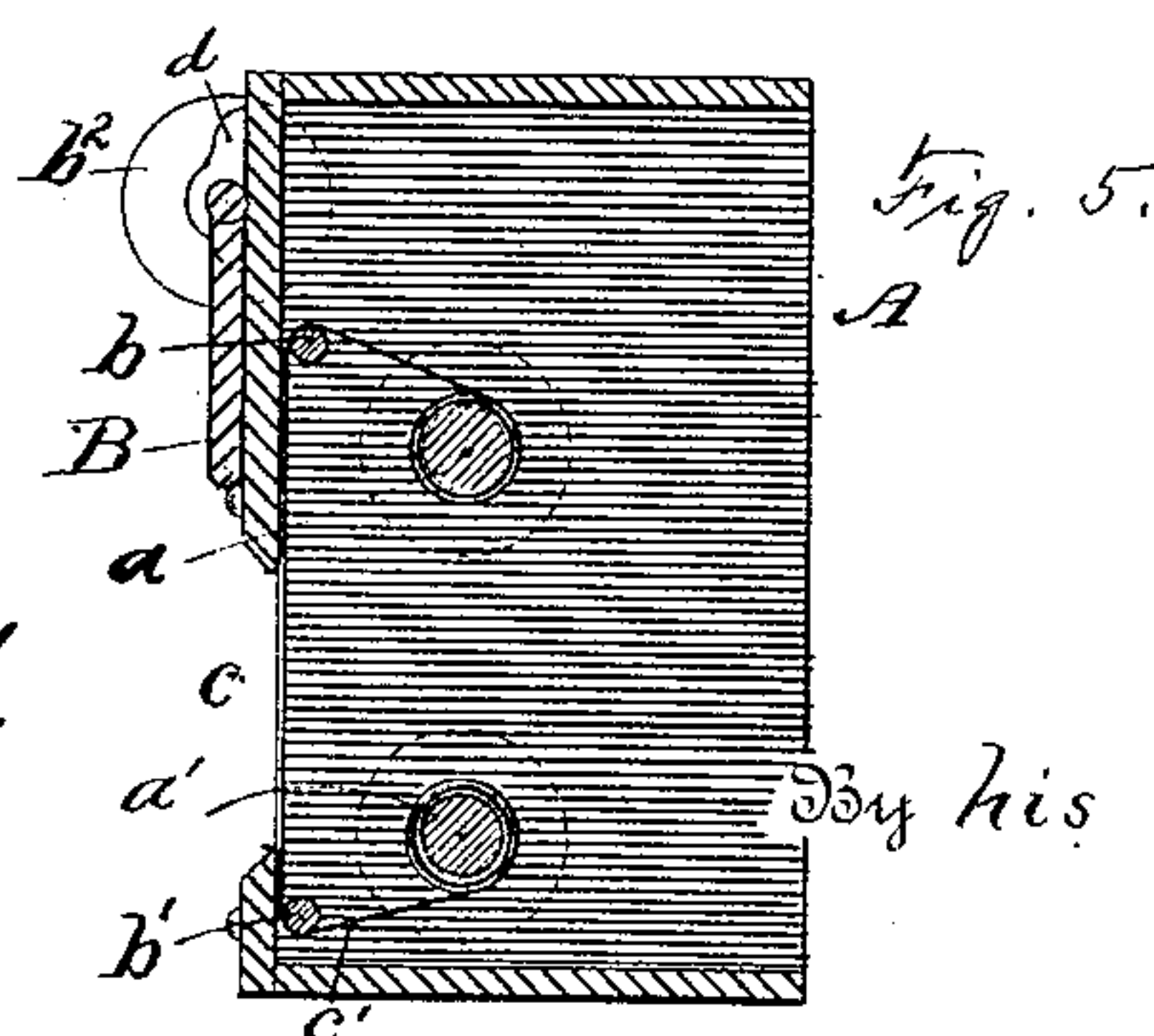


F. A. STARR.
STATION INDICATOR.

Patented July 24, 1888.



Witnesses,
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By his Attorney

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UNITED STATES PATENT OFFICE.

FRANK A. STARR, OF MONTICELLO, NEW YORK.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 386,562, dated July 24, 1888.

Application filed February 6, 1888. Serial No. 263,177. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. STARR, a citizen of the United States, residing at Monticello, in the county of Sullivan and State of New York, have invented certain new and useful Improvements in Station-Indicators; and I do hereby 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.

My invention relates to indicators used on street or passenger cars to indicate to passengers the name of the next station or street or the approach toward or arrival at a certain street or station.

It consists in the application to a station-indicator of the usual type of a thin board or strip, which is hinged or journaled at one edge to the face of the indicator and adapted to be turned up and down to expose either of its two faces, and which carries upon one of its faces a sign to indicate that the station or street, the name of which is displayed through an opening in the frame or casing, is being approached, and upon the other a sign to indicate that the station has been reached.

It also consists in the application of an alarm-bell arranged to sound when the sign is turned down to indicate that the station has been reached and to call the passengers' attention thereto.

It consists, further, in the peculiar arrangement of a friction and holding spring to prevent accidental unrolling of the strip which carries the names of the stations, and to hold the hinged board or strip either in elevated or lowered position.

In the accompanying drawings, which illustrate my invention, Figure 1 represents a front elevation of a station-indicator with my improvements applied, the same being set to indicate the next street or station. Fig. 2 is a similar view showing the indicator set to designate the name of the street or station arrived at. Fig. 3 is a left-hand end elevation, and Fig. 4 a right-hand end elevation, of the indicator set as in Fig. 1. Fig. 5 is a transverse vertical section through Fig. 2.

The same reference-letters designate the same parts in all the figures.

A designates the frame or casing of the station-indicator, which is provided with the

winding drums or rollers *a a'* and the guide or direction rollers *b b'*.

c designates the flexible strip, which has painted, printed, or otherwise fixed upon it the names of the streets or stations along the line, and which is wound from one winding-drum upon the other to display the names of the stations as they are being approached, or as they are reached, through an opening, *c'*, in the front of the case. The strip passes over or around the guide-rollers *b b'*, these being used for the purpose of holding the strip at all times close up to the opening. The journals of the drums *a a'* are provided at one end with hand-wheels *a² a³*, by which the drums are turned to wind the strip *c* from one to the other.

B designates a flat board or strip, which is journaled at one edge in bearing-blocks *d d'* on the front of the case. The journals extend beyond the ends of the case. One is provided with a hand-wheel, *b²*, by which the board or strip is turned up or down, and with a fixed collar, *b³*, which has opposite flattened sides, upon which a spring, *d²*, presses to hold the board in either of its two positions. The other journal carries a cam-lever, *e*, by which the bell-hammer *f* is operated. This cam-lever is formed, as shown in Fig. 4, with a gradually-increasing radius, the highest and lowest points being in the same radial plane and connected by a straight face. When the board is turned down from the position indicated in Figs. 1, 3, and 4 to that indicated in Figs. 2 and 5, the straight face of the cam-lever *e* will lift the spring-arm of the hammer *f*. The parts are so adjusted that before the board B is fully turned down the cam-lever *e* will pass the end of the hammer-arm and allow the hammer to fall and strike the bell. When turned in the opposite direction, the cam-surface of the lever *e* will press the arm back until its straight face comes below the same, when it will spring forward, without ringing the bell, to the position indicated, where it is ready to be caught and lifted, when the board is again turned down.

For reasons which will presently appear it is only necessary to ring the bell when the board B is turned down; hence the arrangement shown to push the hammer back out of the way when it is turned up.

The hammer-arm is fastened to the case by

staples or other fastenings, as shown at *g g*, a sufficient distance below its angle to give the play necessary to allow it to be pushed back by the cam *e*.

5 Upon one side of the board B (that which forms the front when the board is turned up) are printed, painted, or otherwise fixed suitable words to indicate to the passengers that the next street or station is the one whose
10 name is exposed through the opening *c*, while upon the reverse side of the board (that which is in front when turned down) are suitable words to indicate that the station or street whose name is exposed through the opening *c*
15 is the station which the car is then passing or at which it is stopping.

When the car starts, the indicator is set to show the name of the next street or station ahead through the opening *c*, and the board B
20 is turned to expose the words thereon by which the passengers are informed that the next stop will be made at the station whose name is seen. When this station is reached, the board is
25 turned down to expose the words on its other side by which the passengers are informed that the street or station whose name is exposed has been reached. At the same time the bell is rung to attract the attention of the passengers. As soon as this station is passed, the strip *c'* is
30 shifted to expose the name of the next street or station, and the board B is turned up to the position shown in Figs. 1, 3, and 4.

In order to keep the board B in its elevated position and to keep it from swinging and rattling when turned, I apply a spring, *d*², which
35 bears upon the fixed flat sided collar *b*³, as shown in Figs. 1, 2, and 3.

I also apply a spring to the journals of the drums *a a'* to press against the same and prevent them from turning to unwind the strip *c'*.
40 In order to avoid a duplication or multiplication of springs, I employ a single spring, which is applied, as indicated in Fig. 3, to bear against the journals of the two drums and
45 against the collar *b*³. This spring is secured by a single fastening at *i* between the two journals of the drums *a a'*.

Evidently the objects of my invention may be attained by placing the words used to convey information to the passengers on the front
50 of the case A so as to be covered and uncovered by the board B when it is turned up or down instead of placing them upon the board, as shown and described; and I desire to have
55 it understood that this is to be regarded as a fair equivalent and as falling within the scope of my invention. Also, while I have described and illustrated the board B as being hinged or journaled at one edge, I have so described
60 and shown it merely for the sake of presenting a compact arrangement. Evidently every purpose of my invention may be subserved by hanging it at its transverse center, though in such case it must be hung far enough from
65 the front of the case to enable it to turn.

Having now described my invention, I claim as new—

1. In an indicator, the combination, with a case or frame provided with suitable rollers and with an inscribed band or web mounted
70 on said rollers and adapted to be rolled or wound from one to the other, said case having an opening through which the inscriptions on the band are visible, of a movable board or strip adapted to hide or disclose words or
75 inscriptions separate from the web or band, and which, in connection with the names or inscriptions on the band, as the same are successively brought opposite the opening in the case, convey definite information, substantially
80 as set forth.

2. In a station-indicator, the combination, with the case or frame provided with suitable rollers and with a suitably-inscribed web or band mounted on said rollers and adapted to
85 be rolled or wound from one to the other, the case or frame having an opening through which the inscriptions are visible, of a strip or board hinged or journaled to the case and adapted to be turned to hide or expose words
90 or inscriptions separate from the web or band, which words or inscriptions coact with the successive inscriptions on the web or band to indicate the present or the next succeeding station, substantially as shown and described.
95

3. In a station-indicator having the usual rolls provided with a suitably-inscribed web or band mounted thereon, and an opening in the case through which the web or band is
100 visible, a strip hinged or journaled to the case and having inscriptions on both of its sides, whereby the present or the next succeeding station may be indicated by turning the said strip, substantially as set forth.

4. In a station-indicator, the combination,
105 with the case A, of the drums *a a'*, upon which the strip that carries the names of the streets or stations is wound, a board or strip, B, hinged or journaled to the case A and adapted to be turned up or down to cover and uncover
110 words or signs used to convey information to the passengers, and a friction-spring, *d*², arranged, as shown and described, to bear upon the journals of the drums *a a'*, and of the board or strip B, to prevent the same from
115 turning.

5. In a station-indicator, the combination, with the case A, of a board or strip, B, hinged or journaled to the case and adapted to be turned up or down to cover and uncover
120 words or signs used to convey information to the passengers, a cam-lever, *e*, on the journal of said board or strip, and a spring bell-hammer arranged in the path of said cam-lever to be tripped by the same when the board is
125 turned in one direction and to be pushed back when it is turned in the opposite direction.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK A. STARR.

Witnesses:

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M. V. MAXWELL.