J. G. EVANS.

STATION INDICATOR.

APPLICATION FILED APR. 25, 1912.

1,064,304.

Patented June 10, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

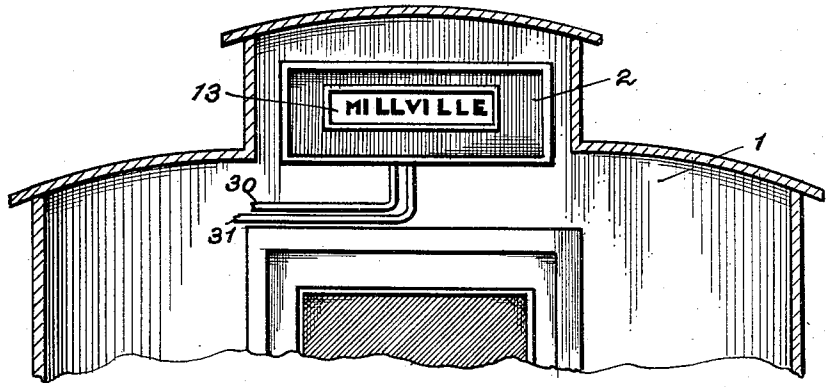
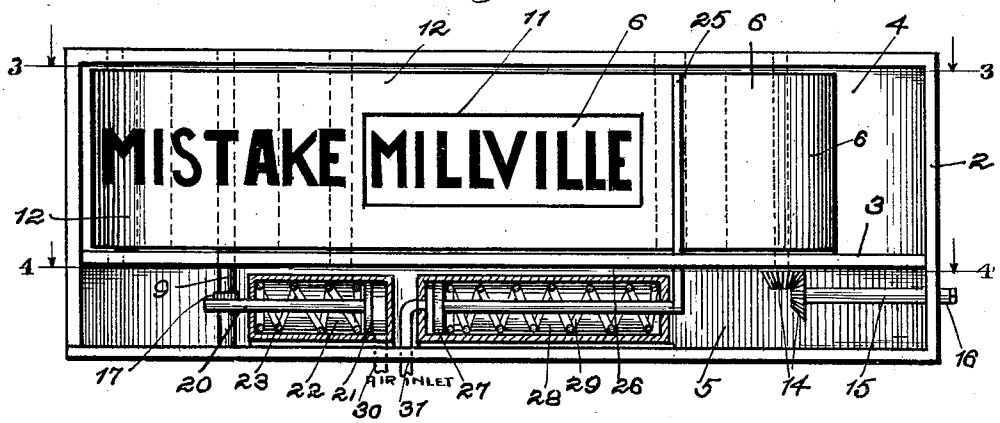


Fig. 2.



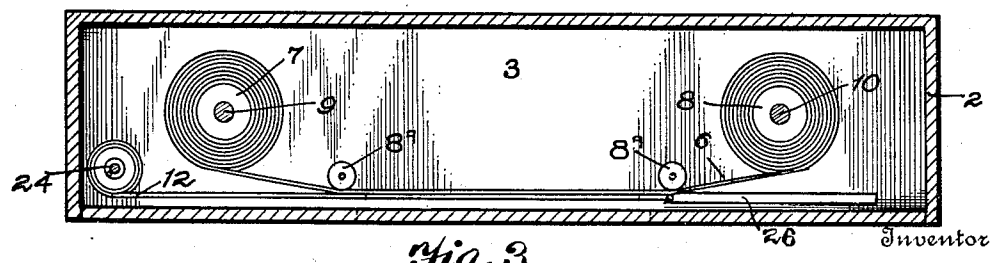


Fig. 3.

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2 SHEETS—SHEET 2.

Fig. 4.

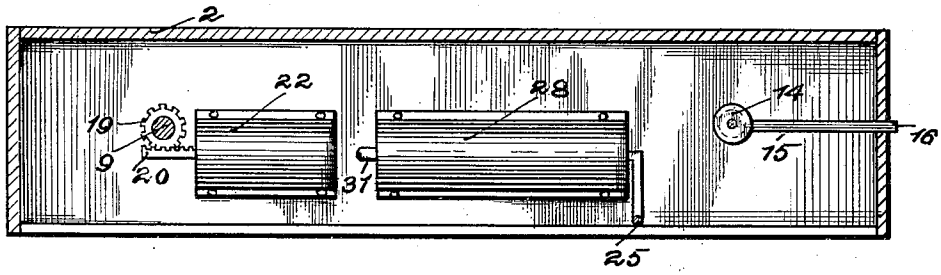


Fig. 5.

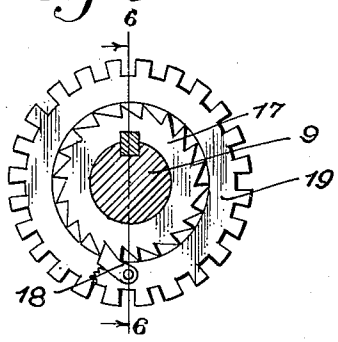


Fig. 6.

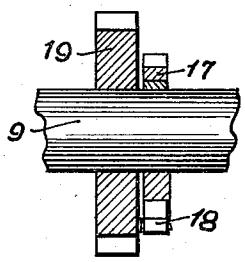


Fig. 7.

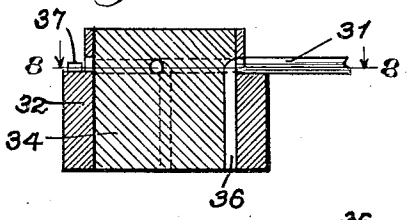
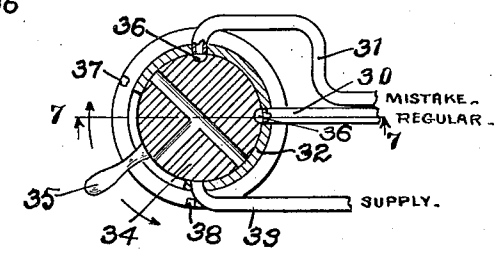


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOHN G. EVANS, OF MILLVILLE, NEW JERSEY, ASSIGNOR OF ONE-THIRD TO WADSWORTH CRESSE, OF PITMAN, NEW JERSEY.

STATION-INDICATOR.

1,064,304. Specification of Letters Patent. Patented June 10, 1913.

Application filed April 25, 1912. Serial No. 693,096.

To all whom it may concern:

Be it known that I, JOHN G. EVANS, a citizen of the United States, residing at Millville, in the county of Cumberland and State of New Jersey, have invented certain new and useful Improvements in Station-Indicators, of which the following is a specification.

My invention relates to improvements in station indicators, the object of the invention being to provide a device of this character adapted to be positioned in a car and operated by either the motorman or conductor to display the names of stations so that the passengers can always tell the station the car is approaching.

A further object is to provide improved mechanism for operating the device, and an improved arrangement of parts, whereby a mistake may be corrected.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claim.

In the accompanying drawings: Figure 1, is a fragmentary end view of a car illustrating my improvements. Fig. 2, is a view partly in elevation of the indicator with the front removed and showing the cylinders in longitudinal section. Fig. 3, is a view in horizontal section on the line 3—3 of Fig. 2. Fig. 4, is a view in longitudinal section on the line 4—4 of Fig. 2. Fig. 5, is a view in section on an enlarged scale illustrating the pinion and ratchet wheel connection. Fig. 6, is a view in section on the line 6—6 of Fig. 5. Fig. 7, is a view in vertical section on the line 7—7 of Fig. 8, and Fig. 8, is a view in horizontal section on the line 8—8 of Fig. 7.

1, represents a car and 2 the rectangular casing of my improved station indicator which is preferably located in the end of the car as illustrated. The casing 2 is divided by a horizontal partition 3 into an upper sign compartment 4, and a lower cylinder compartment 5. In the upper compartment 4, an apron 6 is wound at its ends upon drums 7 and 8. Said apron is secured to the drums and the latter are secured to shafts 9 and 10 respectively, projecting into the compartment 5 below. The apron 6 contains the names of the stations which are exposed through an opening 11 in a curtain 12, and through an opening or transparent portion 13 in the front of casing 2, and this apron is held in proper position at the point of exposure by idle rollers 8^a. The shaft 10 is connected by beveled gears 14 with a winding shaft 15, and the latter projects through the end of the casing and has an angular key receiving end 16 to receive an ordinary key (not shown) to wind the apron on the drum 8.

The shaft 9 in compartment 5 has a ratchet wheel 17 keyed thereto and engaged by a spring-pressed pawl 18 on a pinion 19, the latter loose on shaft 9 and meshing with the teeth of a rack bar 20. This rack bar 20 constitutes a piston rod which is secured to a piston 21 in an air cylinder 22, said piston normally held in one end of the cylinder by a coiled spring 23.

The curtain 12 above referred to is wound upon and secured at one end to, a spring roller 24 and the free end of the curtain is secured to a post 25, the latter projecting through a slot 26 in partition 3, and secured to a piston 27. The piston 27 is mounted in an air cylinder 28, and is normally held in one end of the cylinder by means of a coiled spring 29. The curtain 12 contains the word "Mistake," and this curtain is only moved in the event the operator makes some mistake in the operation of the indicator.

If, for example, the name of a station is displayed, and for some reason the car comes to a stop at some other station or before it reaches the station, the curtain will be operated to indicate the word "Mistake" and cover the name of the station by moving the curtain longitudinally as will now be explained. With cylinder 22, an air pipe 30 communicates and an air pipe 31 communicates with the end of cylinder 28. These air pipes 30 and 31 extend to a point in convenient reach of the motorman or conductor, and terminate in a valve casing 32. An air supply pipe 33 also communicates with this valve casing, and supplies the necessary air. In the casing 32, a three-way valve 34 is located, and is provided with a handle 35 to move the same.

By reference particularly to Figs. 7 and 8, it will be seen that the pipes 30 and 31 normally register with exhaust ports 36 in valve 34. The valve is shown in Fig. 8 in normal position, and its movement in either direc-

tion is limited by stops 37 and 38 respectively. If the sign is to be changed, the arm 35 will be swung into engagement with the stop 38. This will connect the air supply 33 with pipe 30, and the air will compel the piston 21 to move and cause the apron to move through the medium of the pinion 19, pawl 18, ratchet wheel 17, and shaft 9. When the valve is returned to the position shown in Fig. 8, the air in the cylinder may readily escape through the exhaust port 36, and the spring 23 will return piston 21 to normal position during which operation the pawl 18 will ride over the teeth of ratchet wheel 17. If for any reason a mistake has been made in the sign, or if the car stops at a point which is not the station indicated, the operator throws the handle 35 in engagement with stop 37. This connects the supply 33 with pipe 31, and piston 27 is caused to move so as to move the curtain 12 longitudinally and position the word "Mistake" at the opening or transparent portion of the indicator. This apron will remain in this position until the valve 34 is returned to normal position when the air in the cylinder 28 will exhaust through the exhaust port 36, and the spring 29 will return the piston to its former position, the apron in the meantime winding upon spring roller 24.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claim.

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

In combination, a station indicator, a movable apron in the indicator containing the names of stations, an apron containing the word "Mistake" and adapted to be moved across the station name on the apron, cylinders, pistons in said cylinders controlling the movement of the apron and the curtain, springs in said cylinders normally holding the pistons in one position, an air supply pipe, a valve casing, pipes connecting the valve casing with the respective cylinders, a valve in said casing constructed to connect the supply pipe with either of the cylinder pipes, and exhaust ports in said valve normally registering with the cylinder pipes, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN G. EVANS.

Witnesses:
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C. R. ZIEGLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."