J. HUTCHINSON.

CHANGEABLE INDICATOR.

APPLICATION FILED JAN. 19, 1910.

1,067,249.

Patented July 15, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

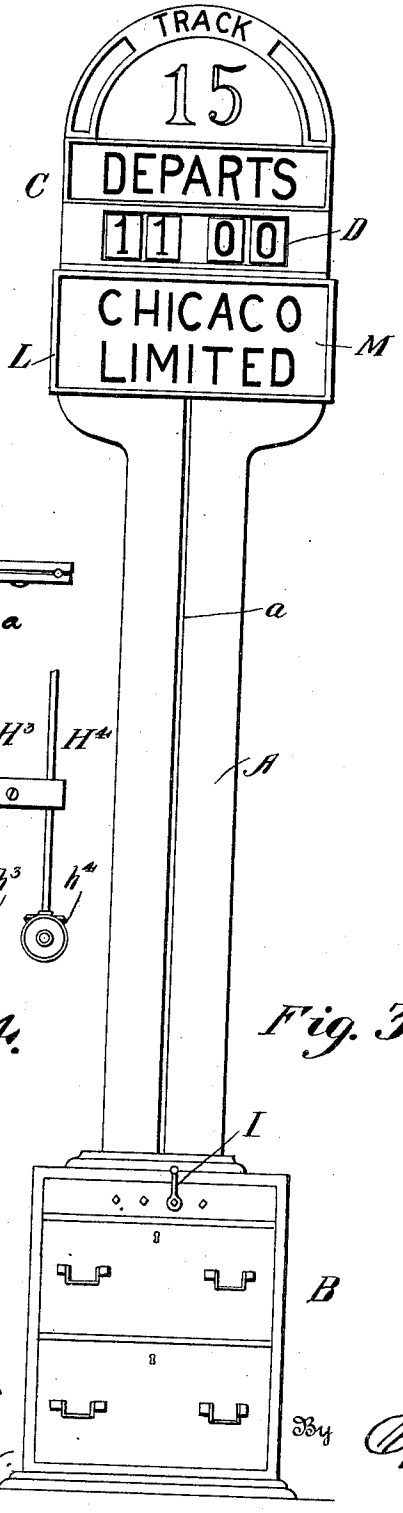
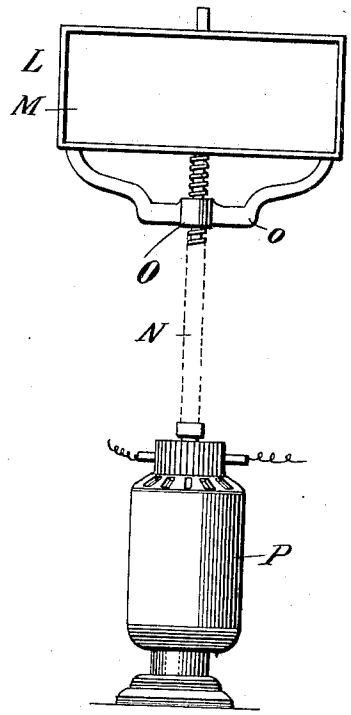


Fig. 2.



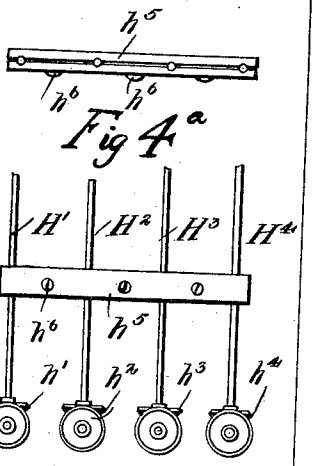
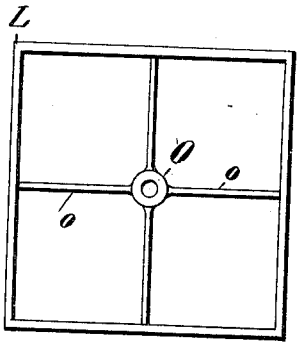


Fig 4ª

Fig. 4.

Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 5.

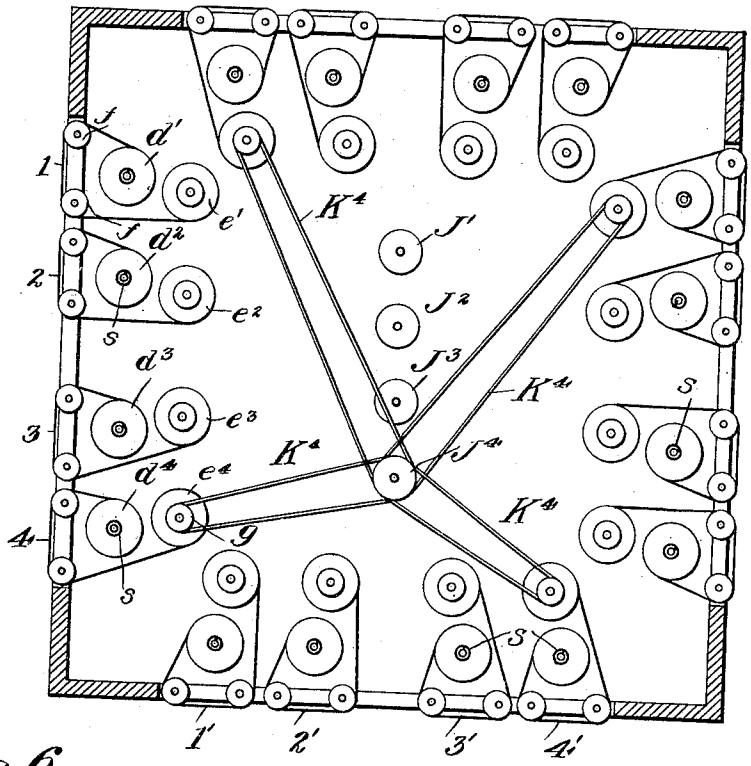
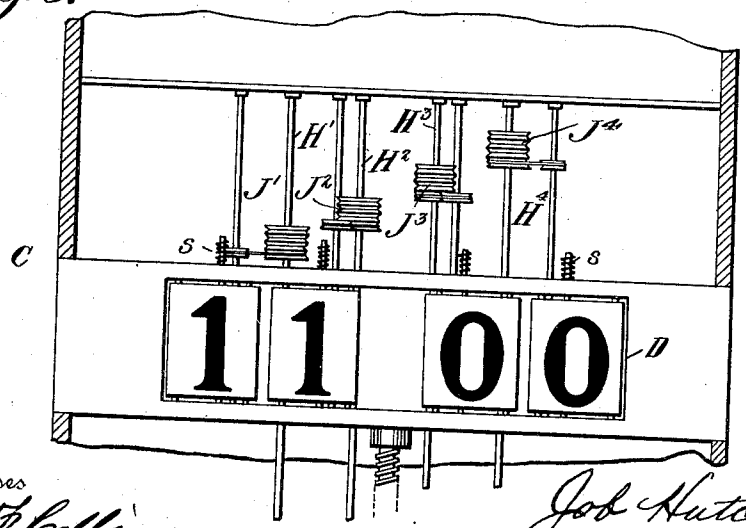


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOB HUTCHINSON, OF NEW YORK, N. Y., ASSIGNOR TO NATIONAL INDICATOR COMPANY, A CORPORATION OF NEW YORK.

CHANGEABLE INDICATOR.

1,067,249. Specification of Letters Patent. **Patented July 15, 1913.**

Application filed January 19, 1910. Serial No. 538,895.

To all whom it may concern:

Be it known that I, JOB HUTCHINSON, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Changeable Indicators, of which the following is a specification.

My invention relates to changeable indicators or signs, and has for its objects the production of means for simultaneously making or changing a desired indication upon a plurality of faces of the indicator; and operating a card-carrying rack which coöperates to complete the indication.

According to my invention more specifically stated, the main portion of the indicating means comprises a plurality of movable webs or curtains or sets thereof, each mounted upon a spring drum or roller and adapted to be unwound to display a character, each set being located upon a different face of the apparatus and the corresponding individuals of each set being simultaneously controlled to give the same indication.

The embodiment of my invention shown in the accompanying drawings, and hereinafter described, as illustrative thereof, comprises a train indicator for railway stations in which it is desired to show time of departure and name of the train. It will be understood, however, that the invention is capable of general application to indicators for making other announcements.

The invention consists in the various novel features and combinations of parts hereinafter described and claimed, and shown in the accompanying drawings in which

Figure 1 is a front elevation of the indicator complete; Fig. 2 is a detached view of the train-card rack and its operating means; Fig. 3 is a plan view of the train-card rack shown in Fig. 2; Fig. 4 is an enlarged detail, showing the web-operating rods; Fig. 5 is an enlarged plan view in section showing the details of mounting and operation of the movable webs, the operating belts of only one group of corresponding individuals of each set being shown to avoid complication of the drawings; and Fig. 6 is a side view of the same, partly in section looking in the direction of the arrow in Fig. 5, and showing the belt connection of one complete set of webs.

Referring to the drawings, A is the standard of the indicator mounted on base B and carrying the indicating portion C. Indicating portion C is provided with marks or legends suitable for the purpose for which the indicator is designed, in the instance chosen for illustration, these marks being adapted for a train indicator for railway stations. The upper part of the indicating portion C includes a changeable time or number section D arranged to display a main indication on one face of the indicator, said main indication being formed of a plurality of independently-changeable sub-indications, shown in the present instance as four numbers. In order to show the same indication for all directions, a set of these numbers is provided on each of its four faces, as shown in Fig. 5. Each of these number sets consists of a set of movable webs or bands, 1, 2, 3, 4,—1′, 2′, 3′, 4′ etc. each web or band being preferably mounted on a spring reel d^1, d^2, d^3, d^4. The spring s of each reel may be either outside the reel, as shown, or placed inside thereof as in the ordinary shade roller. Each web passes around idler rollers f on the face of the indicator, and is then wound on a take-up drum e^1, e^2, e^3, e^4. The spindle of each take-up drum is extended upward to a suitable bearing, and carries a pulley g. In order to operate the webs, rods H^1, H^2, H^3, H^4 are provided extending up through standard A and connecting through bevel gears h^1, h^2, h^3, h^4 with crank terminals on the base, where they may be operated by a detachable crank I. Each operating rod carries near its upper end a driving pulley or pinion typified by J^4 which is connected by belts or other gearing connection with the corresponding individual take-up drum of each set of webs. In Fig. 5 I have shown complete the connections for No. 4 web of each set, the four belts K^4 connecting pulley J^4 with pulley g of each take-up drum e^4. Each of the other operating rods H^1, H^2, H^3 has a similar pulley J^1, J^2, J^3, respectively, suitably connected to the corresponding individual take-up drums of the sets, these

pulleys J^1, J^2, J^3 being placed in different horizontal planes so that the gearing connections will not interfere with each other. In order to maintain the operating rods in their adjusted position against the tension of springs *s*, I provide a friction clamp or brake h^5, the tension of which may be regulated by screws h^6. As will be understood said brake or movement-retarding device provides a constant tension opposition to the tension of the spring, thereby providing a construction having all of the advantages of a direct drive for both reel and drum without the employment of the intricate and cumbersome mechanism required for such direct drive, and at the same time permits the operator to move the webs without liability of an uncontrolled rewinding of the web should the operating handle slip off its connection.

The lower part of the indicating portion consists of a frame L carrying removable cards M bearing the train name or other desired legend. In order to facilitate the insertion of the train cards in and removal from the frame L, I provide means for lowering this frame to a point where it can be conveniently reached from the floor, said means comprising a worm shaft N working in a threaded nut O forming part of a spider *o* upon which frame L is carried. Worm shaft N is preferably driven by a small electric motor P located within the casing of the apparatus and controlled by a suitable switch, not shown. Standard A is provided with slots *a* on each of its sides in which the arms of spider *o* work.

The structure of the standard and the vertically movable card rack is not claimed herein specifically as it forms the subject-matter of claims contained in my co-pending application filed March 2, 1910, S. No. 546,899.

In the operation of the device the crank handle I is operated to rotate the respective operating rods H^1, H^2, H^3, H^4, say, by way of illustration H^4. This revolves pulley J^4 to rotate take-up drums e^4 in such a manner as to either unwind webs 4, 4′, etc., from or permit them to be wound upon, their respective spring reels until the desired number appears. The same figure will simultaneously appear upon each face of the indicator. In like manner each of the other figures of the time indication is adjusted.

The manipulation of the train card operating device is obvious from the drawings and the foregoing description.

While I have described a specific embodiment of my invention as illustrative thereof, I wish it to be understood that various changes may be made without departing from the spirit of the invention. For instance, instead of the cord belting shown, sprocket chains or other desired form of gearing may be employed.

What I claim as new and desire to secure by Letters Patent of the United States is—

1. A changeable indicator comprising a standard and having near the upper end thereof a plurality of flexible webs or bands on a single face, a spring reel for and upon which each web or band is mounted, a take-up drum for and upon which each web or band is adapted to be wound, a rod extending up through said standard for operating each take-up drum, means accessible from the bottom of said standard for revolving each rod, and a common adjustable friction brake clamped upon said rods to hold said take-up drums against the action of the respective springs of said spring reels.

2. A changeable indicator comprising a standard vertically slotted, an indicating portion mounted on said standard, a spider within said standard having arms extending through said slots, a card rack with card carried by each of said arms, said card constituting a supplemental indicating portion, and means within said standard for raising said spider to bring said card racks into display position adjacent said indicating portion.

3. A changeable indicator having a plurality of faces and comprising a standard provided with a plurality of vertical slots, an indicating portion mounted on said standard, a frame carrying a supplemental indicating portion coöperating with said indicating portion, a spider on said frame having arms extending through said slots, and means for raising and lowering said spider to permit a change of supplemental indication.

4. A changeable indicator having a plurality of faces and comprising a standard the walls of which have vertically arranged slots, an indicating portion mounted on said standard and including a main indication formed of a plurality of sub-indications changeable on the exposure plane of the main indication, means extending up through said standard for changing the sub-indications of the main indications, a frame carrying cards which, when in extreme upward position, constitute a part of said indicating portion, a spider for said frame having arms which extend through said slots in the walls of said standard and a worm shaft extending up through said standard and threaded into said spider for operating said frame.

5. A changeable indicator having a plurality of faces and comprising a standard vertically slotted on a plurality of faces, an indicating portion mounted on said standard, a frame carrying a supplemental indicating portion coöperating with said indicating portion, a spider on said frame hav-

ing arms extending through said slots, the center portion of said spider being tapped to form a nut, a worm shaft extending up through said standard, and an electric motor connected to drive said worm shaft and operate said frame.

In testimony whereof I have affixed my signature, in presence of two witnesses.

JOB HUTCHINSON.

Witnesses:
OLIVER R. GRANT,
SPENCER B. PRENTISS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."