

C. H. VICKERY.
STREET INDICATOR.
APPLICATION FILED JUNE 19, 1911.

1,030,355.

Patented June 25, 1912.
2 SHEETS-SHEET 1.

Fig. 1.

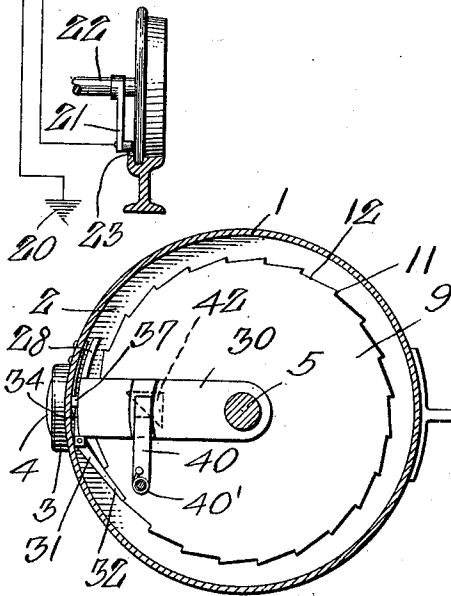
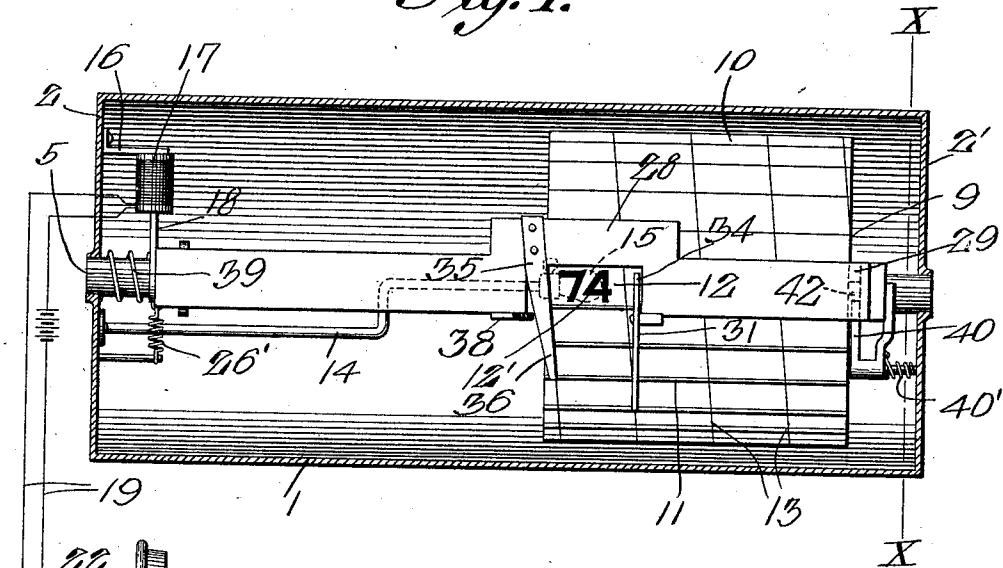
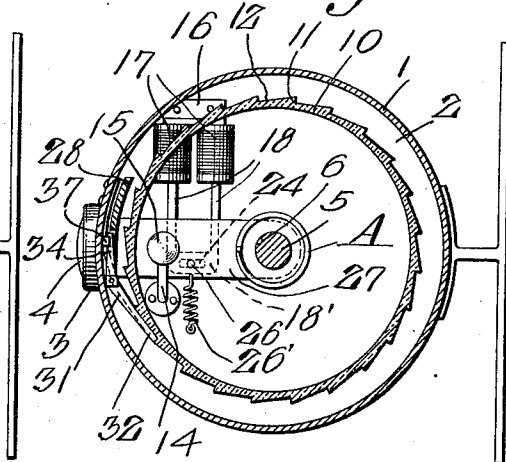


Fig. 4.

Witnesses

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Fig. 5.



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2 SHEETS-SHEET 2.

Fig. 2.

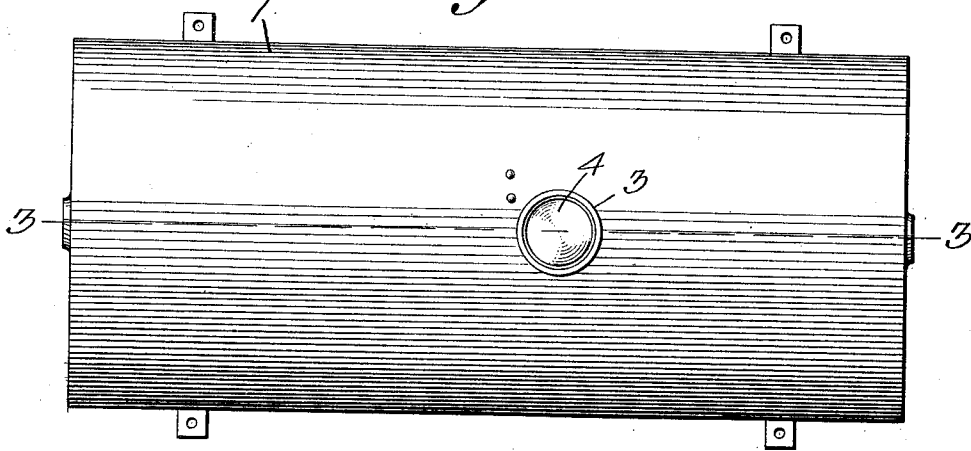
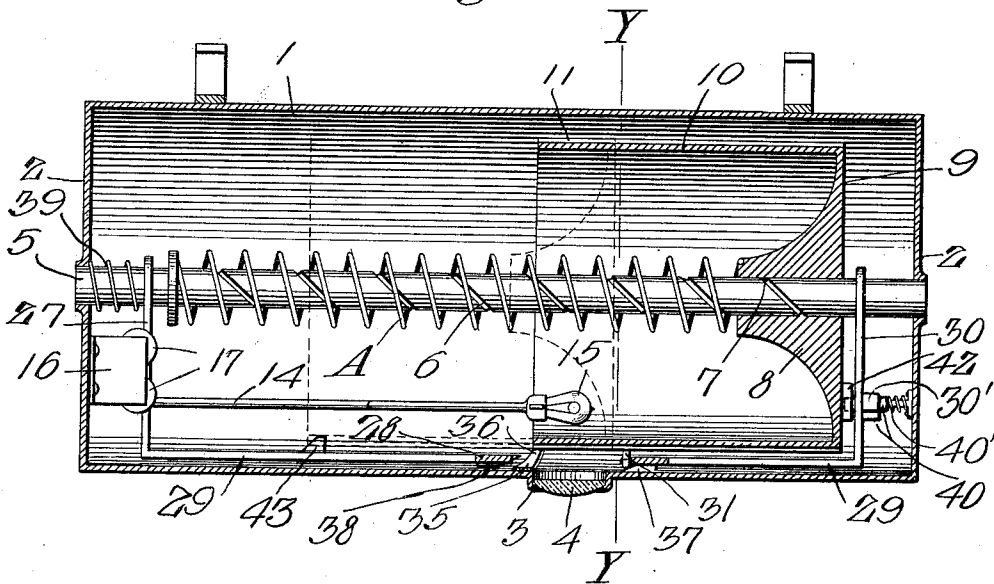


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES H. VICKERY, OF ATTICA, NEW YORK, ASSIGNOR OF ONE-FOURTH TO JEROME M. SLATER AND ONE-FOURTH TO LILLIAN M. SLATER, OF ATTICA, NEW YORK.

STREET-INDICATOR.

1,030,355.

Specification of Letters Patent.

Patented June 25, 1912.

Application filed June 19, 1911. Serial No. 633,950.

To all whom it may concern:

Be it known that I, CHARLES H. VICKERY, a citizen of the United States, residing at Attica, in the county of Wyoming and State of New York, have invented a new and useful Street-Indicator, of which the following is a specification.

This invention relates to improvements in indicators, the primary object of this invention being the provision of a mechanism adapted to be carried by the respective coaches or cars, and to be automatically controlled by an exterior means, to indicate the next stop or station, or street, giving a signal indication, and if necessary an alarm, the particular mechanism comprising a casing having mounted therein a cylinder provided with a series of peripheral exhibiting surfaces separated by shouldered portions or teeth, said drum being spring actuated and provided with a propelling and arresting ratchet co-acting with the teeth thereof combined with electromechanical means for operating the said pawls to rotate the drum or cylinder and visually exhibit the various streets or stations in succession.

A further object of this invention is the provision of an indicator, having a cylinder or casing mounted at a conspicuous place within the car or coach, having a concentrically and longitudinally disposed shaft upon which is slidably and rotatably mounted, an indicating drum normally under a spring tension, and held in such exhibiting position by means of mechanical devices, which are controlled by an exterior mechanism in the path of travel of the car or coach and so operated as to exhibit the next station or street, and when the drum has exhibited the last station, it is automatically returned to begin anew from the first station or street.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a longitudinal sectional view through the main casing showing an electrical circuit in diagram, and

the station or street exhibiting drum projected to its fullest extent, and just prior to returning. Fig. 2 is a front elevation of the main casing. Fig. 3 is a section taken on the line 3—3 of Fig. 2, the dotted lines indicating the position of the drum when beginning the exhibiting of the stations or street. Fig. 4 is a cross section taken on line X—X of Fig. 1. Fig. 5 is a cross section taken on line Y—Y of Fig. 3.

Referring to the drawings, the numeral 1 designates the main or surrounding casing, which is preferably made in a cylindrical form, the closed ends 2 and 2', having a concentric bearing therein, said casing being further provided with the flanged aperture 3, for the reception of the magnifying lens 4, through which the streets or stations are visually displayed.

Mounted longitudinally and concentrically of the casing 1 within the head 2, is a fixed cylindrical shaft 5 provided with the spiral groove 6, in which fits a pin or stud 7 carried by the hub 8 of the disk 9, said disk 9 carrying the cylinder or drum 10, which is made of a transparent or translucent material. The surface of this drum or cylinder 10 is provided with the ribs or shouldered portions 11 which constitute ratchet teeth upon the exterior of the drum, and provide the flat surface portions 12, upon which are attached or painted the signs as 12', as clearly shown in Fig. 1. The spiral lines 13 shown upon the cylinder or drum 10 in Fig. 1, represent the line of travel of the said drum 10 upon the shaft 5 from the dotted line position as shown in Fig. 3, to the position as shown in Figs. 1 and 3.

Mounted or secured to the inner face of the drum 2 of the casing 1, is a bracket or support 14, which carries at its extreme inner end an electric light or lamp 15, which is disposed in line with the lens 4, within the drum 10, so that the radiance from said light, will be to the rear of the signs 12', in line with the lens 4, and permit a name to be visually read through the lens 4 at any point within the car or coach.

Mounted through the interior of the head 2 of the casing 1 near the upper portion thereof, is a bracket 16, carrying a pair of electromagnets 17, whose armatures 18, extend downwardly and are bridged or connected together by means of the plate 18', provided with a slot 24, as indicated in Fig. 110

5. Connected to the electromagnet 17, and leading to any source of electric supply, are the conductors 19, in this case one of which is connected to the ground 20, and to the arm 21, carried by the axle 22, and when the arm 21 engages the contact point 23, the electromagnets 17 are energized, lifting their armatures 18, and consequently the slotted bar or bridging member 18', the slot 24 engaging the pin 26 carried upon the arm 27, raising said arm and its U-shaped portion 28, its other terminal 29, and the short arm 30, both of the terminals of said arms 27 and 20 being journaled upon the shaft 5, so that the entire frame may be oscillated for the purpose hereinafter to be described. Carried by the arm 30 upon the outer side thereof is a lug 30', which when the frame is in normal position, the terminals of the pawl 40 will straddle the frame and also the lug 30', the pawl 40 in this position acting so as to prevent and hold the frame against movement to the right and against the tension of the spring 39 which is disposed upon the shaft 5 between the end of the casing 2 and the arm 27. This feature is clearly illustrated in Fig. 1 and 3.

The spring 40' of the pawl 40 normally holds the pawl in the position as shown in Fig. 4, but said pawl is so mounted as to permit of a movement to and from the lug 30'. Carried upon the closed end 9 of the drum 10 is a wedge shaped lug 42, which when the drum is in the position as shown in Figs. 1 and 3 will engage the inner terminal of the pawl 40 and thus move the pawl 40 so that its terminal upon the outer face of the lug 30' will be moved out of engagement therewith to the left as viewed in Fig. 4 so that the spring 39 will move the frame to the right the distance of the projection of the lug 30' from the arm 30.

As the arms 27 and 30 are raised due to the energization of the electromagnet 17, the pawl 31 carried by the connecting portion 28 of the frame will be raised to traverse the drum 10 the distance between the respective teeth 11 thereof, the engaging end 32 of said pawl 31 being normally held toward the drum at all times. In order to lock the drum against a retrograde movement during the raising of the frame and the pawl 31, a pawl 36 is connected at 35 to the inner surface of the main casing 1 and is disposed to engage the periphery of the drum, and one of the teeth 11 thereof, and thus lock the drum as before stated against a retrograde movement.

The pawl 31 is provided with an upper free end 34, while disposed upon the wall of the casing 1 is a projection 37 which is in the path of to engage the end 34 of the pawl 31, as will later appear, to release the pawl 31 from the drum. Carried by the frame 27—28 and 29 is a projection 38 which is the

means for releasing the arresting pawl 36 from the drum 10 as will presently appear.

Mounted upon the inner face and carried by the connecting plate 28 of the frame is a lug 43, which is disposed in the path to be engaged by the edge of the open end of the drum 10 as will presently appear.

From the foregoing description taken in connection with the drawings, the operation of the indicator will be clearly understood but briefly stated is as follows: Presuming the drum 10 to be in the dotted line position Fig. 3, and that the electromagnet is being energized due to the closing of a circuit, the frame 27, 28 and 29 will be raised and carry with it the pawl 31, the pawl 36 which is now in engagement with one of the teeth 11 of the drum 10 will lock the drum against movement while the pawl 31 is being lifted and placed in engagement with the tooth 11 above. The deenergization of the electromagnet will release the frame and the spring 26', will move the frame downwardly and due to the pawl 31 engaging one of the teeth 11 of the drum 10, will move the drum circumferentially the distance of one tooth 11 and cause the drum to move out of engagement of the arresting pawl 36 to another tooth engaged thereby and thus retain the drum in the desired position. This rotating action of the drum due to the spiral groove 6 and the pin 7 will impart a movement to the drum from left to right as viewed in Figs. 1 and 3 and finally bring the drum to the full line positions therein. The spring 39 has a natural tendency to move the frame to the right so that the arm 30 and its lug 30' when seated between the terminals of the pawl 40 will hold the frame in position so that the pawls 31 and 36 will not be moved from engagement with the drum. As the drum 10 approaches the arm 30 of the frame, its wedge-shaped lug 42 will engage the inner free end of the pawl 40 and move the same outwardly so that the outer free end of the pawl 40 will be moved from contact with the lug 30' and thus permit the spring 39 to move the frame to the right the distance of the projection of the lug 30'. This action will bring the projection 38 into engagement with the pawl 36, releasing said pawl from the surface of the drum 10 and the free end 34 of the pawl 31 will be placed in engagement with the projection 37, thus releasing the pawl 31 from engagement with the drum 10, which due to the spring A and the groove 6 and pin 7, will be moved from full line position Fig. 3 to the dotted line position and have imparted thereto a simultaneous rotating movement and thus be placed in reset position.

As the open free end of the drum 10 approaches the projection 43 upon the frame, the projection 43 is engaged and the frame is moved to the left against the tension of

the spring 39 the distance of the projection of the lug 30', at which time the spring 40' of the double terminal pawl 40 will move the pawl 40 so as to place it astride of the frame 5 30 and lug 30' and thus lock the frame in reset position with the respective pawls 31 and 36 free to engage the periphery of the drum 10 and teeth 11 thereof, to lock the drum against the tension of the spring A, 10 and thus place the parts in the position for another exhibiting operation.

What is claimed is:

1. In an indicator, the combination of a surrounding casing, a stationary shaft 15 mounted therein, a drum mounted thereon carrying a series of peripherally disposed exhibits and having a toothed surface, coacting means carried by the shaft and drum to impart to the drum a spiral movement when the said drum is rotated upon the shaft, 20 electromagnetically operated and spring-returned means disposed upon the shaft in operable relation with the surface of said drum for imparting to the drum a rotary 25 movement, a spring disposed upon the shaft and operably connected to the drum, said spring being wound as the drum is rotated and has a spiral movement imparted thereto, and means for releasing the electromagneti- 30 cally operated and spring-returned means to permit the drum to be rotated in a reverse direction and returned to "reset" position.

2. In an indicator, the combination of a surrounding casing provided with an exhibit- 35 ing aperture, a shaft fixedly mounted concentrically thereof, a drum mounted for rotation upon said shaft, coacting means carried by said drum and shaft for causing the drum to move spirally upon the shaft when 40 rotated, said drum being provided with a series of peripheral shoulders, an electromechanically operated frame disposed upon the shaft and having means engaging the shouldered portion of the drum to rotate said 45 drum, means for releasing said electromechanically operated means to permit the drum to return to "reset" position, and means for returning the drum to "reset" position when released.

3. In an indicator, the combination of a 50 surrounding casing provided with an exhibiting aperture, a shaft fixedly mounted concentrically thereof, a drum mounted for rotation upon said shaft, co-acting means 55 carried by said drum and shaft for causing the drum to move spirally upon the shaft when rotated, said drum being provided with a series of peripheral shoulders, an electromechanically operated U-shaped frame hav- 60 ing its terminals disposed upon the shaft and its intermediate portion provided with

means for engaging the shouldered portion of the drum to rotate said drum, means for releasing said electromechanically operated means to permit the drum to return to 65 "reset" position, and a spring mounted upon the shaft and connected to the drum for returning the drum to "reset" position when released.

4. In an indicator, the combination with 70 a source of electrical energy, and means for completing a circuit, of an indicator having a casing, a shaft mounted therein, a drum mounted for rotation upon said shaft with- 75 in the casing, co-acting means carried by the shaft and drum for imparting to the drum a spiral movement when rotated, an electro- magnet in said circuit, a frame pivoted upon the shaft, means carried thereby operably 80 engaged with the drum, a spring for actuating said frame in opposition to the electro- magnet, said spring and electromagnet operating the frame to rotate the drum, a series of exhibits carried upon the periphery 85 of the drum, means for releasing the frame to permit the drum to return to "reset" position, and means for returning the drum to "reset" position when released.

5. In an indicator, the combination with 90 a source of electrical energy, and means for completing a circuit, of an indicator having a casing, a shaft mounted therein, a drum having a series of peripheral teeth mounted for rotation upon said shaft within the cas- 95 ing, co-acting means carried by the shaft and drum for imparting to the drum a spiral movement when the drum is rotated, a frame pivoted upon the shaft, and spanning the drum, said frame being capable of a radial and oscillatory movement with re- 100 lation to the drum, a pawl carried thereby operably engaged with the teeth of the drum, an electromagnet in said circuit and oper- ably connected for moving the frame, a spring for actuating said frame in opposi- 105 tion to the electromagnet, said spring and electromagnets operating the frame, to rotate the drum, a series of exhibits carried upon the periphery of the drum, means for releasing the frame to permit the drum to 110 return to "reset" position, and a spring mounted upon the shaft and connected to the drum for returning the drum to "reset" position.

In testimony that I claim the foregoing 115 as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES H. VICKERY.

Witnesses:

EDWIN C. ADAMS,
ELMORE S. VICKERY.