

No. 828,376.

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F. J. BRINE.
ANNUNCIATOR APPARATUS.
APPLICATION FILED DEC. 11, 1905.

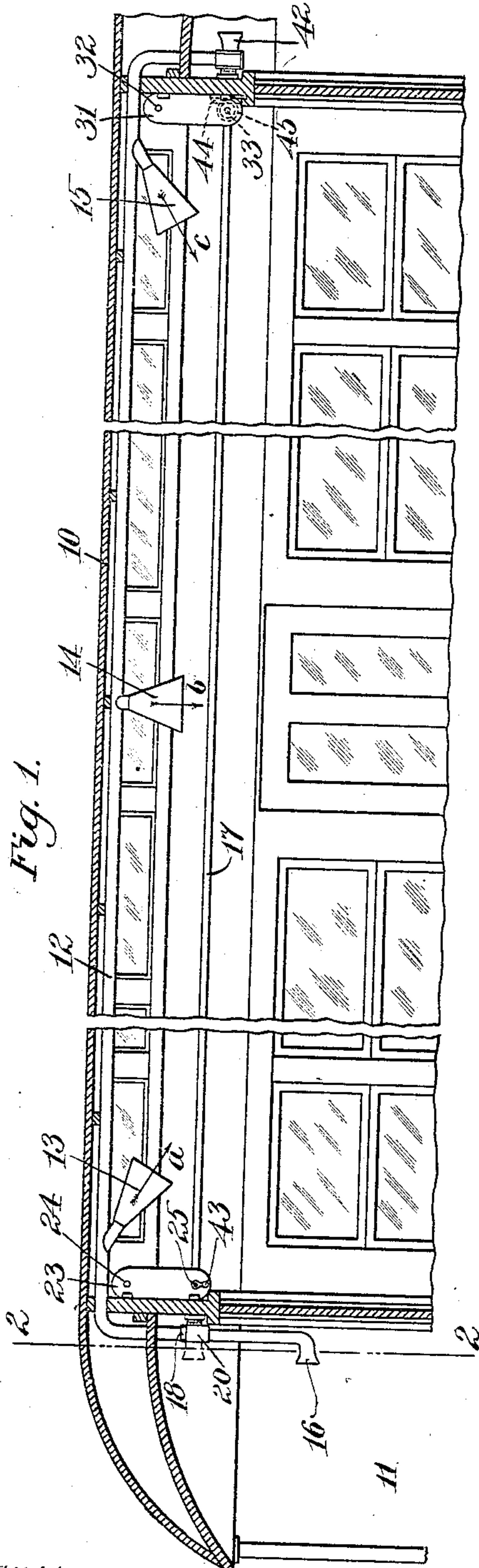


Fig. 1.

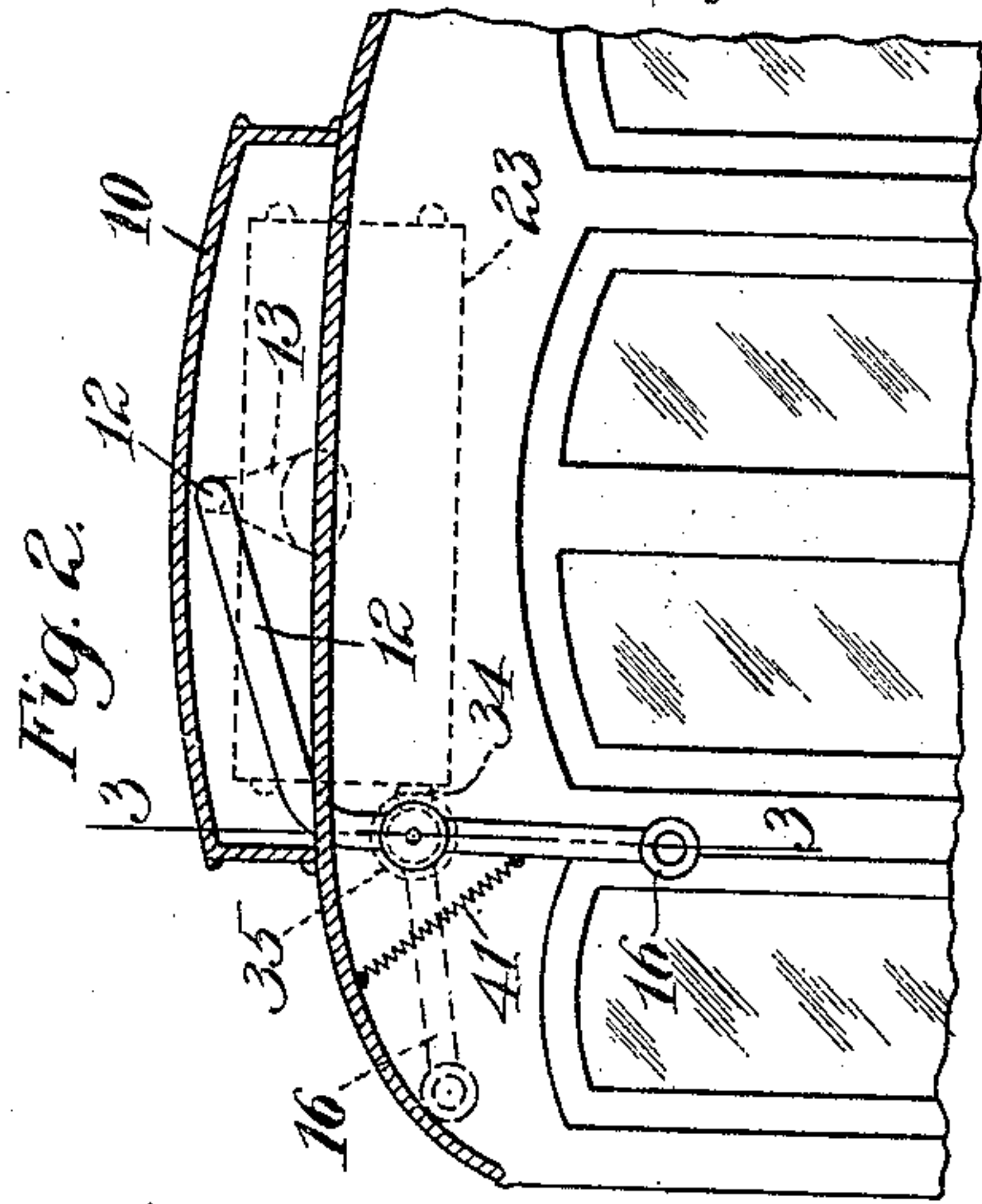


Fig. 2.

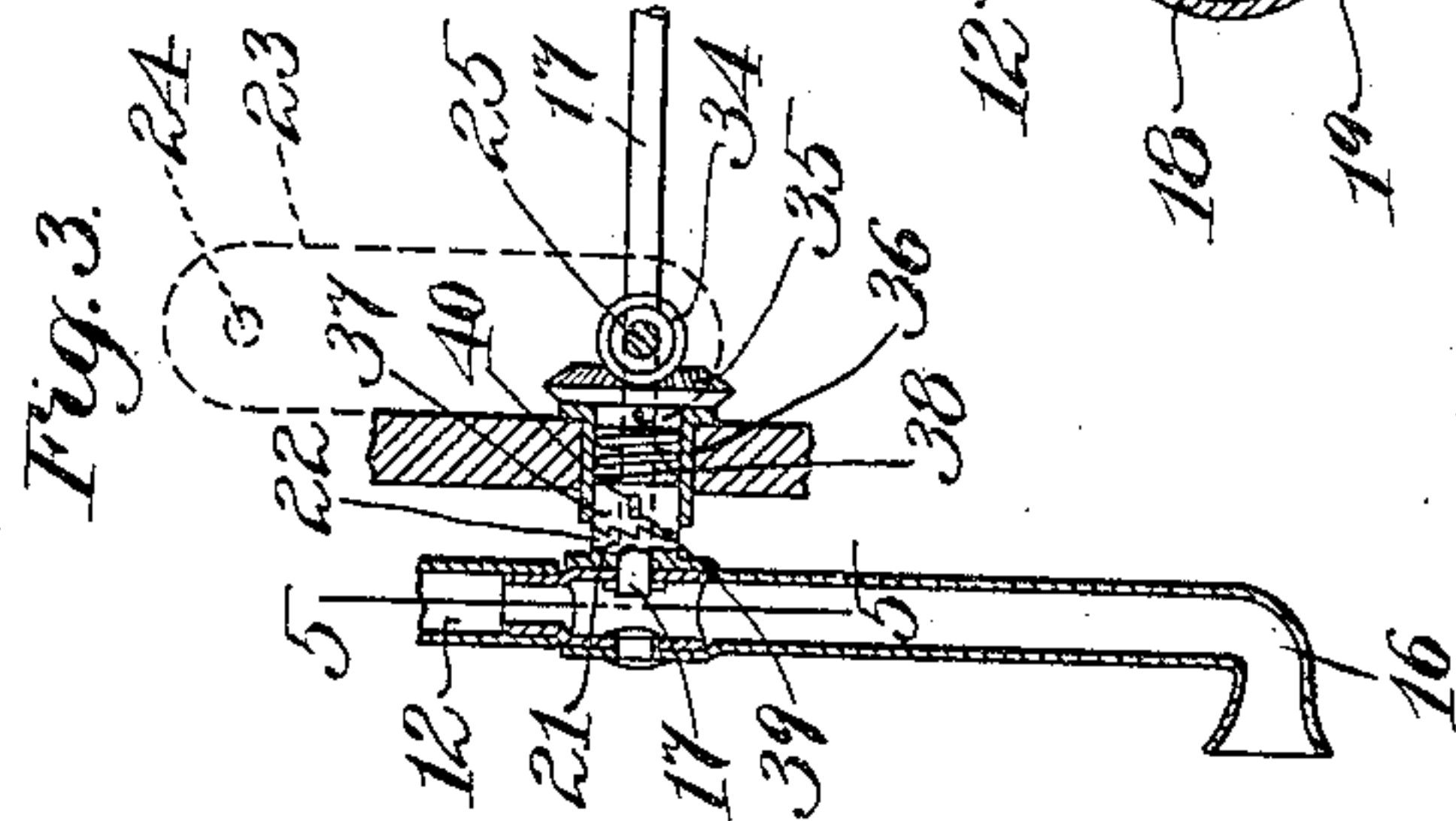


Fig. 3.

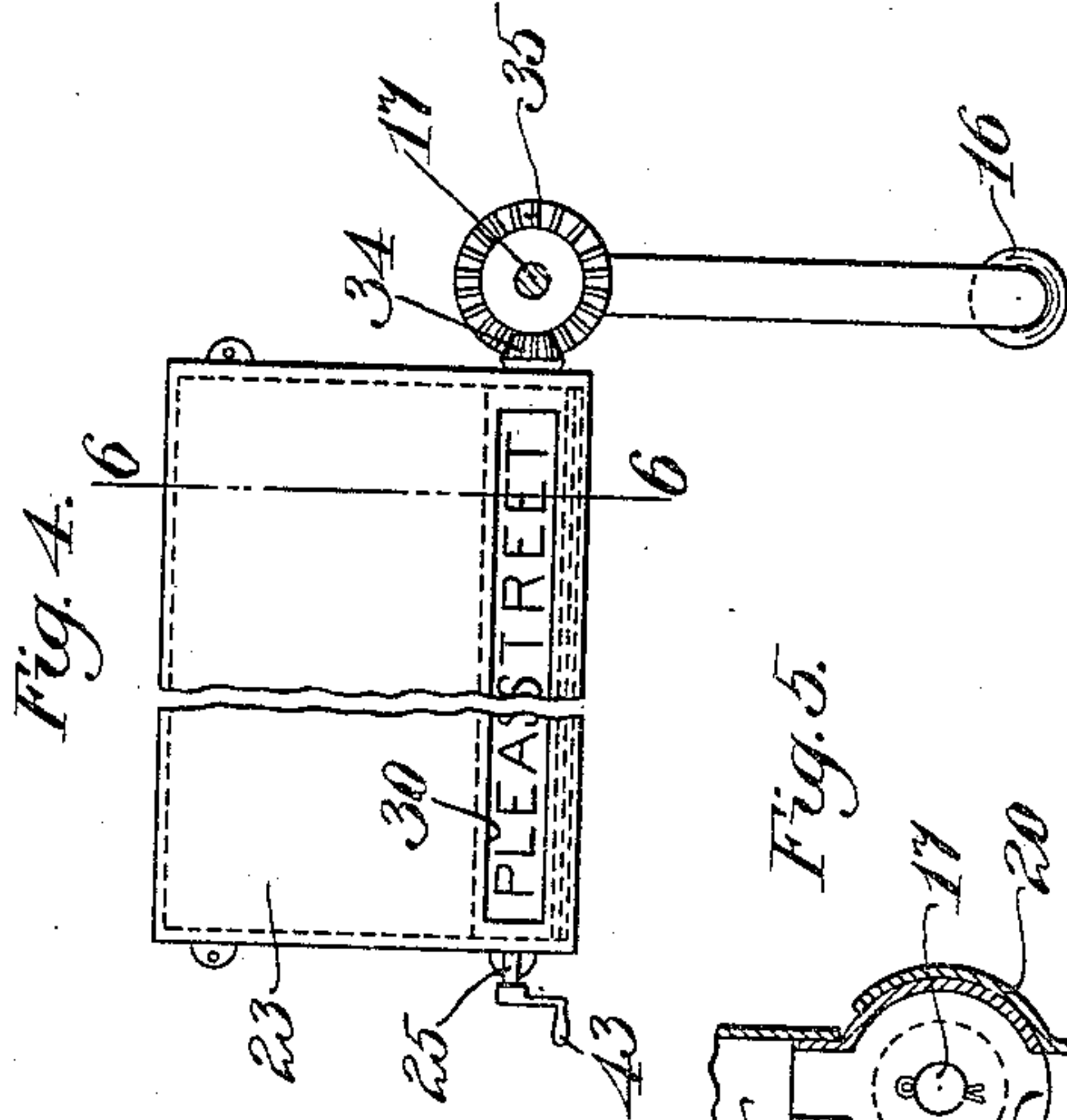


Fig. 4.

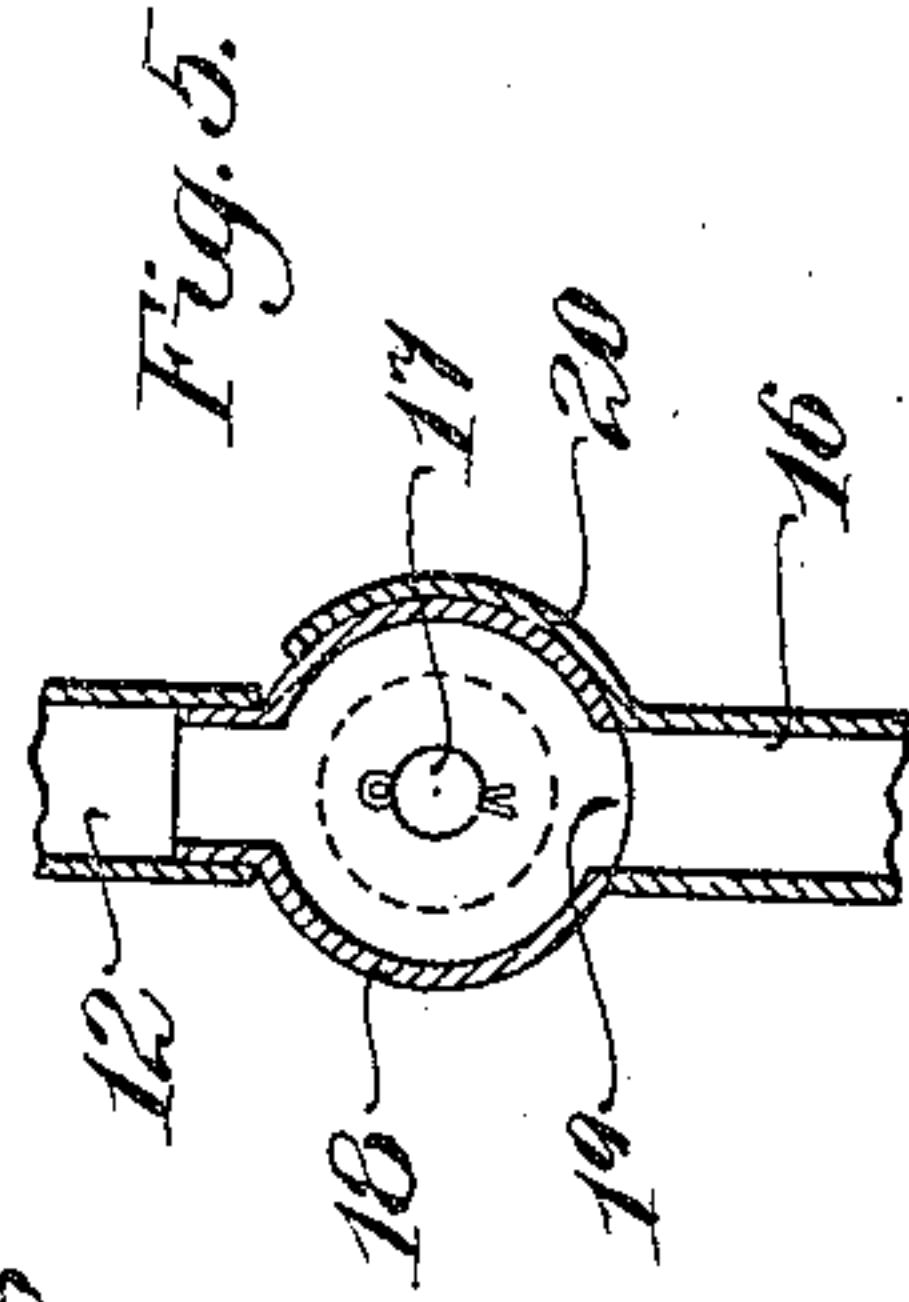


Fig. 5.

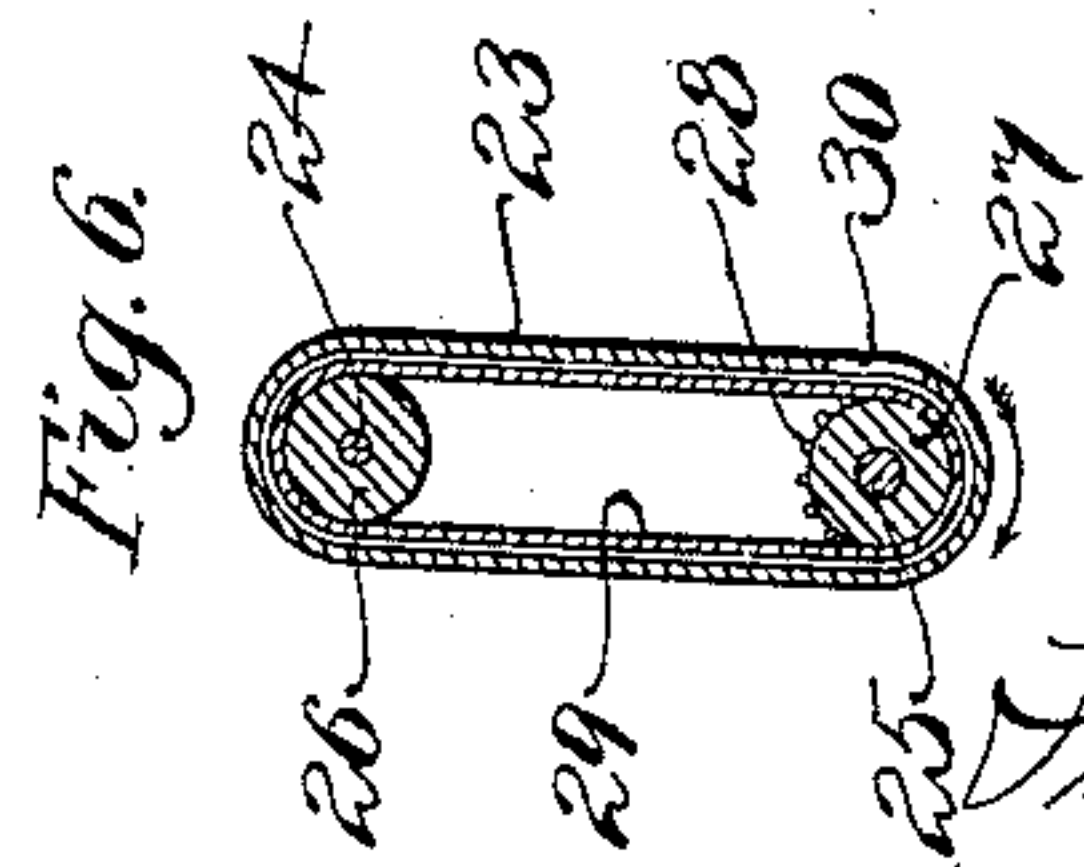


Fig. 6.

Witnesses:

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UNITED STATES PATENT OFFICE.

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ANNUNCIATOR APPARATUS.

No. 828,376.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed December 11, 1905. Serial No. 291,229.

To all whom it may concern:

Be it known that I, FRANCIS J. BRINE, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Annunciator Apparatus, of which the following is a specification.

This invention relates to an annunciator apparatus which combines means by which persons may be notified of an event orally and means by which they may be notified visually.

The objects of this invention are, first, to provide a changeable or movable sign within a car and means for conveying spoken announcements to various parts of said car, so constructed and arranged that passengers in said car may clearly understand the name of a station prior to the arrival of said car at said station, and, second, to provide a changeable or movable sign within a car and means for conveying spoken announcements to various parts of said car so constructed and arranged that the conductor or brakeman making the announcement cannot make himself heard within said car without having previously changed said sign.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings, Figure 1 is a longitudinal section, partly in elevation, of a car, showing my improved annunciator apparatus shown therewith, said car being partly broken away. Fig. 2 is a section, partly in elevation, on line 2 2 of Fig. 1 looking to the right in said figure. Fig. 3 is a detail section, partly in elevation, on line 3 3 of Fig. 2 looking toward the left in said figure. Fig. 4 is a detail elevation of the movable sign, partly broken away, the oscillatory mouthpiece and mechanism operatively connecting said sign to said mouthpiece. Fig. 5 is a detail section, partly broken away, on line 5 5 of Fig. 3 looking toward the right in said figure. Fig. 6 is a detail section on line 6 6 of Fig. 4 looking to the right in said figure.

In the drawings, 10 is a car-body of any usual construction provided with a vestibule 11.

12 is a speaking-tube provided with megaphones 13, 14, and 15.

16 is a mouthpiece pivoted to a shaft 17,

said shaft journaled to rotate in suitable bearings on the car-body 10.

A cylindrical valve-casing 18, connected to the speaking-tube 12, is provided with an orifice 19 and a segmental valve 20, formed integral with the mouthpiece 16, is adapted to open and to close the orifice 19 when said mouthpiece is rocked upon the shaft 17. A hub 21 of the mouthpiece 16 is provided with a ratchet 22, formed integral therewith. A sign-casing 23 is mounted upon the left-hand end of the car-body 11 and is provided with shafts 24 and 25, each provided with suitable bearings at opposite ends, respectively, of said sign-casing. A roll or pulley 26 is fast to the shaft 24, and a similar roll 27 is mounted upon the shaft 25. The roll 27 is preferably provided with teeth 28, which are adapted to engage an endless belt 29, said endless belt extending around and connecting the rolls 26 and 27.

The endless belt 29 is provided with a plurality of signs lettered upon the exterior surface thereof, said signs adapted to register one at a time with an opening 30 in the sign-casing 23. A sign-casing 31, identical in construction with the sign-casing 23, is provided with shafts 32 and 33, journaled to rotate in suitable bearings in said casing. The sign-casing 31 is provided with rolls and an endless belt identical in construction with those within the sign-casing 23. The shaft 25 is provided with a bevel-pinion 34 fast thereto and meshing into a bevel-gear 35, said bevel-gear provided with a bushing 36 integral therewith, said bushing adapted to rotate in a suitable bearing in the car-body 10.

A ratchet 37, surrounding the shaft 17, is adapted to engage the ratchet 22 and is normally held in engagement with the ratchet 22 by a helical compression-spring 38. The ratchet 37 is held in a fixed relation radially to the shaft 17 by a pin 39 passing through the shaft 17 and engaging the slot 40 in said ratchet, said slot permitting a longitudinal movement of said ratchet with relation to the ratchet 22. A helical extension-spring 41, connected at one end to the car-body 10 and at the other end to the mouthpiece 16, is adapted to normally hold said mouthpiece in the position shown in dotted lines in Fig. 2.

When the mouthpiece 16 is in its normal position, as shown in dotted lines, Fig. 2, a segmental valve 20 covers the orifice 19 of the valve-casing 18, and when in said posi-

tion said valve is adapted to prevent sound-waves from passing through the speaking-tube 12 into the car. When said mouthpiece is swung to the position shown in full lines in said figure, the valve 20 uncovers the orifice 19. When the mouthpiece 16 is swung from its normal position to the position shown in full lines in Fig. 2, the ratchet 22, carried by said mouthpiece, acts to engage the ratchet 37 and rotate said ratchet 37, together with the mechanism hereinbefore described connected to said ratchet 37, a portion of a rotation.

When the mouthpiece 16 is released, the spring 41 acts to move said mouthpiece to its normal position, the ratchet 22 turning backward on the ratchet 37 during said movement. The ratio of the bevel-pinion 34 to the bevel-gear 35, the spacing of the signs upon the endless belt 29, and the movement of the mouthpiece 16 are such that each time that the mouthpiece 16 is swung from the position shown in dotted lines, Fig. 2, to the position shown in full lines, Fig. 2, the belt 29 is moved the proper distance to bring the next sign upon said belt into register with the opening 30 in the sign-casing 23.

A mouthpiece 42, connected to the speaking-tube 12 and identical in construction with the mouthpiece 16, is connected by mechanism identical with the mechanism hereinbefore described to an endless belt (not shown) contained within the belt-casing 31. The shaft 25 and the endless belt 29 may be moved in the direction of the arrow in Fig. 6 by a crank 43, fast to said shaft. The shaft 17 is provided with a bevel-gear 44, fast thereto, meshing into a bevel-pinion 45, fast to the shaft 33, and it will be seen that all movements of the shaft 25 will be communicated, through the bevel-gears 34 and 35, the shaft 17, and the bevel-gears 44 and 45, to the shaft 33, thereby moving both of the endless belts in unison.

The operation is as follows: A conductor or brakeman desiring to announce a station to the passengers within the car grasps the mouthpiece 16, swinging it from the position shown in dotted lines, Fig. 2, to the position shown in full lines, Fig. 3, thereby moving the endless belt 29 and bringing the name of said station into view behind the orifice 30, also uncovering the orifice 19 in a manner hereinbefore described. He then calls into the mouthpiece 16 the name of the station which the car is approaching and the sounds are conveyed through the speaking-tube 12 to the megaphones 13, 14, and 15, said megaphones directing said sounds in the direction indicated by the arrows *a*, *b*, and *c*, respectively. It will thus be seen that the sound-waves caused by the spoken announcement will be concentrated and that a considerable volume of sound will be delivered through each of the megaphones 13, 14, and 15 and that passen-

gers in all parts of the car will be able to clearly understand the words spoken by the brakeman or conductor. The signs will serve to show the name of the station to any persons who for any reason may not have heard the announcement of said station.

The mouthpiece 16 when in its normal position is so placed as to be considerably above the height of an average man's mouth, so that the conductor or brakeman is obliged to swing said mouthpiece into the position shown in full lines, Fig. 2, in order that he may speak into said mouthpiece, thus moving the endless belt 29 and bringing the next sign thereon into view behind the opening 30. The announcement may be made through either the mouthpiece 16 or the mouthpiece 42; but it is neither necessary nor desirable that the announcement should be made through both at the same time.

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

1. An annunciator apparatus, comprising in its construction, a speaking-tube, a movable mouthpiece therefor, a megaphone connected to said speaking-tube, and a changeable sign adapted to be operated by moving said mouthpiece.

2. An annunciator apparatus, comprising in its construction, a speaking-tube, two movable mouthpieces therefor, a megaphone located intermediate said mouthpieces, and a changeable sign adapted to be operated by moving one of said mouthpieces.

3. An annunciator apparatus, comprising in its construction, a speaking-tube, two mouthpieces therefor, a plurality of megaphones located intermediate said mouthpieces, and a plurality of changeable signs operatively connected to each other and to said mouthpieces.

4. An annunciator apparatus, comprising in its construction, a speaking-tube, a movable mouthpiece therefor, a megaphone connected to said speaking-tube, a valve located intermediate said mouthpiece and said megaphone adapted to be opened by moving said mouthpiece, and a changeable sign adapted to be operated by the movement of said mouthpiece simultaneously with the opening of said valve.

5. An annunciator apparatus, comprising in its construction, a speaking-tube, a movable mouthpiece therefor, a megaphone connected to said speaking-tube, a valve located intermediate said mouthpiece and said megaphone adapted to be opened by moving said mouthpiece, a changeable sign adapted to be operated by the movement of said mouthpiece simultaneously with the opening of said valve, and a clutch interposed between said valve and said sign.

6. An annunciator apparatus, comprising in its construction, a speaking-tube, an oscil-

latory mouthpiece therefor, a megaphone connected to said speaking-tube, a valve located intermediate said mouthpiece and said megaphone adapted to be opened by oscillating said mouthpiece, and a changeable sign adapted to be operated by oscillating said mouthpiece.

7. An annunciator apparatus, comprising in its construction, a speaking-tube, an oscillatory mouthpiece therefor, a megaphone connected to said speaking-tube, a valve located intermediate said mouthpiece and said megaphone adapted to be opened by oscillating said mouthpiece, and a plurality of changeable signs operatively connected to each other and to said mouthpiece.

8. An annunciator apparatus, comprising in its construction, a speaking-tube, and an oscillatory mouthpiece therefor, a megaphone connected to said speaking-tube, a valve located intermediate said mouthpiece and said megaphone adapted to be opened by oscillating said mouthpiece, an endless belt carried by rotatable pulleys, and mechanism operatively connecting said mouthpiece and one of said pulleys whereby said belt may be moved.

9. An annunciator apparatus, comprising in its construction, a speaking-tube, an oscillatory mouthpiece therefor, a megaphone connected to said speaking-tube, a valve located intermediate said mouthpiece and said megaphone adapted to be opened by oscillating said mouthpiece, a plurality of endless belts carried by pulleys operatively connected to each other, and mechanism operatively connecting said mouthpiece and one of said pulleys whereby said belts may be moved.

10. An annunciator apparatus, comprising in its construction, a speaking-tube, an oscillatory mouthpiece therefor, a megaphone connected to said speaking-tube, a valve located intermediate said mouthpiece and said

megaphone adapted to be opened by oscillating said mouthpiece, a movable sign, and mechanism connecting said mouthpiece and said movable sign whereby said sign may be moved.

11. An annunciator apparatus, comprising in its construction, a speaking-tube, an oscillatory mouthpiece therefor, a megaphone connected to said speaking-tube, a valve located intermediate said mouthpiece and said megaphone adapted to be opened by oscillating said mouthpiece, a plurality of movable signs operatively connected to each other, and mechanism connecting said mouthpiece and one of said movable signs whereby said signs may be moved.

12. An annunciator apparatus, comprising in its construction, a speaking-tube, a movable mouthpiece therefor, a plurality of megaphones connected to said speaking-tube, a valve located intermediate said mouthpiece and said megaphones adapted to be opened by moving said mouthpiece, and a changeable sign adapted to be operated by the movement of said mouthpiece simultaneously with the opening of said valve.

13. An annunciator apparatus, comprising in its construction, a speaking-tube, an oscillatory mouthpiece therefor, a plurality of megaphones connected to said speaking-tube, a valve located intermediate said mouthpiece and said megaphones adapted to be opened by moving said mouthpiece, a ratchet fast to said mouthpiece, a movable sign, and a pawl operatively connected to said sign and adapted to engage said ratchet.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRANCIS J. BRINE.

Witnesses:

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ANNIE J. DAILEY.