

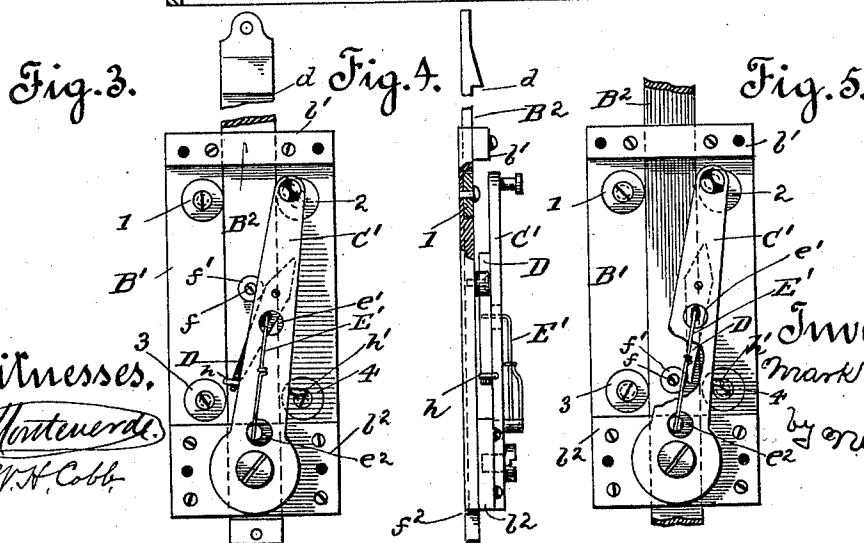
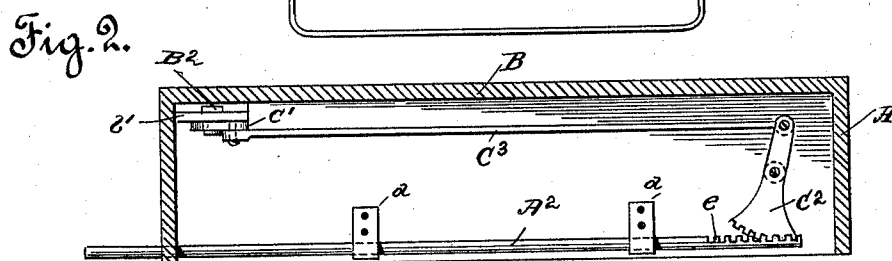
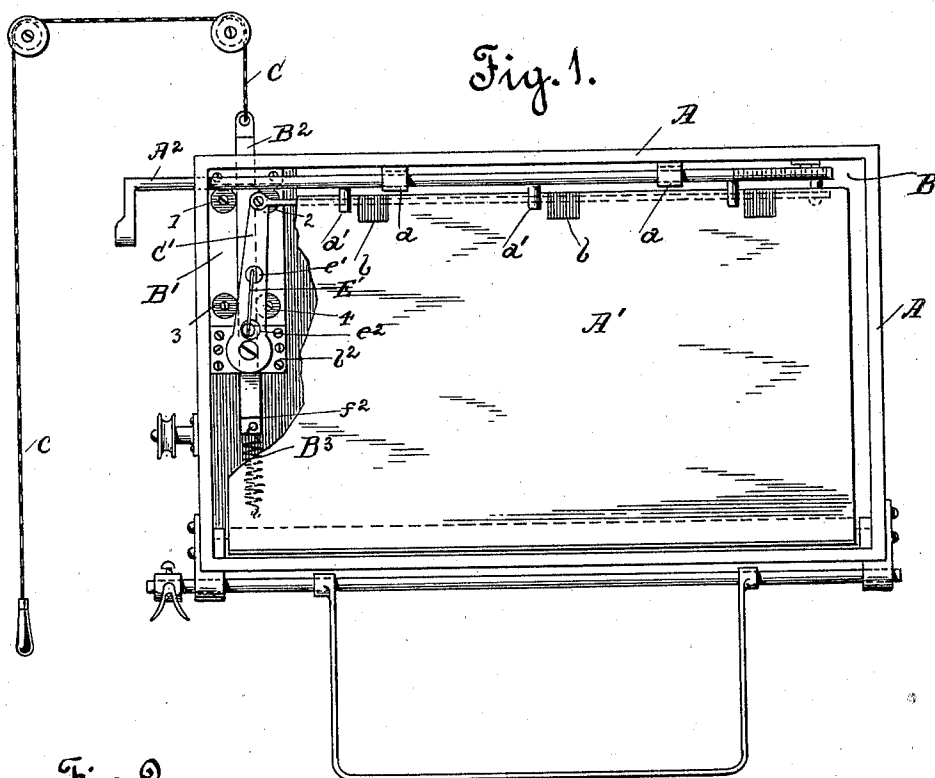
(No Model)

M. ANTHONY.

ACTUATING DEVICE FOR STATION INDICATORS.

No. 584,450.

Patented June 15, 1897.



Witnesses.³
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UNITED STATES PATENT OFFICE.

MARK ANTHONY, OF OAKLAND, CALIFORNIA.

ACTUATING DEVICE FOR STATION-INDICATORS.

SPECIFICATION forming part of Letters Patent No. 584,450, dated June 15, 1897.

Application filed May 28, 1895. Renewed August 27, 1896. Serial No. 604,128. (No model.)

To all whom it may concern:

Be it known that I, MARK ANTHONY, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Devices for Actuating the Dropping Mechanism of a Street or Station Indicator; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to a certain new and useful device for actuating the dropping mechanism of a street or station indicator; and it consists in the arrangement of parts and details of construction, as will be hereinafter more fully set forth in the drawings and described and pointed out in the specification.

The invention is more especially designed for use in connection with the machine fully set forth and described in Letters Patent of the United States No. 509,640, issued to me on the 28th day of November, 1893, for an improved advertising-machine, (to which Letters Patent reference is hereby made;) and the object of the present invention is to provide a simple device for giving a positive movement to the reciprocating rod, which controls the drop or fall of the display-leaves of the book contained within the said advertising-machine.

In order fully to comprehend my invention, reference must be had to the accompanying sheet of drawings, wherein—

Figure 1 is a front view in elevation of an advertising or street or station indicating machine, one corner of the book or display-leaves being broken away so as to disclose the device for actuating the dropping mechanism for the leaves of the book. Fig. 2 is a top plan view of the indicator with the cover or top of the casing or box and the display-book removed. Fig. 3 is a detail view in front elevation of the device for actuating the dropping mechanism, the rod for shifting the actuating-lever being shown when in its raised position. Fig. 4 is an end view of the device illustrated by Fig. 3; and Fig. 5 is a front view in ele-

vation of the device, the lever for shifting the actuating-lever being shown lowered to nearly its full throw.

In the drawings the letter A is used to indicate the box, casing, or frame of the indicator, and A' the book of leaves or display-cards placed within the box, casing, or frame. At the top of the machine and extending through the box, casing, or frame of the machine is located the rod A², which rod is supported and held in line by the brackets a, secured to and depending from the under face of the top of the box, casing, or frame A, Fig. 1. From the rod A² (which is reciprocated through the medium of the hereinafter-described mechanism) depend the lugs a', which embrace the upper edge of the display leaves or cards A' and hold the same in an upright position. The upper edge of the display cards or leaves I provide with the notches b, which permit of the display leaves or cards dropping or falling down when the lugs a' register therewith. These features and the operation thereof being fully set forth and described in my aforesaid Letters Patent No. 509,640 and considered apart from the improvements herein specified, forming no part of my present invention, need not be described herein.

To the back B of the box or casing A (at one corner thereof, preferably) I fasten the plate B', to which plate I secure the rolls 1, 2, 3, and 4, located so as to form an upper and lower pair of rolls. Between these rolls works the rod B², which is held in place by the cross-plates b' b². This plate is moved vertically and is kept in true line by means of the guide-rolls 1, 2, 3, and 4. The lower end of the said rod (which projects below the plate b²) may be connected to the bottom of the box or casing by means of a spring B³ or other means. The resiliency of the spring draws the rod downward when the upward strain is removed therefrom. From the vertically-movable rod B² projects the lug or shoulder d, which engages the cross-plate b' when the rod B² has moved downward its full throw, so as to prevent the said rod moving beyond certain distance downward.

To the upper end of the rod B² is connected the hand-cord C, which may lead to the ticket-

office of a railway-station or to any other convenient point, so as to be within reach of the operator. This hand-cord, in case the machine is to be operated by hand, serves to raise the rod B², which rod the moment the cord is released is drawn downward by the resiliency of the spring B³ until the lug or shoulder *d* engages the cross-plate *b*¹.

To the cross-plate *b*² is fulcrumed the upwardly-projecting lever C', the upper end of which lever is connected to the inner end of the rack-lever C² through the medium of the connecting-rod C³. The rack-lever C² is fulcrumed to the under face of the top of the casing or frame of the machine, and the outer end of said lever engages with the rack-bar portion *e* of the rod A². As the rack-lever is thrown back and forth (through the medium of the lever C', as hereinafter described) the rod A² has a reciprocating movement imparted thereto, which rod, as moved in and out, serves to release the display leaves or cards and permit of their dropping.

To the under face of the lever C' is hung the inclined cam D, which cam is free to swing from side to side. This cam is made spring-actuated through the medium of the spring E', the upper end of which passes through an opening *e*¹ in the lever C' and engages with the inclined cam D, while the lower end of said spring passes through the opening *e*² in the lower portion of the lever C' and is rigidly attached to the cross-plate *b*². The tension of this spring is sufficient to maintain the inclined cam D in position.

From the movable rod B² projects the pin or stud *f*, which carries the roll *f*¹, which roll, as the said rod is raised or lowered, rides upon the inclined face of the cam D.

The outward movement or lateral swing of the lower end or tail of the inclined cam is limited by means of the pins *h h'*, one projecting from each side of the lever C', Figs. 1 and 3.

The operation of my device is as follows: As the rod B² is moved upward the roll *f*¹ rides upon one of the inclined faces of the cam D. As the said rod B² moves in a perfectly straight line, it is obvious that as it is carried upward the roll *f*¹, riding upon an inclined face of the cam, tends to force the same outward or away from its line of movement; but inasmuch as the said cam has swung over its full distance (through the medium of the spring E') it cannot give to the pressure of the roll *f*¹. Consequently the lever C' is forced to move gradually outward or away from the roll in order that the rod B² may move upward its full distance. As the lever C' is thrown over it draws the rod C³ therewith, which moves the inner end of the rack-lever C² in a similar direction and the outer end or rack portion of the said lever in an opposite direction. This lever, engaging with the rack-teeth of the rod A², carries the said rod therewith, so as to cause the lugs *a'*, depending therefrom, to register with the notches *b*, cut in

the upper edge of the discharge-leaves A', and permit the said leaves to drop or fall. As the rod B² moves downward the roll *f*¹ rides upon the same inclined face of the cam D as when moving upward; but the moment the roll is carried below the lower end of the said inclined cam the pressure of the spring E' forces the cam to swing over, so that the lower end thereof will rest against the opposite pin to that which it rested against when the rod B² last moved upward. As the rod B² is again moved upward the roll *f*¹ will ride upon the opposite inclined face and the lever C' will be forced over to the opposite side, which movement, through the medium of the before-described mechanism, will draw the rod A² in an opposite direction to that previously traveled.

In order to prevent the rod B² moving upward beyond a given distance, I provide the same with the lug or shoulder *f*², which engages with the lower edge of the cross-plate *b*², Fig. 3, when the said rod has moved upward sufficiently far to operate the swinging lever C', so as to throw the reciprocating rod, as before described.

While I have described the vertically-movable rod B² as being operated through the medium of a hand-cord, it is obvious that it may be raised in any suitable manner. For instance, if the machine is employed as a car-indicator for street-railways the lower end of the said rod may extend downward and project below the car and be raised by being carried over a trip-block located in the track for this purpose.

This invention will be found a great convenience in railway-stations for indicating the departure of trains, inasmuch as after the departure of the trains indicated by the exposed display card or leaf it is only necessary that the ticket-agent pull downward upon the hand-cord located in his office in order to raise the rod B², so as to operate the swinging lever C' and cause the display leaf or card to drop downward and expose the next display leaf or card.

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

1. In a street or station indicator, the combination, with the reciprocating rod for dropping the display cards or leaves, of the swinging lever, a pivoted spring-pressed connection between the rod and lever, the vertically-movable rod for actuating the swinging lever in order to operate the reciprocating rod, guides for said vertically-movable rod and of devices for raising and lowering the vertically-movable rod.

2. In a street or station indicator, the combination, with the swinging lever which actuates the dropping mechanism of the indicator, of the inclined cam fulcrumed to the swinging lever, the vertically-movable rod which engages with the inclined cam so as to operate the swinging lever, a spring secured

to a stationary support at one end and to the case at its opposite end and devices for raising and lowering the vertically-movable rod.

3. The combination, with the swinging lever which actuates the dropping mechanism of a street or station indicator, of the inclined cam fulcrumed to said swinging lever, a spring fixedly secured to a stationary support for throwing the fulcrumed inclined cam in and out, the vertically-movable rod carrying a stud or roll which rides upon the inclined faces of the fulcrumed cam as the vertically-movable rod is raised and lowered, guides for the vertically-movable rod and devices for raising and lowering the said rod.

4. The combination, with the swinging lever for actuating the dropping mechanism of a street or station indicator, of a spring-actuated cam fulcrumed to the swinging lever, a movable device which acts upon the inclined cam in order to throw the swinging lever in and out and guides for the movable device mounted on a stationary support.

5. In a station-indicator, the combination with a reciprocating rod for dropping the display-cards, of an actuating-rod working at right angles to the reciprocating rod, an interposed swinging lever to which the reciprocating rod is attached, a cam pivotally secured to the lever, a spring having one end fixed to a stationary support and its opposite end engaging the cam below its pivot, and a lateral projection on the actuating-rod arranged to engage the cam.

6. The combination, substantially as described with an actuating thrust-rod or equivalent device and a device to be reciprocated,

of an oscillating double incline connected to the device to be reciprocated and constructed to oscillate between stops across the path of motion of the thrust-rod and to oscillate at each reciprocation of, and by the reciprocating of, the reciprocating device, so as to present alternately-opposite inclines for the thrust of the thrust-rod, whereby successive thrusts of the thrust-rod in one direction move the part to be reciprocated in opposite directions and so reciprocate it.

7. The combination, substantially as described, with an actuating thrust-rod or equivalent device and a device to be reciprocated, of an oscillating double incline connected to the device to be reciprocated and constructed to oscillate between stops across the path of motion of the thrust-rod and to be held by spring-pressure or by weight or its equivalent against said stops and to oscillate at each reciprocation of, and by the reciprocating of, the reciprocating device, so as to positively present alternately-opposite inclines for the thrust of the thrust-rod, whereby successive thrusts of the thrust-rod in one direction move the part to be reciprocated in opposite directions and so reciprocate it and the return strokes of the thrust-rod spring the oscillating incline away from the stop against which it is resting without moving the reciprocating device.

In testimony whereof I affix my signature in presence of two witnesses.

MARK ANTHONY.

Witnesses:

CHRISTOPHER GEGAN,
ED. BEESLEY.