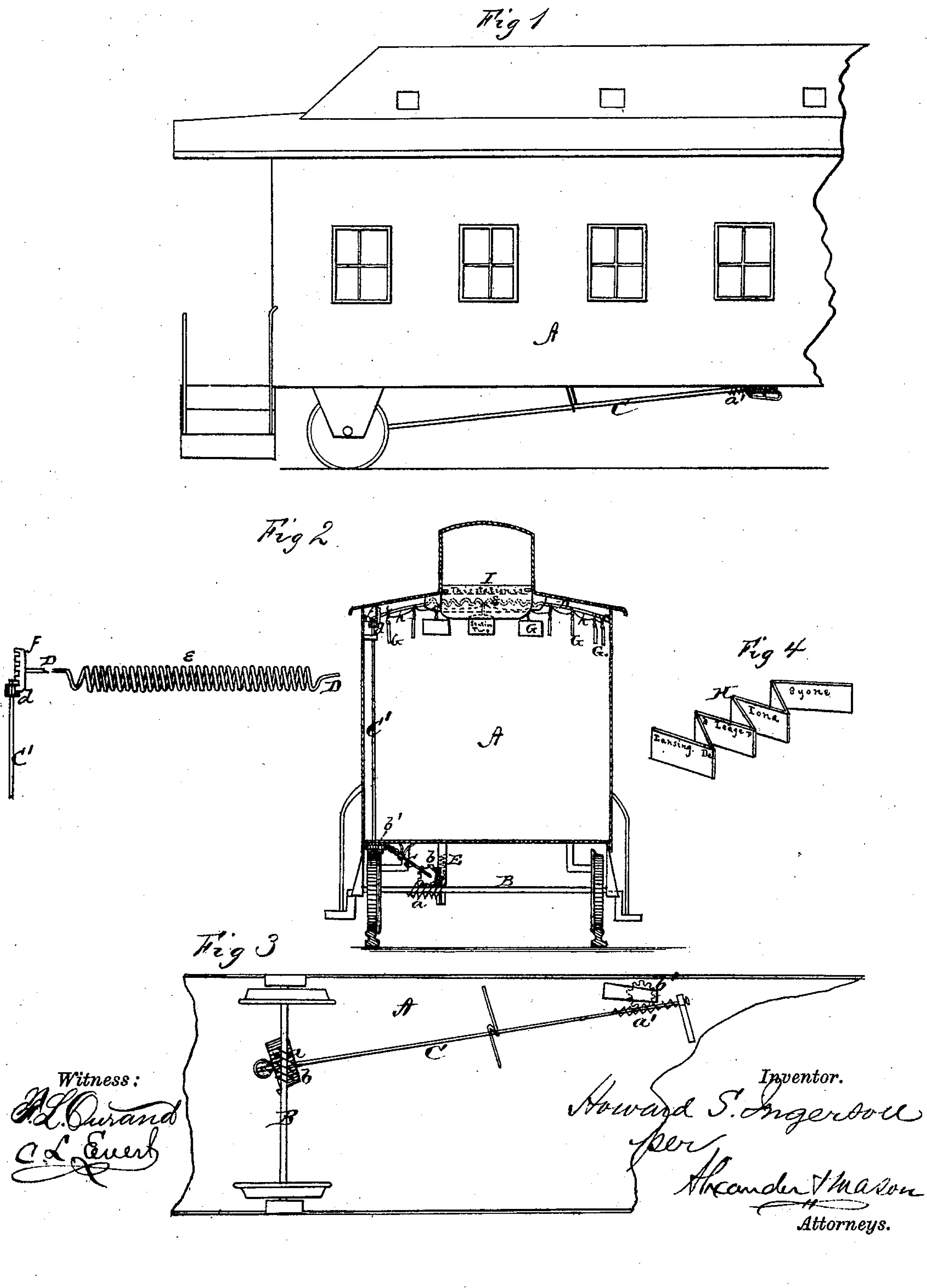
H. S. INGERSOLL.

Railroad Station Indicators.

No. 132,290. Patented Oct. 15, 1872.



Witness:
H. L. Durand
C. L. Evert

Inventor.
Howard S. Ingersoll
per
Alexander & Mason
Attorneys.

UNITED STATES PATENT OFFICE.

HOWARD S. INGERSOLL, OF LANSING, MICHIGAN.

IMPROVEMENT IN RAILROAD-STATION INDICATORS.

Specification forming part of Letters Patent No. **132,290**, dated October 15, 1872.

To all whom it may concern:

Be it known that I, HOWARD S. INGERSOLL, of Lansing, in the county of Ingham and in the State of Michigan, have invented certain new and useful Improvements in Railroad-Station Indicators; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a station-indicator for railroad cars, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view of a part of a railroad car, showing a part of the mechanism for operating my station-indicator; Fig. 2 is a cross-section of the car, showing the indicator; Fig. 3 is a bottom view of the car; and Fig. 4 shows a modification of my invention.

A represents a railroad car, and B one of its axles. On this axle B is a worm or screw, *a*, which gears with a pinion, *b*, on the end of a shaft, C, running under the bottom of the car. This end of the shaft C is supported or held in a flexible or yielding bearing, E, of suitable construction, so as to keep the pinion *b* always in gear with the worm *a*. On the other end of the shaft C is a worm or screw, *a'*, which meshes with a pinion, *b'*, on the lower end of an upright shaft, C'. This shaft may pass either on the inside or outside of the car, as may be desired, and is, at its upper end, provided with a pinion or screw, *d*, for operating the indicator. As I lay no particular claim to this gearing or mechanism for operating my indicator, I desire not to confine myself exclusively to the same. Any suitable gearing may be employed, only so that the motive power is derived from the axle of the car. D represents a rod or wire of suitable dimensions, having a portion of it, preferably in the center, twisted like a screw, as shown at *e*, Fig. 2, and incased in a suitable sheath; or a rod with a thread may be used. This rod and screw may be located at any desired point in the car, across the same at any place or along the side, and at any desired altitude or any desired curve, and may be short enough to be placed across the top of the upper deck with suitable gear. At one end it is provided with a pinion, *f*, which gears with, either directly or remotely, the pinion *d*, or screw, on the shaft C', and thus obtains its rotary motion, and may be thrown out of gear and turned by hand. On the rod D, at one end, is hung a series of cards, G G, or their equivalents, having the names of the stations or streets printed or otherwise affixed to them—that is, the name of one station or street on each card—and the cards arranged in the order that the stations or streets are on the route. Each card is hung upon the rod D by a wire or loop, *i*, in such a manner that when said wire or loop is on the straight part of the rod the cards will be at right angles with the rod, but when it is moved up onto the screw *e* it will at once turn so that the card will be on a line with the rod; or the support may be a swivel, and the cards kept from turning by a tight cord or wire below and on a line with the screw. The cards G G are further connected one with another by means of cords *h h*; or very flexible chains may be used, the length of said cords or chains being proportioned to the distances between the various stations or streets and the speed with which the rod D revolves as compared with the speed of the axle. The end of the rod D may be drawn from its bearing by compressing the coiled part *e*, and the cards taken off and others substituted, if desired.

As the car is in motion the rod D revolves, and one card being in the center of the screw-part *e*, this card will move on the screw and draw the next card, by means of the connecting cord or chain *h*, onto the screw. This card as soon as it enters on the screw at once turns so as to exhibit the name of the next station or street to the passengers, and when the car arrives at this station the card will be in the center of the screw *e*. In like manner the next, and all the cards are moved forward, turned, and arrive at the center of the screw at the time when the train arrives at the respective stations. When the train arrives at the end of the route all the cards have been transferred from one end of the rod D to the other, and when it returns the cards are moved in reverse order in the opposite direction by the reverse motion of all the machinery, as the car is not turned around, but motive power attached to the other end. Upon the cards G G, in addition to the names of the stations, may be printed any information useful to the traveling public—such as, the distances between the stations, the names of the best hotels at the various places, or anything else that may be desired.

In place of separate cards, connected by cords or chains, as above described, I may use a continuous strip, H, having flexible joints at regular or irregular intervals, as shown in Fig. 4, and the names of the stations or streets printed on the same at irregular intervals, according to the distances between them; or a perfectly flexible strip may be used. At each end of the rod D—that is, from the ends of the screw-part *e* outward—the cards may be inclosed in a suitable box or casing, and over the screw *e* may be arranged a housing, I, to cover said screw, and upon which may be affixed the words "This station is," or any other notice desired; and all the cards may be inclosed except the one immediately required, or may leave three or four in view, and the rest convenient for inspection, so that a traveler may at any time determine his relative position on the route; or an extended map of the route may be used in the same manner; but in any case it is intended to more particularly point out the immediate point. Through each end of this covering may be cut suitable holes, through which may appear "The next is," or other words; or a hand or arrow may be on a movable plate at each end, and operated by hand or otherwise at each end of the route, to cause the direction to appear at either opening, as the case may require.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The rod or wire D with screw-part *e*, revolved by suitable gearing from the axle of the car, for the purpose of moving a series of separate cards, or cards connected by flexible joints or flexible strips, substantially as and for the purposes herein set forth.

2. A series of cards, G G, suspended from and moving upon a revolving rod, D, with screw *e*, in such a manner that as soon as they enter upon the screw-part they will turn from a position at right angles to a position on a line with the rod, and vice versa, substantially as herein set forth.

3. The combination of the rod E with screw-part *e*, cards G G, or hand, or map of the road with its stations and connections, wires, loops, or rings *i i*, connecting cords or chains *h h*, or their equivalents, and a suitable gearing connecting said rod with the axle of the car, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of September, 1872.

HOWARD S. INGERSOLL.

Witnesses:
EDM. F. BROWN,
C. L. EVERT.