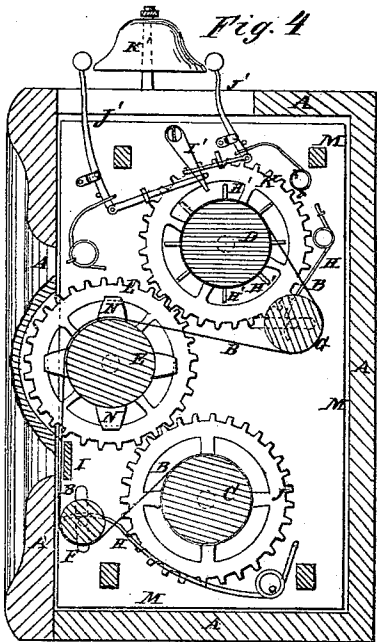
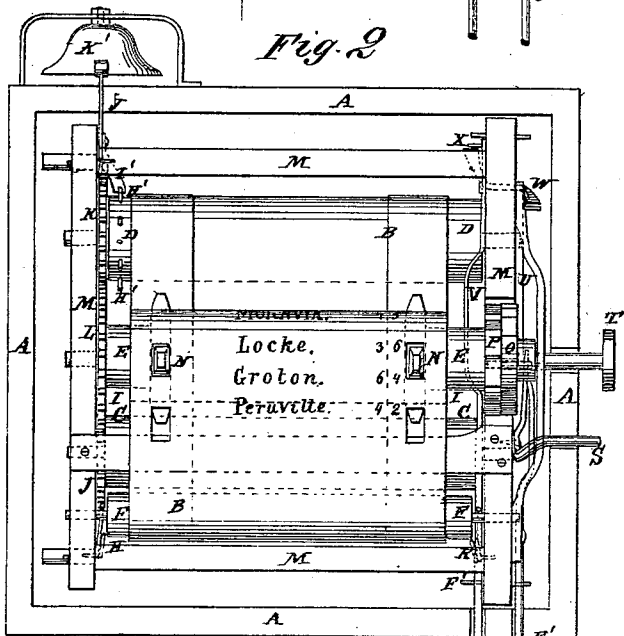
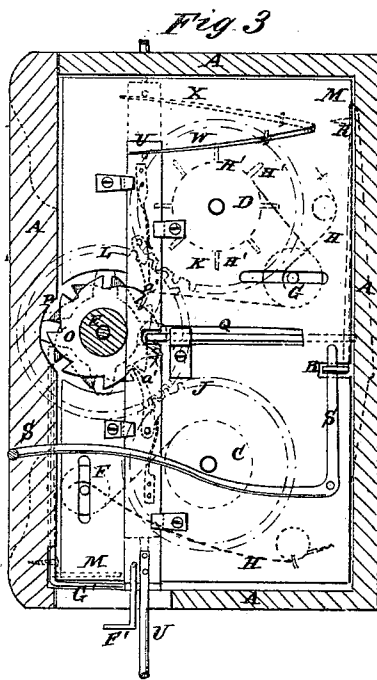
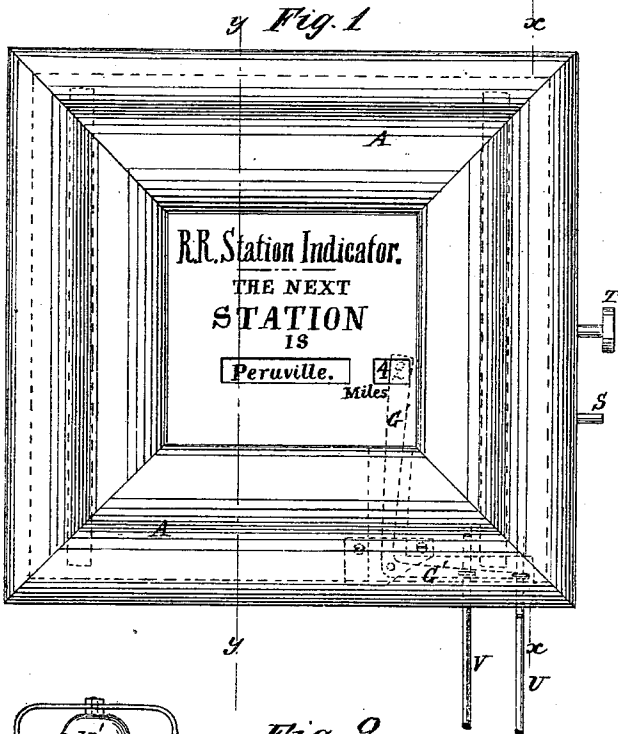


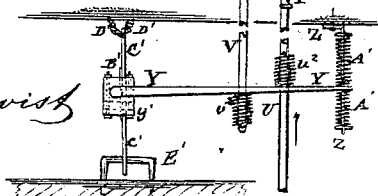
G. A. BROWN.
Station-Indicators.

No. 148,871.

Patented March 24, 1874.



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Fig. 5

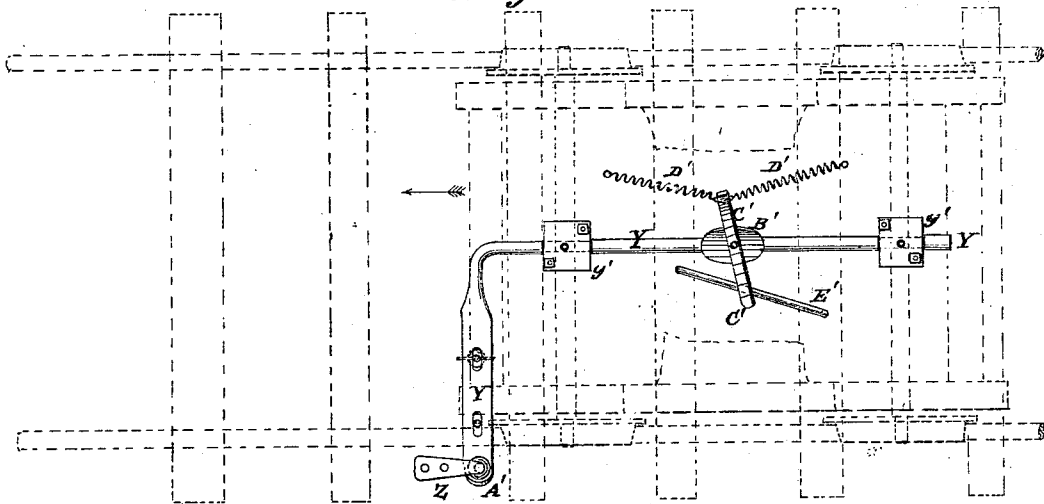


Fig. 7

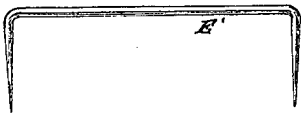
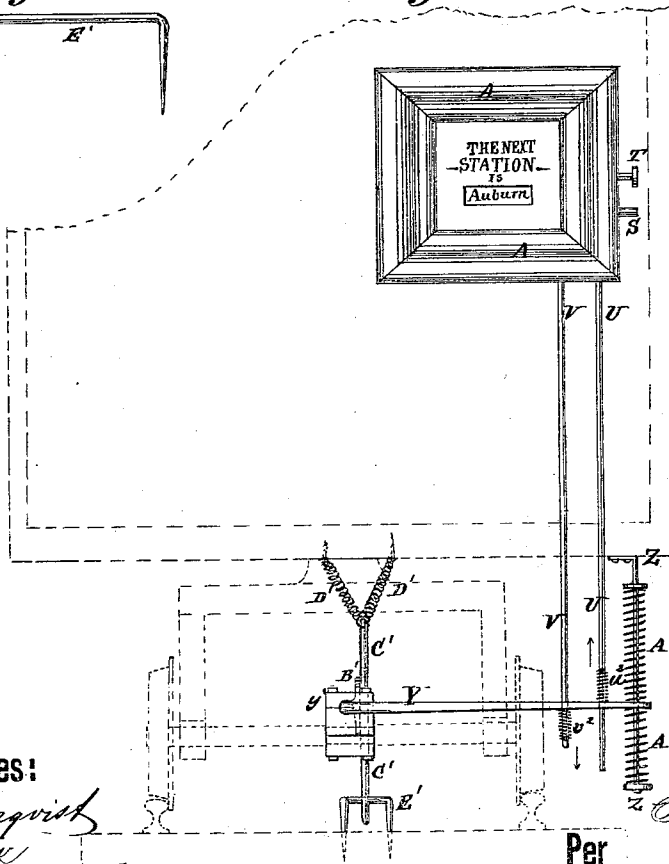


Fig. 6



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UNITED STATES PATENT OFFICE.

GEORGE A. BROWN, OF LOCKE, NEW YORK.

IMPROVEMENT IN STATION-INDICATORS.

Specification forming part of Letters Patent No. 148,871, dated March 24, 1874; application filed January 17, 1874.

To all whom it may concern:

Be it known that I, GEORGE A. BROWN, of Locke, in the county of Cayuga and State of New York, have invented a new and useful Improvement in Station-Indicators, of which the following is a specification:

Figure 1, Sheet 1, is a front view of my improved indicator. Fig. 2, Sheet 1, is the same view as Fig. 1, but with the front plate removed. Fig. 3, Sheet 1, is a detail vertical section taken through the line *x x*, Fig. 1. Fig. 4, Sheet 1, is a detail vertical section taken through the line *y y*, Fig. 1. Fig. 5, Sheet 2, is a detail view of the device for operating the indicator. Fig. 6, Sheet 2, is a detail side view of the same, showing its connection with the indicator. Fig. 7, Sheet 2, is a detail view of the trip-rod.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved indicator for indicating the stations along the line of the railroad, and which shall be so constructed as to adjust itself automatically as the train leaves a station, and exhibit the name of the next station, and which shall be simple in construction, reliable in operation, and not liable to get out of order. The invention consists in the construction and arrangement of parts, as hereinafter described.

A is the box or case of the machine, the front of which is hinged or made detachable, to allow convenient access to the mechanism of the device. In the front plate of the case A is formed a slot, through which the name of the next station may be read, and at the end of which is formed a short slot, through which the distance to the next station may be seen and read. The names of the stations are printed upon a strip or ribbon, B, upon which, at the end of the name of each station, are printed two numbers, showing the distance to the next station in both directions, one or the other of which numbers is exhibited, according to the direction in which the train is moving. The ends of the ribbon B are attached to the rollers C D, journaled in bearings, one directly above the other, in the sides of the frame M, placed within the case A, so that the said ribbon may be wound from the one to the other of said rollers. The ribbon B passes

around a roller, E, journaled in the forward part of the sides of the frame M, so as to be just above the slot in the front plate of the case A. The ribbon B is kept taut by the two tension-rollers F G, the journals of which revolve in short slots in the sides of the frame M, and which are pressed against said ribbon by springs H, attached to the frame M in such positions as to press in the proper direction against the journals of the said rollers F G. The roller F is placed in the lower front part of the frame M, below the slot in the front plate of the case A, so as to take up the slack of the ribbon B between the rollers C E, and in such a position that the part of said ribbon between the said rollers C E, and opposite said slot, may be vertical. The part of the ribbon B opposite the slot in the front plate of the case A may be held close to said slot by a guide bar or plate, I, and between which and the said front plate the said ribbon passes, as shown in Fig. 4. The roller G is placed in the rear upper part of the box A, so as to take up the slack of the ribbon B between the rollers D E. To one end of the rollers C D E are attached gear-wheels J K L, the teeth of which mesh into each other, so that the revolution of the roller E may revolve the rollers C D in opposite directions, and thus wind the ribbon B from one to the other of said rollers C D. The roller E is made to carry the ribbon B uniformly by the spur-wheels N, attached to said roller E near its ends, and the spurs of which enter holes in the said ribbon B, as shown in Fig. 2. O P are two ratchet-wheels rigidly connected together or formed in one piece, and which are attached to one end of the shaft E. The teeth of the ratchet-wheels O P point in opposite directions, and are so arranged as to leave a notch between the faces of the corresponding teeth, as shown in Fig. 3, to receive the end of the stop-plate Q, which slides in a slot in the frame M, and is held forward against the teeth of the said ratchet-wheel O P by a spring, R, with which its outer end is connected. The spring R is placed in a recess in the frame M, and with it is connected the end of the bent lever S, which is pivoted at its angle to the frame M, and its free end passes out through a slot in the case A, so that, by operating the said lever S, the stop-

plate Q may be drawn back to allow the device to be operated by hand, when desired. To enable this to be done, a button or small hand-wheel, T, is attached to the end of the journal of the roller E, which projects through a slot in the case A. U V are bars or plates, which slide up and down in guides or keepers attached to the frame M, and which are provided with spring-pawls $a' a'$, which, as the plates U V move forward, take hold, respectively, of the teeth of the ratchet-wheels O P and rotate the roller E, to shift the ribbon B, the pawl a' working as the slide U moves upward, and the pawl a' working as the slide V moves downward. W X are springs attached to the frame M, and connected, respectively, with the sliding plates U V, to move them back after they have been moved forward to rotate the roller E. Upon the rear edges of each of the slides U V is formed an incline, x , which, when the said slide is moved forward, pushes back the sliding stop Q, and allows the ratchet-wheels O P and roller E to be rotated by the pawl of the said slide. As the slide is forced back by its spring, the stop Q again moves forward and takes hold of the teeth of the ratchet-wheels O P. To the lower ends of the slides U V are attached rods which project down through the bottom of the car and pass through slots in the arm of the right-angled lever Y, which works in bearings y' , which ride upon the truck-axles. The rod U has a spring-stop, u^2 , attached to it above the lever Y, and the rod V has a spring-stop, v^2 , attached to it below the said lever Y, so that the downward movement of the arm of the lever Y will draw the rod V downward and rotate the roller E in one direction, and the upward movement of the arm of said lever will push the rod U upward and rotate the roller E in the other direction. Z is a rod which passes through a hole in the end of the arm of the lever Y, and the upper end of which is secured to the bottom of the car. Upon the rod Z are placed two springs, A', the one above and the other below the end of the lever Y, to bring said lever back to its place after being moved in either direction to rotate the roller E. To the lever Y, midway between the bearings y' , is attached a vertical plate, B', to the center of which and to the lever Y is pivoted a lever, C', which thus has a free movement longitudinally with the track, but cannot move crosswise of the track without turning the lever Y and thus moving the arm of said lever upward or downward, and thus rotating the roller E in one or the other direction. To the upper end of the lever C' are attached the ends of two springs, D', the other ends of which are attached to the bot-

tom of the car, the one in front and the other in the rear of the said lever, so as to bring the lever back to a vertical position, should it be moved by its lower end striking an obstruction. E' is a rod the ends of which are bent downward at right angles and are driven into adjacent ties of the track, so that the rod may be inclined with respect to the track, and in such a position that the lower end of the lever C' may strike it and may be moved laterally, to operate the lever Y and rotate the roller E. One of the rods E' is designed to be secured to the track upon each side of the station, so that the indicator may be set as the train leaves the station in either direction. To each of the slides U V is attached a finger, F', which, the first time either of said slides is operated upon the trip, moves the bent lever G', to cover the number indicating the distance to the previous station and uncover the number indicating the distance to the next station, as indicated in dotted lines in Fig. 1. To the upper roller D, near one end, are attached pins or teeth H', which, as the said roller is rotated in either direction, strikes the lever I', pivoted to the frame M, and operates one or the other of the two hammers J' of the bell K', to give notice that the indicator has been set.

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

1. The three rollers C D E, the two tension-rollers F G, provided with springs H, the gear-wheels J K L, spur-wheels N, and ribbon B, constructed and combined substantially as herein shown and described.

2. The combination of the stop Q and spring R with the opposite toothed ratchet-wheels O P and the inclines x , formed upon the slides U V, substantially as herein shown and described.

3. The combination of the bent lever S with the spring R, sliding stop Q, and ratchet-wheels O P, substantially as herein shown and described.

4. The bent lever Y, stationary rod Z, springs A', plate B', lever C', and springs D', in combination with the slides U V of the indicator, to adapt said indicator to be operated by a rod, E', attached to the ties of the track, substantially as herein shown and described.

5. The combination of the toes F' of the slides U V and bent lever G' with the slotted face-plate of the indicator-case A, substantially as herein shown and described.

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