March 18, 1924. 1,487,409

J. W. WALLIN

STATION INDICATOR

Filed July 11, 1923 2 Sheets-Sheet 1

Fig. 1.

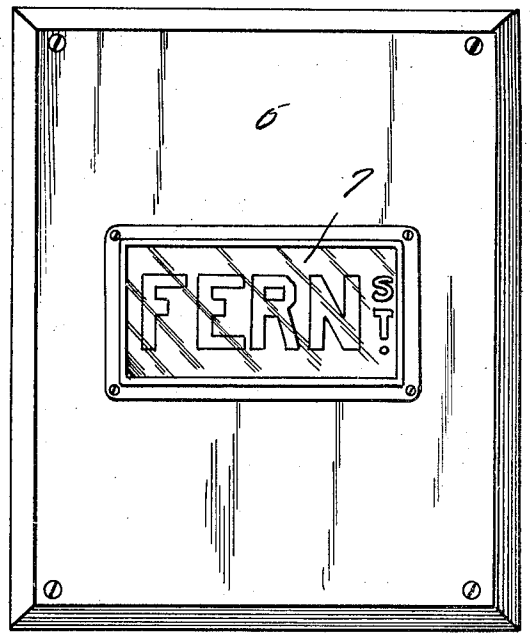
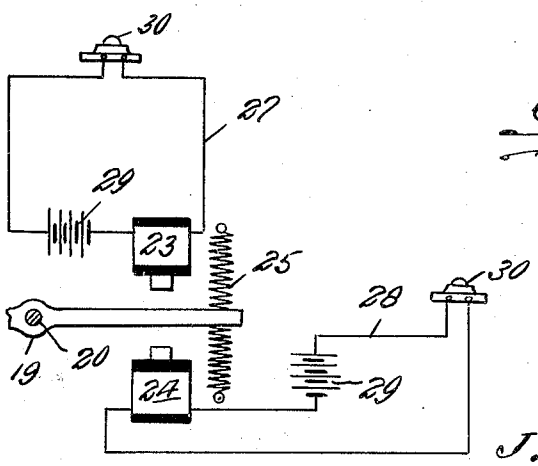


Fig. 4.



Witnesses:
A. L. Fox,

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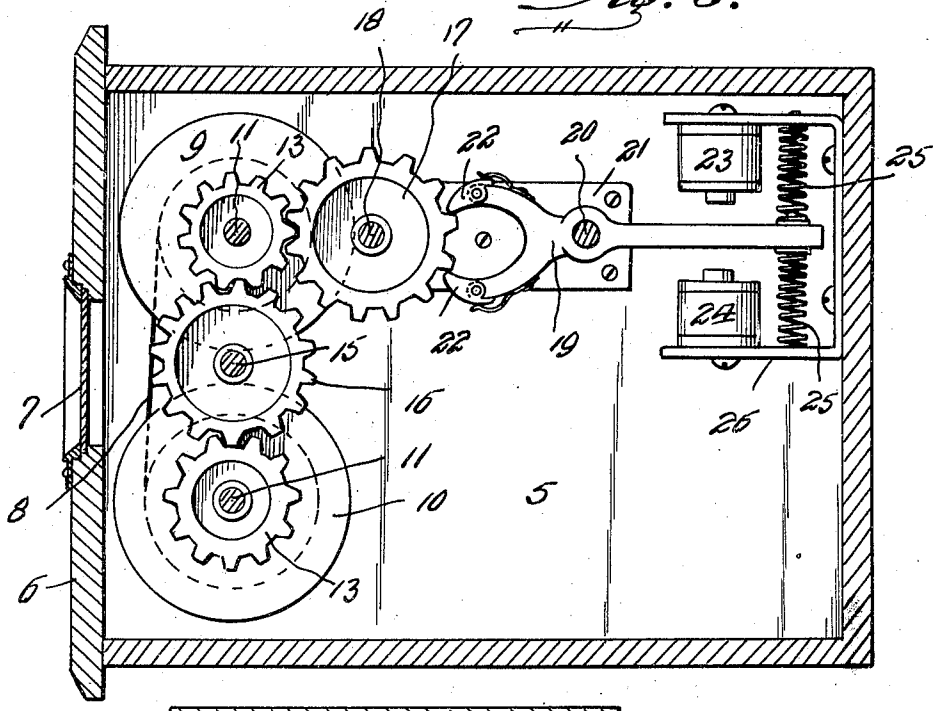
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Fig. 3.



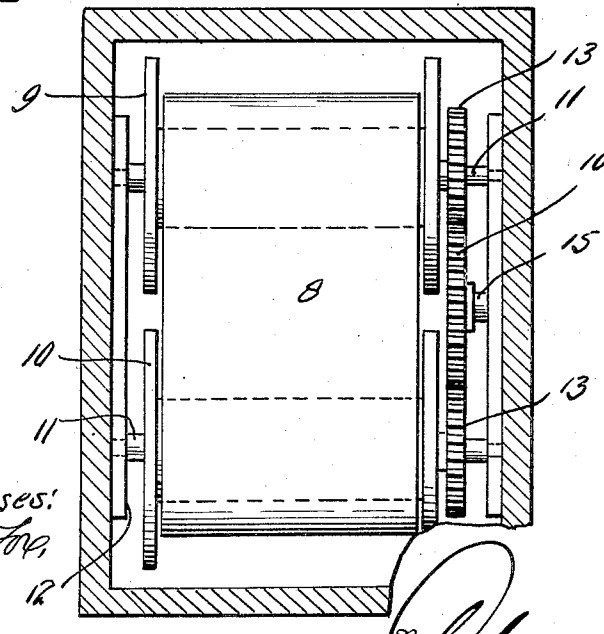


Fig. 2.

Witnesses:
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Patented Mar. 18, 1924. 1,487,409

UNITED STATES PATENT OFFICE.

JOSEPH W. WALLIN, OF BELOIT, WISCONSIN.

STATION INDICATOR.

Application filed July 11, 1923. Serial No. 650,778.

To all whom it may concern:

Be it known that I, JOSEPH W. WALLIN, a citizen of the United States, residing at Beloit, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Station Indicators, of which the following is a specification.

This invention relates to station indicators, and has particular reference to devices of that kind known as the double reel and web type.

The primary object of the invention is to generally simplify and improve devices of the above kind whereby the same will meet with the requirements for a successful commercial use.

Another object of the invention is to provide an operating mechanism for double reel and web type of station indicators which embodies simplicity and durability of construction as well as efficiency in operation.

With the above general objects in view, and others that will become apparent as the nature of the invention is better understood, the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings and claimed.

In the drawings, wherein like reference characters indicate corresponding parts throughout the several views,

Figure 1 is a front elevational view of a device constructed in accordance with the present invention,

Figure 2 is a vertical transverse sectional view of the device shown in Figure 1 taken directly behind the front cover plate of the casing,

Figure 3 is a vertical longitudinal sectional view of the device shown in Figure 1 taken adjacent one of the side walls of the casing, and

Figure 4 is a fragmentary diagrammatic view illustrating details of the operating mechanism.

Referring more in detail to the drawings, the invention embodies a substantially rectangular casing 5 having a removable front cover plate 6 which is provided with a central window 7 through which the names of the station are to be read, said names of the station being provided on a web 8 having its opposite ends attached to superimposed reels 9 and 10 respectively.

The reels 9 and 10 are mounted upon suitable shafts 11 which are journaled in bearing plates 12 fastened to the side walls of the casing 5, which shafts 11 have suitable spur gears 13 fastened upon the end portions of the same as shown in Figure 2. An idler shaft 15 is fixed to one of the bearing plates and has a gear 16 journaled thereon between the gears 13 and meshing with the latter as shown in Figure 3. It will thus be seen that when the upper gear 13 is rotated, for unwinding the web 8 therefrom, the lower reel 10 will be rotated to wind the web thereon. Means is provided for rotating the gear 13 so as to drive the reel 9, and the same includes a spur gear 17 suitably journaled upon a shaft 18 rearwardly of the gear 13 carried by the upper shaft 11. This gear 17 meshes with the upper gear 13 and is operated by an armature lever 19 which is pivoted between its ends as at 20 on a bracket 21 secured to the adjacent side of the casing 5. The forward end of the lever 19 is bifurcated and provided with spring pressed pawls as at 22 one of which is operative in one direction and inoperative in the other direction, while the other one is operative in the opposite direction to the first pawl and inoperative in the other direction of movement thereof, so that when the lever 19 is tilted in one direction a step by step movement will be given to the gear 17 in one direction and, when the lever is rocked in the opposite direction a reverse movement is imparted to the gear 17. In this way the web 8 is capable of being wound from either roller to the other as required in making return trips.

A magnet 23 is mounted above the rear end of the armature lever 19, and another magnet 24 is mounted beneath this lever so that when one magnet is energized the lever is operated in one direction, and when the other magnet is energized the lever is reversely operated. The armature lever 19 is yieldingly maintained in a horizontal position with its rear end portions midway between the magnets 23 and 24 by means of helical compression springs 25 which are disposed at opposite sides of the lever rearwardly of the magnets. The springs 25 are preferably disposed against the inner faces of the legs of a U-shaped bracket 26 which is fastened to the rear wall of the casing 5, and the magnets 23 and 24 are preferably secured to the free ends of the legs of this bracket as shown in Figure 3.

The selective energizing of the magnets 23 and 24 may be placed under manual control of the conductor as shown in Figure 4. Referring to this figure it will be seen that each of the magnets is included in a separate electrical circuit 27 and 28 including the batteries 29 and the switches 30, the circuit 27 being provided for the upper magnet 23 and the circuit 28 being provided for the lower magnet 24. Thus, when the web is to be moved in one direction, one of the switches is operated and, when the web is to be moved in the opposite direction, the other switch is operated.

The station indicator constructed in accordance with the above can be placed in a conspicuous position in the car so as to be readily seen by all of the passengers, thereby insuring that each passenger will be clearly advised of the stations as they are approached in a more satisfactory manner than is had by the generally practiced method of calling the stations out. Also, the structure and mechanism by which this is accomplished is extremely simple, efficient and durable so that the device will have a long continued period of usefulness and has no frail parts likely to get out of order or require attention.

Minor changes may be made without departing from the spirit and scope of the invention as claimed.

What I claim as new is:

1. In a station indicator, a pair of superimposed reels having the ends of a web attached thereto, gears in fixed relation to said reels, an idler gear meshing with and disposed between the first named gears, a fourth gear meshing with the upper reel gear and disposed rearwardly thereof, a lever pivoted between its ends rearwardly of the fourth gear and having a bifurcated forward end provided with oppositely acting spring-pressed pivoted pawls operatively related with the teeth of the fourth gear whereby movement of the lever in one direction will effect travel of the web in one direction and movement of the lever in an opposite direction will cause a reverse movement of the web, and means associated with the rear end of the lever for effecting its movement.

2. In a station indicator, a pair of superimposed reels having the ends of a web attached thereto, gears in fixed relation to said reels, an idler gear meshing with and disposed between the first named gears, a fourth gear meshing with the upper reel gear and disposed rearwardly thereof, a lever pivoted between its ends rearwardly of the fourth gear and having a bifurcated forward end provided with oppositely acting spring-pressed pivoted pawls operatively related with the teeth of the fourth gear whereby movement of the lever in one direction will effect travel of the web in one direction and movement of the lever in an opposite direction will cause a reverse movement of the web, means associated with the rear end of the lever for effecting its movement, said last named means embodying a pair of magnets respectively disposed above and below the rear end of the lever and capable of attracting the latter, means for selectively energizing said magnets independently at will, and yieldable means disposed rearwardly of the magnet and engaging the lever for maintaining the same midway between the magnets.

3. In a station indicator, a pair of superimposed reels having the ends of a web attached thereto, gears in fixed relation to said reels, an idler gear meshing with and disposed between the first named gears, a fourth gear meshing with the upper reel gear and disposed rearwardly thereof, a lever pivoted between its ends rearwardly of the fourth gear and having a bifurcated forward end provided with oppositely acting spring-pressed pivoted pawls operatively related with the teeth of the fourth gear whereby movement of the lever in one direction will effect travel of the web in one direction and movement of the lever in an opposite direction will cause a reverse movement of the web, means associated with the rear end of the lever for effecting its movement, said last named means embodying a pair of magnets respectively disposed above and below the rear end of the lever and capable of attracting the latter, means for selectively energizing said magnets independently at will, and yieldable means disposed rearwardly of the magnet and engaging the lever for maintaining the same midway between the magnets, and a U-shaped bracket mounted rearwardly of the lever and having its forwardly projecting legs provided with means upon the forward ends thereof for securing the magnets thereto, said yieldable means embodying helical compression springs disposed between the legs of the bracket and the rear end of the lever.

In testimony whereof I affix my signature.

JOSEPH W. WALLIN.