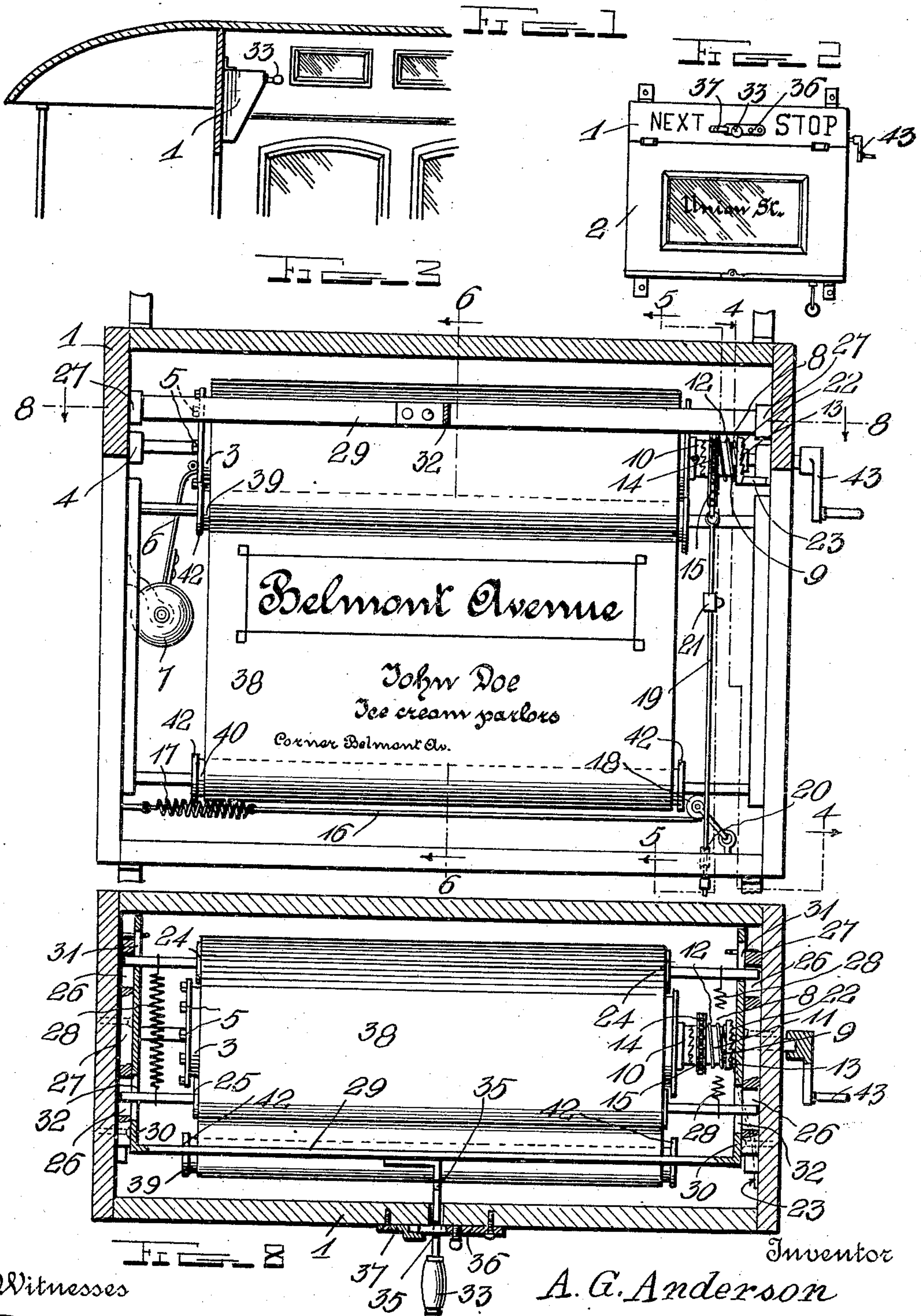


A. G. ANDERSON.  
STATION INDICATOR.  
APPLICATION FILED MAY 10, 1909.

956,260. Patented Apr. 26, 1910.

2 SHEETS—SHEET 1.



Witnesses  
L. O. Hilton

Inventor  
A. G. Anderson  
by *A. B. Wilson & Co.*  
Attorneys



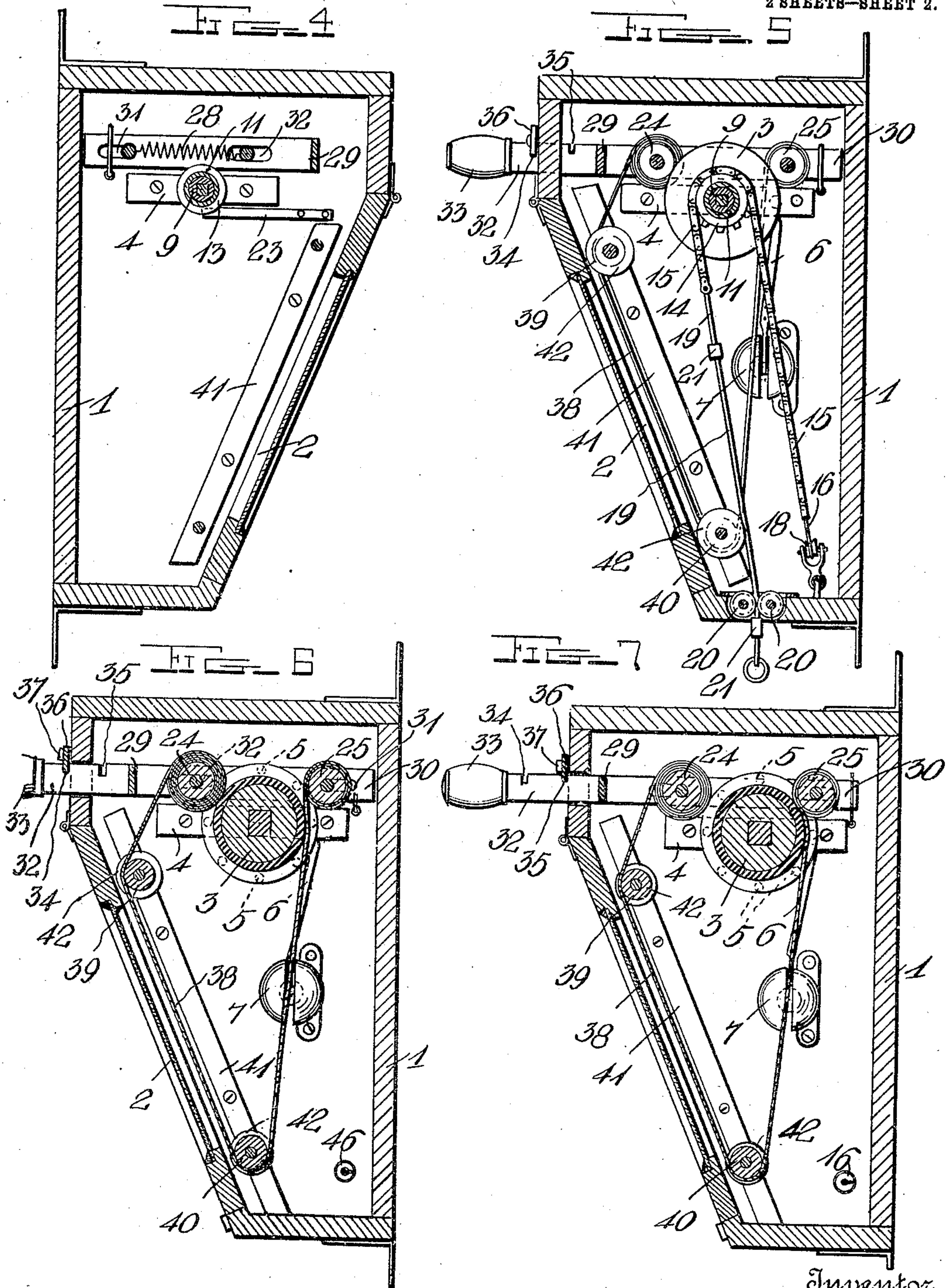
A. G. ANDERSON.  
STATION INDICATOR.

APPLICATION FILED MAY 10, 1909.

956,260.

Patented Apr. 26, 1910.

2 SHEETS—SHEET 2.



Witnesses

*L. O. Hilton*

Inventor

*A. G. Anderson*

By

*A. B. Wilson & Co*

Attorneys



# UNITED STATES PATENT OFFICE.

ANDREW G. ANDERSON, OF FERRON, UTAH.

STATION-INDICATOR.

956,260.

Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed May 10, 1909. Serial No. 495,003.

*To all whom it may concern:*

Be it known that I, ANDREW G. ANDERSON, a citizen of the United States, residing at Ferron, in the county of Emery and State of Utah, have invented certain new and useful Improvements in Station-Indicators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in station indicators.

The object of the invention is to provide an indicator of this character having a simple and improved construction of operating mechanism whereby the web may be turned in the proper direction to successively bring the characters thereon into view, and means whereby the parts may be quickly and easily shifted to permit the web to be reversed or run back to again bring its starting end into position.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a portion of a car showing one application of the invention; Fig. 2 is a front view of the indicator; Fig. 3 is a similar view, with the cover and web removed; Fig. 4 is a vertical sectional view on the line 4—4 of Fig. 3, looking in the direction of the arrow; Fig. 5 is a similar view on the line 5—5 of Fig. 3, looking in the direction of the arrow; Fig. 6 is a similar view on the line 6—6 of Fig. 3, showing the parts in position for winding the web in a forward direction; Fig. 7 is a similar view with the parts in position for reversing or running the web back; Fig. 8 is a horizontal sectional view on the line 8—8 of Fig. 3.

Referring more particularly to the drawings, 1 denotes the casing of the indicator, said casing may be of any suitable shape but is preferably constructed as herein shown and is provided with a hinged cover 2, on its outer side in which is formed a view opening whereby the characters on the indicating web may be readily observed. In the upper portion of the casing is arranged

a main operating roll 3, said roll being preferably covered with rubber or similar material for producing a positive frictional surface. The roll 3 is preferably provided with flanged outer ends and the ends of the roll shaft are journaled in suitable bearing plates 4 secured to the opposite sides of the casing, as shown. On one end of the roll 3 is arranged a series of laterally projecting studs 5 which, as the roll is turned, are adapted to be brought into successive engagement with a trip lever 6 the opposite end of which is connected with the operating mechanism of a bell or other suitable alarm 7 which will be sounded as the roll is revolved. At the opposite end of the roll is secured an operating clutch 8 comprising a sleeve 9 on which, adjacent to the end of the roll, is fixedly secured the stationary member 10 of the clutch. The opposing member 11 of the clutch is slidably and revolvably mounted on the sleeve and said member 11 is held in operative engagement with the stationary member 10 to turn the roll 3 in one direction by means of a coiled spring 12 which is arranged on the sleeve 9 between the clutch member 11 and an annular flange 13 arranged on the outer end of the sleeve. The engaging faces of the clutch members 10 and 11 are provided with ratchet teeth which, when the loose member 11 of the clutch is turned in one direction, will be operatively engaged to turn the roll. When the roll is turned, as in the operation of reversing the web, the teeth of the stationary member of the clutch will play loosely over the teeth of the loose member forcing the latter back against the pressure of the spring 12 and will not turn said loose member of the clutch.

Any suitable means may be employed for operating the loose member 11 of the clutch to turn the driving roll 3 in the proper direction, the clutch member 11 being here shown and is preferably provided on its outer edge with sprocket gear teeth 14 with which are engaged by a sprocket chain 15, one end of which is secured by a cord or other flexible connection 16 to a coiled retracting spring 17 arranged in the casing, as shown, the cord or flexible connection being passed through a guide pulley 18 before engaging the end of the spring. The opposite end of the chain 15 is connected with an operating cord 19 which passes be-



tween suitable guide pulleys 20 arranged in the bottom of the casing and from thence extends to the end of the car or to any other suitable point within convenient reach of the conductor or operator. On the operating cord 19 are arranged suitable stops 21 which engage the opposite sides of the pulleys 20 and thereby limit the movement of the operating cord and chain.

On the flanged outer end 13 of the sleeve 9 is formed a series of ratchet teeth 22 with which is engaged the end of a spring pawl 23 secured to the adjacent side of the casing. The engagement of the pawl 23 with the ratchet teeth 22 serves to prevent a retrograde movement of the driving roll, said spring also serving as a brake or tension device for the roll in its forward movement.

Arranged in the upper portion of the casing are web winding rolls 24 and 25, said rolls being disposed on each side of the main driving roll 3 and slightly above the center of the same. The shafts of the rolls 24 and 25 are loosely mounted in elongated bearing apertures 26 formed in bearing plates 27 secured to the opposite sides of the casing, as clearly shown in Fig. 8 of the drawings. The shafts of the rolls 24 and 25 are connected together at each end by coiled retracting springs 28, the pressure of which is exerted to draw the rolls into frictional engagement with the main drive roll 3 whereby said web winding rolls may be independently turned in opposite directions by the movement of the main driving roll as will be hereinafter described.

Operatively engaged with the shafts of the rolls 24 and 25 is a shifting device by means of which one of the web winding rolls is held out of engagement with the main driving roll when the other web winding roll is in operative engagement therewith. The shifting device comprises a bail shaped plunger frame 29 in the side bars 30 of which are formed pairs of shaft engaging slots 31 and 32 with which the shafts of the rolls 24 and 25 are respectively engaged. Connected to the plunger frame 29 is an operating bar 32 which projects through a slot in the upper portion of the front side of the casing and is provided with an operating handle 33. In the bar 32 are formed notches 34 and 35 with which is adapted to be engaged a latch bar 36 pivotally mounted on the outer side of the casing, as shown. The latch bar is provided with an operating knob and the free end of the bar is adapted to engage with a keeper 37. When the plunger frame is pushed inwardly and the latch bar engaged with the outer notch 34 in the operating bar 32, the winding roll 25 will be forced out of engagement with the driving roll 3 and the winding roll 24 will be drawn into frictional engagement with said driving roll by the springs 28, as clearly

shown in Fig. 6 of the drawings. When the plunger frame is retracted or pulled outwardly, the winding roll 24 will be held out of engagement with the driving roll and the winding roll 25 will be thrown into engagement therewith by the springs 28. When the plunger frame is in the latter position, the latch bar 36 will be engaged with the inner notch 35 of the operating bar, as clearly shown in Fig. 7 of the drawings. When the winding roll 24 is in frictional engagement with the driving roll 3, the operation of the latter will turn said winding roll to run the web in a forward direction, and when the winding roll 25 is in engagement with the driving roll, said winding roll will be turned to reverse or run the web back in the opposite direction.

Adapted to be wound off and on the winding rolls 24 and 25 is a web or apron 38 on which are shown the names of the stations or streets at which the car stops. In addition to the names of the stations or streets, the web or apron may contain any suitable advertising or descriptive matter. One end of the web is secured to the outer winding roll 24 while the opposite end of the web is secured to the inner or rear winding roll 25 and from said roll, the web passes over upper and lower idle guide rolls 39 and 40, the shafts of which are loosely mounted in suitable bearing plates 41 secured to the opposite sides of the casing. The rolls 39 and 40 are disposed above and below and immediately in rear of the view opening in the cover whereby the stretch of the web between the rolls will be displayed or may be readily observed through said view opening. The opposite ends of the guide rolls are preferably provided with radially projecting flanges 42 which hold the web in position and prevent the same from slipping beyond the ends of the rolls. The flanges on the opposite ends of the main drive roll also serve to hold the web in proper position and to guide the same when wound on the winding rolls.

One end of the shaft of the main drive roll 3 projects through a suitable opening in the adjacent side of the casing and is squared to receive a suitable wrench or crank handle 43 by means of which the driving roll may be turned when the winding roll 25 is in engagement therewith, to reverse the movement of the web whereby the same is unwound from the winding roll 24 and rewound on the roll 25.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the



principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

Having thus described my invention, what I claim is:

1. In an indicator of the character described, a casing, a main drive roll operatively mounted in said casing, a pair of web winding rolls, a web adapted to be wound on and off said rolls, means whereby said winding rolls are loosely mounted in said casing, a roll shifting mechanism, said mechanism comprising a plunger frame having formed therein roll engaging slots, retracting springs operatively connected to said rolls to hold the same in frictional engagement with said driving roll, an operating bar connected to said plunger frame, and means whereby said frame is secured in operative position to hold one or the other of said winding rolls out of engagement with said driving roll.

2. In an indicator of the character described, a casing, a main drive roll operatively mounted in said casing, a pair of web winding rolls, a web adapted to be wound off and on said rolls, retracting springs adapted to hold said rolls in frictional engagement with said main driving roll whereby said winding rolls are driven, a roll shifting mechanism, said mechanism comprising a plunger frame having formed therein bearing slots adapted to loosely engage the shafts of said winding rolls, means whereby said frame is shifted to hold one or the other of said winding rolls out of engagement with said driving roll and against the pressure of said springs, a notched operating bar secured to said frame and projecting from said casing, a latch arranged on said casing and adapted to be engaged with the notches in said bar to secure said

shifting frame in its adjusted position and to thereby hold one or the other of said winding rolls out of engagement with the driving roll, and a handle on said operating bar.

3. In a station indicator, a casing, a main drive roll operatively mounted therein, a pair of web winding rolls, a web adapted to be wound on and off said rolls, means to hold said winding rolls in operative engagement with said driving roll, means to shift said rolls and to hold one or the other of the same out of engagement with said driving roll, a clutch mechanism connected with one end of said driving roll, said mechanism comprising a sleeve secured to the shaft of the roll, a stationary clutch member fixedly secured to said sleeve, a loose clutch member slidably and revolubly mounted on said sleeve, a spring to hold said loose clutch member in operative engagement with said stationary clutch member, a series of sprocket teeth arranged on said loose clutch member, a sprocket chain engaged with said teeth, a retracting spring connected to one end of said chain, an operating cord connected to the opposite end of the chain, stops adjustably secured to said operating cord, a toothed flange arranged on the outer end of said clutch sleeve, a spring pawl adapted to engage said toothed flange to hold said guide roll against retrograde movement, and means whereby said driving roll may be turned independently of said clutch mechanism.

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

ANDREW G. ANDERSON.

Witnesses:

A. M. LORING,  
A. W. McKIMON.