

J. MANTELL.  
STATION INDICATOR.

No. 191,452.

Patented May 29, 1877.

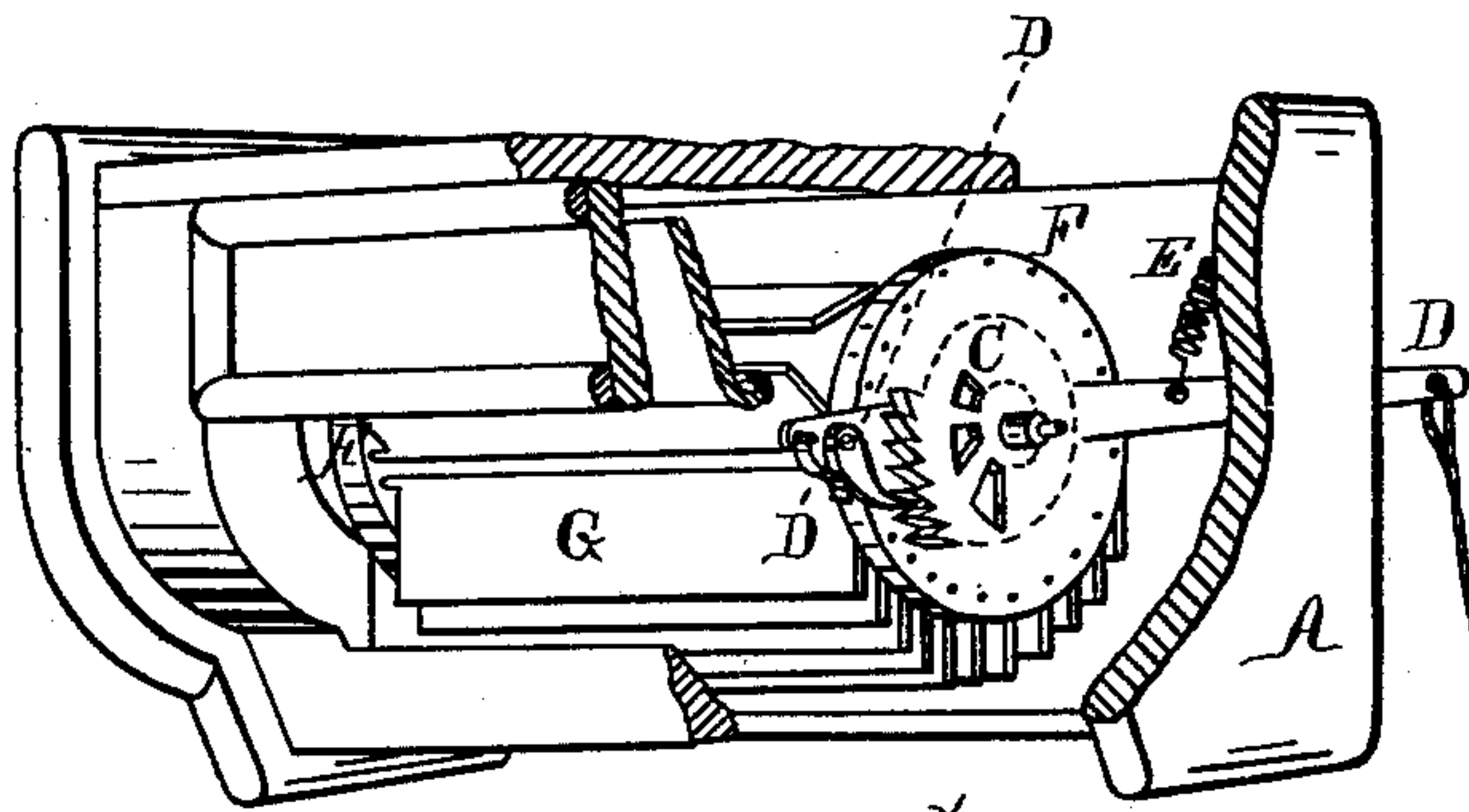


Fig. 1.

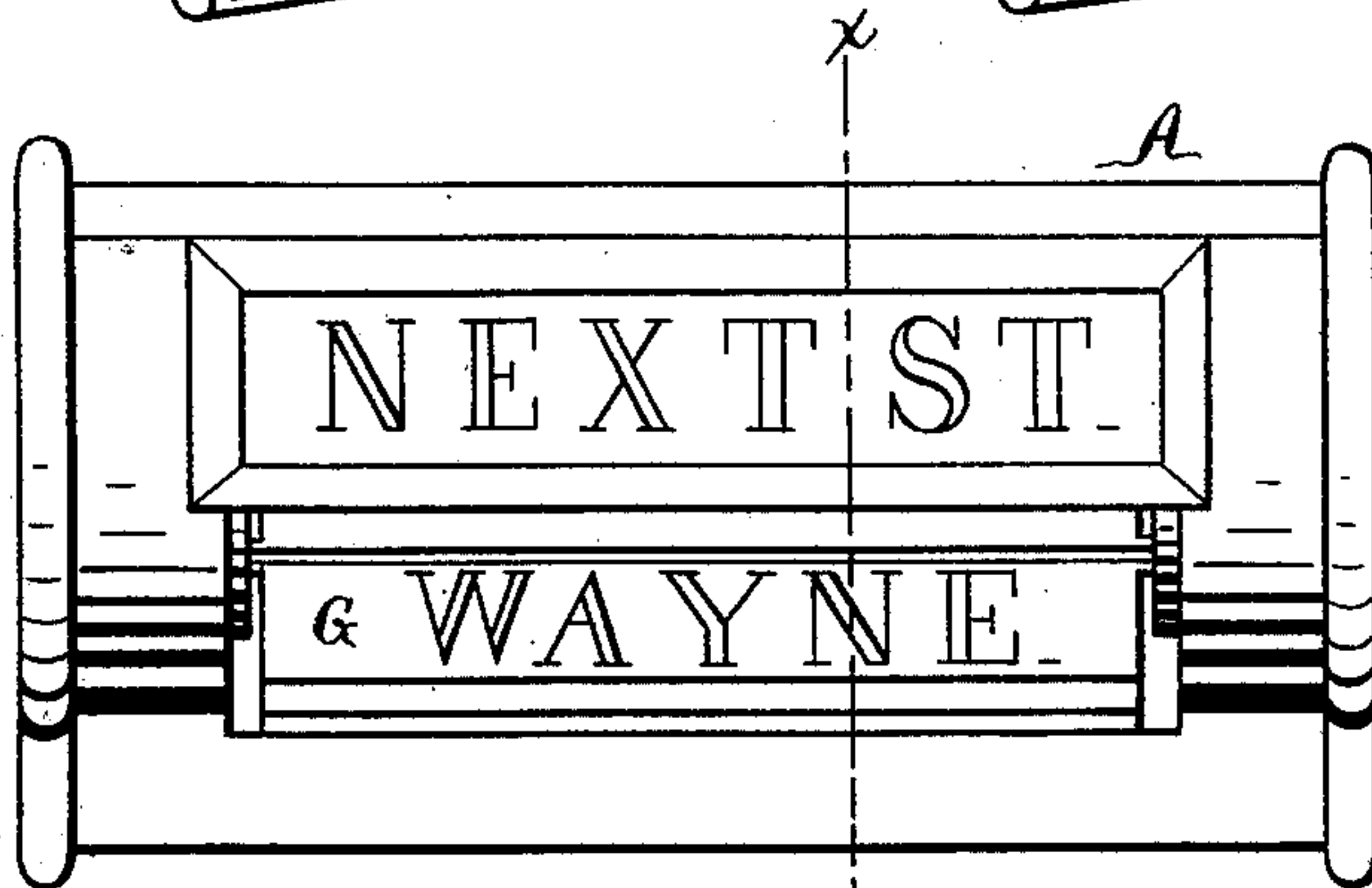


Fig. 2.

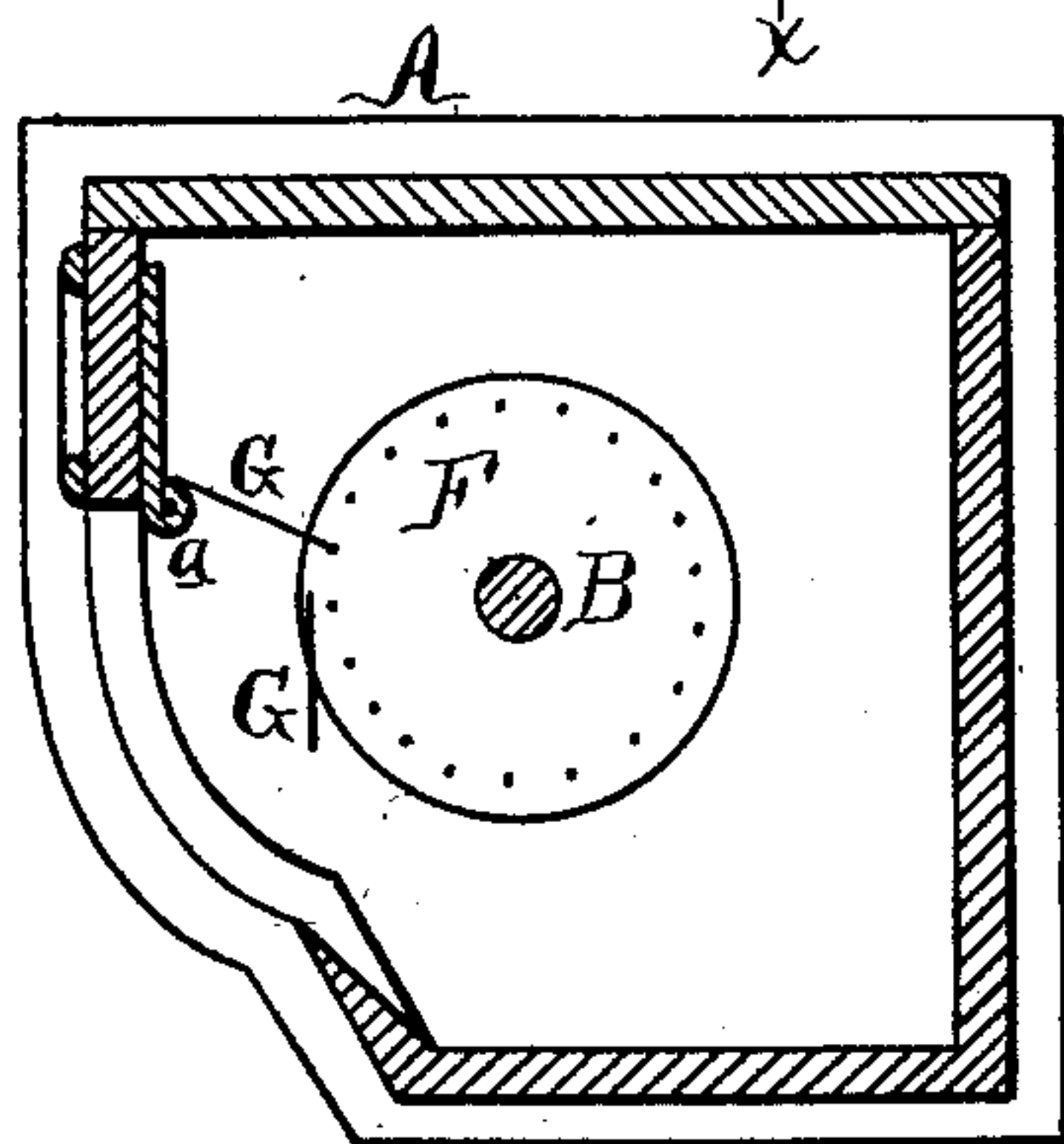


Fig. 3.

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# UNITED STATES PATENT OFFICE.

JAMES MANTELL, OF DETROIT, MICHIGAN, ASSIGNOR TO HIMSELF AND  
CORYDON B. PALMER, OF SAME PLACE.

## IMPROVEMENT IN STATION-INDICATORS.

Specification forming part of Letters Patent No. **191,452**, dated May 29, 1877; application filed  
April 4, 1877.

*To all whom it may concern:*

Be it known that I, JAMES MANTELL, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Street and Station Indicators, of which the following is a specification:

The object I have in view is to provide a device to be attached to the inside of the front end of a car to be operated by the driver or attendant, to indicate the cross-streets or stations on the route, as they are successively approached, in time to allow passengers to prepare to debark.

The invention consists in two disks or heads mounted on a shaft, to which an intermittent rotary movement is given by a ratchet and pawl, the latter being pulled by the attendant as each street or station is left. The heads have pivoted between them metal leaves equal to twice the number of the cross-streets or stations between the termini of the route, the names of the latter being inscribed on the leaves as well as those of the intervening ones in reverse order. The ratchet has as many teeth as there are leaves, and as they successively fall on a ledge over an opening in the front of the case, as soon as each becomes tangent thereto, it hangs over said opening and exhibits the name inscribed thereon.

Figure 1 is a perspective view, with one corner of the case broken away. Fig. 2 is a front elevation. Fig. 3 is a cross-section at *xx*.

In the drawing, A represents a case, to be secured to front end of the car, with an aperture for exhibiting the indicator-leaves. B is a shaft, journaled longitudinally in the case, with a ratchet-wheel, C, keyed on it near one

end, next which a pawl-lever, D, is sleeved on the shaft with one end projecting through the front of the car. At the inner end is pivoted a pawl, D', which engages with the teeth of the ratchet. A spring, E, pulls up the pawl-lever against a stop in the slot through which it plays. Each time the pawl-lever is pulled down it moves the wheel one tooth.

On the shaft there are two metal heads, F, between which sheet-metal leaves G are pivoted at their corners, each leaf bearing the name of a cross-street or a station. Commencing at one end of the route and proceeding to the other the names come in regular order, when a second set of leaves are hung in the heads with the names in reverse order.

The motion of the shaft carries the leaves over toward the opening in the case, and they drop upon a ledge, *a*, at its upper edge. At each movement of the wheel the lowest leaf becomes tangent to this ledge and drops, hanging across the said opening, and exhibiting the name of the next street or station.

The indicating mechanism does not require to be reversed at each end of the route, the attendant having simply to pull the lever as each street or station is passed.

What I claim as my invention is—

The shaft B, ratchet C, pawl-lever D, pawl D', spring E, heads F F, and the leaves G, in combination with the case A, having the ledge *a* over its opening, substantially as and for the purpose set forth.

JAMES MANTELL.

Witnesses:

H. S. SPRAGUE,  
H. F. EBERTS.