(No Model.) 3 Sheets—Sheet 1.

P. P. I. FYFE.

STATION INDICATOR.

No. 438,232. Patented Oct. 14, 1890.

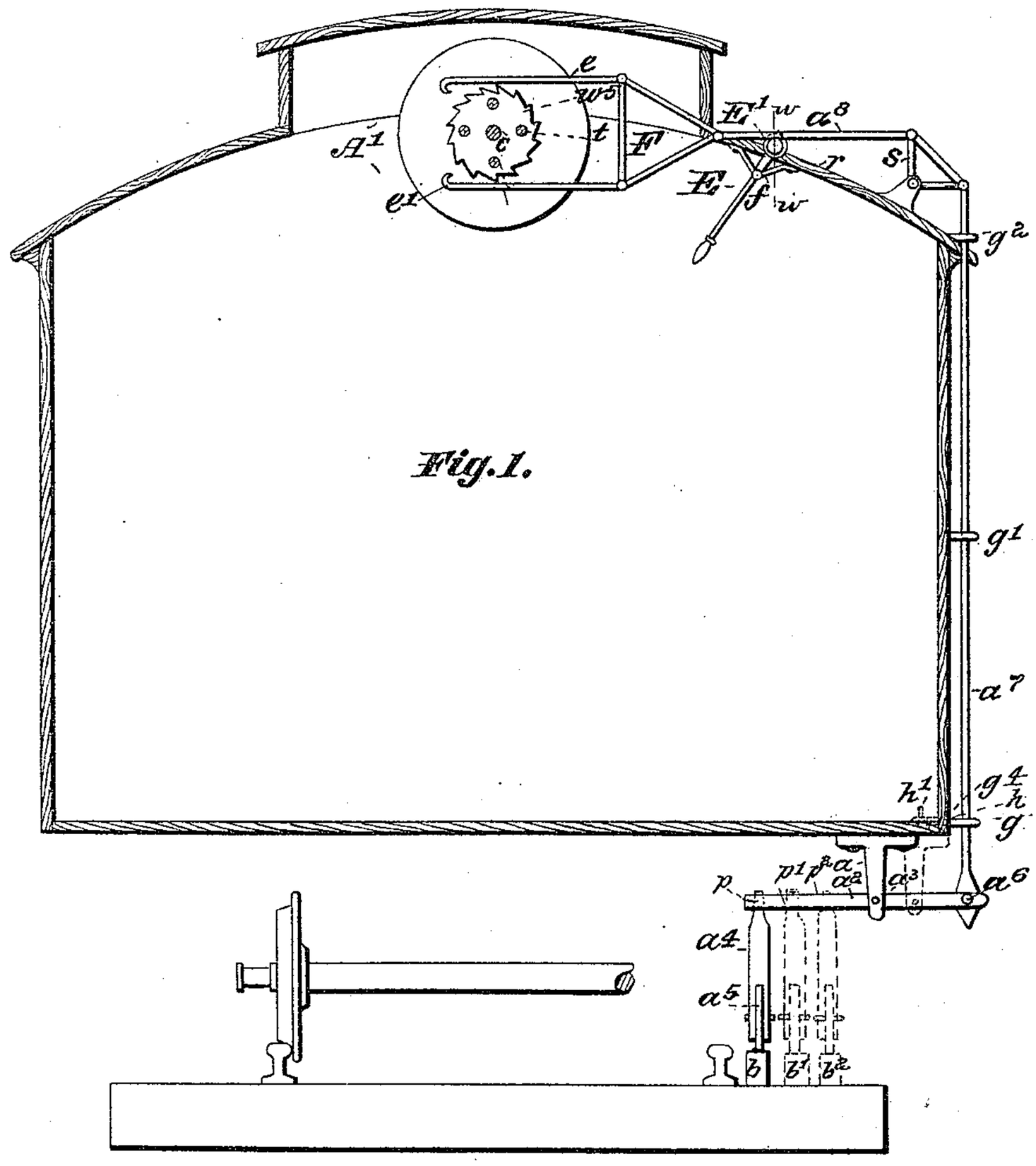

Fig. 1.

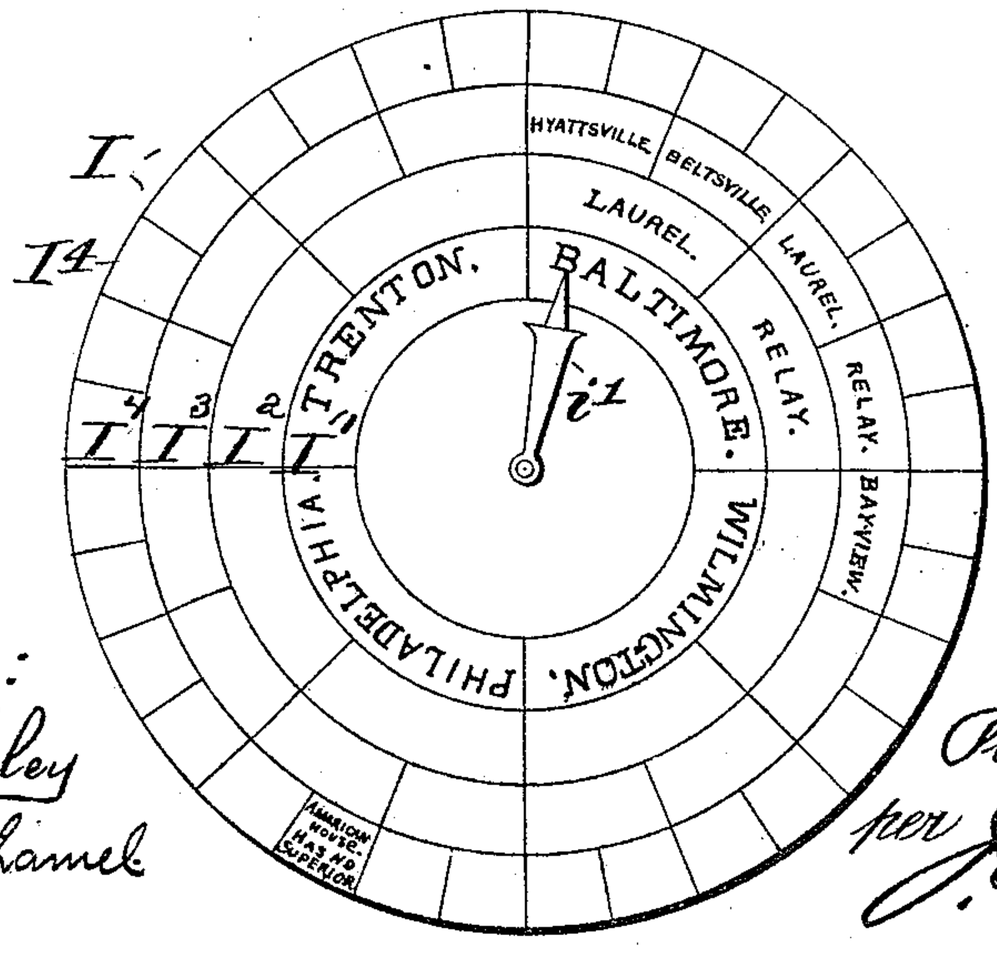

Fig. 3.

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Inventor:
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per J. Ashley Fatty.

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P. P. I. FYFE.

STATION INDICATOR.

No. 438,232. Patented Oct. 14, 1890.

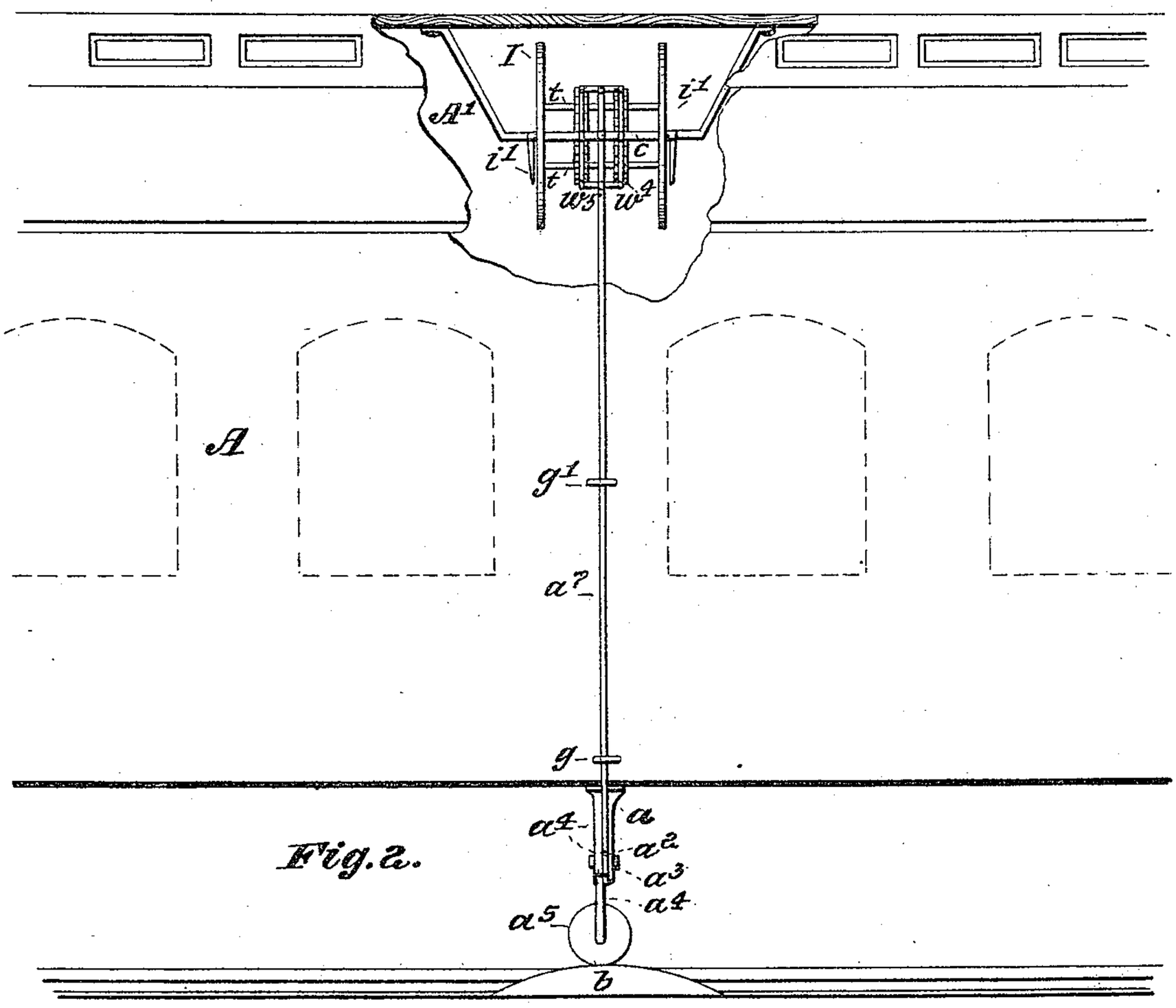


Fig. 2.

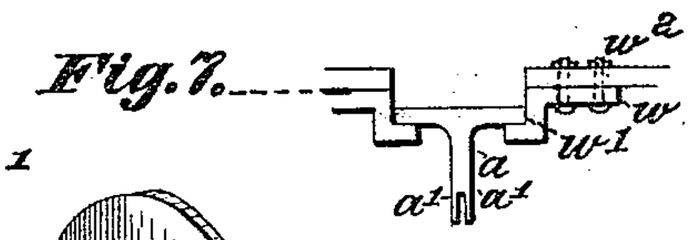
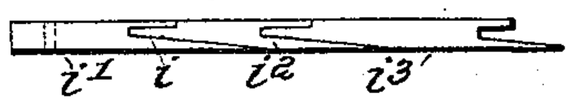


Fig. 7.

Fig. 6.

Fig. 5.



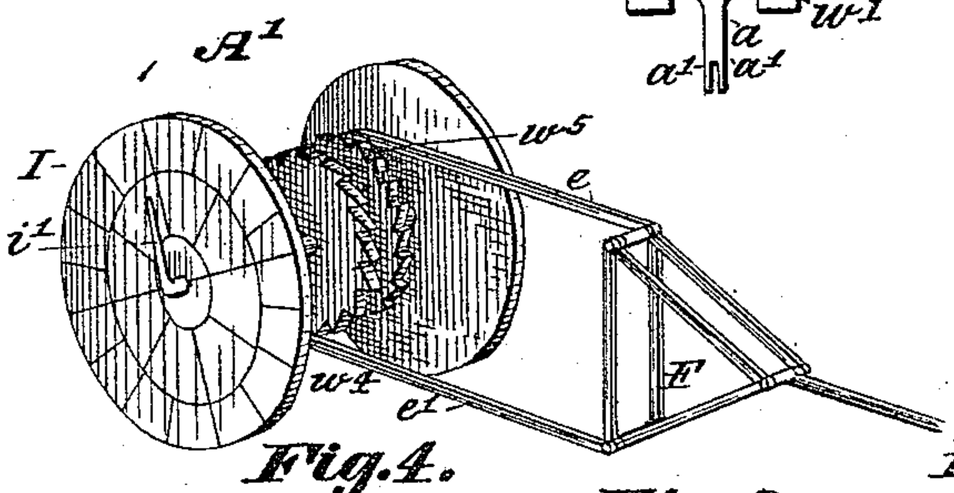


Fig. 4.

Fig. 9.

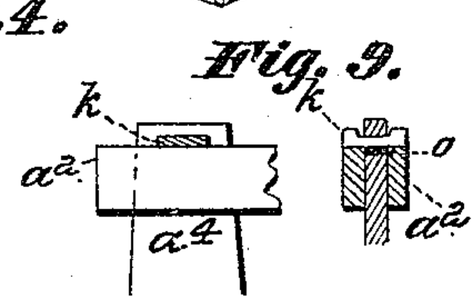
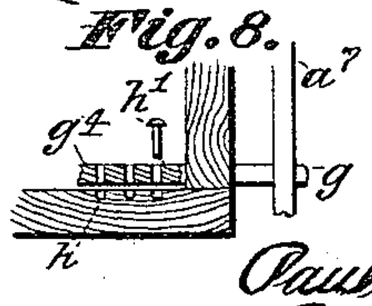


Fig. 8.



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(No Model.) 3 Sheets—Sheet 3.

P. P. I. FYFE.

STATION INDICATOR.

No. 438,232. Patented Oct. 14, 1890.

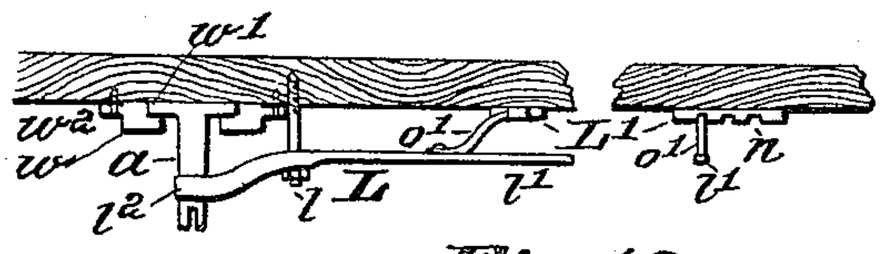

Fig. 10.

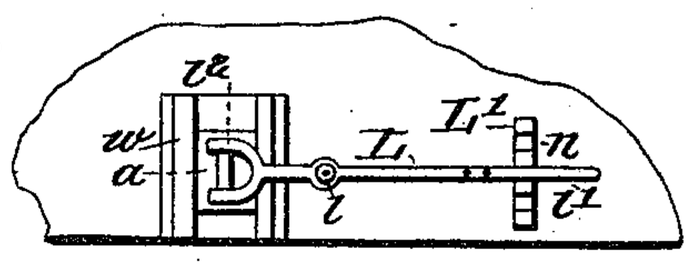

Fig. 11.

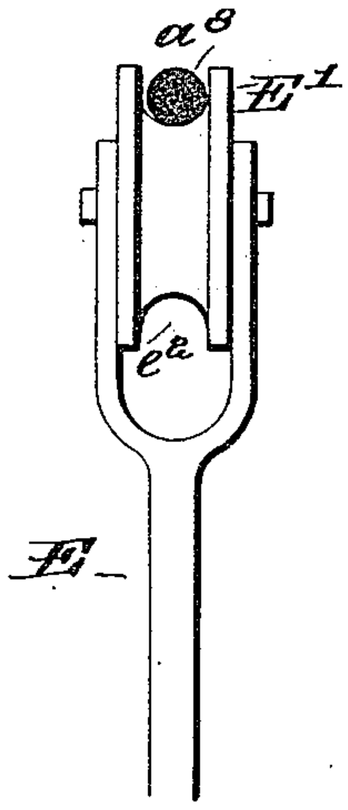

Fig. 12.

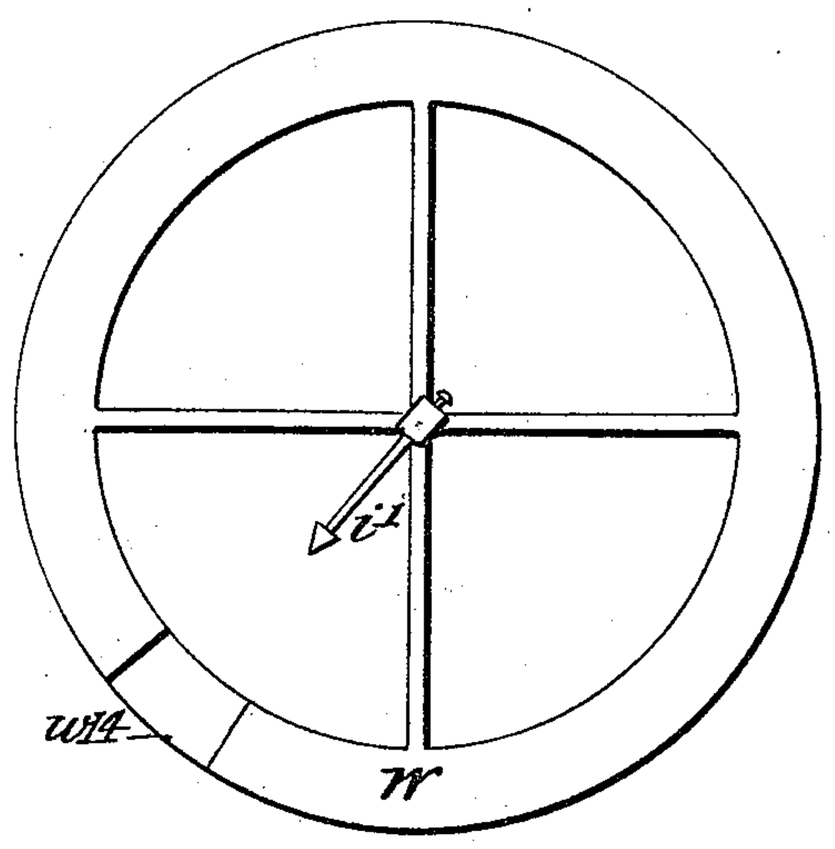

Fig. 13.

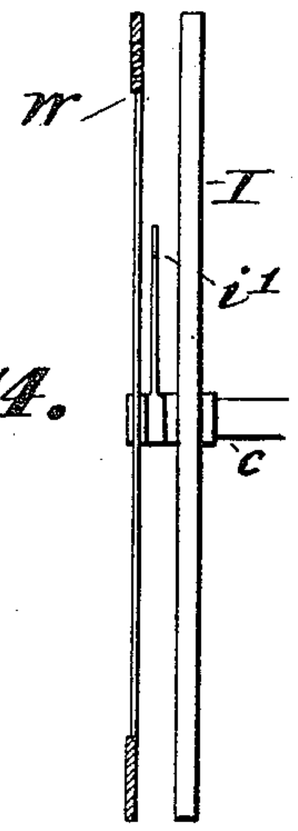

Fig. 14.

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UNITED STATES PATENT OFFICE.

PAUL P. I. FYFE, OF WILMINGTON, DELAWARE.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 438,232, dated October 14, 1890.

Application filed April 11, 1890. Serial No. 347,516. (No model.)

To all whom it may concern:

Be it known that I, PAUL P. I. FYFE, a citizen of the United States, residing in the city of Wilmington, in the county of New Castle, in the State of Delaware, have invented new and useful Improvements in Station-Indicators, of which the following is a correct description.

The invention relates to a station-indicator in which an index-plate which operates in connection with a fixed indicating finger or pointer, is released from the position in which it became adjusted upon approaching the last previously-passed halting-station, and is caused to move to a position in which the finger or pointer will indicate the name of the station at which the train is next to be brought to a standstill, the index-plate being actuated by mechanism which is set in motion by a contact-block or tripping-post which is rigidly secured upon the ties or other fixed part of the road-bed.

To avoid the annoyance which would be occasioned upon through trains, or trains which are to halt at but few stations, by frequent changes in the position of the index-plate and the simultaneous sounding of the alarm-bell which may be provided in connection therewith, two or more sets or series of contact-blocks or tripping-posts are provided, the number and arrangement of the obstructing blocks or posts in each set or series being such as to cause designation of those points only at which the train is to stop. For instance, if upon a line of railway leading from Washington to New York it be desired to halt the train at Baltimore, Wilmington, Philadelphia, and Trenton only, means will be provided for actuating the index-plate and sounding the alarm-bell or other sound-signal at a suitable distance north or south, according to the direction of movement of the train from each of these four intermediate points. For a train which is to halt at a dozen stations another line of tripping-blocks, twenty-four in number, will be provided, the alarm being sounded and the index-plate being moved, as before, for such stations only as are designated in the time-schedule for that train. For a mail or way train which is required to halt at all regular stations a third set of tripping-blocks, corresponding of course to the number of such stations, is provided, and so on for each of the several classes of passenger-trains upon the line.

To render a single actuating-rod and connections available for each of two or more sets or series of stations, the pivot-bar of the transmitting mechanism is adapted to receive the vertical bar which directly receives the contact wheel or shoe at a point corresponding to the longitudinal vertical plane of either of the several series of contact-blocks.

To render a single index-plate equally available for all cars, irrespective of the character of the train of which they may ordinarily compose a part, provision is made in such index-plate for distinct sets of stations and for a pointer or index-finger corresponding to each of such sets, such pointers being readily detachable and interchangeable, so that the index-plate may almost instantly be adapted to the requirements of a car of the particular class or train of which it is to constitute a member.

To render the station-indicating mechanism available as an advertising medium, a display-opening is provided in the index-plate near the periphery thereof, and a display-plate is so arranged in connection therewith as to exhibit upon approaching the railway-station of a town or city the particular advertisement, one or more, which relates to such town or city.

To facilitate observation of the index-plate, it is arranged transversely and at or near the longitudinal center of the car, and it is either duplicated or formed as a compound plate, so that its operation will be observable from either extremity of the car.

In the accompanying drawings, which constitute a part of this specification, Figure 1 represents a transverse vertical section of a car which is provided with my improved station-indicating apparatus. Fig. 2 is a partial side elevation of such car. Fig. 3 represents a plan view of the index-plate detached. Fig. 4 is a detail of the ratchet-wheels and of the double hooks and their immediate connections. Fig. 5 is a detail showing the manner in which the index-finger sections are made extensible and interchangeable, and Fig. 6 represents a modification of the construction shown in Fig. 5. Fig. 7 represents

in longitudinal section a detail showing a modification of the construction in which the hanger for the index-actuating mechanism is made adjustable transversely of the car. Fig. 8 is a detail showing in transverse section an enlarged view of parts seen in Fig. 1. Fig. 9 represents details, enlarged, of the pivot-bar and of the wheel-bar. Fig. 10 is a detail showing in side elevation portions of the index-plate-actuating mechanism and parts connected therewith. Fig. 11 is a bottom plan of parts seen in Fig. 10. Fig. 12 is an enlarged detail in the line *w w* in Fig. 1. Fig. 13 represents a plan view of the advertising-wheel or skeleton plate, and Fig. 14 represents such plate in connection with the index-plate.

It will be understood that the car A is or may be in its general construction of any ordinary type of passenger-car, and that the indicating apparatus A′ is applicable thereto without any alteration or modification of any of the parts thereof.

To the bottom surface of one of the longitudinal or transverse sills of the bed-frame of the car is rigidly secured a hanger *a*, which preferably has bifurcations *a′ a′* to receive the horizontal pivot-bar a^2, which is supported upon pivot-pin a^3. At its inner extremity the pivot-bar a^2 is securely but detachably connected to the short vertical wheel-bar a^4, in the bifurcated lower extremity of which is journaled the contact-wheel a^5, while at its outer extremity it is connected by pivot-pin a^6 to the vertically-arranged rod a^7, which at its upper extremity is similarly connected to a pivoted sector *s* upon the roof *r* of the car, the sector being at its opposite extremity connected by a rod a^8 to the ratchet-and-pawl mechanism which directly actuates the index-plate in such manner that when the car is moving in one direction the index-finger will indicate in their order the several halting-stations, beginning at one extremity of the line, and when the car is moving in the opposite direction the several stations will be successively indicated, correspondingly, in their reverse order.

Suitable securing loops or guides, as *g g′* g^2, may be provided upon the body of the car for the protection of the vertical rod a^7, the loop *g* being by preference made adjustable in or out within short distances by means of a securing-pin *h′*, which is engageable with the perforated shank g^4 of the loop and with one of a series of a orifices *h h*, provided in the floor of the car.

As will be seen in Fig. 1, the pivot-bar a^2 has rectangular openings or slots *p p′* p^2, in number corresponding to the number of series of contact-blocks *b b′* b^2, so that the wheel-bar a^4 may, by the insertion within an opening *o* of the wheel-bar of a double-shouldered key *k*, or in other equivalent manner, be attached to the bar at a point coincident with the particular series of blocks in connection with which the car is to be operated, as already explained.

As will be understood on reference to Figs. 1 and 7, the relation of the hanger *a* to the pivot-bar a^2 and to the wheel-bar a^4 may be varied somewhat as circumstances may require. The hanger may be attached at a point near the outer extremity of the bed-frame, as indicated by dotted lines in Fig. 1, or, as indicated in Fig. 7, it may have slight in-and-out movement in ways *w′ w′*, formed by flange-plates *w w*, secured by bolts w^2 w^2 to the body of the car.

To facilitate the movement of the hanger in its ways and to limit the same under this latter construction, an adjusting-lever L is provided, such lever being represented in Figs. 10 and 11 of the drawings as extending longitudinally along the bottom of the car, to which it is secured by a pivot-pin *l*, its outer end being provided with a handle or arm *l′*, and its opposite extremity embracing by its bifurcations l^2 l^2 the body of the hanger *a*. A rack-bar L′ upon the bottom of the car has notches *n*, corresponding to the distances between the tripping-blocks *b*, *b′*, and b^2, and a spring *o′* upon the handle, engaging one of the notches in the rack-bar, operates to lock the arm *l′* of the adjusting-lever in place when the contact-wheel has been brought into coincidence with either of the several lines of blocks.

Near the point where the rod a^8 of the index-plate-actuating mechanism is connected with the frame F, which carries the engaging-hooks *e* and *e′*, is a handled lever E, which is pivoted in a bearing *f*, so as to be movable to and fro. At its outer extremity the lever E is provided with a wheel E′, within a groove e^2 of which the rod a^8 is received in such manner as to secure it against movement lengthwise of the car. This construction is best seen in the detail view represented in Fig. 12. Upon movement of the lever away from the interior and toward the wall of the car the wheel E′, the rod a^8, and the two hooks will be simultaneously elevated, and by this movement the lowermost hook *e′* will be brought into engaging position with its coincident ratchet-wheel w^4, while if the handle be returned to its position, as seen in Fig. 1, the hook *e* will be in readiness to engage with the ratchet-wheel w^5.

As will be understood by reference to Figs. 3, 4, and 5 of the drawings, the index-plate I is divided into any desired number of annular sections I′, I^2, I^3, and I^4, corresponding to the several classes of passenger-trains employed upon the line, and these annular sections or fields are in turn divided into segmental sections corresponding to the number of stations in each annular section at which the trains of such annular sections are to stop. A primary index-finger *i′* will operate to indicate the several stations within the inner annular section I′, the extremity of the finger extending only to such inner annular section. The index-finger *i′* is provided with a recess *i*, by which it is adapted to receive the inner

extremity of a second finger-section or pointer i^2, which, as will be seen, extends to and indicates the stations in the second annular section I^2, and in like manner the stations in the third annular section may be indicated, the section or extension i^2 being detached and a longer section or extension i^3 being applied instead to extend to such third annular section or division. If desired, the index-finger sections, instead of being separable, as described, may, as seen in Fig. 6, be made to slide one upon another telescopically, the extendible sections i^2 i^3, &c., being maintained in position when adjusted by a suitable pinch-nut n' or other equivalent means.

As already explained, and as clearly represented in Figs. 1 and 2, the index-plates and the ratchet-wheels are secured rigidly together by rods t, so that the whole will revolve as one upon the axial shaft c, while the two index-fingers are rigidly fixed upon the shaft in any desired position and placed in coincidence, so as to point in the same direction.

Upon some trains it will be desirable to employ an exterior annular division, as I^4, of the index-plate in connection with a skeleton plate or wheel W, the segmental divisions of the index-plate bearing the advertising matter and the wheel W, having an opening w^{14}, corresponding to such segmental division.

The wheel or skeleton plate will be fixed rigidly upon the shaft near to, but not upon, the index-finger, so that the index-plate in its revolution will operate to bring into coincidence with the opening in the wheel the particular advertisement that pertains to the city or station designated by the corresponding segment of the index-plate, and the finger upon the shaft serving to point both to the name of the station and to the advertisement which relates to such station or city.

The invention having been thus described, what is claimed is—

1. A station-indicator for railway-cars, the index-plate of which is actuated by mechanism which receives motion through contact with a fixed obstruction upon the trackway, such mechanism being adjustable toward or away from the track-rail, combined with two or more series of contact-blocks fixed upon the trackway at different distances from the track-rail and in coincidence with the several points of adjustment of the index-plate-actuating mechanism, substantially as and for the purposes set forth.

2. A station-indicating mechanism which embraces an indicator-plate which is divided into inner, outer, and intermediate annular sections, and which embraces, also, an index-finger which is primarily adapted to operate in connection with the inner annular section, and which is adapted to be extended so as to operate to indicate the stations designated upon an intermediate or upon the outer annular section.

3. A station-indicating mechanism which embraces an index-plate which is divided into annular sections which correspond to the several classes of passenger-trains upon the line of railway, a series of lines or sets of contact-blocks upon the trackway, and an index-plate-operating mechanism which is adapted to be placed in coincidence with either of the several lines of contact-blocks upon the trackway and to indicate the several stations in the corresponding annular section of the index-plate, in combination, substantially as shown and described.

4. In a railway-car, an index-plate which is divided into annular sections and into segmental sections, one or more of which has an advertising announcement, an index-finger fixed upon the shaft upon which the index-plate revolves, and a skeleton wheel or open plate which also is fixed upon the shaft of the index-plate and which is provided with an opening corresponding to the advertisement upon such index-plate, in combination.

5. In a railway-car, a station-indicating mechanism the index-plate of which is primarily actuated by a tripping-block upon the trackway, two or more lines of tripping-blocks upon such trackway, a slidable hanger which is movable in or out toward or from the track-rail, and an engaging-lever which is adapted to produce such movement and to be automatically locked in position and in operative connection with either of the lines of tripping-blocks upon the trackway, in combination.

6. In a railway-car, a centrally-placed two-way index-plate in the upper portion of such car, a mechanism which operates such index-plate, which is actuated by an obstruction which is fixed upon the trackway, and a pivoted lever which engages such operating mechanism and which is adapted to change the engaging position of the same, in combination.

7. In a railway-car, the flange-plates w w, secured to the bottom of the car, the hanger a, carrying pivot-bar a^2 and wheel-bar a^4 and supported by the plates w w, and the adjustable lever L, pivoted to the body of the car and engaging the body of the hanger, in combination, substantially as described.

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