No. 609,052. Patented Aug. 16, 1898.

M. SAVAGE.

STATION INDICATOR.

(Application filed Feb. 1, 1898.)

(No Model.)

Fig. 1.

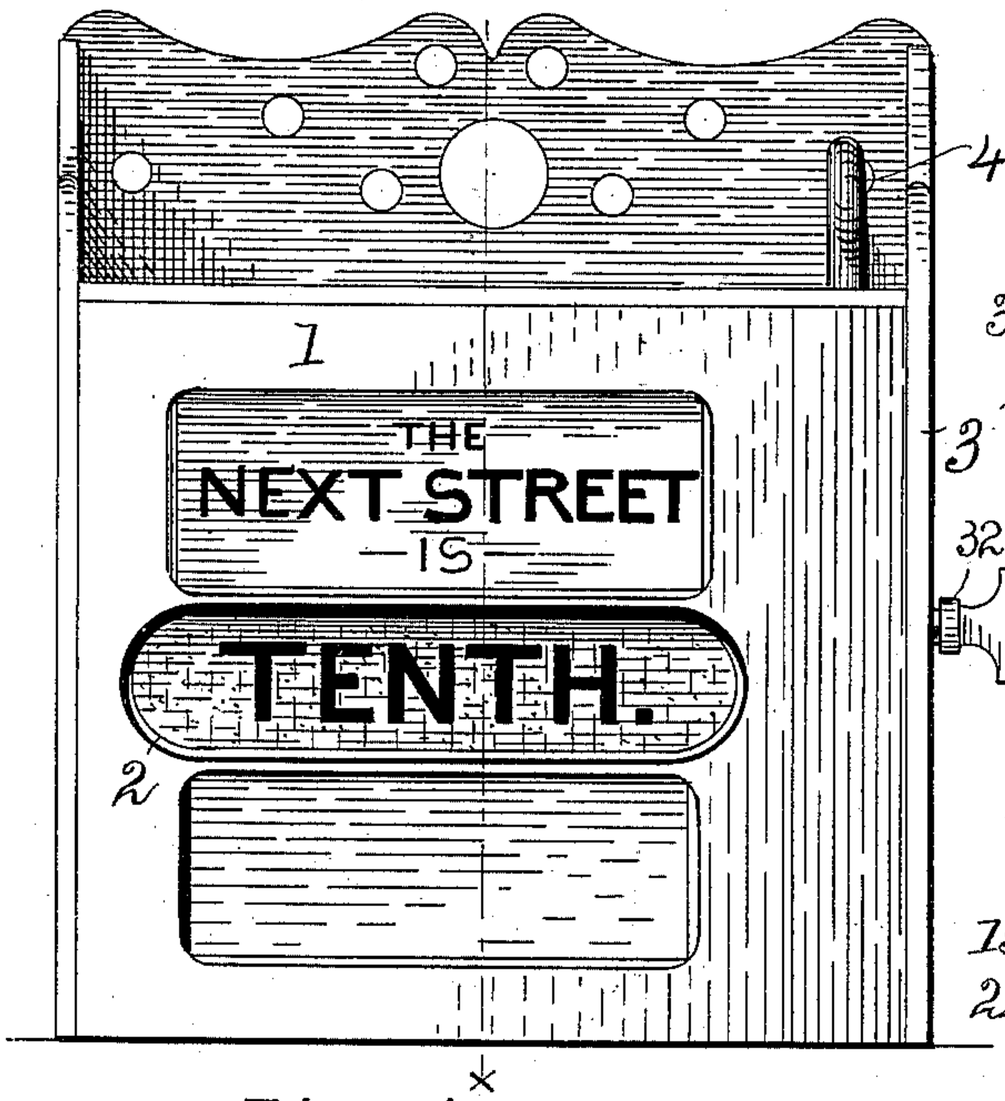


Fig. 2.

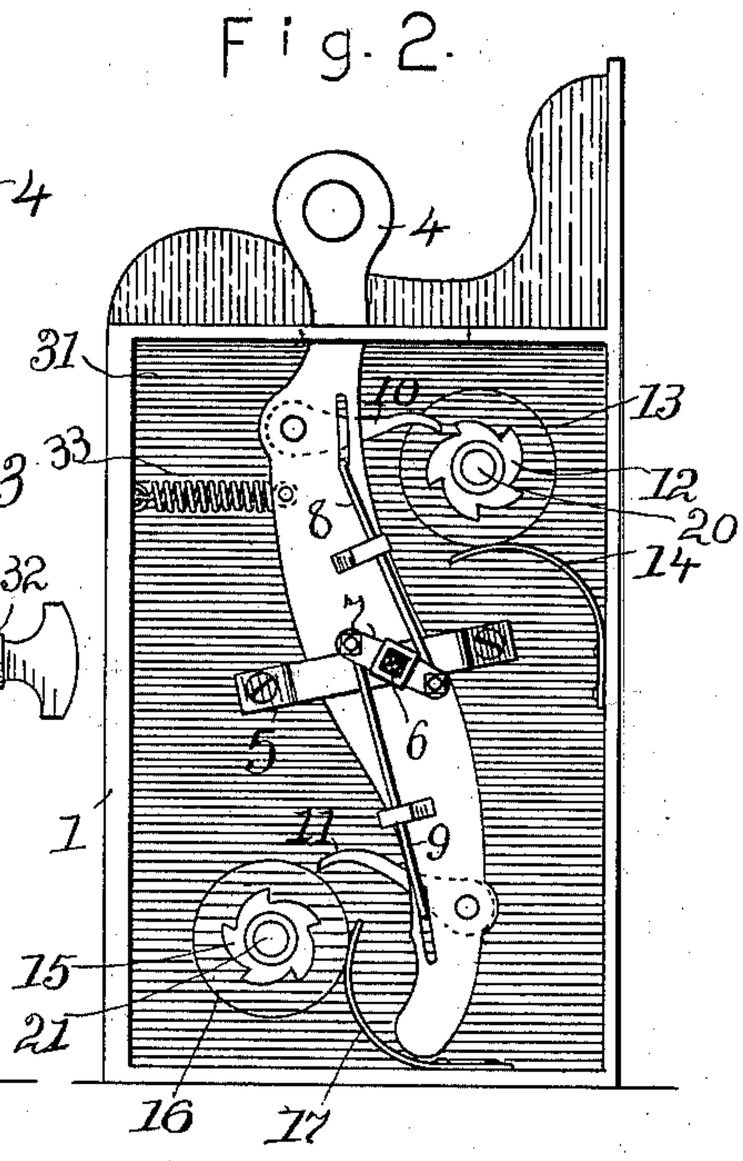


Fig. 4.

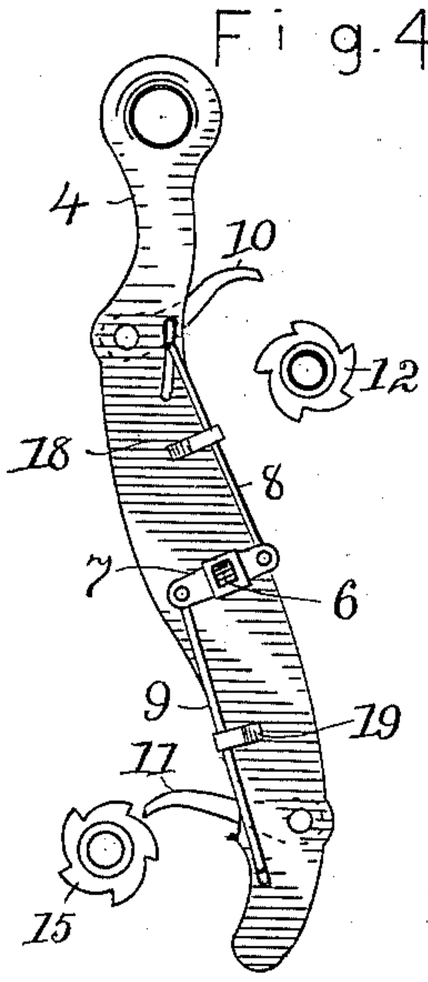


Fig. 3.

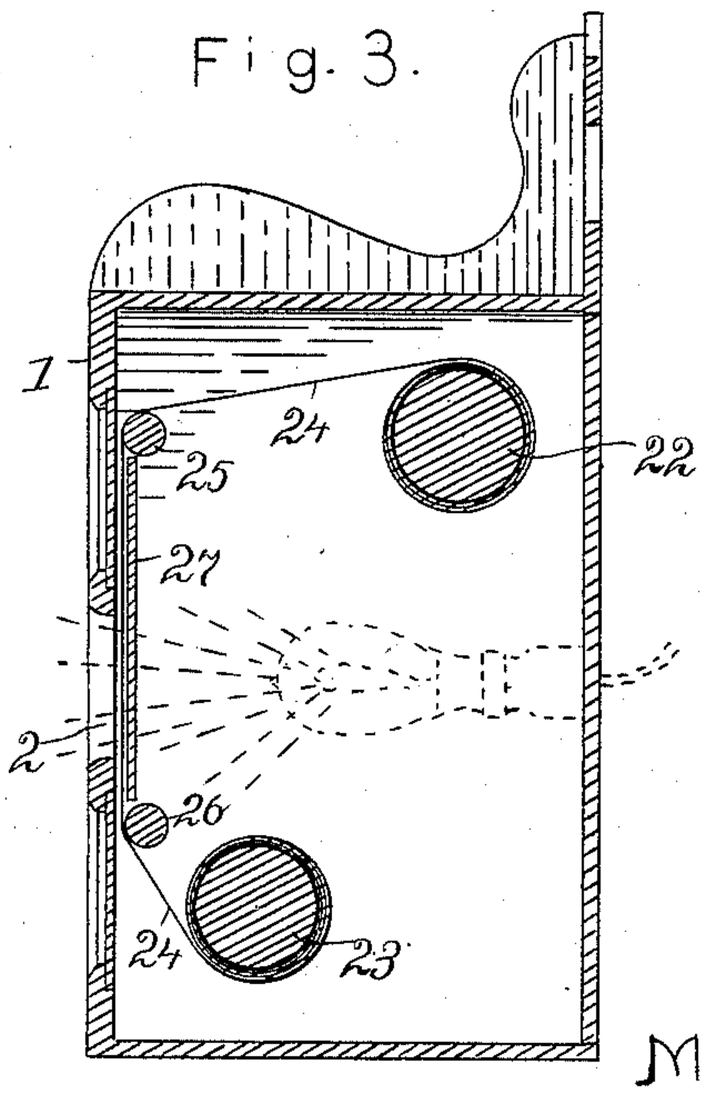


Fig. 5.

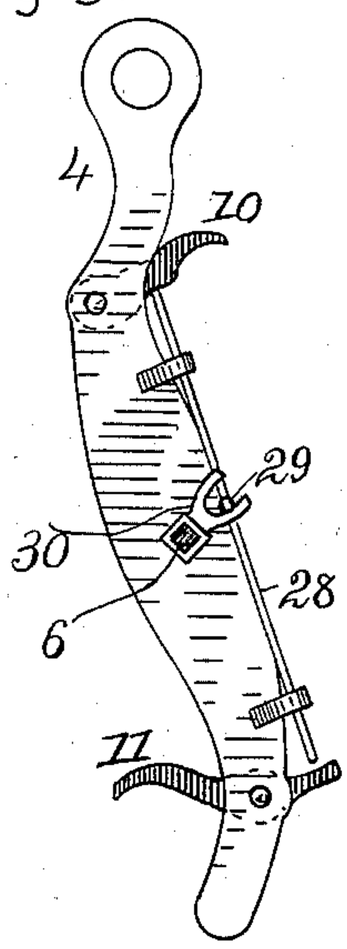
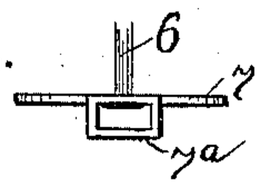


Fig. 6.



ATTEST

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UNITED STATES PATENT OFFICE.

MANFORD SAVAGE, OF CHAMPAIGN, ILLINOIS.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 609,052, dated August 16, 1898.

Application filed February 1, 1898. Serial No. 668,714. (No model.)

To all whom it may concern:

Be it known that I, MANFORD SAVAGE, of Champaign, in the county of Champaign and State of Illinois, have invented certain new and useful Improvements in Street and Station Indicators, of which the following is a specification.

This invention is designed to provide improved and simplified means for announcing events that occur in regular order, and it is particularly applicable to street-cars for announcing the names of streets and to railway-cars for announcing the names of stations. It is exemplified in the structure hereinafter described, and it is defined in the appended claims.

An embodiment of the invention comprises a casing having an exposure slot or opening through which the names of the streets, stations, or the like may be seen, a pair of rollers, one on each side of the exposure-opening, a flexible name-carrying band extending from one roller to the other and winding around either or both, a ratchet on or connected with each roller, and an oscillatory lever adapted to actuate either of the ratchet-wheels. The casing may be made in any desired manner and of any suitable form. The band may be any flexible material or of rigid sections flexibly conjoined. The comparative size of the rollers and the ratchet-teeth is such that a throw of a tooth will carry the band a distance equal to the space given to a name, and the teeth of one ratchet-wheel are presented in a direction opposed to the direction of the presentation of the teeth of the other ratchet-wheel. The ratchet-actuating lever is pivoted between the ratchet-wheels. It is provided with a pawl for each wheel, and provision is made whereby one pawl is held out of engagement with its wheel while the other is in working position.

The means preferably employed to shift the pawls and hold one or the other out of operation is illustrated in Figures 3 and 4 of the drawings and is set forth in the appended detailed description. One modification is illustrated in Fig. 5 and others will occur to persons skilled in the arts relating to such matters. The name-carrying band is made to traverse the exposure-opening, and back of the opening and the band is placed a transparent plate, through which artificial light may be projected for the purpose of illuminating the band and making the names thereon readable at night.

In the drawings forming part of this specification, Fig. 1 is a front elevation of an indicator illustrative of my invention. Fig. 2 is an end view thereof with an end of the casing removed. Fig. 3 is a vertical section on line x in Fig. 1. Fig. 4 is a detail of the band-driving mechanism in side elevation. Fig. 5 represents in side elevation a suggestive modification of the ratchet-actuating lever. Fig. 6 is a detail of the pawl-shifting mechanism.

The casing 1 has a slot 2 in its face, and its end plate 3 combines with partition 31 to form an end compartment in which the band-driving mechanism is placed. Rollers 22 and 23 extend from side to side of the principal compartment of the casing, one in the upper back portion and the other in the lower front portion. The band 24, of flexible translucent fabric, is wound around the rollers and extends from one to the other. Guide-rollers 25 and 26, one above and the other below the opening 2, hold a portion of the band close to the opening, and back of the opening and that portion of the band traversing the same is a glass plate 27. The shafts 20 and 21 of rollers 22 and 23 respectively extend through partition 31, and ratchet-wheel 12 and friction-disk 13 are fastened onto shaft 20, while ratchet-wheel 15 and friction-disk 16 are fastened onto shaft 21. The friction-disks are alike, and they are provided with spring-brakes 14 and 17. The ratchet-wheels are one like the other, except that the teeth are presented in opposite directions.

The lever 4 is pivoted at 6. Its lower end extends back of ratchet 15, and its upper end extends in front of ratchet 12 and through a slot in the top of the casing. The pivot of the lever is fastened in the partition 31, and it is reinforced at its outer end by a strap 5, which is fastened to the partition at its ends and is bent to embrace the lever. Pawl 10 is pivotally connected with the lever above the pivot thereof and extends rearward toward ratchet-wheel 12, and pawl 11 is pivoted in

the lower end of the lever and extends forward to engage the ratchet-wheel 15.

An arm 7 is pivoted at its center concentric with the pivot of the lever 4. A rod 8 is connected pivotally with one end of the arm, is extended upward to a point slightly below pawl 10, and terminates in an abrupt bend that passes through a slot in lever 4. Rod 9 is pivotally connected with the opposite end of the arm, and it extends downward and hooks through a slot in the lever below pawl 11. At the center of the arm is an outward-extended loop or boss, as shown at 7^a in Fig. 6, and this loop has a prismatic perforation, through which an end of a key 32 may be inserted. Guide-lugs 18 and 19 extend from the lever wholly or partly around the rods and prevent the rods from becoming detached from the slots of the lever.

In ordinary operation the device is placed in a car in a conspicuous position. The rollers are supplied with a band bearing in regular order the names of the streets or stations to be passed by the car, and the greater part of such band is rolled onto one or the other of the rollers. The arm 7 is then set so that the pawl of the roller on which the band is wound will be disengaged from its ratchet and the other pawl will be in operative position. The name of the street or station first to be passed is exposed to view through the opening in the casing, and after that is passed the lever is given a throw and a pawl moves a ratchet-wheel one tooth and turns the roller of the ratchet far enough to expose the name of the next street or station. This is repeated until the end of the run is reached, when the band has been run off one roller and onto the other; and preparatory to returning, a key, as 32 in Fig. 1, is inserted through an opening in side wall 3 and into the keyhole in loop 7^a of arm 7 and the arm is turned in a manner to throw the idle pawl into operation and disengage the active pawl. When the pawls are shifted the operation of the indicator on the return trip is the same as that described, except that the band is wound in the reverse direction and the names on the band are presented in reverse order.

Between throws of the lever the rollers are held from rotation by means of springs 14 and 17, which bear against friction-rollers 13 and 16 on the shafts of the rollers. A spring 33 is preferably employed to return the lever to its normal position after each operative throw.

The glass plate 27 forms a backing for the exposed portion of the band, holding it straight and keeping the letters in proper position, and at night a lamp may be placed behind the plate to illuminate the names.

In the modification of the pawl-shifting mechanism shown in Fig. 5 a straight rod 28 extends from above a rearward extension of the lower pawl to a point immediately below the upper pawl, and it raises the upper pawl when pushed upward and the lower pawl when pushed downward. A pin 29 extends outward from the rod 28, and a forked arm 30, pivoted concentric with the pivot 6 of the lever, straddles the pin and provides means for shifting the rod. The arm has an opening for key 32, and the shifting operation is performed in substantially the same manner as that already described.

By the use of the device the passengers may inform themselves of the next street or station any time between leaving one street or station and reaching the next, and at night the names are particularly observable on account of the illumination of the band. The operation of the device is simple and may be quickly effected, and the shifting of the pawls at the end of a run is but a matter of turning a key.

The key may be kept in the possession of the car-man intrusted with the device, and when this is done outside interference will be impossible.

What I claim is—

1. A street or station indicator comprising a casing having an exposure-opening, a pair of rollers, a name-bearing band mounted on the rollers and traversing the opening, ratchet-wheels connected one with each roller, a lever having pawls adapted to engage the ratchet-wheels, and a connection between the pawls whereby when one is in operative position the other is idle.

2. A street or station indicator comprising a casing having an exposure-opening, a pair of rollers, a name-bearing band mounted on the rollers and traversing the opening, ratchet-wheels connected with the rollers, and having their teeth presented in opposite directions, a lever pivoted between the ratchet-wheels, pawls on the lever adapted to engage the ratchet-wheels, an arm pivoted concentric with the pivot of the lever and connections between the arm and the lever whereby rocking of the arm will throw one pawl out of operation and permit the other to engage its ratchet-wheel.

3. In a street or station indicator, the combination of a casing having an exposure-opening, a pair of rollers, a name-bearing band mounted on the rollers and traversing the opening, a ratchet-wheel connected with each roller, a lever pivoted between the ratchet-wheels, pawls on the lever adapted to engage the ratchet-wheels, an arm pivoted concentric with the lever and having a prismatic keyhole, a rod extending from one end of the arm to one pawl and another rod extending from the other end of the arm to the other pawl substantially as set forth whereby the arm may be turned by a key and the pawls be thrown one into and the other out of operation.

4. In mechanism for shifting the band of a street or station indicator, the combination of rollers 22 and 23, ratchet-wheel and disk 12 and 13 on the shaft of one roller, ratchet-

wheel and disk 15 and 16 on the shaft of the other roller, spring-brakes 14 and 17 for the disks on the roller-shafts, lever 4 pivoted between the ratchet-wheels, spring 33 tending to hold the lever in normal position, pawls 10 and 11 on the lever and a shifter to hold one or the other of the pawls out of operation.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

MANFORD SAVAGE.

Witnesses:
A. H. BRYAN,
J. S. WOLFE.