly behind the opening 11 in the casing is the shaft 29 of the exhibiting reel, which consists of said shaft and a number of polygonal disks 30 and 31 mounted thereon. As is clearly shown in Fig. 3 of the drawings the disks 30 are mounted on the shaft 29 near its ends, and each of the same is provided at the apex of each of the angles thereon with a stud or projection 32 which are for the purpose of engaging openings 33 formed in the sign-carrying apron 13 near each of its edges. The disk 31 is mounted on the shaft 29 at about its middle, and is for the purpose of holding the portion of the apron 13 between the disks 30 taut, and, together with the disks 30, for presenting that portion of the apron on which the name of the street or station to be displayed through the opening 11 in the casing in parallelism with the front of the casing and directly behind the opening therein.

As shown in Figs. 2 to 5, inclusive, the shaft 29 is extended through each of the plates 20 and 24, and has mounted on its end adjacent to the plate 20 and externally of said plate one on the other a pair of ratchet wheels 34 and 35, the teeth of which are inclined in opposite directions.

Mounted on the outer surface of the plate 20 is a slide 36, which is provided at its upper and lower ends with horizontally and forwardly extended arms 37, each of which is provided with a longitudinal slot 38 for the reception of a screw 39 secured to the plate 20. The rear portion of the slide 36 is provided with a rearward extension 36^a, which is held movably against the plate 20 by means of clips 40 secured to the plate 20 on each side of the extension 36^a and overlapping the same. Pivotally secured at one of their ends to the slide 36 are a pair of pawls 41 and 42 which, as shown in Figs. 2 and 5, are located above and below, respectively, the ratchet wheels 34 and 35, and each of said pawls is provided at its free end with an outwardly extended pin or projection 43 to engage the teeth of said ratchet wheels. Each of these pawls is pressed inwardly so that the pins or projections 43 will engage the teeth of the ratchet wheels by means of a spring 44, which is secured at one of its ends to the slide 36 and rests near its other end against the outer surface of one of said pawls. The pawl 41 with its pin 43 is arranged to engage the teeth of the ratchet wheel 34, or inner one, while the pawl 42 and its pin 43 is arranged to engage the ratchet wheel 35, or outer one.

Each of the pawls is provided on its outer surface between its ends with a projection 45, which projection is adapted to co-act with one end of a shifting-plate 46 which is movably and vertically mounted on the inner surface of a vertical bar 47 which is secured at its ends to the outer surface of the plate 20 rearwardly of the said ratchet wheels. This bar is provided at about its middle with a slot 48, which is contracted at about its middle as shown in Fig. 7 of the drawings, and which slot is for the reception and operation of a portion of a knob or handle 49 which is extended through an opening in the casing 10, as well as through the slot 48 and an opening in the shifting-plate 46, and has on its inner end a spring 50 which bears against the inner surface of the shifting-plate 46 and normally holds it in its projected position, or so that the shoulder 51 with which it is provided will rest against the outer surface of the bar 47. When it is desired to shift the position of the plate 46 so as to throw one of the pawls 41 or 42 out of engagement with its ratchet wheel and allow the other pawl to be pressed into engagement with its ratchet wheel by means of the spring on said pawl, the handle 49 may be drawn outwardly until the reduced portion 52 thereof is located in the slot 48 of the bar 47, when it is apparent the handle may be shifted from one end of said slot to the other, which operation will shift the plate 46 from one of the projections 45 on one of the pawls to the projection on the other pawl, thus holding the last-named pawl out of engagement with its ratchet wheel.

Secured at one of its ends to the rear portion of the extension 36^a of the slide 36 is a spring 53, which has its other end secured to the plate 20 near the ratchet wheels. Fulcrumed on the outer surface of the plate 20 above the extension 36^a of the slide 36 is a bell-crank-lever 54, the longer or lower arm of which is adapted to engage a pin or projection 55 on the extension 36^a to which projection the rear end of the spring 53 may be secured. The shorter or upper arm of the bell-crank-lever 54 is extended toward the back of the casing 10, and is adapted to engage one end of an operating lever 16, which is fulcrumed, as at 56, to the back of the casing and is extended to about the middle thereof, and has on its inner end an outward extension 15 which is passed through a slot 14 in the back of the casing and is

adapted to be engaged by a projection 57 on a rod or bar 58, which may be movably mounted in any suitable manner on the car or support 60 for the casing.

The rod or bar 58 may be operated in any suitable manner by the conductor or motorman, so that when the same is moved to the position shown in Fig. 5 the shorter arm of the bell-crank-lever will be raised through the medium of the operating lever 16, which operation will retract the parts from the position shown in Fig. 2 to that shown in Fig. 5 of the drawings.

Mounted on that end of the shaft 29 which is extended through the plate 24 and on the outer surface of said plate is a polygonal disk 61 which corresponds in shape to the disks 30 and 31 on said shaft. On the outer surface of the plate 24 and rearwardly of the disk 61 is located a plate 62, which is provided at its upper and lower portions, as well as at its rear part, with slots 63 to receive screws 64 used for movably mounting said plate on the plate 24. The front edge of the plate 62 is vertically arranged and adapted to rest against the disk 61, and is held thereagainst by means of a spring 65, which is secured at one of its ends to the plate 24 and is connected at its other end to a pin 66 on the rear portion of the plate 62. Journaled on the outer surface of the plate 24 and at about the middle thereof is a gear 19 which is provided with a handle 18 to be used for turning the same. This gear meshes with pinions 67, one of which is mounted on each of the shafts 25 and 26, and each is frictionally held thereon by means of a screw 68 which engages the shaft on which the pinion is mounted and a spring 69 which is located in a recess 70 in the face of the pinion and engages the latter at its edges while engaging the screw at its middle or center.

From the foregoing and by reference to the drawings it will be readily understood and clearly seen that, as the apron 13 which has the names of the streets or stations displayed thereon at suitable distances apart to be exposed successively through the opening 11 of the casing is secured at each of its ends to the rollers 27 and 28 and is passed over the disks 30 and 31 of the exhibiting reel the rollers 27 and 28 will act alternatively as supply and receiving rollers, that is, the apron will be unwound from one roller and wound on the other, which operation will be performed by the motorman or conductor through the medium of the operating lever 16, bell-crank-lever 54, slide 36, pawls 41 and 42, and ratchet wheels 34 and 35, as before explained.

While I have shown the movable bar or rod 58 with the extension 57 thereon engaging the extension 15 on the operating lever 16 as a convenient means for operating said lever, yet it is apparent that other means may be employed for this purpose.

As the shaft 29 is rotated by reason of the engagement with one of the ratchet wheels thereon of one of the pawls carried by the slide, it is apparent that the polygonal disk 61 on the opposite end of the shaft from that on which the ratchet wheels are located will be turned with said shaft, and in so doing it will, by reason of its angular construction, force the spring-pressed plate 62 rearwardly until one of the faces of the disk 61 is brought into alinement with the front portion of the plate 62, in which position the disk 61 will be firmly held by means of said plate.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters-Patent, is—

In a street-indicator, the combination with a casing having an opening in its front portion, of a pair of rollers journaled therein one above the other, an exhibiting reel journaled in the casing at the rear of the opening therein, an apron having the names of streets or stations displayed thereon and extended over the exhibiting reel and having its ends connected to said rollers, a pair of ratchet wheels having oppositely disposed teeth mounted on one end of the shaft of the exhibiting reel, a spring-actuated slide movably supported near said wheels and having a part to engage one of the arms of a bell crank lever, an upper and lower spring-pressed pawl pivotally secured at one of their ends to the slide and each having at its other end a projection to engage the teeth of the ratchet wheels, one of said pawls being adapted to operate the inner of said wheels in one direction and the other of said pawls adapted to operate the other of said wheels in the opposite direction, a bell-crank-lever adapted to engage with one of its arms said part on the slide, and means to operate said lever.

HENRY P. BRACE.

Witnesses:
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M. A. NYMAN.