

(No Model.)

4 Sheets—Sheet 1.

M. PACHOLDER.
STATION INDICATOR.

No. 461,507.

Patented Oct. 20, 1891.

FIG. 1.

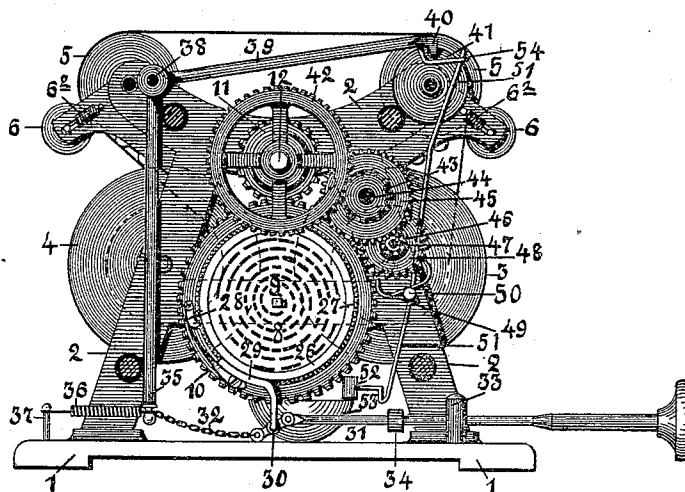
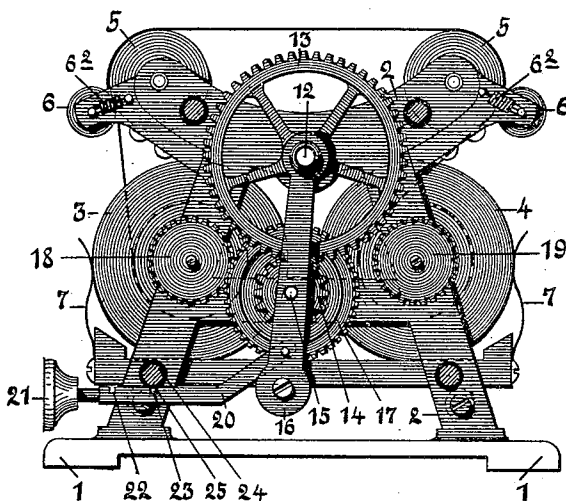


FIG. 2.



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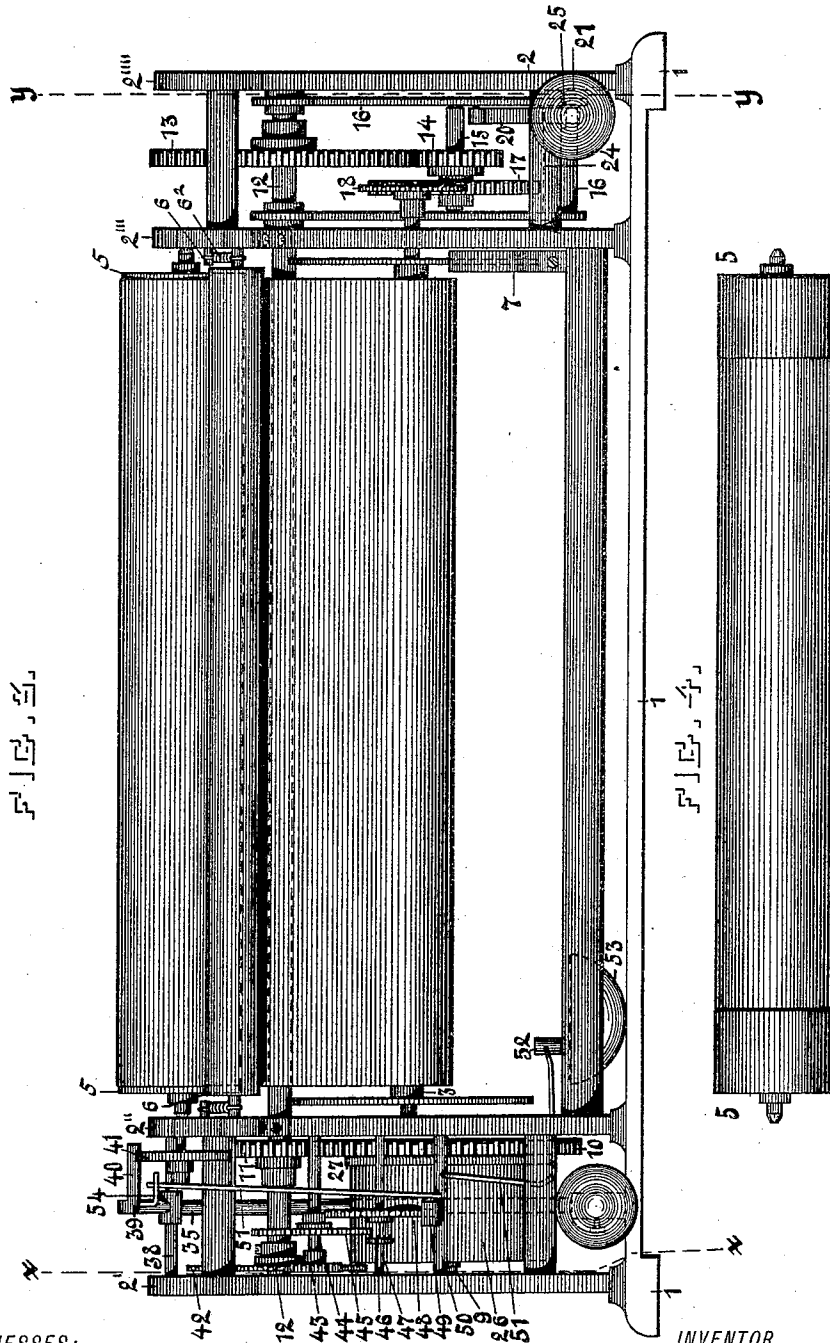
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FIG. 5.

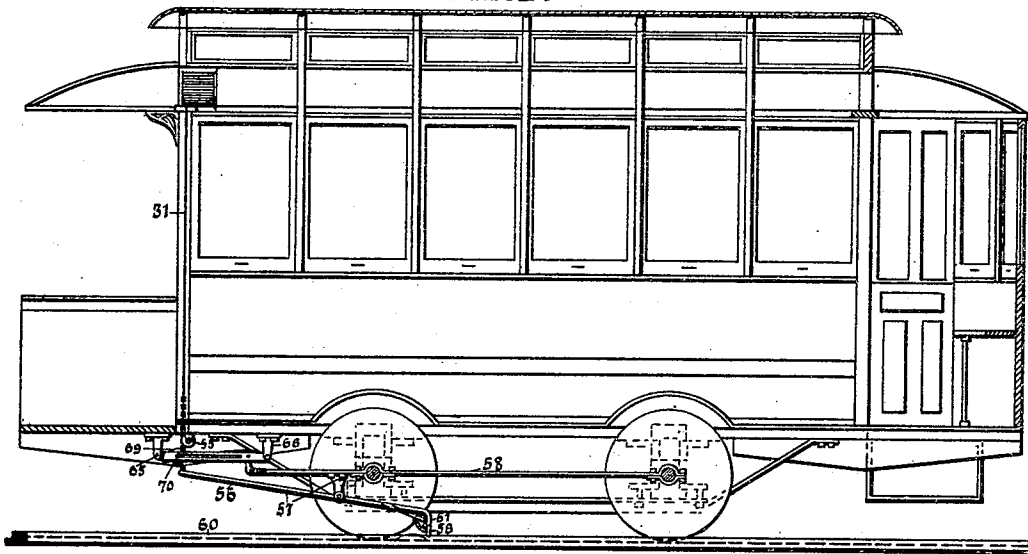


FIG. 6.

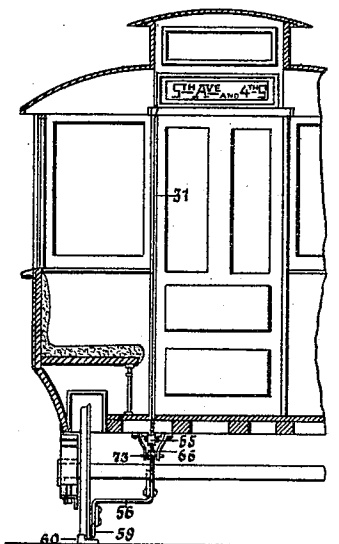


FIG. 7.

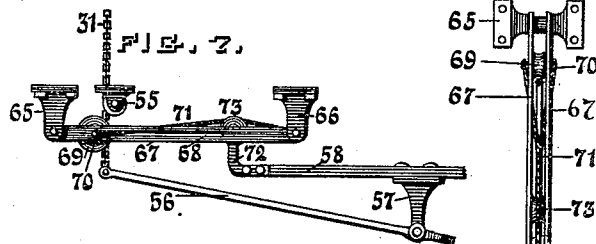


FIG. 8.

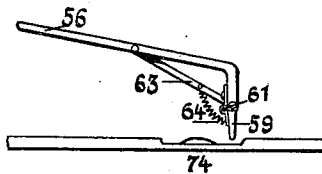


FIG. 9.

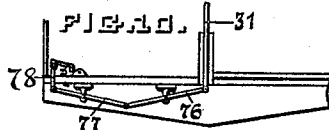
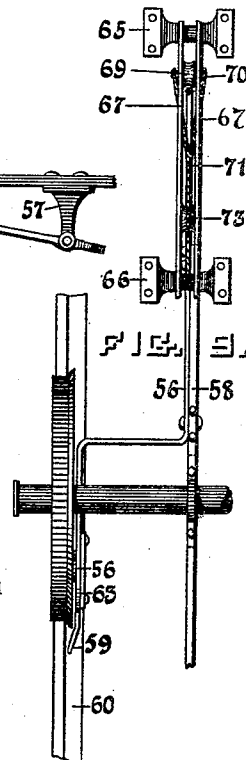


FIG. 10.



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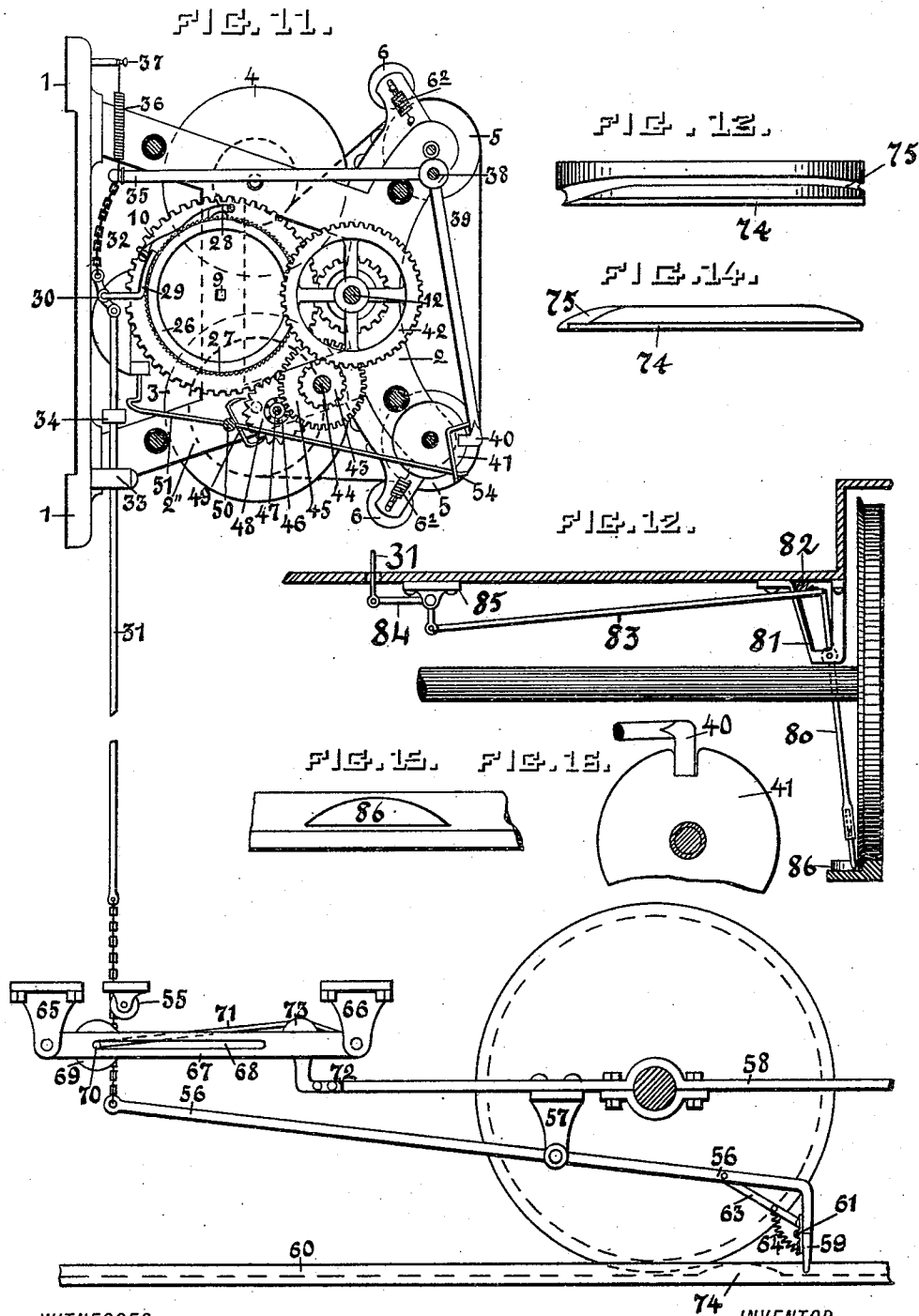
(No Model.)

4 Sheets—Sheet 4.

M. PACHOLDER.
STATION INDICATOR.

No. 461,507.

Patented Oct. 20, 1891.



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UNITED STATES PATENT OFFICE.

MORRIS PACHOLDER, OF BALTIMORE, MARYLAND.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 461,507, dated October 20, 1891.

Application filed November 15, 1888. Renewed September 15, 1891. Serial No. 405,735. (No model.)

To all whom it may concern:

Be it known that I, MORRIS PACHOLDER, a citizen of the United States, and a resident of the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Station-Indicators for Railroad-Cars, of which the following is a full and complete specification, reference being had to the accompanying drawings, in which similar figures of reference indicate similar parts.

My invention relates to that class of devices which is employed in railroad-stations, railroad-cars, street-cars, and elsewhere to indicate the time when the next train is to leave, or the next station or street that the car will pass, or the device may be used to give any other desired information, at any desired intervals, such as to exhibit advertising matter, &c.

The general construction of my device consists of a pair of rods upon which is wound a band, and on this band is printed or painted the notices that it is desired to exhibit. These reels are drawn by mechanism which operates to draw a definite quantity of the band off of one reel and wind it upon the other. In doing so a fresh portion of the band is exhibited through an aperture in the case of the instrument. I have also shown and described mechanism by which the device is attached to a street-car and automatically operated.

In the drawings, Figure 1 is a part elevation and part sectional view of one end of the mechanism which actuates the band on which the names of railroad-stations and advertising matter are printed or painted, taken through line *x x*, Fig. 3. Fig. 2 is a cross-section, partly in elevation, of the other end of the same mechanism, taken through the line *y y*, Fig. 3. Fig. 3 is a side elevation of the same mechanism. Fig. 4 is a side elevation of one of the measuring-rollers shown in Fig. 3. Fig. 5 is a side elevation of a street-car on a track and having my invention attached to it and in place for automatic operation, actuated by a lever attached to the car and an elevation on the track. Fig. 6 is a section of a part of a street-car, showing a face view of my apparatus as it appears from the inside of the car, and also showing the position of the actuating-lever over the track

and its mode of attachment to the car. Fig. 7 is a detail view of a compensating mechanism whereby the difference of the elevation of the car-body above the track when full and empty is provided for. Fig. 8 is a detail view of the end of the lever by which the device is automatically operated from the track. Fig. 9 is a detail plan of the mechanism shown in Figs. 6 and 7 for compensating for the difference in level of the car and the lever whereby the mechanism is automatically operated from the track. Fig. 10 is a detail view of an attachment to the devices shown in Figs. 4, 5, 6, and 7, whereby the indicating apparatus may be operated by the foot of the car-driver, if desired. Fig. 11 is a diagrammatic view of the indicator mechanism and its means of connection with the operating mechanism to be attached to a street or other car. Fig. 12 is a detail view of a modified form of lever attachment for operating the mechanism automatically from the track. Fig. 13 is a plan of the block placed upon the track to operate the lever which actuates the mechanism. Fig. 14 is a side elevation of the same. Fig. 15 is a plan of the track-block used with the modified form of lever shown in Fig. 12. Fig. 16 is an enlarged view of the detent-wheel.

In the drawings, 1 represents the base of the device, to which the mechanism for operating the band is attached.

2 2' 2'' 2''' 2'''' are standards attached to base 1 and forming the frame-work of the mechanism and bearings for the several shafts that carry the moving parts.

3 is the lower band-reel, when the mechanism is in position to operate in a car, and the base 1, perpendicular, and is mounted on a shaft journaled in the standards 2'' 2'''.

4 is the upper band-reel, located in a right line above the lower reel and similarly mounted upon a shaft that is journaled in the standards 2'' and 2'''.

5 5 are two measuring-rolls, also mounted upon shafts which are journaled in the standards 2'' and 2'''.

6 6 are two brake-rollers, also mounted upon shafts journaled in extensions attached to the standards 2'' and 2''' and held with a tension against the measuring-rollers 5 5 by the springs 6² 6³, which are attached at one end

to the standards 2'' 2''' and at the other to the ends of the shafts of the brake-rollers 6 6.

7 7 are two spring-brakes attached to the standards 2'' 2''' or to any other suitable stationary part of the mechanism, and bearing upon the edges of the band-reels 3 and 4. Coiled upon the band-reels 3 and 4 and passing over the measuring-rolls 5 5 and under the brake-rolls 6 6 is the band upon which the matter to be displayed is printed or painted.

8 is the driving-spring of the mechanism, (shown in dotted lines in Fig. 1,) one end of which is secured to the stationary shaft 9 and the other to the drum 26 and lever 29. The exterior of the drum 26 is provided with a ratchet 27, and to the gear-wheel 10 is pivoted the pawl 28, which engages the ratchet 27 and connects the driving-spring with the train.

10 is a large gear loosely journaled upon the shaft 9 and meshing with the pinion 11, keyed to shaft 12, which is journaled in the standards 2', 2'', 2''', and 2'''' and carries several gears keyed to said shaft 12. At a point between the standards 2''' and 2'''' is the gear 13, which meshes with the pinion 14, which is keyed to the shaft 15, said shaft being journaled in the swing 16, which is loosely journaled upon the shaft 12 and hangs from it. On the shaft 15 is also keyed the gear 17, which, when the swing 16 is in one position, will mesh with the pinion 18, which is keyed to the shaft of band-reel 3, and when in the other position will mesh with the pinion 19, keyed to the shaft of band-reel 4.

20 is a rod pivoted at one end to the swing 16, and by which it is moved from side to side, so as to cause gear 17 to mesh with the pinion 18 or the pinion 19. This rod is provided with a handle 21 and has two notches 22 and 23 cut into it.

24 is a brace, which is riveted into the standards 2''' and 2''', and on its side next to rod 20 it is provided with a projecting web 25, which engages the notches 22 and 23 and holds the gear 17 firmly in engagement with either pinion 18 or 19.

To the end of the rod 29, by which the spring is wound, is attached a link 30, to one end of which is secured the draw-bar 31 and to the other the chain 32, with reference to which more will be said hereinafter.

The draw-bar 31 passes through a guide-hole in a post 33, and is limited in its motion by an adjustable stop 34.

The chain 32 is secured, as described, at one end to the link 30, and at the other to the end of a rod 35, which forms one arm of a bell-crank lever pivoted to the frames 2' and 2'' by shaft 38. To the same end of rod 35 to which chain 32 is attached is also secured a retractile spring 36, the other end of which is attached to a post 37. The other arm of the bell-crank lever is marked 39, and is provided on its end with a laterally-extending detent-hook 40, which engages with a notch in the

wheel 41, which is keyed to the shaft which carries the measuring-roll 5 and turns with said roll.

42 is a gear keyed to shaft 12 and meshing with pinion 43, mounted upon shaft 44. To the same shaft 44 is also keyed a gear 45, which meshes with the lantern-pinion 46, which is keyed to shaft 47, and upon which is also keyed the escapement-wheel 48.

The shaft 50 is journaled in the standards 2' and 2'', and rigidly secured to it is the verge 49 and also the rod 51 51, the lower end of which is provided with a hammer 52, which is in position to strike upon a gong 53. The upper end of said rod 51 rises to the level of the detent-hook 40 and engages a tripping-hook 54, attached to said detent-hook.

When the device is applied to a railroad or street car, as shown in Figs. 5 and 11, the draft-rod 31 is extended down through a casing in the side of the car, passes through a hole in the floor, and is provided on its end with a section of chain, the free end of which is attached to a lever 56, pivoted to the truck of the car 58 by a bracket 57. The lever 56 is turned down at its end, so as to form a hook, the end of which just escapes the track 60. The end 59 of the lever 56 is broken and hinged to the main lever by hinge 61. A brace connects the lever 56 with the point of its hook and strengthens the hook. To this brace is secured a spiral or other spring 64, the other end of which is attached to the hinged end 59 of the lever 56. On the under side of the car is secured a sheave-bracket, in which is journaled a sheave 55 in position to engage the chain attached to the end of draft-rod 31. To the under side of the car is also secured a pair of brackets 65 and 66, which are connected together by two rods 67 67, Fig. 9, each of which is perforated by a longitudinal slot 68 68, in which slides the shaft 70 of a sheave 69. To the ends of the shaft 70 are attached cords 71, which unite a short distance from the sheave into one cord 71. This cord is securely attached to the bracket 66 on the same level as the slots 68. To the truck 58 is secured an extension 72, upon the end of which is secured an upwardly-projecting arm, in which is journaled a sheave 73. Said sheave stands between the bars 67 67 and engages the cord 71. Upon the track 60 is secured a block. (Shown in Figs. 13 and 14.) The block is raised in the center and is inclined to a thin edge at each end. On the side next the elevation of the rail or the outside of the track the block is cut away from the top of the elevation down until it is half an inch thick, so as to leave a straight groove 74 between the elevation and the high part of the rail in which the flange of the car-wheel may run without striking the block. The lever 56 is so bent that the end 59 will travel immediately behind the flange of the wheel of the car and in line with it, so that in order to operate it by the block shown in

Figs. 12 and 13 it must be moved to one side and made to pass over the elevation of the block.

As has been said, the end 59 of lever just escapes the track and is lower than the flange of the car-wheel, which does not strike the track by half an inch. To accomplish this, a groove 75 is cut in the top of the block, Fig. 12, which begins at the corner of the block next the high part of the rail, runs up the incline in a diagonal direction, so as to avoid the groove 74, and passes over the top of the block, thence down to the other side and leaves the block at the other end at the same side of the block at which it entered. When the end 59 of lever 56 strikes the block, it will do so in the groove 75, and being guided by said groove will be sprung out of the line of its normal position and will pass over the top of the block.

Fig. 10 shows an attachment that may be placed upon a car and attached to the draft-rod 31 alone or in addition to the mechanism shown in Fig. 12 and just described. It consists of two levers 76 and 77, pivoted to brackets attached to the under side of the car. One end of lever 76 is attached to draft-rod 31 and the other end to the end of lever 77, while the other end of 77 is attached to a presser-rod 78, which passes up through a hole in the floor of the car and is operated upon directly or is provided on its end with any suitable device whereby the driver may conveniently press the push-rod with his foot, operate the levers 77 and 76, and draw the draft-rod 31.

Fig. 12 is a modified form of lever and connection, which is arranged to operate by being pushed to one side instead of being raised up. This form has the advantage that the block to be used with it need not be so high as that used with the form of lever just described.

In Fig. 12 the lever 80 is pivoted to the bracket 81, secured to the under side of the car, and is held in a normal position (shown in the figure) by the spring 82. To this lever 80 is attached the pitman-rod 83, the other end of which is secured to the bell-crank lever 84, pivoted to the bracket 85 on the under side of the car, and the other arm of the bell-crank lever is secured to the end of the draft-rod 31. The track-block 86 is lower than the one previously described and is curved in the arc of a circle on one side, so that as the end of lever 80 strikes it the lever will be pushed to one side out of its course, draw the pitman-rod, turn the bell-crank lever, and actuate the draft-rod 31 and the mechanism.

The operation of the device, referring to Fig. 1, is as follows: As the car to which the device is attached passes along the track the end 59 of lever 56 will strike the groove 75, and being deflected from its normal position will pass over the top of the track-block. In doing so the end of lever 56 will be raised and the other end drawn down, and the draft-rod 31, attached to this lever, will also be drawn as

far as the stop 34 will permit and the spring-winding lever 29 drawn a similar distance. The slack of the chain 32 will be taken up and the end of lever 35 drawn far enough to raise the detent-hook 40 out of the notch in the detent-wheel 41. The pawl 28, meanwhile having engaged the ratchet 27 as it was turned, holds the spring in its wound position. As the lever 56 passes over the track-block and falls again to its normal position the draft-rod 31 will be released and the spring also, and the train operated by the spring through the pawl 28, holding the ratchet 29, set in motion. The gear 10, turned by the spring in consequence of pawl 28 being attached to it, will turn the pinion 11, pinion 11 shaft 12, shaft 12 gear 13, gear 13 pinion 14 and shaft 15, shaft 15 gear 17, gear 17 pinion 18 or 19, and pinion 18 or 19, as the case may be, its shaft and band-reel. As the band is drawn and wound upon the spring-actuated reel it will of course be unwound from the other reel, and the quantity of band wound upon the power-turned reel at any particular time will determine its diameter, and hence the number of turns that it will have to make in order to wind up the portion of band previously exposed, and draw from the other reel a fresh portion of exposure. Consequently the number of revolutions or portions of a revolution of the winding-reel will constantly vary as the band is wound upon it. This fact makes it necessary to provide a means by which the winding-reel will continue to turn until the exact quantity of band desired shall have been wound upon it and then stop winding. It will be seen, also, that the length of band to be wound up at each operation of the device will always be the same.

I measure the length of band to be wound at each operation of the device in the following manner: The measuring-rolls 5 5, over which the band passes, are of about the same diameter, and the roll to the shaft of which the detent-wheel is attached is made very accurately to measure in circumference exactly the same as the length of band that it is desired to draw at each operation of the device, so that with each revolution of this roll the precise length of band will pass over it, and as the winding-reel continues to pull and wind the band until stopped, the band when once started is wound until the measuring-roll has made one complete revolution, regardless of the number of revolutions of the winding-reel. The revolution of the measuring-roll, it will be readily seen, is determined by the detent-hook 40 and its detent-wheel 41. When the draft-rod 31 is drawn, the detent-hook 40, as above described, will be raised out of its notch in the detent-wheel 41 and held so long as the strain is on the draft-rod. As soon as this strain is released the spring 36, attached to lever 35, will draw the detent-hook down again upon the detent-wheel; but before this can act the mainspring of the device, be-

ing very strong, will have started the train and the band and the detent-wheel, and when the detent-hook falls its notch in the detent-wheel will have passed from under it, and it will fall upon the periphery of the wheel, where it will rest until the wheel has made a complete revolution, and with it the measuring-roll. As soon as the detent-notch in said wheel comes round the detent-hook will fall into it and stop the train. The measuring-roll will thus have made one complete revolution and have stopped, and consequently a corresponding length of band will have been drawn by the winding-reel and a fresh quantity of the same length exposed. This arrangement makes it possible to print upon a long band the names of any number of stations, each occupying a definite length of band, and this length being equal to the circumference of the measuring-roll. When the device is started at the end of a line, the person employing it can know that at each station the exact length of band will be drawn through the device and the proper station automatically indicated.

When my mechanism is employed upon a railroad or street car, the names of the stations are painted or printed upon the band in the proper order and are exposed one after the other as they are passed on the line. When the return trip is made, the stations must of course be exposed in a reverse order, and as the band has been fully wound upon one reel in going in one direction it has only to be unwound from that reel and wound upon the other on the return trip to display the stations in the required order. This is done by operating the lever 20 by the handle 21, disengaging the notch 23 or 24, as the case may be, from the web 25, and throwing the gear 17 into engagement with the pinions 18 or 19, according as one or the other has previously been in engagement with it. The motion of the band will then be reversed, although the mechanism will move forward in the same way as before.

It is important in constructing the device to make the notch in the detent-wheel of approximately the shape shown in Fig. 16, in which it appears that the detent-hook has little or no play and the corners are a little rounded, so as to insure the falling of the hook into the notch and staying there and not jumping over it or out of it. I have also found that in practice it is desirable that the measuring-roll and its mate should be given a little greater diameter at the ends than throughout the balance of their length, as shown in Fig. 4, for the reason that the band, if drawn from the middle, is apt to stretch and draw crooked on the rolls, and although the reels are provided with guide-flanges still the band will run to one side and bind against the flanges unless this precaution be taken. I have also found that a double set of brakes is necessary, one bearing upon the cloth and the measuring-rolls and illustrated in the draw-

ings as brake-rolls 6 6, and the other pair 7 7 in the form of flat springs secured to the base of the device and bearing upon the edges of the flanges of the band-reels. The brake-rolls 6 6, as before described, are held with a tension against the measuring-roll and its mate by the springs 6² 6², which may be tightened at will and the brakes caused to exert any desired pressure upon the measuring-rolls. These brakes serve a very important purpose in keeping the band taut and causing it to draw straight and regularly, and also in preventing the reel that is unwinding from giving off its band too rapidly.

It will be seen by an observation of the foregoing statement of the operation of the device that the main or driving spring is re-wound to its maximum each time the mechanism is operated by the draft-rod. Any overwinding is prevented by stop 34 and runs out a greater or less distance, according as the winding-reel has a greater or less number of revolutions to make to wind up the measured quantity of band. This feature is one of the most important elements of my invention, inasmuch as it enables me to dispense entirely in operating the device with all thought or care of the motive power. Each time the draft-rod is drawn to change the matter displayed, whether this be done automatically or by the action of a person operating the device, the mainspring is wound and each time starts to do its work with the same power. It is sometimes desirable, especially when the device is used on cars or for the display of advertising matter, that a gong should be rung as the new matter is displayed, so as to call the attention of the public to such new matter. When this is desired, the mechanism heretofore described and connected with the gong is employed. The gear 42, which is keyed to the shaft 12, meshes with the pinion 43, mounted upon and keyed to the shaft 44, on which is also keyed the gear 45, which meshes with the lantern-pinion 46 on shaft 47, to which is also keyed the escapement-wheel 48. As the escapement-wheel 48 turns, the verge 49 will be alternately engaged and released and the shaft 50 caused to reciprocate back and forth. In so doing the lever 51 above and below the verge will also be reciprocated, and the hammer on the lower end of the lever 51 be caused to strike the bell with a rapid succession of strokes. The upper end of rod 51 will also reciprocate so long as the detent-hook 40 is raised. As soon as it falls, however, the arrester-hook 54 will engage and stop the rod 51 and consequently the hammer.

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

1. In an indicating or exhibiting apparatus, the combination of a band upon which are placed the exhibits, two reels suitably mounted or journaled and upon which the band is wound, a driving mechanism for one of the

reels, and an escapement mechanism connected with the driving mechanism and operating to regulate and control said driving mechanism.

2. In an indicating or exhibiting apparatus, the combination of a band upon which the exhibits are placed, two reels suitably mounted or journaled, upon which the band is wound, a driving mechanism for one of the reels, and an escapement mechanism connected with the driving mechanism and operating to regulate and control it, and detent mechanism whereby the driving mechanism is released and stopped.

3. In an indicating or exhibiting apparatus, the combination of a band upon which are placed the exhibits, two reels suitably mounted or journaled, upon which the band is wound, a driving mechanism for one of the reels, and an escapement mechanism connected with the driving mechanism and operating to regulate and control it, and detent mechanism whereby the driving mechanism is released and stopped, and actuating mechanism connected with the detent, whereby the driving mechanism is released.

4. In an indicating or exhibiting apparatus, the combination of a band upon which the exhibits are placed, two reels suitably mounted or journaled, upon which the band is wound, driving mechanism for one of the reels, consisting of a spring or its equivalent, and means for winding the spring at each operation of the apparatus.

5. In an indicating or exhibiting apparatus, the combination of a band upon which the exhibits are placed, two reels suitably mounted or journaled, upon which the band is wound, driving mechanism for the band, consisting of a spring which relaxes its tension in driving the band, and means for restoring tension to the spring after each relaxation thereof.

6. In an indicating or exhibiting apparatus, the combination of a band upon which the exhibits are placed, two reels suitably mounted or journaled, upon which the band is wound, driving mechanism for one of the reels, escapement mechanism connected therewith and operating to regulate and control the driving mechanism, a measuring-roll suitably journaled over which the band passes, detent mechanism co-operating with the measuring-roll to stop the driving mechanism, and actuating mechanism connected with the detent mechanism, whereby the driving mechanism is released.

7. In an indicating or exhibiting apparatus, a band upon which the exhibits are placed, two reels suitably mounted, upon which the band is wound, driving mechanism for one of the reels, which expends its force in turning one of the reels, detent mechanism for stopping the reel, and means, consisting of the starting mechanism, connected with the detent and the driving mechanism, whereby the expended force is restored to the driving

mechanism and the detent operated at each operation of the device.

8. In an indicating or exhibiting apparatus, the combination of a band upon which the exhibits are placed, two reels suitably mounted or journaled, upon which the band is wound, driving mechanism for one of the reels, winding mechanism for said driving mechanism, and means, consisting of the starting mechanism of the device, connected to and operating the winding mechanism, substantially as described.

9. In an indicating or exhibiting apparatus, the combination of a band upon which is placed the exhibits, two reels suitably mounted or journaled, upon which the band is wound, driving mechanism for one of the reels, and escapement mechanism connected to and controlling and regulating said driving mechanism, winding mechanism for the driving mechanism connected to and operated by the actuating mechanism, actuating mechanism for the device, and a measuring-roll suitably mounted in the same frame as the reels and over which the band passes, and detent mechanism co-operating with the measuring-roll and actuating mechanism, whereby the driving mechanism will be released when the actuating mechanism is operated and stopped when the measuring-roll has made any desired part or number of revolutions.

10. In an indicating or exhibiting apparatus, the combination of a band upon which are placed the exhibits, two reels suitably mounted or journaled, upon which the band is wound, a measuring-roll mounted in the same frame as the reels and over which the band passes, mechanism for driving one of the reels, which consists of a spring or other equivalent device suitably connected to the reel, actuating mechanism, which consists of a draft-rod connected to the driving mechanism, and detent mechanism connected with said draft-rod and also with the measuring-roll, whereby the train is released when the draft-rod is drawn and stopped when the reel has made any desired part or number of revolutions.

11. In an indicating or exhibiting apparatus, the combination of a band upon which are placed the exhibits, two reels suitably mounted or journaled, upon which the band is wound, a measuring-roll mounted in the same frame as the reels and over which the band passes, mechanism for driving one of the reels, and winding mechanism for said driving mechanism, which is attached to and operated by the actuating mechanism of the device, whereby the driving mechanism will be rewound every time the actuating mechanism is operated.

12. In an indicating or exhibiting apparatus, the combination of a band upon which are placed the exhibits, two reels suitably mounted or journaled, upon which the band

is wound, a measuring-roll mounted in the same frame as the reels and over which the band passes, mechanism for driving one of the reels, and winding mechanism for the driving mechanism, which consists of a rod or chain attached to one end of the driving-spring or other equivalent device and at the other end to the actuating draft-rod of the machine, whereby the driving mechanism may be rewound by the operation of the actuating mechanism of the machine.

13. In an indicating or exhibiting apparatus, the combination of a band upon which the exhibits are placed, two reels suitably mounted or journaled, upon which the band is wound, driving mechanism for one of the reels, a moving vehicle upon which the apparatus is placed, and means connected with the driving mechanism for restoring its expended force impelled by the moving vehicle to co-operate with an actuating device located outside thereof.

14. In a station-indicator for railroad-cars or other similar purpose, the combination of a band upon which the names of stations are painted or printed, two reels upon which the band is wound and which are mounted in a suitable frame, a measuring-roll mounted in the same frame as the reels and over which the band passes and which is turned by it, mechanism for driving one of the reels, which consists of a coiled spring provided with a ratchet and pawl connecting it with a train suitably geared to the reel, actuating mechanism for said driving mechanism, which consists of a draft-rod, and detent mechanism connected with this draft-rod and also with the measuring-roll, whereby the train is released when the draft-rod is drawn and stopped when the roll has made any desired number of revolutions.

15. In a station-indicator for railroad-cars or other similar purpose, the combination of a band upon which the names of the stations are painted or printed, two reels upon which the band is wound and which are mounted in a suitable frame and provided with a spring-actuated brake, and measuring-roll mounted in the same frame as the reels and over which the band passes and which is turned by it, provided with a roll-brake bearing upon it, the band passing between the measuring-roll and its brake-roll, driving mechanism for the winding-reel, and detent mechanism whereby the driving mechanism is stopped after the measuring-roll has made any desired number of revolutions, substantially as described.

16. In a station-indicator for railroad-cars or other similar purpose, the combination of a band upon which the names of stations are painted or printed, two reels upon which the band is wound and which are mounted in a suitable frame, a measuring-roll mounted in the same frame as the reels and over which the band passes and which is turned by it, mechanism for driving one of the reels, which

consists of a coiled spring provided with a ratchet and pawl connecting it with a train suitably geared to the winding-reel, actuating mechanism for said driving mechanism, which consists of a draft-rod by which the spring is wound, and a detent mechanism connected with the draft-rod and also with the measuring-roll and which consists of a bell-crank lever pivoted to a suitable part to the frame of the machine, one end of which is attached to the draft-rod and the other end of which is provided with a detent-hook which engages a notch in the detent-wheel keyed to the shaft of the measuring-roll, whereby the train is released when the draft-rod is drawn and stopped when the measuring-roll has made the desired number of revolutions, substantially as described.

17. In a station-indicator for railroad-cars or other similar purpose, the combination of a band upon which the names of the stations are painted or printed, two reels upon which the band is wound and which are mounted in the same frame as the reels and over which the band passes and which is turned by it, mechanism for driving one of the reels, which consists of a coiled spring provided with a ratchet and pawl connecting it with a train suitably geared to the reel, actuating mechanism for said driving mechanism, which consists of a draft-rod by which the spring is wound, a detent mechanism connected with said draft-rod and also with the measuring-roll, whereby the train is released when the draft-rod is drawn and stopped when the reel has made any desired number of revolutions, and a lever pivoted to a suitable part of the car in which the device is located, one end of which is attached to the draft-rod and the other stands in position to strike a block secured to the track.

18. In a station-indicator for railroad-cars or other similar purpose, the combination of a band upon which the names of the stations are painted or printed, two reels upon which the band is wound and which are mounted in the same frame as the reels and over which the band passes and which is turned by it, mechanism for driving one of the reels, which consists of a coiled spring provided with a ratchet and pawl connecting it with a train suitably geared to the reel, actuating mechanism for said driving mechanism, which consists of a draft-rod by which the spring is wound, a detent mechanism connected with said draft-rod and also with the measuring-roll, whereby the train is released when the draft-rod is drawn and stopped when the reel has made any desired number of revolutions, and a lever pivoted to the truck of the car in which the device is located, one end of which is attached to the draft-rod and the other stands in position to strike a block secured to the track, a level compensating mechanism which consists of a section of chain attached to the end of the draft-rod, a sheave mounted

upon a shaft, which slides in slots in a hanging bracket secured to the under side of the car and having a flexible cord or chain attached at one end of the shaft of the sheave
5 and at the other to the opposite end of the bracket, and a sheave mounted on the end of an arm secured to the truck and engaging the cord or chain attached to the sliding sheave, whereby when the level of the car above the
10 truck is altered the cord attached to the slid-

ing sheave will be pressed up by the sheave connected to the truck and the sliding sheave drawn out of its normal position and the slack of the draft-chain taken up, substantially as described.

MORRIS PACHOLDER.

Witnesses:

FELIX R. SULLIVAN,
L. RABILLON.