(No Model.)

2 Sheets—Sheet 1.

W. B. RAMSAY.

STATION INDICATOR.

No. 562,026. Patented June 16, 1896.

FIG. 6.

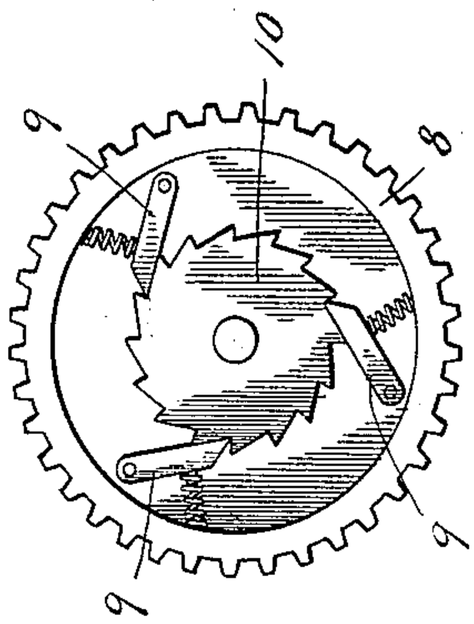

FIG. 7.

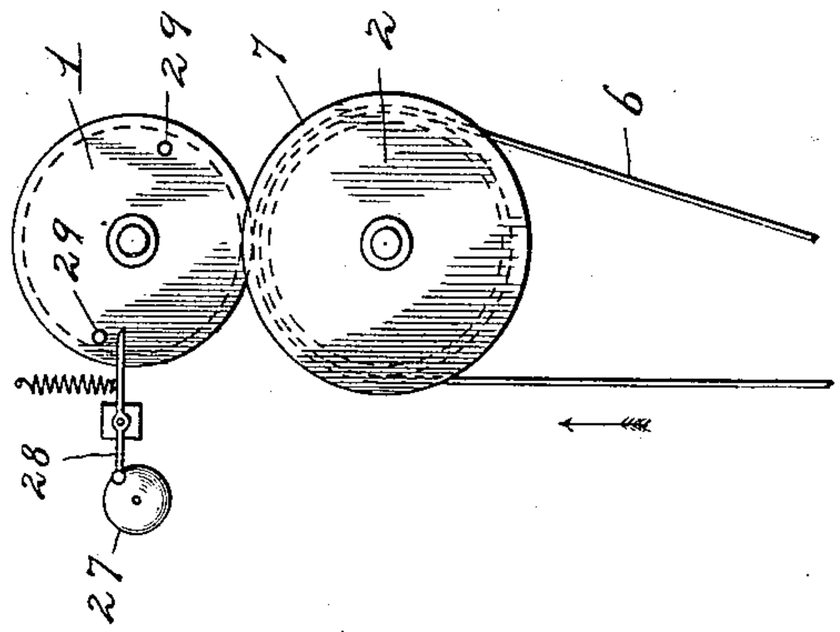

FIG. 2.

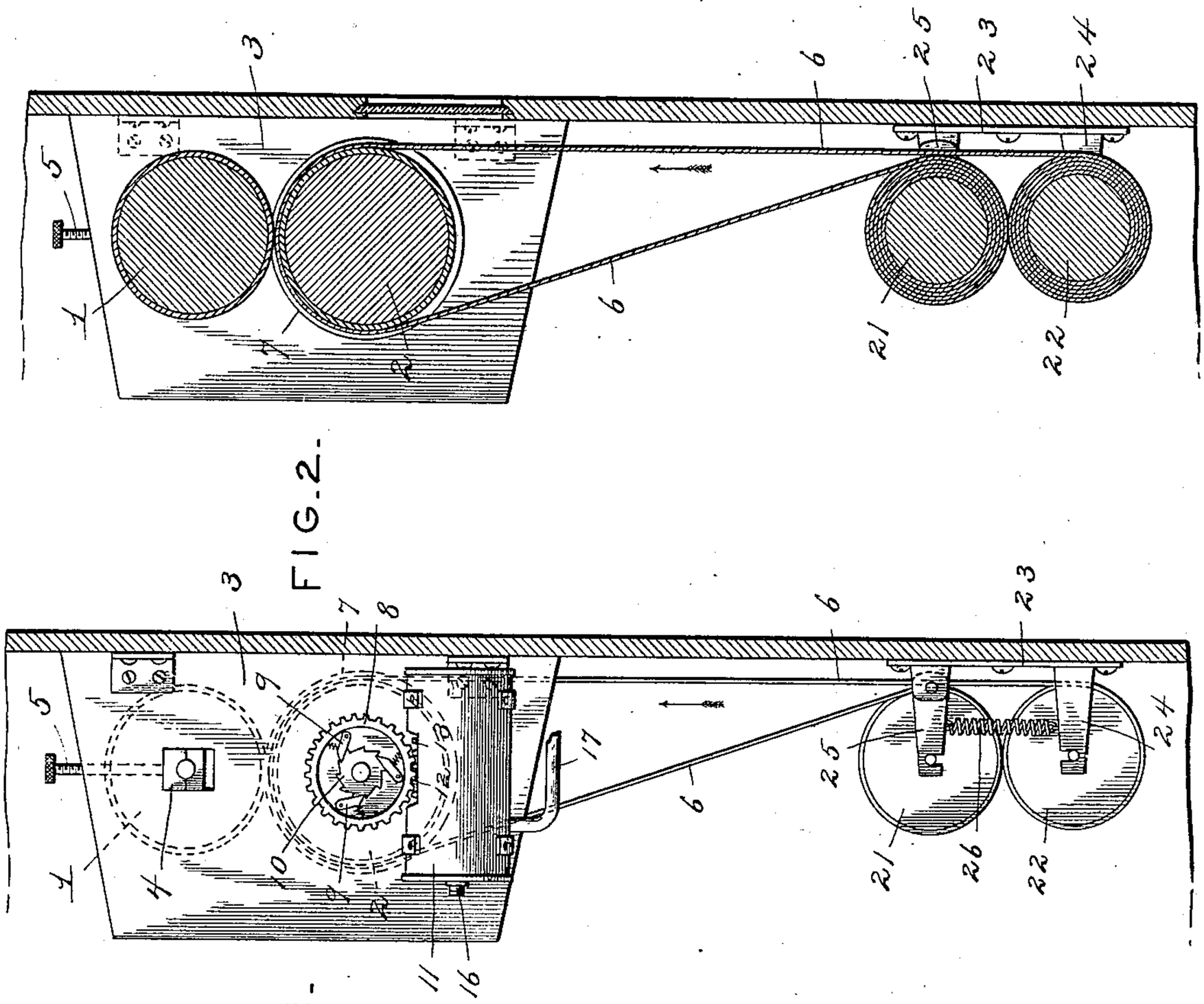

FIG. 1.

Witnesses

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(No Model.) 2 Sheets—Sheet 2.

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FIG. 4.

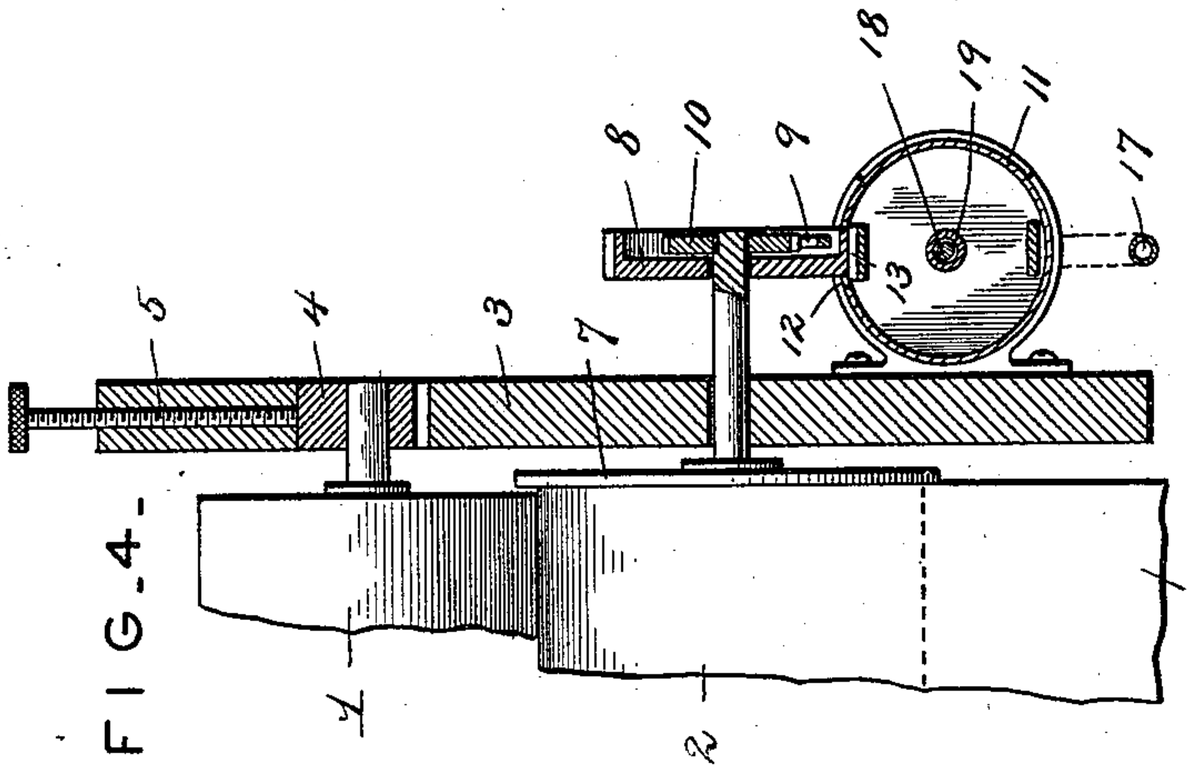


FIG. 5.

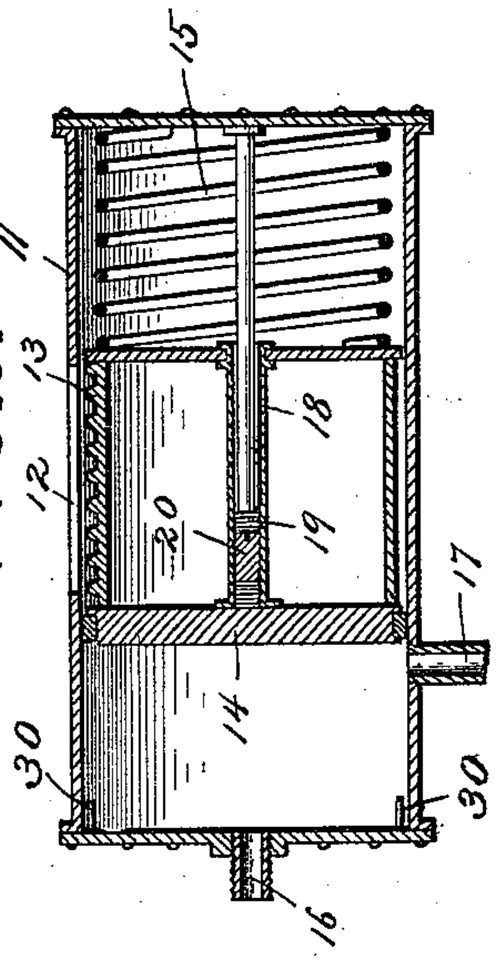
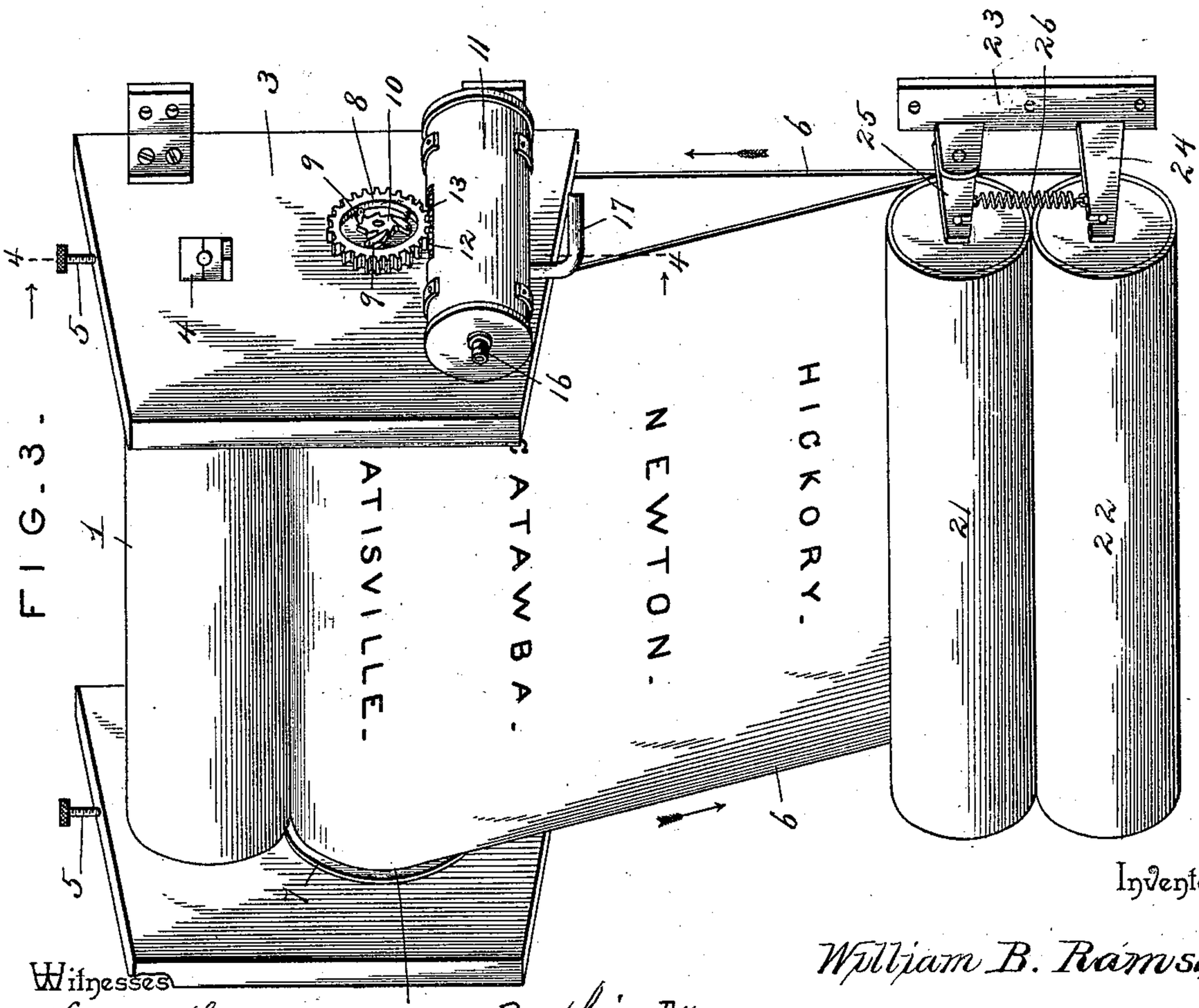


FIG. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM B. RAMSAY, OF HICKORY, NORTH CAROLINA.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 562,026, dated June 16, 1896.

Application filed November 16, 1895. Serial No. 569,177. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. RAMSAY, a citizen of the United States, residing at Hickory, in the county of Catawba and State of North Carolina, have invented a new and useful Station-Indicator, of which the following is a specification.

This invention relates to means for registering the station or calling attention to points of interest or imparting other information to the patrons of railroads, whether operated by steam, electric, horse, or other power, thereby adding to the comfort and interest of the patrons of the road while *en route*.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a side elevation showing the invention applied, the partition being in section. Fig. 2 is a central vertical section of the same. Fig. 3 is a perspective view of the indicator. Fig. 4 is a partial transverse section on the line 4 4 of Fig. 3, looking in the direction of the arrow. Fig. 5 is a vertical longitudinal section of the cylinder. Fig. 6 is a front elevation of the operating gear-wheel. Fig. 7 is an end elevation of the top rollers, showing the bell-operating mechanism.

The same reference-numerals denote corresponding and like parts in all the figures of the drawings.

The operating mechanism will be suitably housed and located in a prominent position so as to be readily seen by the occupants of the coach, car, or other vehicle, and in railway-cars it will be disposed at one end of the coach, preferably upon the wall of the closet, and will be displayed through an appropriate opening formed in the said wall. The medium for operating the mechanism will be either steam or compressed air, so that the indicators in the cars of a train can be operated from a given point either by the engineer, conductor, or other person whose duty it is to look after the indicators.

The actuating mechanism comprises, essentially, two rollers 1 and 2, which are journaled in a suitable frame 3, the lower roller 2 being mounted in fixed bearings and the upper roller 1 in adjustable or movable bearings 4, which are operated upon by set-screws 5 to attain the requisite pressure between the engaging surfaces of the rollers 1 and 2 to cause the proper feed of the name-belt 6 between them. These rollers 1 and 2 are suitably clothed, preferably by sheet rubber, so as to obtain a firm grip upon the name-belt and move the latter between the rollers when the latter are actuated. The lower roller 2 has annular flanges 7 at its ends, which prevent the slipping or movement of the name-belt from between the ends of the rollers, and the top roller is constructed to operate and come between the said annular flanges 7, so as to obtain a uniform bearing upon the name-belt. Positive motion is imparted to one of the rollers, as 2, in any convenient manner, preferably by the means herein shown and now to be described.

A gear-wheel 8 is loosely mounted upon the journal of the roller 2, and is provided with pawls 9 to engage with the teeth of a ratchet-wheel 10, secured upon the said journal, so that when a forward movement is imparted to the gear-wheel 8 the roller 2 will be caused to turn in unison therewith and move the name-belt a proper distance to bring the desired matter thereon in position to be easily read through the observation-opening in the casing or wall of the closet to which the indicator may be applied. A cylinder 11 is located contiguous to the gear-wheel 8, and, as shown, is secured to the frame 3 and is provided in its side with a slot 12 to admit of the toothed portion of the gear-wheel 8, projecting therein a sufficient distance to mesh with a rack 13, attached to or forming a part of the piston 14, provided and operating in the cylinder 11. A spring 15 is interposed between the rear end of the cylinder and the piston to return the latter to a normal position after being actuated to operate the indicator. A nipple or connection 16 is located at the front end of the cylinder to receive the hose-pipe, by means of which the compressed

air, steam, or other medium is supplied to the cylinder for moving the piston against the tension of the spring 15 when it is required to operate the name-belt to bring the required name of the station or other matter in position for observation. A pipe 17 communicates with the cylinder at a point between its ends and is designed to convey the air or steam from the cylinder for operating the next indicator in the series, and this pipe is so disposed that the piston will move a given distance before the actuating medium will pass therein to find its way to the other indicators of the series. A stem 18 is secured to the rear head or end of the cylinder, and is adapted to enter a longitudinal bore 19 in the piston 14, and is adapted to engage with a set-screw 20, located in the bore 19, so as to limit the forward movement of the piston, thereby making provision for varying and adjusting the stroke of the piston to adapt the same to the distance apart of the names or other matter imprinted upon the name-belt.

The name-belt 6 may be of canvas or other appropriate material generally employed in devices of this character, and is of a width corresponding to the distance between the annular flanges 7 of the roller 2, and is of a length to receive the names of the stations or other matter along the prescribed line of travel, and the names and other information to be imparted may be printed upon one or both sides of the name-belt, as desired.

To obviate the ends of the name-belt hanging loosely, means are provided for taking up said ends, and, as shown, these means consist of rollers 21 and 22, which are disposed in parallel relation with each other and with the rollers 1 and 2 and are located below the latter and are journaled at their ends in a frame 23. The lower roller 22 is mounted in fixed arms 24, and the upper roller is journaled in pivoted arms 25, whereby the two rollers 21 and 22 will at all times be in engagement, springs 26 being interposed between the arms 24 and 25 to cause the rollers 21 and 22 to maintain positive engagement, whereby the motion imparted to one roller, as 22, by the drawing of the name-belt therefrom will be imparted to the roller 21, so as to wind thereon the opposite end portion of the name-belt, as will be readily comprehended. It will be seen that the rollers 21 and 22 will vary in diameter, accordingly as the name-belt is unwound from the one and wound upon the other, and the parts are so disposed to allow for this variation of diameter and yet maintain intimate and positive contact of the adjacent surfaces of the two rollers 21 and 22, so as to attain the desired end.

In order to attract the attention of the passengers, a gong or audible signal is provided and forms a part of the indicator and consists of a bell 27, a spring-actuated hammer 28, and pins 29, provided at the end of the roller 1 and extending across the path of the stem of the hammer, so as to operate the latter and sound the bell when the indicator is actuated to expose the name of the next station or matter brought in position for observation.

The return stroke of the piston 14 is limited by stops 30, attached to the head of the cylinder, thereby preventing the closing of the opening 16, which would detract from the effectiveness and responsive action of the piston when turning on the air, steam, or other medium by means of which the piston is impelled forward.

Having thus described the invention, what is claimed as new is—

1. In an indicator for bringing into proper position for observation the names of stations or other matter, the combination with a name-belt and operating-rollers therefor, of a gear-wheel mounted upon the journal of one of the said operating-rollers and having a ratchet-and-pawl connection therewith, a cylinder having a slot in its side for the reception of the toothed portion of the said gear-wheel, and a spring-actuated piston mounted in the cylinder and provided with a rack which is in engagement with the aforesaid gear-wheel to operate the latter positively when the piston is moved against the tension of its spring, substantially as set forth.

2. In an indicator for bringing the names of stations or other matter into proper position for observation, the combination with the name-belt and operating-rollers therefor, of a gear-wheel mounted upon a journal of one of the operating-rollers and having a ratchet-and-pawl connection therewith, a cylinder having a slot in its side to receive the toothed portion of the gear-wheel, a spring-actuated piston operating in the cylinder and provided with a rack which is in mesh with the aforementioned gear-wheel, and a pipe communicating with the cylinder at a point between its ends for conveying the motive medium to the next indicator of a series, substantially as set forth for the purpose described.

3. In a station-indicator, the combination with the name-displaying mechanism, of actuating mechanism therefor, comprising a cylinder, a piston operating in the cylinder and having a longitudinal bore, a stem adapted to enter the bore of the piston, and a set-screw located in the bore of the piston to engage with the said stem for regulating the movement of the piston, whereby the actuating mechanism can be adjusted to cause the name-belt to travel a distance corresponding to the spacing apart of the names to be displayed, substantially as set forth for the purpose described.

4. In a station-indicator, the combination of a housing having an opening for displaying the names of the stations, a pair of rollers journaled in the housing adjacent to the said opening, actuating mechanism for rotating one of the rollers, a name-belt passing be-

tween the rollers and moved thereby to bring the names opposite the aforesaid opening, a frame having a fixed arm extending about horizontally therefrom, a companion arm having pivotal connection with the said frame, upper and lower rollers journaled in the pivoted and fixed arms, respectively, of corresponding frames, and having the end portions of the name-belt wound thereon, and springs connecting the pivoted arms with the fixed arms to bring the said upper and lower rollers into positive engagement, the parts being disposed so that as the name-belt is unwound from one of the lower set of rollers it will be wound upon the other of the said set of rollers by the frictional contact of the engaging surfaces of the said set of rollers, substantially in the manner set forth for the purpose described.

5. In an indicator for displaying the names of stations and other desired matter, the combination of two rollers disposed in parallel relation and having their adjacent surfaces in contact, one roller being mounted in fixed bearings, the other in adjustable bearings, whereby the pressure between the engaging surfaces of the rollers can be regulated, and both rollers presenting rubber or like surfaces, and one of the rollers having annular flanges at its ends, a name-belt passing between the rollers, an audible signal operated by means of one of the said rollers, a gear-wheel mounted upon a journal of the fixedly-mounted roller and having connection therewith by means of a ratchet and pawl, a cylinder slotted in its side to receive the toothed portion of the gear-wheel, a spring-actuated piston operating in the cylinder and having a rack to engage with the gear-wheel, and rollers disposed to maintain positive engagement, the one having the name-belt wound thereon and the other adapted to take up the name-belt as it is unwound from the supporting-roller and driven by engagement therewith, substantially as set forth.

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

WILLIAM B. RAMSAY.

Witnesses:
S. L. WHITENER,
J. ALSTON RAMSAY.