

(No Model.)

2 Sheets—Sheet 1.

A. C. GOETZ.  
STREET OR STATION INDICATOR.

No. 583,304.

Patented May 25, 1897.

FIG. I-

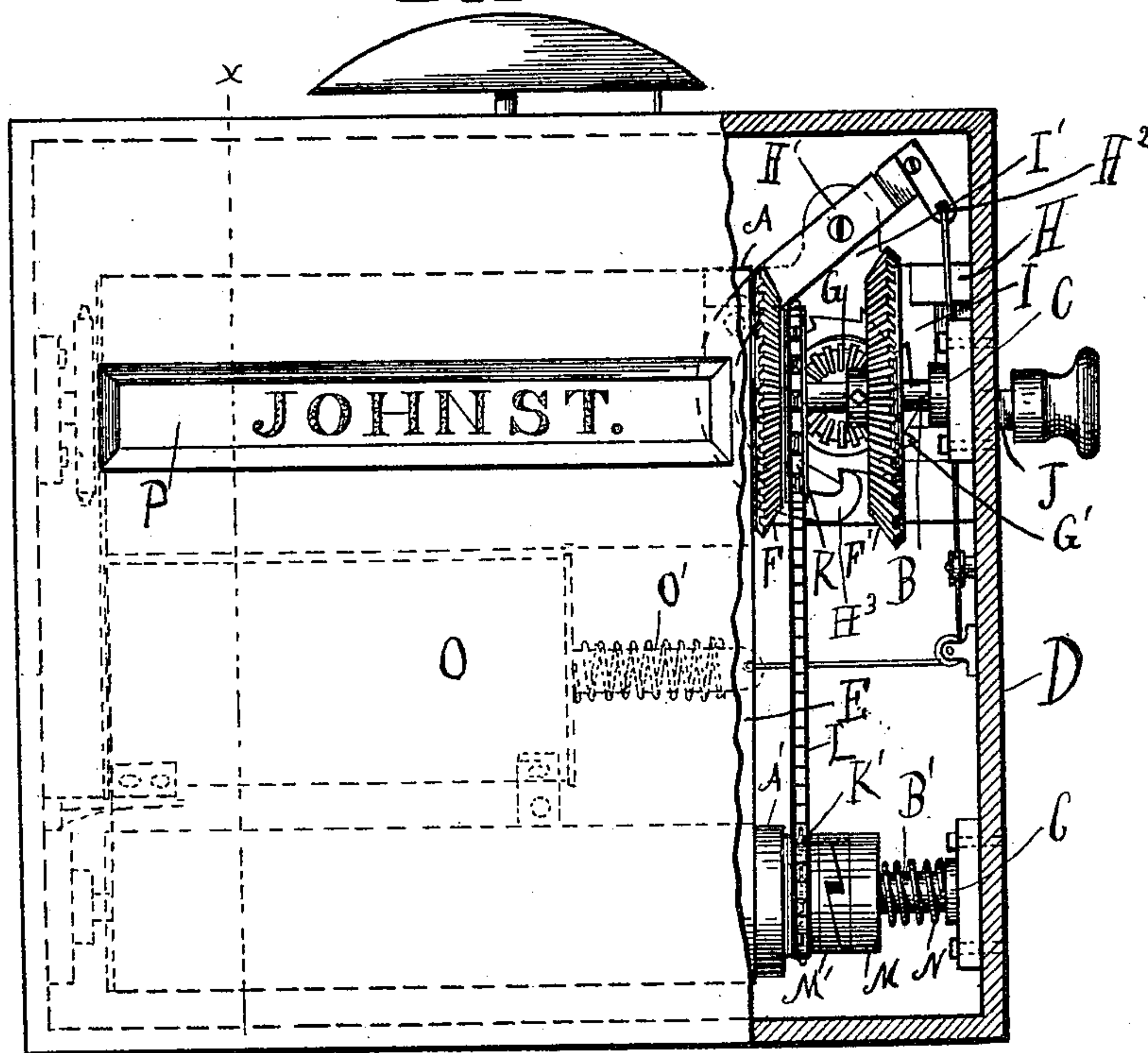
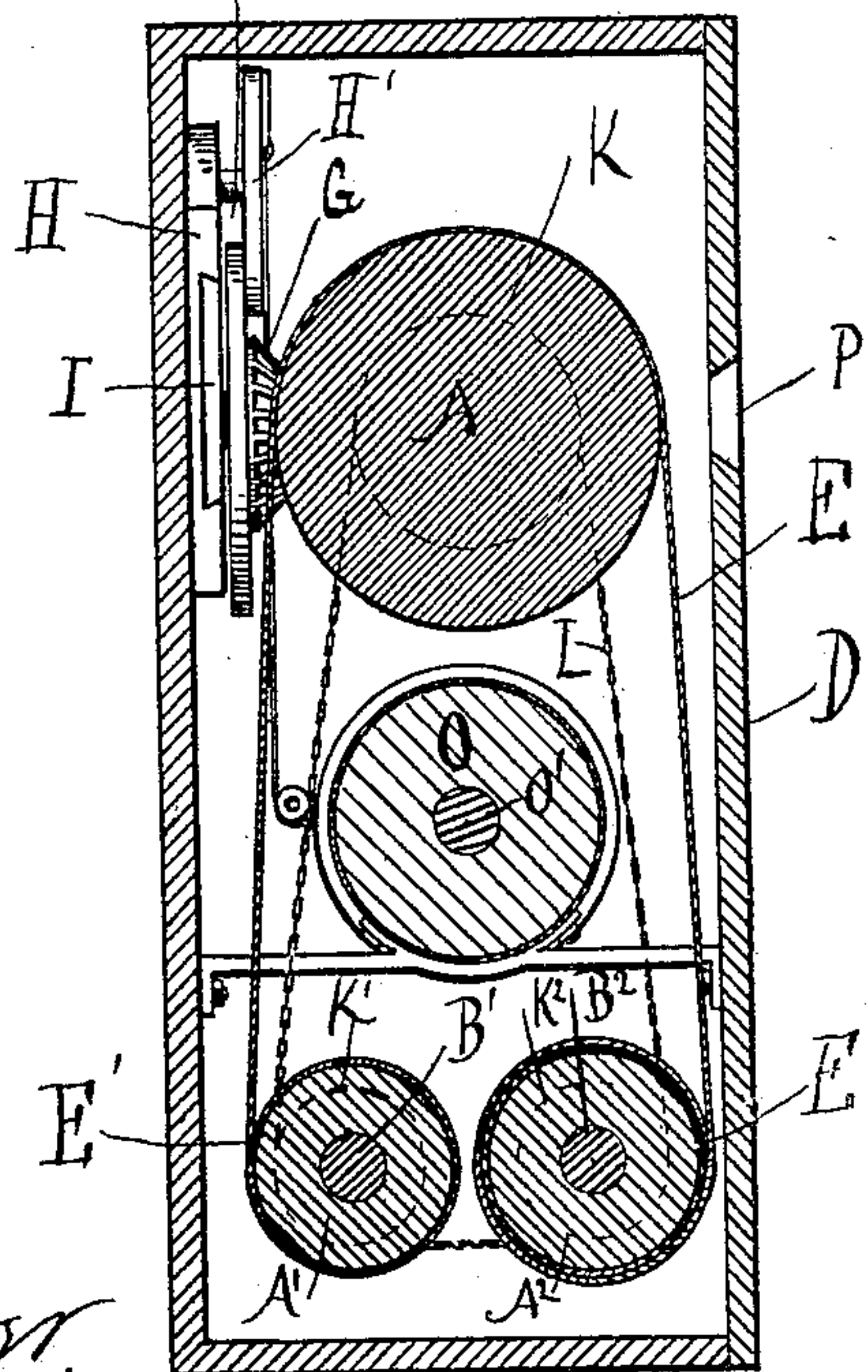


FIG. II-



WITNESSES:

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*A. M. Austin.*

INVENTOR

*August C. Goetz*

BY

*Lynch Dorris & Donnelly*

ATTORNEYS,

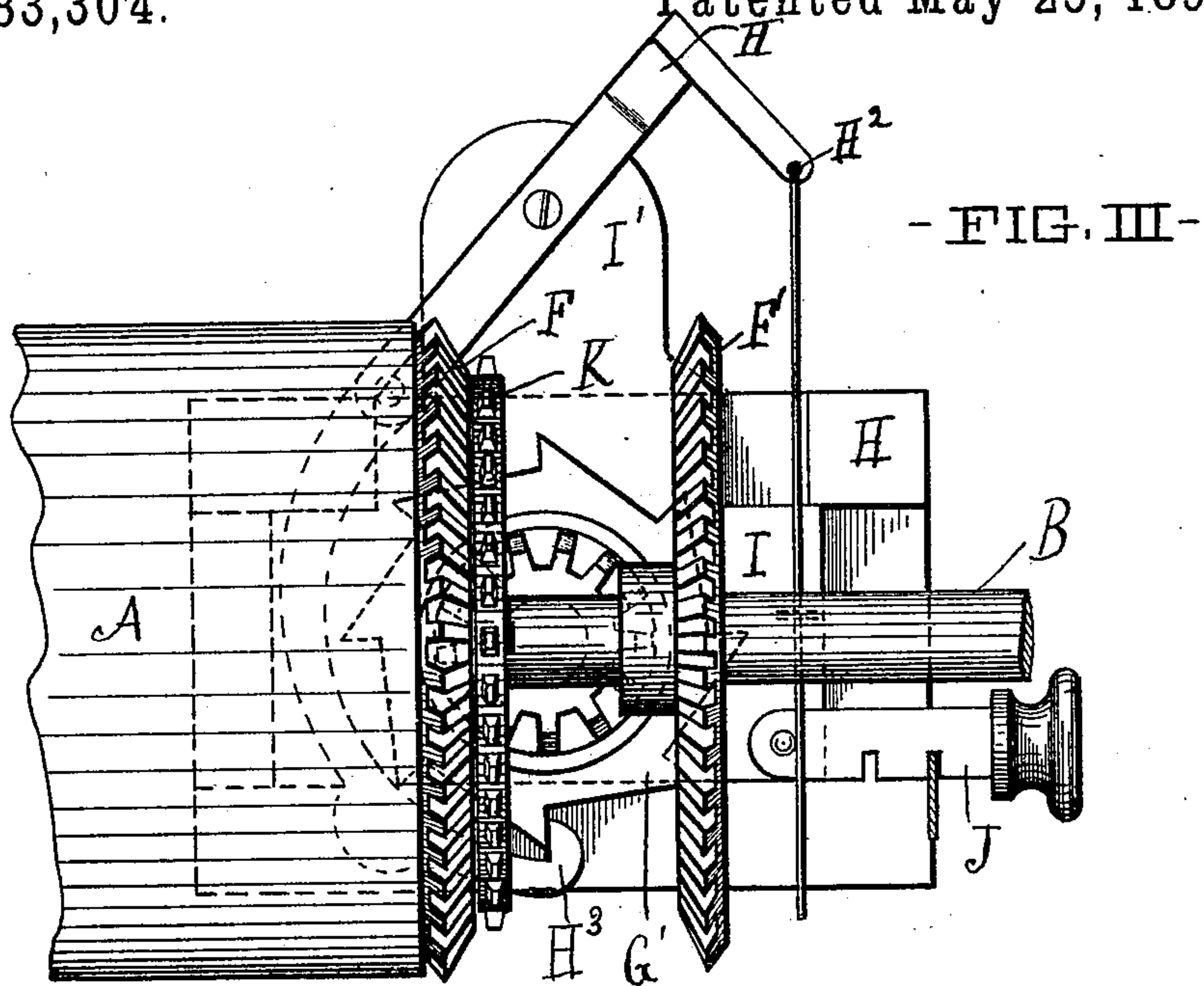
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2 Sheets—Sheet 2.

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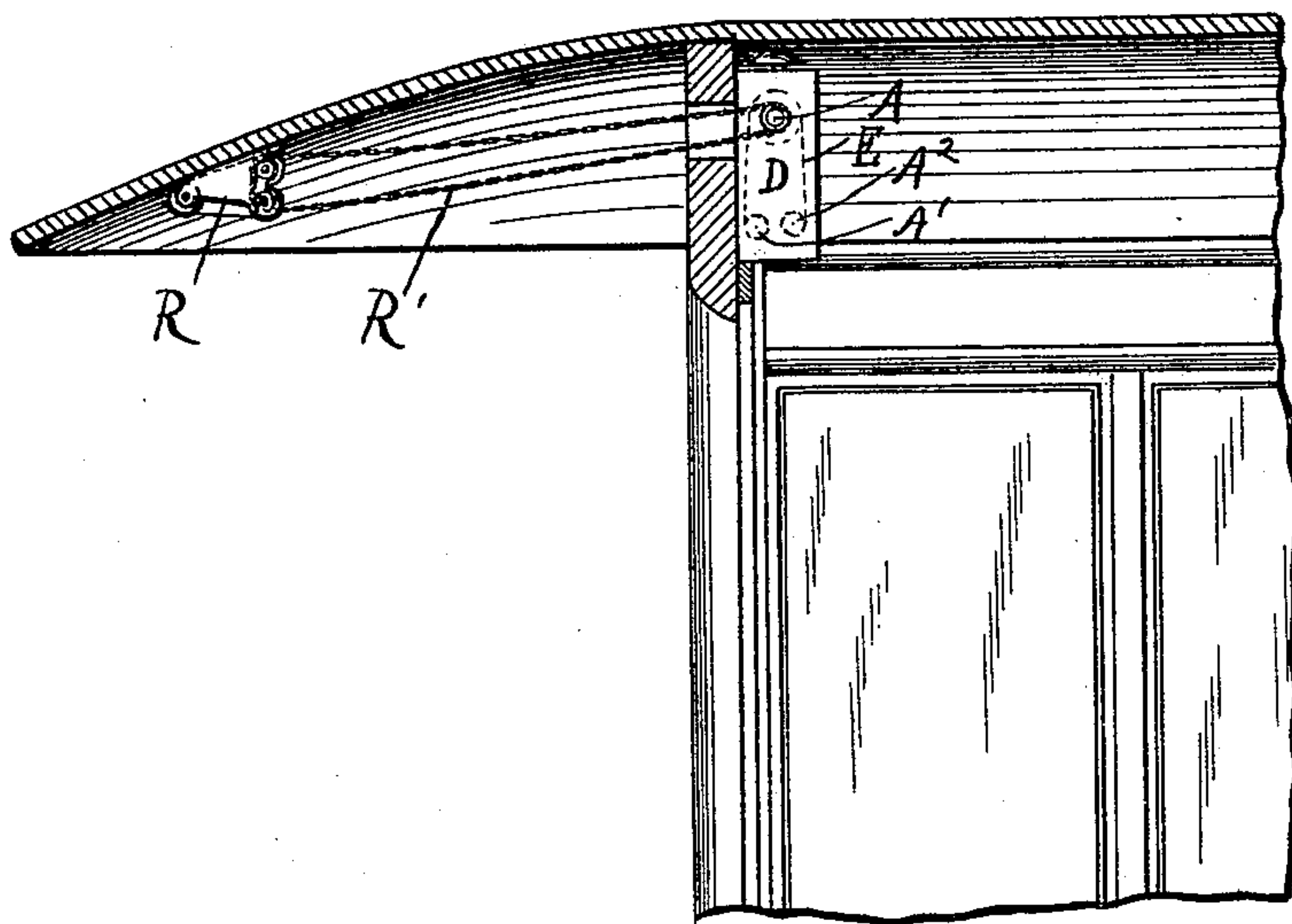
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- FIG. III -

- FIG. IV -



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# UNITED STATES PATENT OFFICE.

AUGUST C. GOETZ, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO  
JACOB SCHULIST, OF SAME PLACE.

## STREET OR STATION INDICATOR.

SPECIFICATION forming part of Letters Patent No. 583,304, dated May 25, 1897.

Application filed August 21, 1896. Serial No. 603,472. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST C. GOETZ, of Cleveland, Cuyahoga county, Ohio, have invented certain new and useful Improvements in Street or 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 pertains to make and use the same.

My invention relates to street or station indicators more especially for use in connection with electric railways; and it consists in the peculiar construction of said indicator, whereby it is operated by an electric current.

In the drawings, Figure 1 is a view in front elevation, partly in section, of an indicator embodying my invention. Fig. 2 is a view in transverse vertical section taken through line *x x*, Fig. 1. Fig. 3 is an enlarged view of the ratchet-and-pawl mechanism whereby the indicator is operated. Fig. 4 is a view illustrating an auxiliary indicator for the use of the motorman or driver, the operation and construction of which will be hereinafter fully set forth.

A A' A<sup>2</sup> indicate rollers which are mounted upon suitable shafts B B' B<sup>2</sup>, said shafts in turn being journaled, as at C, in the casing D of the indicator.

E represents a web of canvas cloth or like material, upon which at suitable distance apart are the names of the streets or stations. This cloth or web is preferably made sufficiently long to contain the names of all the streets or stations from one lead of the line to the other. The ends E' E' of the web are suitably secured to rollers A' A<sup>2</sup> at their free ends, and the web E from thence passes over roller A. On the shaft B, which supports roller A, are suitably secured two bevel-gears F F'. A bevel-pinion G (shown also in Fig. 3 more clearly) is adapted to engage alternately gears F and F', and through the medium of pawl H and lever H' and the ratchet G' the roll A, with its shaft B, is revolved in one direction or the other, according as the pinion G is shifted.

H represents a housing which is secured to the rear end of the casing D and has mounted in it the sliding journal I, which supports the pinion G and also supports an upwardly-ex-

tending lug or projection I', upon which is pivoted the lever H'.

J represents a bar which extends out from casing D at its side, being pivoted at its inner end to the sliding bearing I, and it is through this medium that the pinion is shifted from one side to the other and made to engage the gear F', as desired.

K K' K<sup>2</sup> represent sprocket-gears which are engaged by a sprocket-chain L in such a manner as that the rolls B B' B<sup>2</sup> shall move in unison and thus wind the web from one roll onto the other roll, the web meanwhile passing over roll A. Now inasmuch as the winding of the web upon one roll increases its diameter and the unwinding of it from the opposite roll diminishes the diameter of that roll it is apparent that some compensating device should be provided to prevent the tearing of the web or prevent the web from coming loose during the operation of the machine. With this object in view I have provided the shafts of rollers B' B<sup>2</sup> with oppositely-faced clutch devices, such as are shown in Fig. 1 and indicated by the letters M M'. The clutch M is feathered on the shaft B', so as to slide along said shaft, and a spring N is provided to keep it in engagement with clutch M', said clutch M' being in turn free to revolve around shaft B' and forming part of sprocket-wheel K'. Thus it will be seen that if, as shown in Fig. 2, roller A<sup>2</sup> is increased in diameter by the convolutions of the web the roller A' is free to revolve faster than the sprocket-wheel and prevent the web from tearing.

O represents an electromagnet, which is properly connected through the medium of the trolley and the trolley-wire to a source of electricity, the circuit being properly divided and provided with a push-button or like device, whereby contact is made or broken and the magnet energized. This magnet O is formed hollow in its center and provided with a sliding core O', the outer end of which core is secured through the medium of a wire cord or like device to the free end of lever H', as at H<sup>2</sup>. It will thus be seen that when the magnet is energized and the core attracted to the magnet the tendency will be to pull the free end at lever H' down and operate pawl H<sup>3</sup>, which engages ratchet G'. This action



tends to revolve roller A and with it rollers A' A<sup>2</sup> and move the web a suitable distance one way or the other, according to the engagement of pinion G with gears F or F', and expose at opening P the name of a street or station.

In Fig. 4 I have shown an auxiliary indicator R, located on the roof of the platform of the car and in such position as to be in view of the driver or motorman or the person operating the indicator. This auxiliary device is suitably connected with the main indicator in the car, either in the manner shown—namely, by means of sprocket-wheel and endless chain R'—or in any other suitable manner and is adapted to be revolved in unison with the rolls of the indicator in the car, and being provided with station-names or street-names corresponding to the names on the inside indicator the operator is enabled to discern whether or not the proper street or station has been indicated. Instead of connection being made between the source of electricity and magnet through the medium of a push-button I may provide a device to make contact with a trolley-wire at certain points and thus have the device work automatically. As shown in Fig. 1, I may, if desired, provide a suitable signaling device, such as a bell, which rings at each operation of the indicator and calls attention to the same.

What I claim is—

1. In a street or station indicator, the combination with two rollers, one located in the

upper part of the case, the other located in the lower part of the case, both rollers being connected through the medium of a sprocket-chain or like communicating device, a web mounted upon and operated by said rollers, and a compensating device for equalizing the motion caused by winding on one roller and unwinding from the other, of an electromagnet located between the rollers and being suitably connected with one of the rollers whereby the said rollers and web are operated, substantially as shown and described.

2. In a station or street indicator, the combination with the upper roller and lower roller, both rollers being connected, of an electromagnet located between said rollers and inside of the casing of the indicator, said electromagnet provided with a movable core connected in turn to the upper roller of the indicator by means of a pawl-and-ratchet arrangement substantially such as shown, the upper and lower rollers carrying a web and having a compensating device for equalizing the motion caused by the winding on one roller and unwinding from the other, substantially as shown and described.

In testimony whereof I sign this specification, in the presence of two witnesses, this 14th day of August, 1896.

AUGUST C. GOETZ.

Witnesses:

W. E. DONNELLY,  
ELLA E. TILDEN.