

(No Model.)

G. SPOELSTRA, J. VANDERMEER & G. STEVENS.
STREET INDICATOR FOR STREET CARS.

No. 433,605.

Patented Aug. 5, 1890.

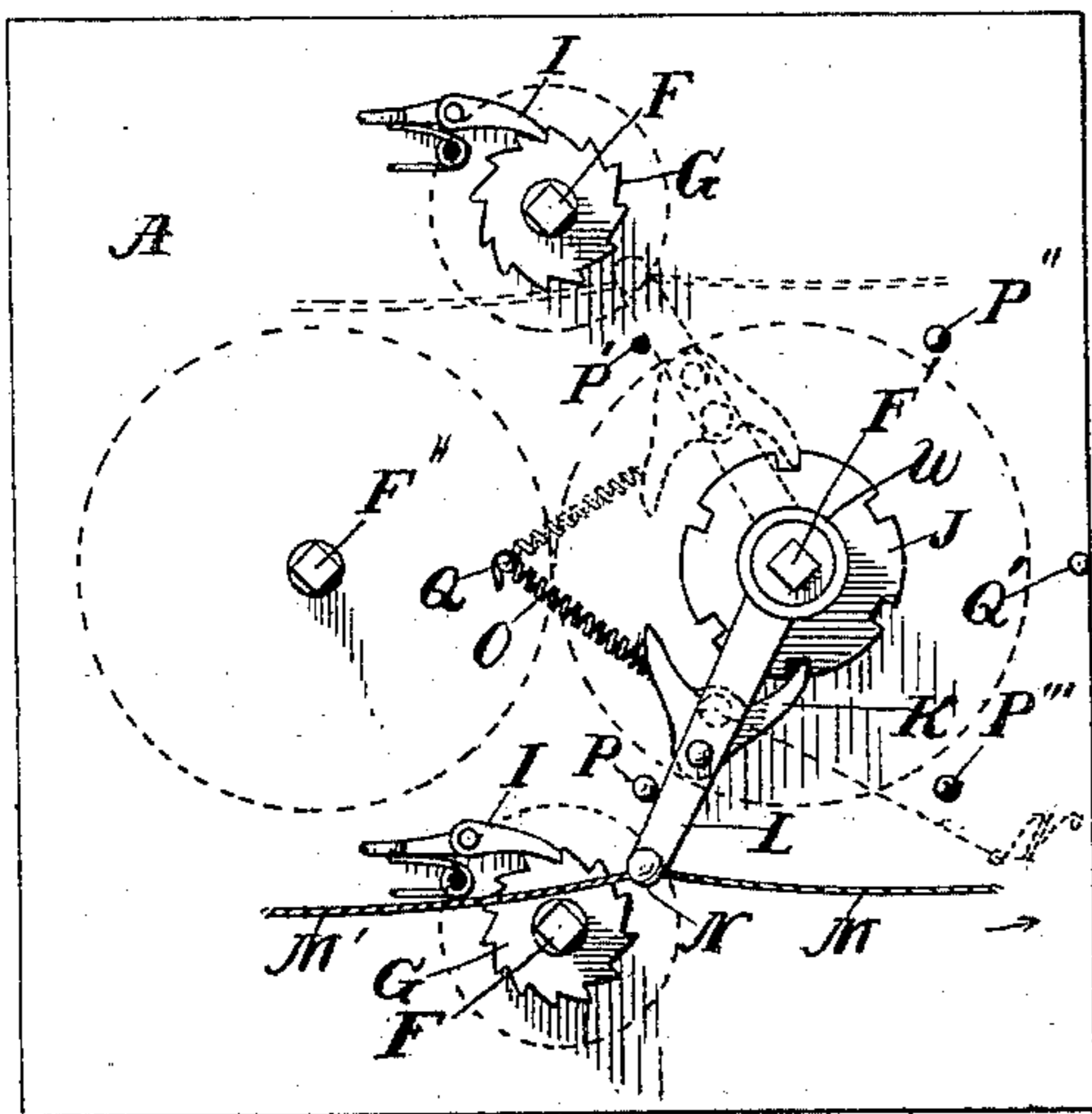


FIG. 1.

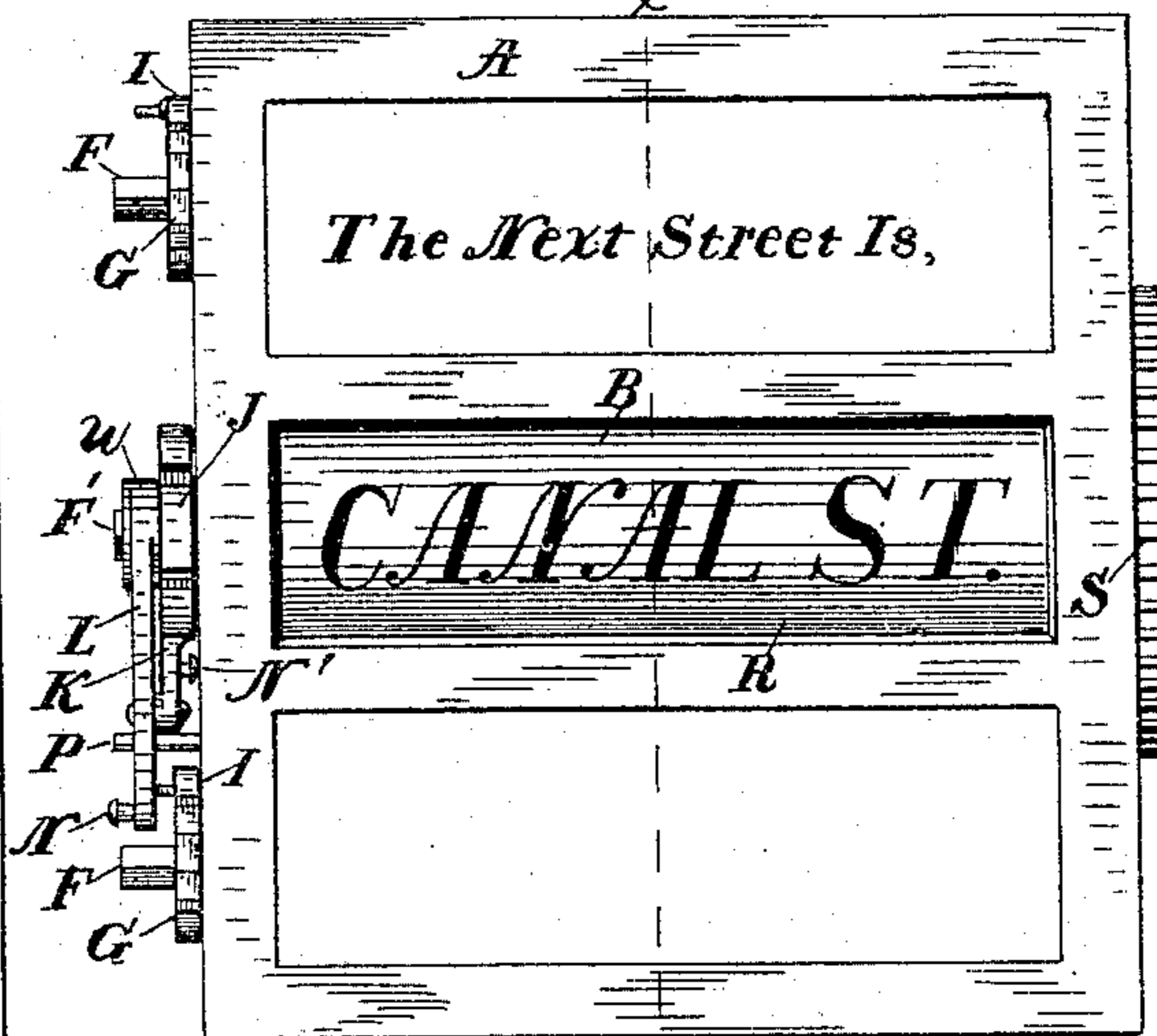


FIG. 2.

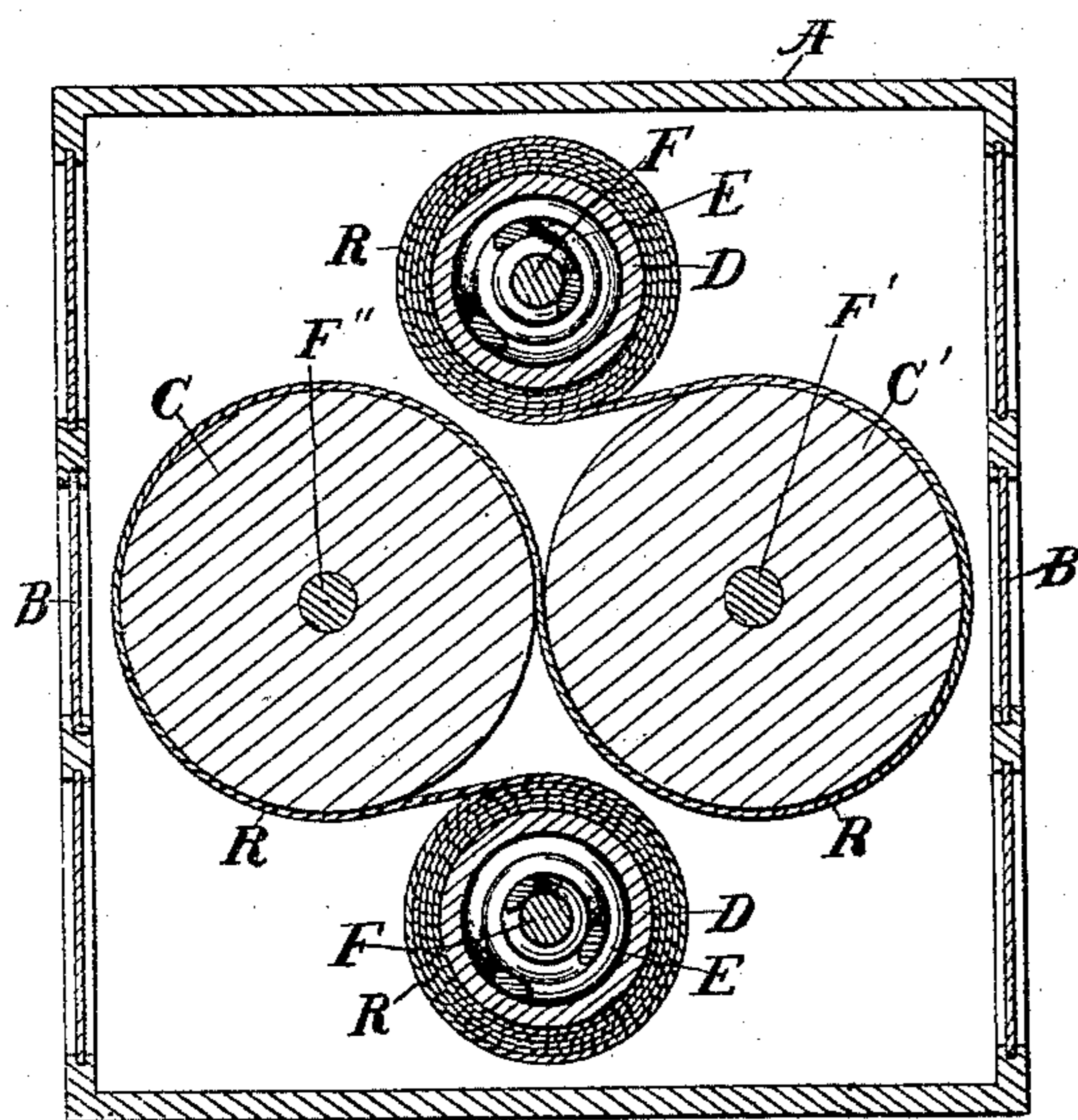


FIG. 3.

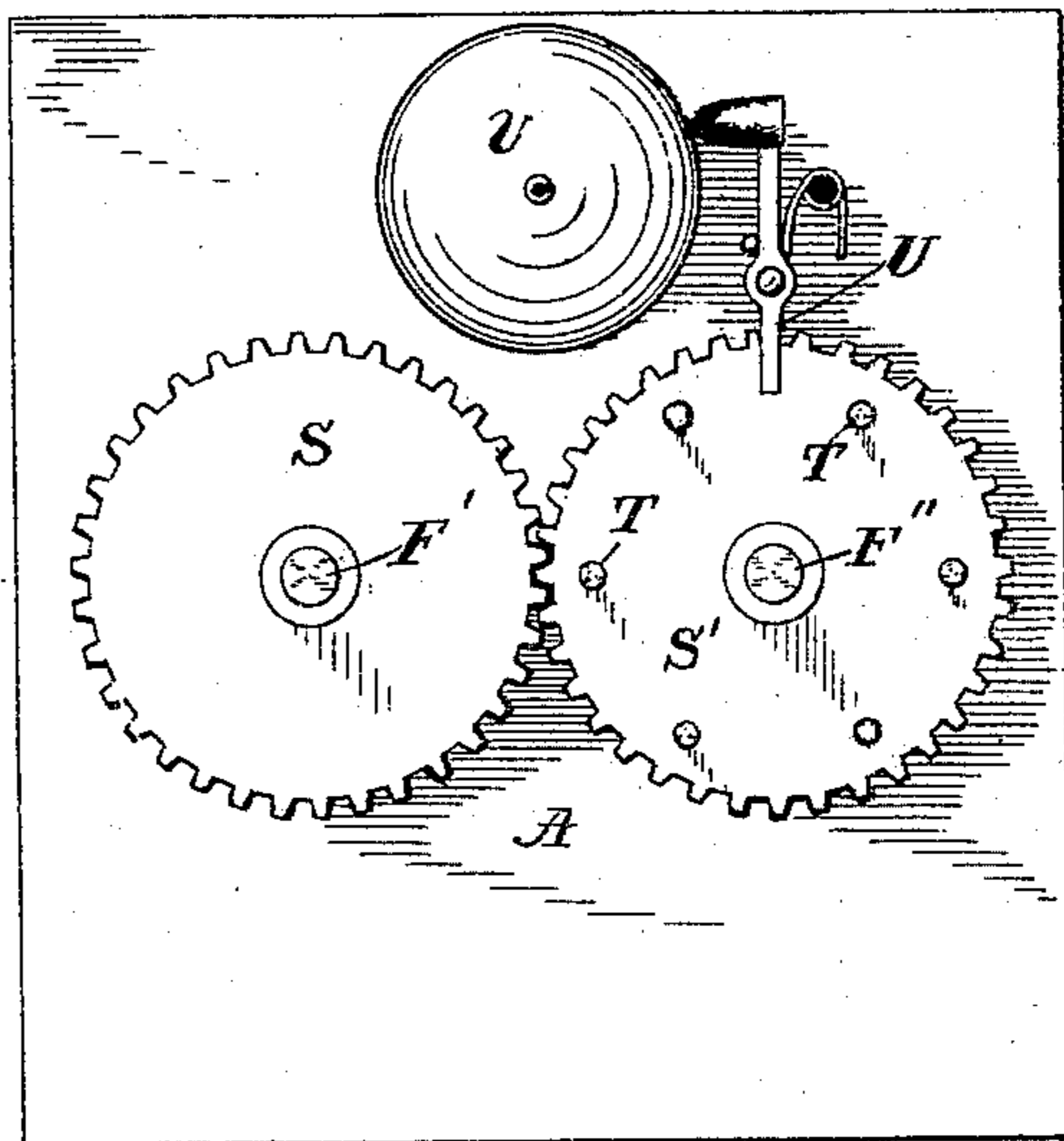


FIG. 4.

WITNESSES:

Lyle B. Oliver.
George W. Shook.

INVENTOR

George Spoelstra;
John Vandermeer;
BY *Garrit Stevens;*
Moulton & Rogers;
ATTORNEYS,

UNITED STATES PATENT OFFICE.

GEORGE SPOELSTRA, JOHN VANDERMEER, AND GARRIT STEVENS, OF
GRAND RAPIDS, MICHIGAN.

STREET-INDICATOR FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 433,605, dated August 5, 1890.

Application filed March 7, 1890. Serial No. 343,056. (No model.)

To all whom it may concern:

Be it known that we, GEORGE SPOELSTRA, JOHN VANDERMEER, and GARRIT STEVENS, citizens of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Street-Indicators for Street-Cars; and we 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.

Our invention relates to a street-indicator for street-cars; and the object thereof is to produce an apparatus which may be placed near the middle or at either end of a street-car and operated from either end of the car by the driver or conductor for displaying the names of streets crossed by said car during its progress over its route; and it consists in the construction, combination, and arrangement of the various parts, as hereinafter pointed out in the claim, reference being had to the accompanying drawings, wherein—

Figure 1 is an end elevation of the operating end of the device, showing positions of some of the parts in dotted outline; Fig. 2, a side elevation of indicating-side; Fig. 3, a vertical section on the line *xx* of Fig. 2; Fig. 4, an end elevation of the end opposite to Fig. 1.

Like letters indicate like parts throughout the drawings.

In outline the apparatus consists of a suitable casing A, containing parts of the apparatus, and having other parts attached. Said casing is of such size as may be conveniently attached and carried in an ordinary street-car. The casing is provided with suitable panels for lettering and glass panels or sight-openings B B, arranged upon opposite sides. Journaled in the casing are ordinary feed-rolls C C', having shafts F' F'', which carry the tape R, containing the names of the streets lettered thereon upon both sides.

D D are the take-up rolls, also journaled to the casing, having shafts F F and containing within said rolls the spiral actuating-springs E E, being ordinary spring-roller springs in common use, one end being attached to the

shaft, the other to the roll, and adapted to be wound in the usual manner by a key fitted to the squared ends of their shafts projecting beyond the casing, as shown in Fig. 1, and are provided with ordinary ratchets G G and spring-pawls I I. The feed-roll C' is provided with a ratchet J, arranged outside the casing and secured rigidly to the shaft F', and provided with notches in its edge spaced to correspond with the spacing between the words lettered on the tape R.

L is a vibrating shifting lever secured to a sleeve W, which turns freely upon the hub of the ratchet J, and has the double pawl K pivoted thereto, each prong of the pawl being adapted to engage one of the notches in ratchet J.

M M' are pull-cords extending in opposite directions, secured to knob N on lever L.

O is a retracting-spring secured to pawl K by knob N' at one end and detachably secured to posts Q and Q' alternately, as the device is operated from one side or the other, as hereinafter explained.

P P' P'' are stop-pins for engaging lever L and limiting its movements in various directions, and P' is a hole or socket in which the pin P is placed when the lever is shifted to the position shown in dotted outline in Fig. 1.

The rolls C C' are connected by gears S S'. A gong V is secured near the gears, having a spring-actuated hammer U, operated by pins T on the gear S'. Pins T are placed at such distances from each other that the bell-hammer will be actuated at the same time that the tape is moved. The tape R, being lettered, as described, with the names of the streets upon both sides, is wound upon one of the rolls F, preferably the lower roll, whence it passes upon and partly around the roll C, thence partly around the roll C', and thence around the upper roll F. The spring-rolls F are oppositely adjusted relatively one to the other, so that when one is unwinding the other is winding up.

From this description of the mechanism it is evident that the device will operate substantially as follows: If the lever is in the position shown in Fig. 1 and the cord is drawn in the direction indicated by the arrow, the roll

C' will be turned a part of a revolution and the spring O will bring the lever back to its original position, the prong of the pawl K engaging the next notch. The revolution of C' unwinds the tape from the lower roll, and it is carried around and wound upon the upper roll, as described, one side exposed upon one side of the casing through one of the glass panels, the other upon the other side through the opposite glass panel. When the car has traversed its route and arrived at the end, if it is of the variety which is turned around and returns over the same route with the same end forward, the position of the driver being upon the same side of the box and the box to be operated from the same direction, then the position of lever L is changed to its upper position. (Shown in dotted line.) The pin P is placed in the hole P', and then the device may be operated from the same direction. The pawl K, engaging the ratchet J upon the opposite side, turns the roll C' in the opposite direction, unwinding the tape and displaying the names in inverse order. If, however, the car is returned over the route backward, or by changing the motor from one end of the car to the other, so that the driver is upon the opposite end of the car and the pull on the cord will be from the opposite direction, then the spring O is removed from post Q and attached to post Q', and the position of the lever changed to the opposite angle. Then the opposite arm of the pawl engages the ratchet and the de-

vice may be operated from the opposite direction. 35

We claim—

An indicator for street-cars, consisting of the following elements, to wit: a casing having sight-openings in opposite sides, parallel shafts F' F'' in said casing between said sight-openings, rolls C C', mounted on said shafts, intermeshing gears S S', also fixed on said shafts, pins on gear S', a spring-pressed pivoted hammer U, operated by said pins, a gong adjacent to said hammer, a ratchet J, having a hub mounted on shaft F', a shifting lever having a sleeve turning freely on said hub of the ratchet and operating within predetermined limits, pull-cords extending in opposite directions from the lower end of said lever, a double pawl pivoted to said shifting lever and designed to engage said ratchet, a retracting-spring for said pawl, spring-rollers mounted on shafts above and below the adjacent surfaces of said rolls C C', ratchets on the shafts of said spring-rollers, pawls engaging said ratchets, and a tape R, lettered on both sides and operating as described. 40 45 50 55

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE SPOELSTRA.
JOHN VANDERMEER.
GARRIT STEVENS.

Witnesses:

DENNIS L. ROGERS,
LUTHER V. MOULTON.