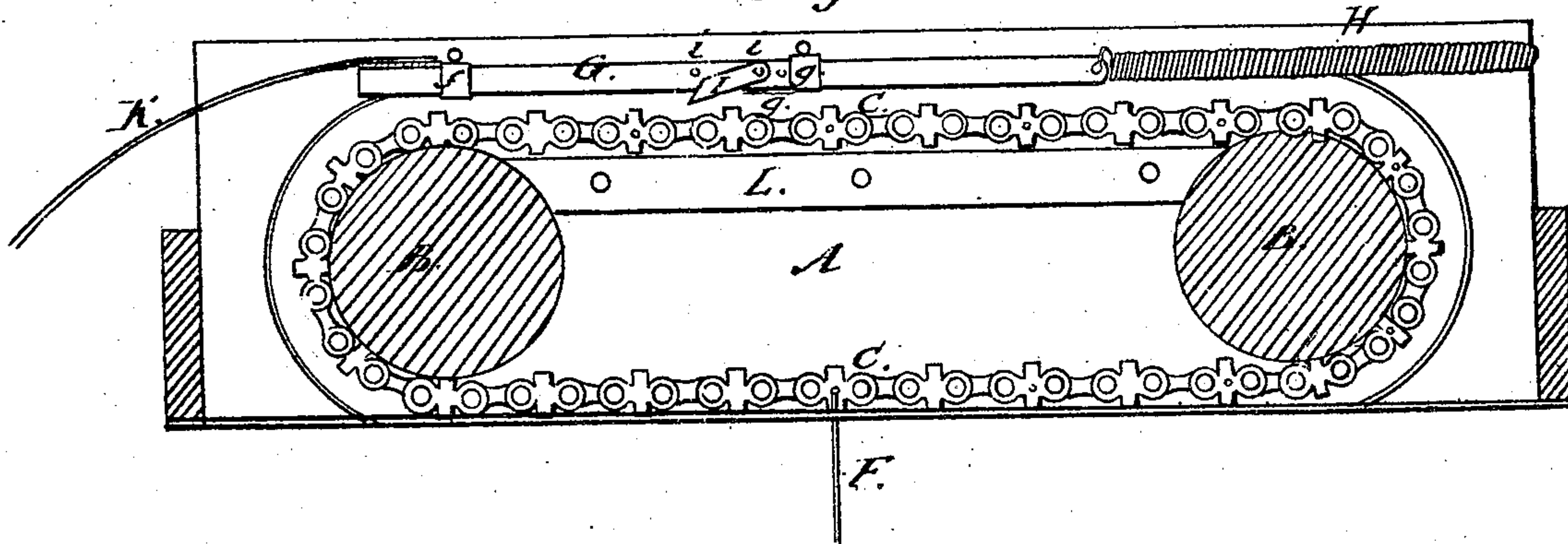


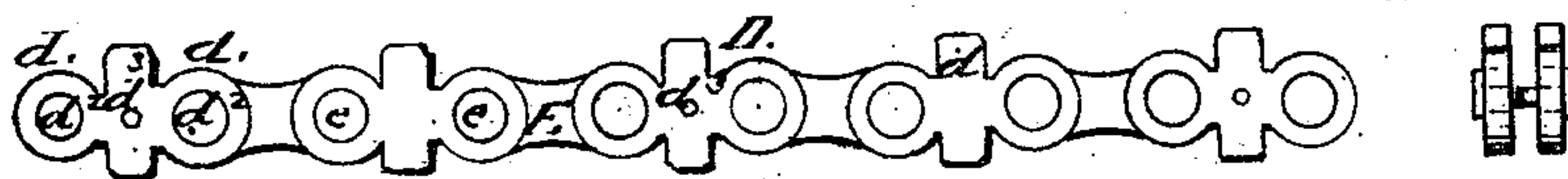
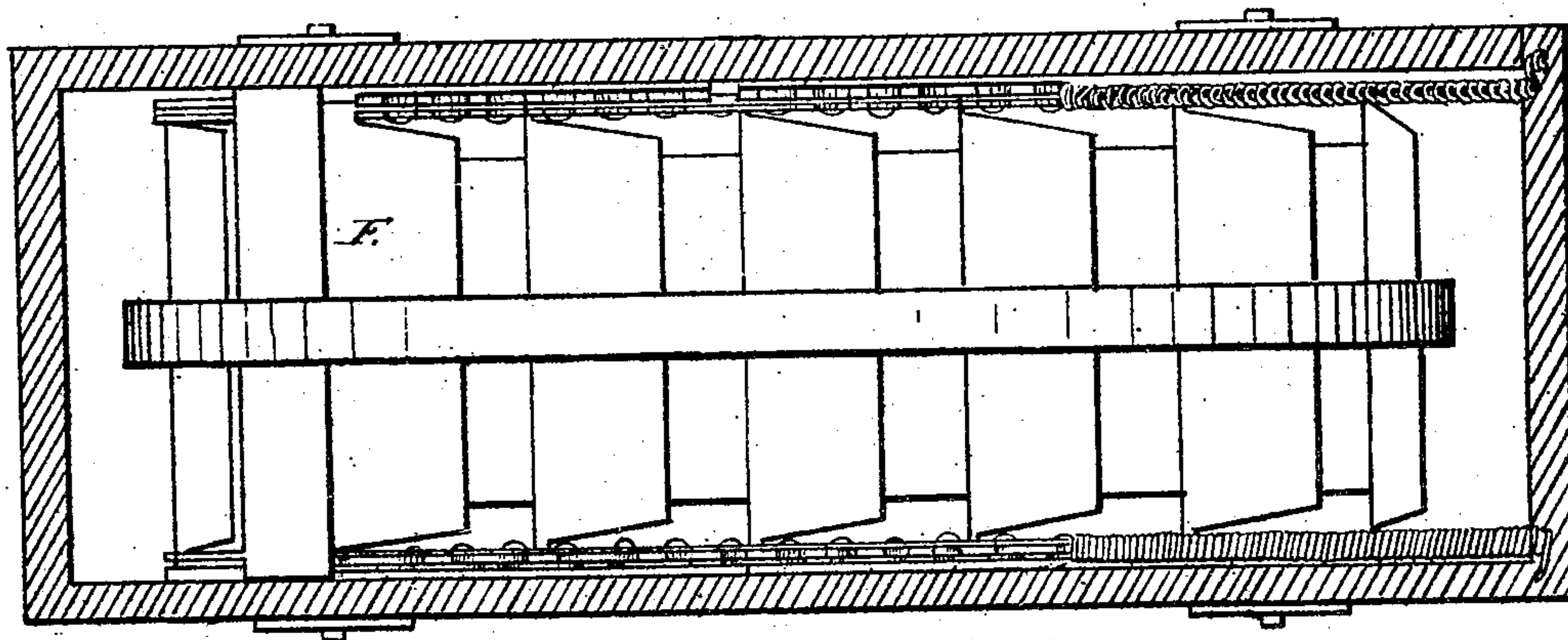
*C. K. Marshall.*  
*Station Indicator.*

*N<sup>o</sup> 81,097.*

*Patented Aug. 18, 1868.*  
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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# United States Patent Office.

C. K. MARSHALL, OF NEW ORLEANS, LOUISIANA.

*Letters Patent No. 81,097, dated August 18, 1868; antedated August 6, 1868.*

## IMPROVEMENT IN STATION-INDICATORS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, C. K. MARSHALL, of New Orleans, parish of Orleans, and State of Louisiana, have invented certain new and useful Improvements in Street or Station-Indicator for railroad-cars and other purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, and to the letters of reference marked thereon, making part of this specification, and in which—

Figure 1 is a sectional view, showing the entire mechanism.

Figure 2 is a plan view.

Figure 3 are plan, top, and sectional views of the ratchet-chain.

The object of my invention is to so construct a street or station railway-indicator that the conductor can cause the name of the street or the name and distance of the station to be readily presented to the passengers when the same is reached, simply by pulling a cord or band.

Many attempts have been made to introduce devices to accomplish the foregoing object, but as yet none have gone into general use or successful operation. The reason is, they have been all too complicated, which not only rendered them expensive, but also exceedingly liable to get out of order.

A device of this character, to be successful, requires to be constructed with the utmost simplicity, and also to possess a great degree of strength.

My invention consists in a simple and practical method of arranging a series of tags on independent rods, said rods having their bearings at regular intervals in ratchet-chains, which pass over rollers arranged at the ends of a rectangular box, and the whole being operated by means of a sliding bar, spring, and pawl, the latter gearing with suitable projections in the endless chain.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is a rectangular frame or box, of depth and width sufficient to contain the entire mechanism.

B B are two rollers, arranged at or near the ends of box A. These rollers have their bearings in suitable metal plates, b b, which are secured to the sides of the box A.

C C are two endless ratchet-chains, of length sufficient to furnish bearings for a number of tags equal to the number of streets or stations along the route on which the indicator is to be used. These chains C C are passed over the rollers B B, as clearly shown in fig. 1. These chains C C are constructed as follows: I cast, cut, or stamp out a piece of metal, D, which resembles somewhat, in form, a Greek cross, with this exception: the arms  $d$   $d$  are a little longer than the leg  $d^1$ , and are circular at their ends, the diameter of the circular portion being a little greater than is the width of the straight portion of the same. In the centre of the circular portion of the arms  $d$   $d$ , are eyes  $d^2$   $d^2$ . These eyes  $d^2$   $d^2$  fit over and are firmly secured to stumps  $e$   $e$ , arranged on the ends and on both sides of a flat metal plate, E. This plate E is made of the same material, and by a like process as in the plate D. When the plates D and E are united together, they compose a ratchet-chain of the form shown in fig. 3; the stumps  $e$   $e$  on each end of the plate E furnishing bearings for the ends of two independent plates D. Thus it will be observed that the ends of the plate E work between two of the plates D D, the latter being duplicate, to insure the degree of strength requisite for their intended use. The recess formed between the straight side of the leg  $d^1$  and the curved end of the arm  $d$ , furnishes a T-shaped ratchet-bearing, in which gears a pawl by which the chain is operated. When the links of the chain are united, as shown in fig. 3, it will be observed that in the centre of each alternate plate D there is an opening,  $d^3$ . These openings serve as bearings for the rod on which works the tag.

F F are a series of tags, constructed of metal or any other suitable material. These tags are firmly secured to rods which are secured, at suitable intervals, to the chains C C. On both sides of these tags are arranged, by any convenient means, the name of any desired street or station.

G is a metal bar or plate, which works in suitable guide-plates,  $f$  and  $g$ , which are secured to the side of



the box A. To the guide-plate *g* there is attached a spring, *g'*, which, when the bar or plate G is drawn back by the coil-spring H, causes the pawl I to occupy a position nearly parallel with the plate G.

H is a coil or other suitable spring, one end of which is attached to the bar or plate G. The other end is firmly secured to the end of the box A.

I is a pawl, which works on a suitable bearing-pin, *i*, attached to the plate G. *i'* is a check-pin, which prevents the pawl I from being thrown out of proper position by the spring *g'*.

K is a strap or cord, suitably attached, and by pulling which the plate G is drawn forward, which operates the entire mechanism.

L L are bearing-plates, so arranged in the sides of the box that, as the chains are being moved, the tags F are kept in an even or flat position. *a* is an opening in the bottom of the box, through which, at regular intervals, the tags F are caused to fall, exhibiting to the passengers the name of the street or station reached.

The operation is as follows:

We will presume that the machine is in the position shown in fig. 1. The driver or conductor pulls the band or cord K, which carries with it the plate G. The moment the bearing-pin *i* passes the edge of the spring *g'*, the pawl I will fall on the chain C, and on it will move until it comes in contact with the ratchet-bearing in the next plate D. With this bearing the pawl engages, and carries the chains C along its future movement.

It will be observed that the distance that the pawl is allowed to travel, between the first engagement with the chain to the time when its movement is arrested by the guide-plate *f*, is exactly the distance between the bearing-rods of the tags F. The consequence is, that the tag that was exposed when the operation commenced is withdrawn, and the next in order occupies its place, and so on until the entire series has been presented.

The moment the pressure is released from the cord K, the spring H instantly draws the plate G, carrying with it the pawl I, to the position shown in fig. 1.

Having thus fully described my invention and mode of operation, what I claim therein as new, and desire to secure by Letters Patent of the United States, is—

1. The endless chain C, when the same is composed of metal plates, D and E, so united and arranged as to form the T-shaped ratchet-bearing, substantially as and for the purpose specified.
2. The combination of the endless chains C C and tags F F, when the same are constructed and arranged substantially as described.
3. The combination of the chains C C, plate G, pawl I, and spring H, when the same are constructed and arranged substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

C. K. MARSHALL.

Witnesses:

JOHN D. BLOOR,

J. E. F. HOLMEAD.