(No Model.) 3 Sheets—Sheet 1.

R. H. BACHLOTT, Jr. & L. J. FARRIS.

AUTOMATIC STATION INDICATOR.

No. 384,493. Patented June 12, 1888.

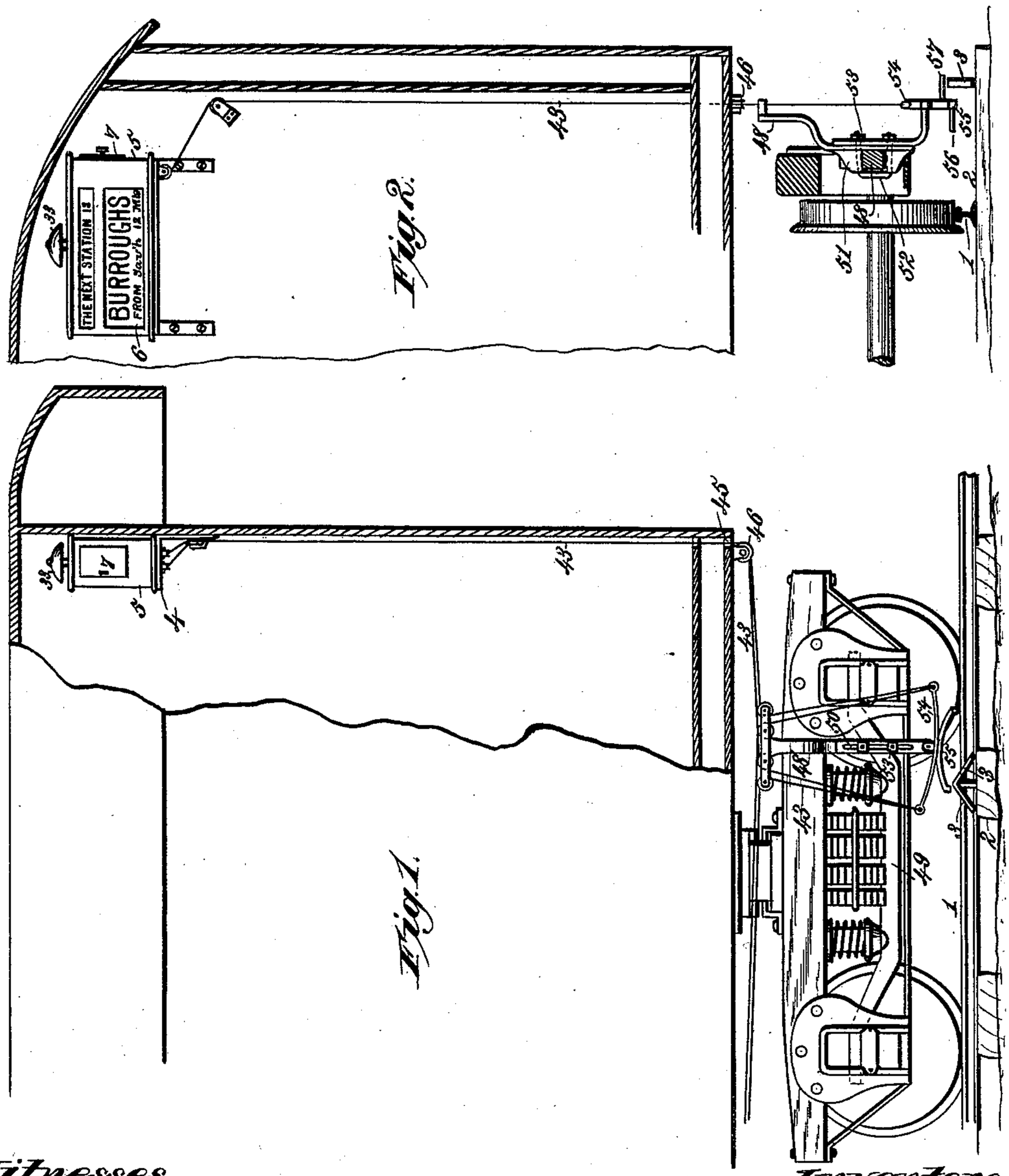

Fig. 2.

Fig. 1.

Witnesses.
Robt Ewett.
J. A. Rutherford.

Inventors.
Richard H. Bachlott Jr.
Lemuel J. Farris.
By James L. Norris.
Atty.

(No Model.) 3 Sheets—Sheet 2.

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Fig. 3.

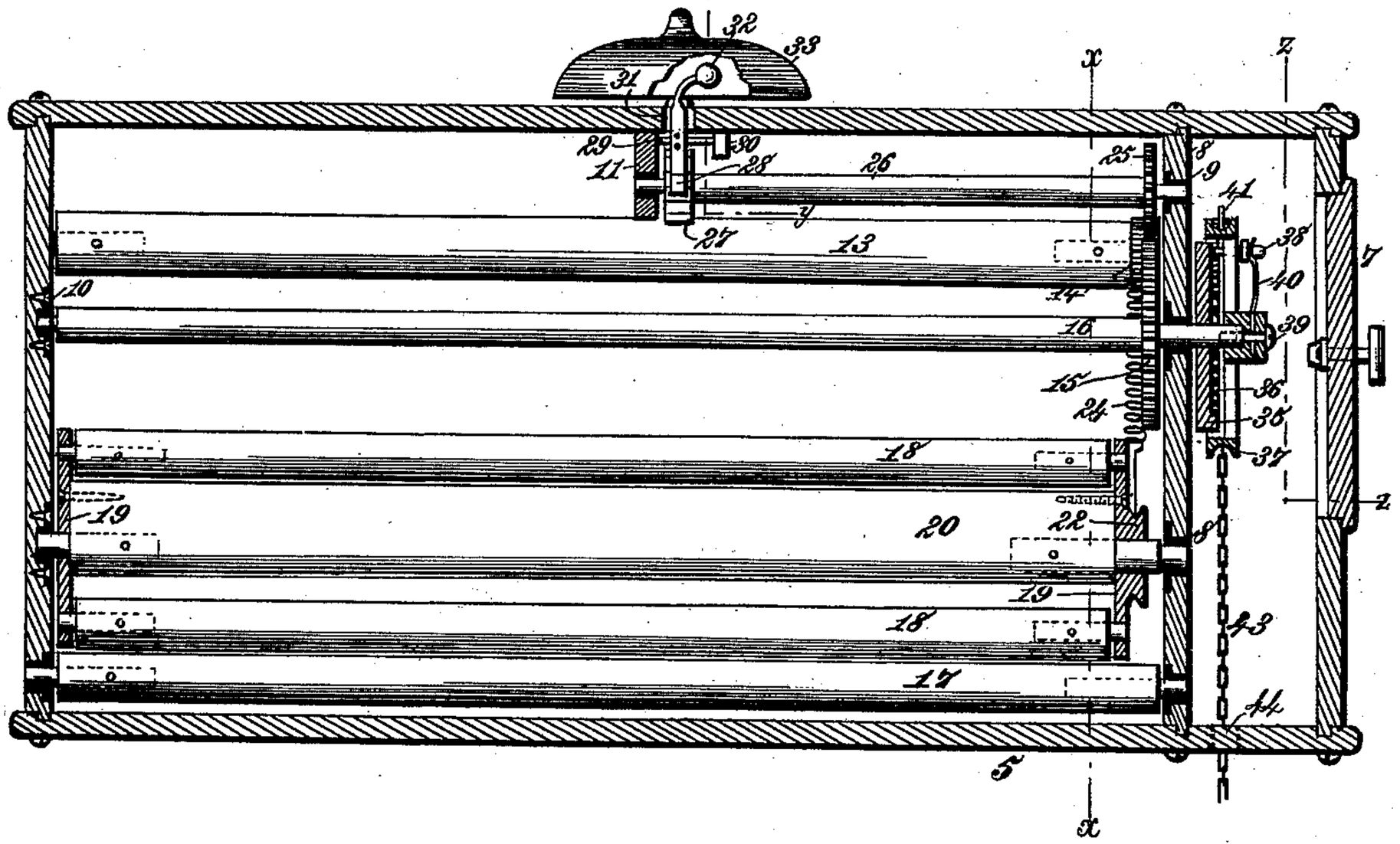
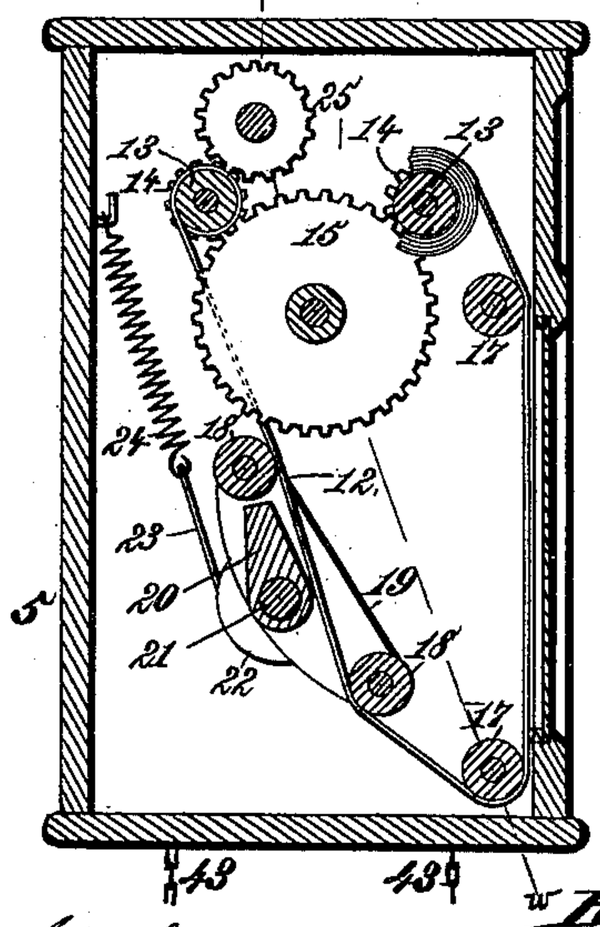


Fig. 4.



Witnesses:
Robt Ernett.
J. A. Rutherford.

Inventors.
Richard H. Bachlott Jr.
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By
James L. Norris.
Atty.

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Fig. 5.

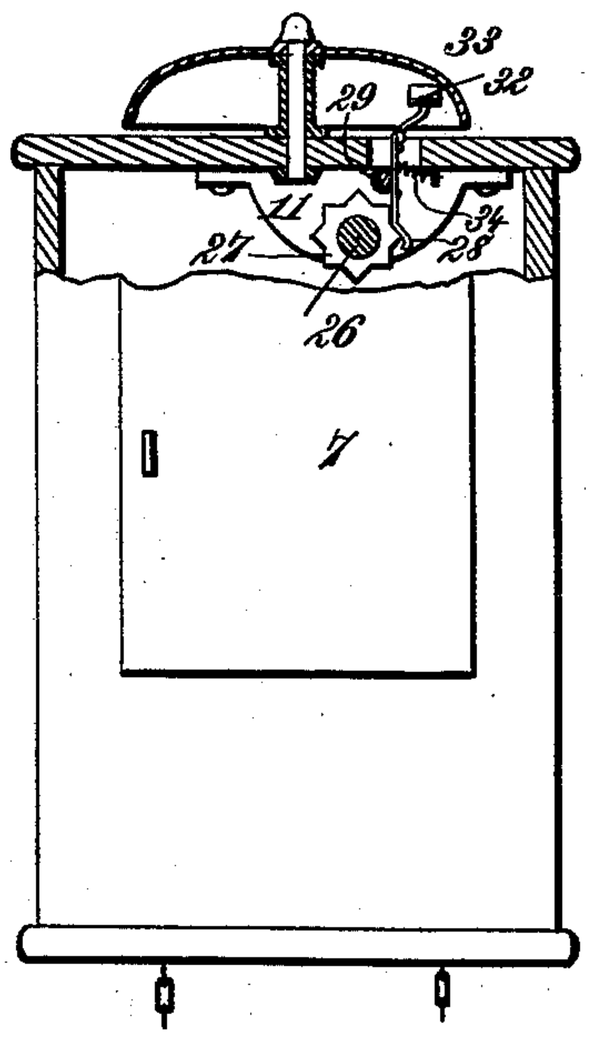


Fig. 6.

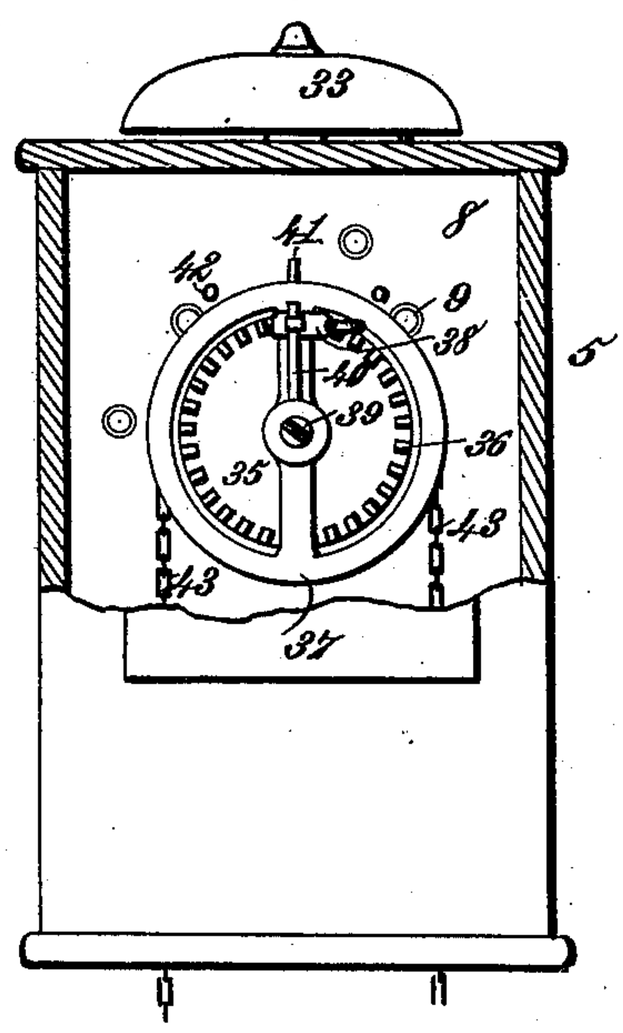
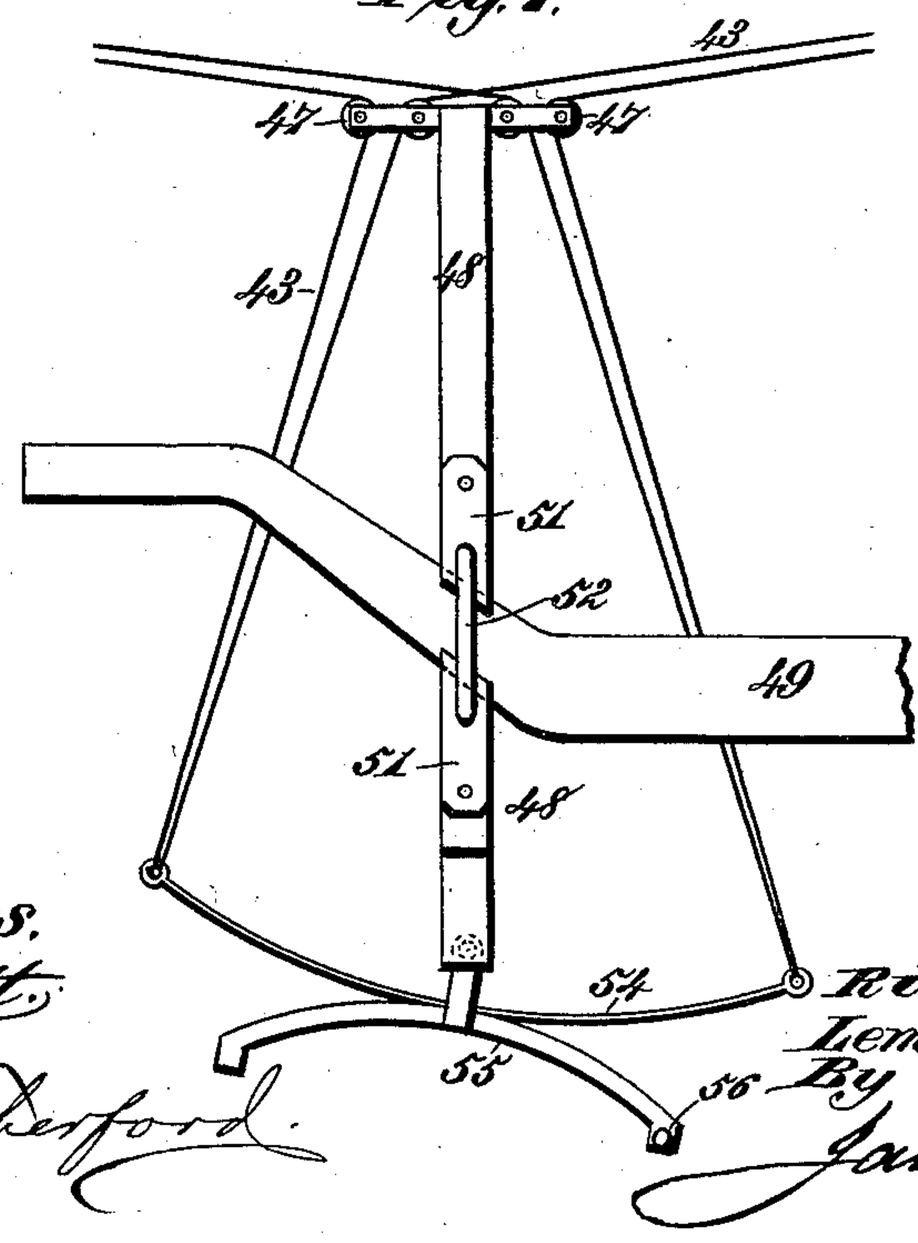


Fig. 7.



Witnesses.
Robt Everett.
J. A. Rutherford.

Inventors.
Richard H. Bachlott Jr.
Lemuel J. Ferris.
By
James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

RICHARD H. BACHLOTT, JR., OF SAVANNAH, AND LEMUEL J. FARRIS, OF BURROUGHS, GEORGIA.

AUTOMATIC STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 384,493, dated June 12, 1888.

Application filed March 21, 1888. Serial No. 267,993. (No model.)

To all whom it may concern:

Be it known that we, RICHARD H. BACHLOTT, Jr., and LEMUEL J. FARRIS, citizens of the United States, residing at Savannah and Burroughs, in the county of Chatham and State of Georgia, have invented new and useful Improvements in Automatic Station-Indicators, of which the following is a specification.

This invention relates to an automatic station-indicator which will correctly display in consecutive order the names of the several stations on the line of a railroad as said stations are approached or passed from either direction in which the car may be moving.

The invention consists in the construction and combination of devices in an automatic station-indicator, as will be more fully hereinafter set forth.

In the annexed drawings, illustrating the invention, Figure 1 is a sectional elevation of a portion of a railway track and car provided with my improved station-indicating devices. Fig. 2 is a sectional end view of one side of the car with station-indicating devices in position. Fig. 3 is a vertical longitudinal section on the line *w w* of a casing with rollers and a portion of their operating mechanism located therein for moving a band or apron on which are marked the names of the stations, showing also a gong and its hammer-actuating mechanism for calling attention to the names of the stations as they are displayed in succession. Fig. 4 is a vertical transverse section on the line *x x* of Fig. 3. Fig. 5 is a section on the line *y y* of Fig. 3. Fig. 6 is a section on the line *z z* of Fig. 3, showing the chain-wheel, the ratchet-wheel, the actuating pawl or pin, and its spring in front elevation. Fig. 7 is an inner side view of the automatic levers through which is actuated the chain for operating the rollers that carry the station-indicating band or apron and for actuating the gong-hammer.

Referring to the drawings, Figs. 1 and 2, the numeral 1 designates a railroad-rail, 2 the ties, and 3 are double inclines or cams that are secured at or near the ends of the ties at suitable points along the road—say a mile (more or less) from stations—for a purpose hereinafter explained.

In either end of a car, Figs. 1 and 2, and removably supported on a shelf or bracket, 4, is a rectangular casing, 5, which bears on its face the words "The next station is," and beneath this inscription is a glass panel, 6, through which the name of a station can be seen, together with words indicating its distance from the termini of the road. One end of the casing 5 may be provided with a door, 7, for giving access to the inclosed mechanism. Within the casing 5, near one end, is a partition, 8, having bearings 9 for the ends of certain rollers and shafts, hereinafter described, the other ends of which are provided with bearings 10 in the farther end of the casing, except the gong-actuating shaft, which has its other bearing in a lug or hanger, 11, secured to the top of the casing.

The name belt, band, or apron 12, Fig. 4, on which the names of the stations are marked, is attached at its opposite ends to two rollers, 13, that are journaled in the upper part of the casing 5, as shown in Fig. 3. These rollers 13 are provided at one end with pinions 14, that mesh with and are driven by a gear-wheel, 15, on a shaft, 16, journaled beneath the belt-actuating rollers.

In order to display the name-belt vertically behind the glass panel 6, it is passed in front of a pair of guide-rollers, 17, that is journaled in the front of the casing near the upper and lower edges of said glass panel. To hold the name-belt taut as it moves from one actuating-roller 13 to the other, a pair of automatically-adjustable rollers, 18, is provided, one being located to bear on each side of the name-belt in the lower and rear parts of the casing, as shown in Fig. 4. These rollers are journaled in arms 19, that project from the opposite ends of a stiffening-bar, 20, by which they are firmly connected. The stiffening-bar 20 is provided in its lower edge and at opposite ends with pivots 21, that are journaled in the partition 8, and in the farther end of the casing in the same manner as the rollers and shafts above described. One of the arms 19 has a grooved pulley, 22, formed on it, or rigidly secured thereto, concentric with the bar-pivots 21, and to this pulley is secured one end of a cord, 23, the other end of which is attached to one end of a spiral spring, 24, that is fastened at its

other end to the rear upper portion of the casing. The tension of the spring 24, acting through the cord 23, pulley 22, bar 20, and its arms 19, causes the rollers 18 to bear against the opposite sides of the belt 12 with a regulated pressure that adjusts itself to the varying tension of the belt in passing from one of the rollers 13 to the other, and so that the belt is prevented from running slack and will maintain a proper degree of tension without regard to its position on the rollers. By connecting the opposite arms 19 through a stiffening-bar, 20, to which they can be screwed, as shown in Fig. 3, the tension-rollers 18 will be securely braced, so as to insure a uniform pressure on the belt at both ends of the rollers.

One of the belt-actuating rollers 13 meshes with a gear-wheel, 25, on a short shaft, 26, that is journaled in the partition 8 and hanger 11. The opposite end of this shaft 26 carries a star-shaped cam-wheel, 27, Fig. 5, that engages a lever, 28, secured to a pivot, 29, supported in a bearing, 30, in the upper part of the casing. The lever 28 is passed through an opening, 31, in the top of the casing 5, and carries at its upper end a hammer, 32, for striking a gong, 33, supported above the casing. A spring, 34, is provided to retract the hammer-lever after it has been actuated by the cam.

The gear-wheel 15 is secured to a shaft, 16, that is passed through the partition 8, and extends beyond the same, as shown in Fig. 3. On the projecting portion of the shaft 16 is secured a ratchet-wheel, 35, having an annular series of teeth, 36, on its face, as shown in Fig. 6. A chain-wheel, 37, is loosely mounted on the end of the shaft 16, and carries a detachable and reversible pin, 38, which engages the ratchet-teeth 36, and is adapted to act as a pawl in driving the ratchet-wheel 35 and shaft 16 in one direction. When the wheel 37 is moved in the opposite direction, the pawl or pin 38 will slip over the teeth 36 without actuating the ratchet-wheel. The chain-wheel 37 is held loosely on the end of the shaft 16 by means of a screw-bolt, 39, passed concentrically through the wheel-hub and into the longitudinal center of the shaft, so that the wheel will be capable of turning on the shaft and smooth portion of the bolt. This screw-bolt also serves for attaching to the wheel-hub a spring-arm, 40, that holds the pawl 38 in place.

The chain-wheel 37 is of greater diameter than the ratchet-wheel 35, and is provided on its rear face, near its periphery, with a lug or pin, 41, that is adapted to come in contact with a stop, 42, located on the partition 8 to limit the movement of said chain-wheel and prevent it from rotating the ratchet-wheel 35 too far, the name-belt being thus caused to stop promptly as the name of each station comes into view.

To the chain-wheel 37 are attached chains 43, through which it is actuated. These chains pass down through openings 44 in the bottom of the casing 5, and through openings 45 in the bottom of the car, being guided by pulleys 46, located at suitable points in or upon the car-body. Beneath the car-body the chains 43 are passed around pulleys 47, located on the upper portion of a vertical T-bar, 48, that is clipped to one of the inclined ends of the equalizing-beam 49, as shown in Figs. 1, 2, and 7. The lower portion of the vertical bar 48 is bent or curved, as shown in Fig. 2, and formed in two separable or adjustable parts, each of which is provided with a longitudinal slot, 50, and with a lug, 51, that is located on the inner side of the bar. The arms of the clip 52 are passed through the lug 51 and slot 50, and are secured by nuts 53 on their ends, as shown. To the lower end of the bar 48 are attached levers 54 and 55, the upper lever, 54, being made of spring metal with its ends curved upward and connected with the lower ends of the chains 43, while the lower lever, 55, has its end curved downward, and one end of said lever 55 is provided with an inward-projecting lug, 56, while the other end has a lug, 57, that projects outward.

The chains 43 extend to both ends of the car, though levers 54 and 55 are located at only one end, and the chains at opposite ends of the car may be provided with snap-hooks, so that the casing 5 can be readily moved from one end of the car to the other, to be in front of the passengers no matter which way the car may be moving.

While the car is approaching a station and is distant therefrom, say, a mile, more or less, one of the lateral projections, 56 or 57, on the tilting lever 55 will come in contact with and ride over a double-inclined cam, 3, fastened to one of the road-ties. The tilting movement thus imparted to the lever 55 will also cause the lever 54 to tilt, thus drawing on one of the attached chains 43 and slackening the other, so as to actuate the chain-wheel 37, ratchet-wheel 35, and connected gears and shafts to move the name-belt 12 and sound the gong 33, thereby attracting attention to the name of the next station, which is displayed through the glass panel of the casing or signal-box. After the car has passed, say, a mile (more or less) beyond the station, the other one of the lateral lugs 56 or 57 will come in contact with another double-inclined cam, so located as to tilt the levers 54 and 55 in a direction opposite to that in which they were last moved, thereby setting the chain-wheel 37 and its attached pawl 38 back, ready to again actuate the ratchet-wheel 35 in a forward direction at the proper time for displaying the name of the next station. In this backward movement of the chain-wheel 37 and pawl 38 the pawl will ride over the ratchet-teeth 36 without actuating the wheel 35, shaft 16, and connected gearing. In moving the chain-wheel forward to actuate the station-indicating mechanism the stops 41 and 42 will limit the forward movement of the chain-wheel, so as to cause the display of only the name of the next sta-

tion with its distance from the termini of the road, and any sudden jerk of the actuating-levers 54 and 55 is obviated by making the lever 54 of spring metal.

The double-inclined cams 3 are located alternately at distances of, say, twelve and sixteen inches from the rails, so that the one at twelve inches will come in contact with the inner projection or lug, 56, of the lever 55, and the one at sixteen inches with the outer lug or projection, 57, of said lever. While the car is moving in one direction the inner lug, 56, and its contacting track-cam will serve to actuate the station-indicating mechanism, as already described, so as to display the names of the stations in succession, while the outer lug, 57, and its contacting track-cam will set the chain-wheel 37 back after the name of each station is displayed. On the return-trip the action of the lugs 56 and 57 and their contacting-cams will be reversed, the signal box or casing 5 having been removed to the opposite end of the car and the pawl 38 withdrawn and reversed, so as to actuate the ratchet-wheel and its connected gearing properly to display the names of the stations in reverse order as they are approached and passed. It will be seen that the station-indicating mechanism is automatic in all its parts, and that the names of the several stations will be correctly displayed in consecutive order without regard to the direction in which the car is moving.

What we claim is—

1. In a station-indicator, the combination, with a name-belt and its actuating-rollers provided with gear-wheels, of a shaft carrying a spur-gear and a ratchet-wheel, a chain-wheel loosely mounted on said shaft and provided with a reversible pawl to engage the ratchet-wheel, chains attached to said chain-wheel, levers connected with the lower ends of said chains beneath a railway-car, and cams located adjacent to the track to actuate said levers for operating the chain-wheel and station-indicating mechanism and for setting the chain-wheel back after each station is passed, substantially as described.

2. In a station-indicator, the combination, with a name-belt and its actuating and supporting rollers, of a horizontally-pivoted bar provided at each end with arms, tension-rollers journaled in said arms and located on opposite sides of the name-belt to bear thereon from opposite directions, a pulley on one of said arms, a spiral spring, and a cord connecting said spring with the pulley, whereby the tension of the belt is automatically regulated, substantially as described.

3. In a station-indicator, the combination of the casing 5, the name-belt 12, the rollers 13, provided with gears 14, the shaft 16, carrying a spur-gear, 15, and a ratchet-gear, 35, a chain-wheel, 37, loosely mounted on said shaft 16, a reversible pawl, 38, and its spring 40, carried by said chain-wheel, the chains 43, pulleys 46 and 47, bar 48, levers 54 and 55, supported by said bar and connected with the chains and track-cams 3 to actuate said levers, substantially as described.

4. In a station-indicator, the combination, with the chain-wheel 37 and chains 43, of the bar 48, clipped to the equalizing-beam 49, the levers 54 and 55, supported by said bar, one of said levers being connected with the chains 43 and the other provided with lateral projections or lugs 56 and 57, and the cams 3, located adjacent to the rail on one side of the track and alternately at varying distances therefrom, substantially as described.

5. In a station-indicator, the combination, with the name-belt 12, of the horizontally-pivoted bar 20, having at its ends arms 19, the tension-rollers 18, journaled in said arms, the pulley 22, spring 24, and cord 23, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

RICHARD H. BACHLOTT, JR.
LEMUEL J. FARRIS.

Witnesses:
ALFRED H. MOORE,
ABE. E. DRYFUS.