

**No. 646,432.**

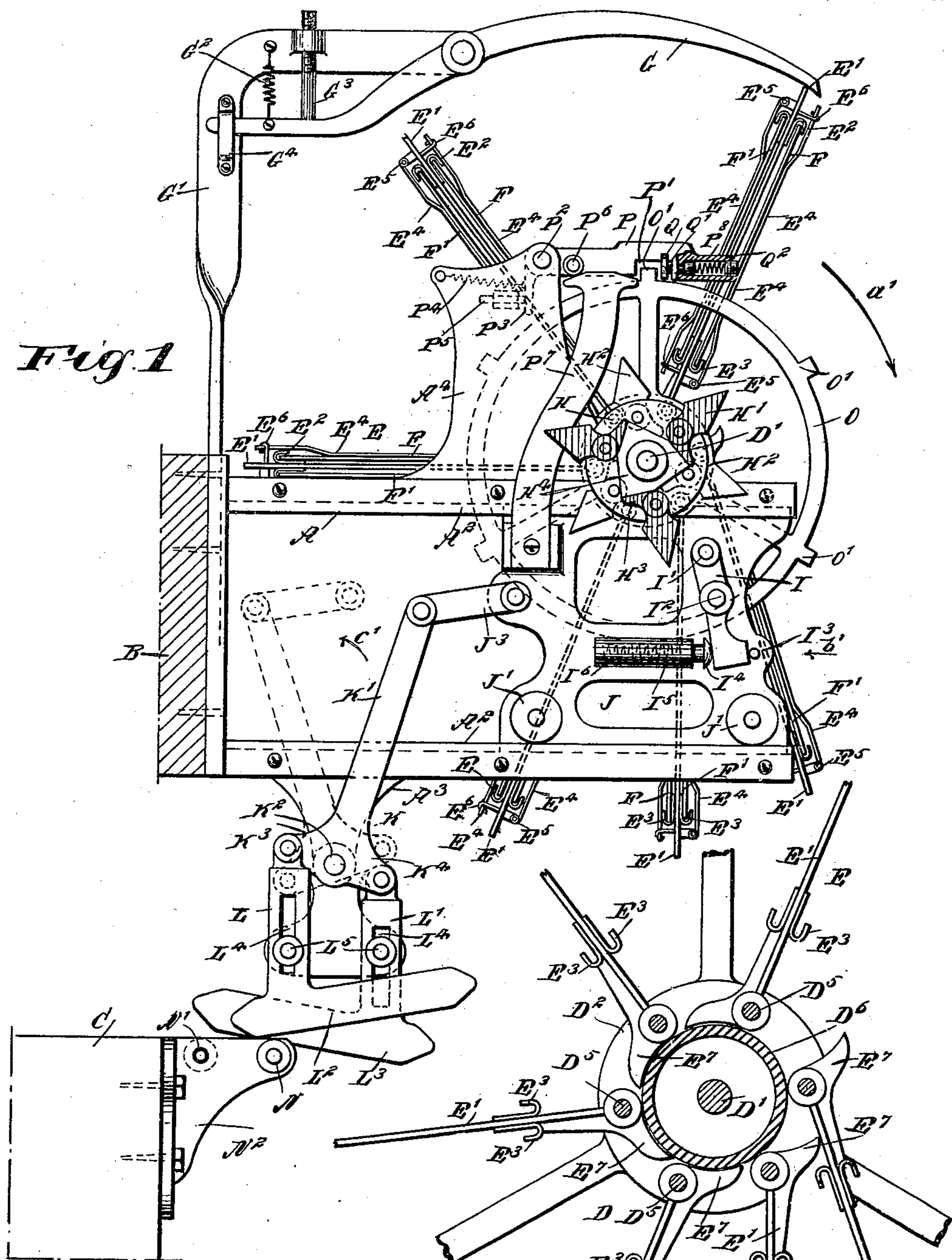
**Patented Apr. 3, 1900.**

**A. HEIRON & L. J. TOFFELMIER.**  
**ADVERTISING DEVICE.**

(No Model.)

(Application filed May 31, 1899.)

**2 Sheets—Sheet 1.**



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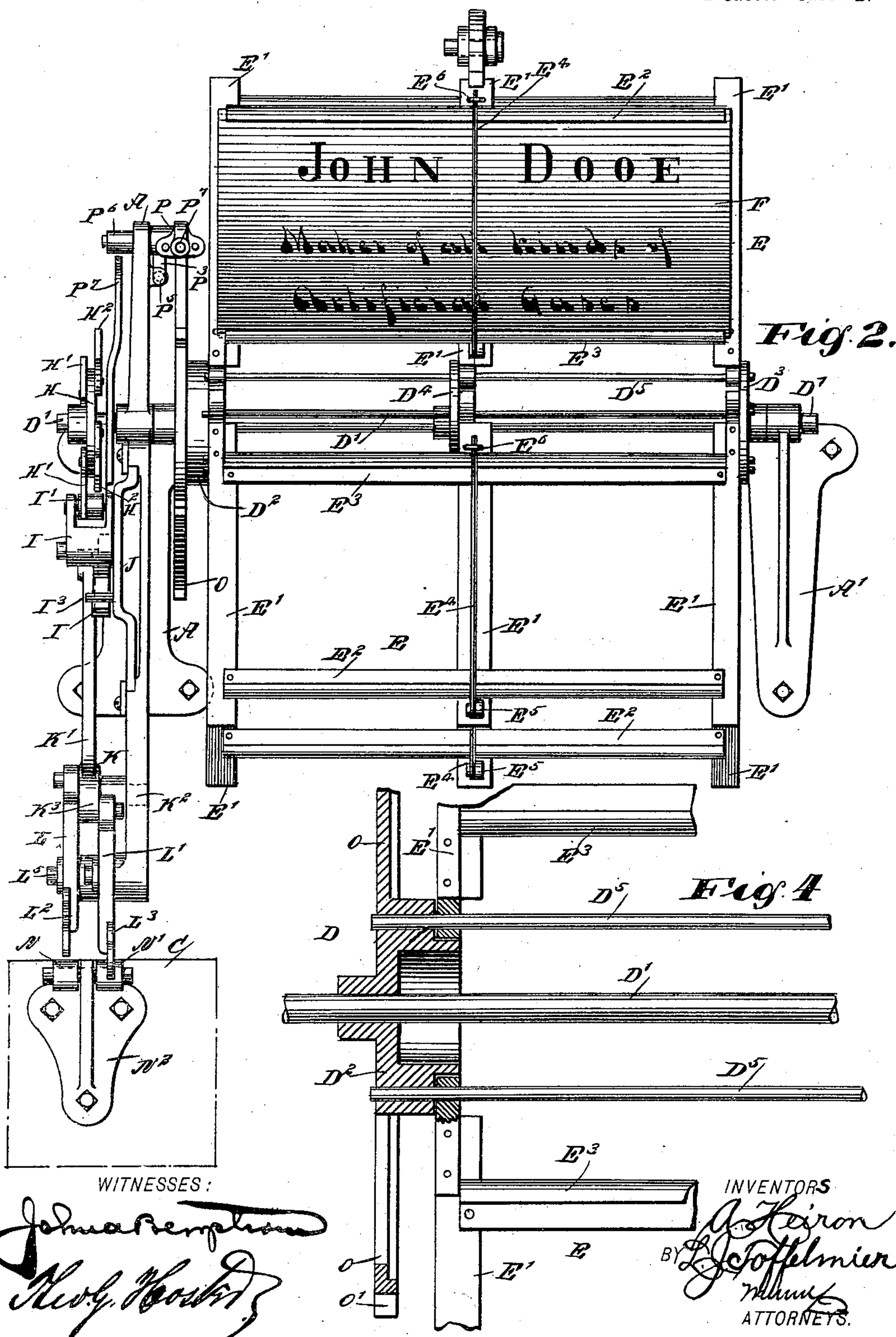
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# UNITED STATES PATENT OFFICE.

ALBAN HEIRON AND LANCE JACOB TOFFELMIER, OF SAN LEANDRO,  
CALIFORNIA.

## ADVERTISING DEVICE.

SPECIFICATION forming part of Letters Patent No. 646,432, dated April 3, 1900.

Application filed May 31, 1899. Serial No. 718,935. (No model.)

*To all whom it may concern:*

Be it known that we, ALBAN HEIRON and LANCE JACOB TOFFELMIER, of San Leandro, in the county of Alameda and State of California, have invented a new and Improved Advertising Device, of which the following is a full, clear, and exact description.

The invention relates to advertising devices such as shown and described in Letters Patent of the United States No. 614,037, granted to us on November 8, 1898.

The object of the invention is to provide a new and improved advertising device adapted to be actuated from a moving door or the like in a store, railway-car, public building, or other place and arranged to display different advertisements in succession and in a very attractive manner.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of our invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is an end elevation of the improvement. Fig. 2 is a front elevation of the same. Fig. 3 is an enlarged cross-section of the revolvable cylinder for carrying the advertising-cards, and Fig. 4 is a sectional front elevation of the same.

The improved advertising device is mounted on two brackets A A', placed a suitable distance apart and secured to a wall B or other support located in the immediate neighborhood of a door C or other movable object used to actuate the advertising device when opening or closing the door in the manner hereinafter more fully described. As shown in the drawings, the advertising device is located above the door C, near the free end thereof, to accomplish the desired result when said door is opened or closed.

In the brackets A A' is journaled the shaft D' of a skeleton cylinder D, formed with heads D<sup>2</sup> D<sup>3</sup> D<sup>4</sup>, secured on the shaft D' and connected with each other by pins D<sup>5</sup>, forming pivots for the frames E, carrying the advertising-cards F F'. Each of the frames E is

provided with three bars E', rigidly connected with each other at their outer and inner ends by sets of cross-bars E<sup>2</sup> E<sup>3</sup>, formed with bent-up flanges for receiving and supporting the advertising-cards F F'. The cards F F' are placed lengthwise in the guideways formed by the cross-bars E<sup>2</sup> E<sup>3</sup> and are locked in position therein by a locking-bar E<sup>4</sup>, pivoted at E<sup>5</sup> to the middle frame-bar E' and engaging with its outer free end a hook E<sup>6</sup>, likewise secured to the middle frame-bar E', as will be readily understood by reference to Figs. 1 and 2. The locking-bars E<sup>4</sup> are preferably bent, as shown in Fig. 1, to engage with their middle portions the corresponding card F or F' and to allow of springing their outer ends into or out of the hook E<sup>6</sup> when opening or closing the bar.

Each of the frame-bars E' is provided at its inner end with a foot E<sup>7</sup>, adapted to ride on the peripheral surface of a corresponding hub D<sup>6</sup> for a head D<sup>2</sup>, D<sup>3</sup>, or D<sup>4</sup>, so that the corresponding frame is prevented from swinging in one direction, but is free to swing in the opposite direction, as will be readily understood by reference to Figs. 1 and 2. When the foot E<sup>7</sup> engages the hub D<sup>6</sup>, then the corresponding frame stands radially to the axis of the cylinder D and remains in this position until the frame has passed an uppermost position and left the free end of a spring-pressed retaining-arm G, pivoted to a bracket G', attached to the wall or other support B. The retaining-arm G is pressed on at its inner end by a spring G<sup>2</sup>, so as to hold the free end of the arm in contact with the outer end of the middle frame-bar E' of a frame E, moving into an uppermost position, and the downward swinging motion of said arm is limited by a stop-pin G<sup>3</sup>, adjustably held in the bracket G' and engaging the rear end of said arm. A guide G<sup>4</sup> on the bracket G' also serves to guide the rear end of the arm G to prevent accidental displacement of the same.

It is evident that when the cylinder D is rotated the frames E in moving into a lowermost position successively and while standing radially, as described, finally come in contact with the retaining-arm G, and while the cylinder is at the period of rest one of the frames E has the middle arm E' engaged by



the outer end of the arm G. The card-frame E readily displays the card F', so that passers-by can read the matter on the card and which matter is of an advertising nature.

5 When an intermittent rotary motion is given to the cylinder D, then the frame E passes the free end of the arm G, and as soon as this takes place said frame by its own gravity swings downward and displays in its low-  
10 ermost position the other advertising-card F', so that two advertising-cards F F' are always in view of passers-by or customers, as will be readily understood by reference to Fig. 1. It is understood that the two cards F F' are  
15 placed back to back on the corresponding frame E, and when the device is in use the two cards displayed are those of adjacent frames, one of which is held in an uppermost position by the retaining-arm G and the other  
20 is nearly in a lowermost position, resting with its bars E' on the foot E' of the previously-dropped frame, as will be seen by reference to Fig. 3.

In order to impart a desired intermittent  
25 rotary motion to the cylinder D from the door C when opening or closing the latter, the following device is provided: On one end of the shaft D' of the cylinder D is secured a star-wheel H, provided on opposite faces with sets  
30 of teeth H' H<sup>2</sup>, each having a foot H<sup>3</sup> resting against the polygonal hub H<sup>4</sup> of the star-wheel to allow the sets of teeth H' H<sup>2</sup> to swing in the inverse direction of the arrow a', said  
35 teeth H' H<sup>2</sup> when moved, however, in the direction of the arrow a' engaging with their feet H<sup>3</sup> the faces of the hub H<sup>4</sup> to turn the star-wheel in the direction of the arrow a'. The teeth H' H<sup>2</sup> are arranged alternately on  
40 opposite faces of the star-wheel and are successively engaged by a friction-roller I', journaled on the upper end of a lever I, fulcrumed at or near its middle at I<sup>2</sup> on a slide J, mounted to move transversely in suitable guideways or  
bearings A<sup>2</sup>, arranged on the brackets A A'.

45 The slide J is provided near its lower end with wheels J', traveling on the lowermost guideway A<sup>2</sup>, to ease the forward and backward movement of the slide in the said guideway. The lower end of the lever I normally  
50 abuts against a pin I<sup>3</sup>, held on the slide J, and the opposite side of this end of the lever is pressed on by a pin I<sup>4</sup>, engaged by a coil-spring I<sup>5</sup>, held in a casing I<sup>6</sup>, attached to the slide, so that the lever I normally abuts  
55 against the pin I<sup>3</sup>, but is free to swing with the lower end inward and with the friction-roller I' outward at the time the slide J is on the inward stroke in the direction of the arrow b'. The rear end of the slide J is pivotally  
60 connected by a link J<sup>3</sup> with the upright member K' of a three-armed lever K, fulcrumed at K<sup>2</sup> on a bracket A<sup>3</sup>, secured to or formed on the bracket A. The other arms  
K<sup>3</sup> K<sup>4</sup> of the lever K are pivotally connected  
65 with vertical arms L L', respectively, of shoes L<sup>2</sup> L<sup>3</sup>, respectively adapted to be engaged alternately by friction-rollers N N', respec-

tively journaled on a bracket N<sup>2</sup>, secured to the door C, at the upper end thereof, as is plainly indicated in Figs. 1 and 2. The arms  
70 L L' are guided on pins L<sup>5</sup>, held on the bracket A<sup>3</sup> and extending through vertical slots L<sup>4</sup> in said arms, so that when the several parts are in the position shown in Figs. 1 and 2 and the door C is opened then the  
75 friction-roller N' by coming in contact with the under side of the inclined shoe L<sup>3</sup> imparts an upward sliding motion to said shoe and its arm L' to impart a swinging motion to the three-armed lever K in the direction  
80 of the arrow c' to move the slide J inward in the direction of the arrow b'. When the door is closed, the other friction-roller N moves in contact with the inclined under side of the shoe L<sup>2</sup> to impart an upward sliding  
85 motion to said shoe to cause the lever K to swing in the inverse direction of the arrow c', so as to move the slide J outward back to its former position. (Shown in Fig. 1.) It is understood that when the shoe L<sup>3</sup> is moved up-  
90 ward, as described, the other shoe L<sup>2</sup> moves downward while opening the door, and when the door is closed and the shoe L<sup>2</sup> is moved upward then the other shoe L<sup>3</sup> is moved downward to bring the parts back into the  
95 position shown in Fig. 1 at the time the door is closed.

When the door is opened and the slide J is caused to move in the direction of the arrow b', then the roller I' moves in engage-  
100 ment with the lowermost tooth H' or H<sup>2</sup> and imparts a rotary motion to the wheel H and to the shaft D' in the direction of the arrow a', so as to move the frame E engaged by the retaining-arm G out of engagement with the  
105 latter to allow this frame to drop and display the other advertising-card F', as previously described, at the time the next following frame E moves in engagement with the retaining-arm G and comes to a standstill  
110 near the free end of said arm at the time the friction-roller I' moves out of engagement with said tooth H' or H<sup>2</sup>. When the door closes, the slide J is caused to travel back to its previous position, and in doing so the  
115 friction-roller I' comes in contact with the now lowermost tooth H' or H<sup>2</sup>; but as this tooth is free to swing outwardly said friction-roller N passes the tooth without turning the star-wheel in the inverse direction of the  
120 arrow a'. The lever I is spring-pressed, as described, to permit it to readily yield a short distance at the time the friction-roller I' engages the tooth for turning the star-wheel, so that a gradual movement of the star-wheel  
125 takes place without danger of breaking any of the parts and dead-center position of the lever I is avoided.

The cylinder D is locked against accidental movement, and for this purpose a locking-  
130 wheel O is provided, secured on the head D<sup>2</sup> and provided with teeth O', of which the uppermost tooth is adapted to be engaged by a notch P' in a pawl P, pivoted at P<sup>2</sup> on a



bracket A<sup>4</sup> on the bracket A. The pivotal end of the pawl P is provided with a downwardly-extending arm P<sup>3</sup>, pressed on by a spring P<sup>4</sup> for holding the pawl P in engagement with the uppermost tooth O', the downward swinging motion of the pawl being limited, however, by a stop-pin P<sup>5</sup> engaging the arm P<sup>3</sup>, said stop-pin being adjustably held on the bracket A<sup>4</sup>.

Now in order to lift the pawl P out of engagement with the tooth O' previously to the friction-roller I' moving in contact with the lowermost tooth H' or H<sup>2</sup> at the time the slide J moves in the direction of the arrow b', the said pawl is provided with a friction-roller P<sup>6</sup>, adapted to be engaged by the upper cam end of an arm P<sup>7</sup>, bolted or otherwise fastened to the slide J.

By reference to Fig. 1 it will be seen that the friction-roller I' is a distance away from the lowermost tooth when the slide J is in an outer position; but the upper end of the arm P<sup>7</sup> is in engagement with the friction-roller P<sup>6</sup>, and when the slide J moves inward said arm P<sup>7</sup> acts on the friction-roller P<sup>6</sup> to swing the pawl P upward out of engagement with the tooth O', so that the wheel O, and consequently the cylinder D, is unlocked. The friction-roller I' by this time moves in contact with the lowermost tooth to turn the star-wheel and the cylinder and with it the locking-wheel O.

The forward side wall of the notch P' of the pawl P is preferably formed by the head Q of a rod Q', fitted to slide in a bearing P<sup>8</sup>, carried on the forward end of the pawl P, and said rod Q' is pressed on by a spring Q<sup>2</sup>, held in said bearing. The head Q is thus cushioned to permit proper engagement of the uppermost tooth O' by the pawl P and allow the pawl to readily swing upward by the action of the arm P<sup>7</sup>.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A machine of the class described, comprising a revoluble cylinder, frames pivoted to the cylinder and each adapted to carry a card on each side, said frames when standing radially to the axis of the cylinder being free to swing in one direction but held from swinging in the opposite direction, means for intermittently rotating the cylinder, and a retaining-arm above the cylinder and adapted to engage the frames successively to hold them in an uppermost position to display the card on one side thereof, the said frames when disengaged from the retaining-arm falling nearly to their lowermost position to display the card on the opposite side, whereby two cards, one on the frame held by the retaining-arm, and the other by the frame which has been disengaged from said arm and fallen, will be exposed to view, substantially as described.

2. A machine of the class described, comprising a revoluble cylinder, frames pivoted

on the cylinder and provided with means for carrying an advertising-card on each side, said frames being provided at their inner ends with feet projecting from one side and riding upon the hub of the said cylinder, whereby the frames when standing radially to the axis of the cylinder are free to swing in one direction but are prevented from swinging in the opposite direction, the said feet also serving as abutments for the frames to support the fallen one in an inclined position, means for imparting an intermittent rotary motion to the cylinder, and a yielding retaining-arm above the cylinder and adapted to successively engage the frames, substantially as described.

3. A machine of the class described, comprising a revoluble cylinder, frames pivoted on the cylinder and provided with means for carrying an advertising-card on each side, said frames being provided at their inner ends with feet projecting from one side and riding on the hub of the cylinder, a star-wheel on the cylinder, an intermittently-reciprocating slide having means for imparting intermittent rotary motion to the star-wheel and actuated from a door or the like, and a yielding retaining-arm above the cylinder and adapted to successively engage the said frames, substantially as described.

4. A machine of the class described, comprising a revoluble cylinder, frames pivoted on the cylinder and provided on each side with means for holding display-cards, said frames being provided at their inner ends with feet projecting from one side and riding on the hub of the cylinder, a star-wheel on the cylinder, an intermittently-reciprocating slide operated from a moving object, and provided with means for engaging the star-wheel to operate it, a locking-wheel, a pawl engaging the locking-wheel, and an arm carried by the slide for engaging the pawl to disengage it from the said wheel, substantially as described.

5. A machine of the class described, comprising an intermittently-revoluble cylinder, card-frames pivoted on said cylinder and supporting advertising-cards, a star-wheel on said cylinder, a slide mounted to move transversely to said cylinder, a three-armed lever connected with said slide, and shoes adapted to be engaged by a movable door, window or the like upon opening or closing the same, to impart a swinging motion to said three-armed lever and move said slide transversely in its bearings, to impart an intermittent rotary motion to said star-wheel and cylinder, as set forth.

6. A machine of the class described, comprising a cylinder, card-frames held thereon, a star-wheel on the cylinder and having pivoted teeth with feet for engaging the hub of the star-wheel, a reciprocating slide moving transversely to said cylinder, a pivoted and spring-pressed lever on said slide and carrying a friction-roller for engaging one of the



teeth of the star-wheel at a time and a lever mechanism for operating the slide from a moving object, substantially as shown and described.

5 7. A machine of the class described, comprising a cylinder, card-frames held thereon, a star-wheel on the cylinder and having pivoted teeth with feet for engaging the hub of the star-wheel, a reciprocating slide moving trans-  
10 versely to said cylinder, a lever pivoted on said slide and carrying a friction-roller for engaging one of the teeth of the star-wheel at a time, a stop-pin for said lever, and a spring-pressed pin for pressing the lever on  
15 the side opposite to that engaged by said stop-pin, substantially as shown and described.

8. In a machine of the class described, the combination with a cylinder, a reciprocating slide, and means for imparting intermittent  
20 rotary motion to the cylinder from said slide, of a toothed locking-wheel on the cylinder, a pivoted and spring-pressed pawl for engaging the teeth of the said wheel provided with a lateral projection, and an upwardly-project-  
25 ing arm rigidly secured to the slide and having a cam-shaped upper end adapted to engage the projection of the pawl, to raise it out of engagement with the said wheel, substantially as described.

30 9. A machine of the class described, provided with a cylinder, a reciprocating slide having means for imparting intermittent rotary motion to said cylinder, a locking-wheel on said cylinder, a spring-pressed pawl pro-  
35 vided with a notch for engaging the teeth of said locking-wheel one wall of the notch being yielding, and an arm carried by said slide for engaging said pawl, to unlock the wheel, substantially as shown and described.

40 10. In a machine of the class described, the combination with a cylinder, a reciprocating slide, and means for imparting intermittent rotary motion to the cylinder from said slide, of a toothed locking-wheel, a pawl provided  
45 with a notch, one wall of which is formed by the head of a sliding and spring-pressed rod, mounted in the free end of the pawl, and an arm carried by the slide for disengaging the

pawl from the wheel, substantially as described.

11. A machine of the class described, provided with a cylinder mounted to rotate intermittently, and card-frames pivoted on said cylinder and each having a foot projecting from one side and engaging the hub of the cylinder, to hold the frame in radial position during part of a revolution of the cylinder and to allow the frame to drop from an uppermost into a lowermost position during a portion of a revolution of the cylinder and to rest against the foot of the preceding frame, substantially as shown and described.

12. In a machine of the class described, the combination with a cylinder, card-frames thereon, a reciprocating slide, and means for operating the cylinder from the slide, of shoes adapted to be struck by a moving object, and a three-armed lever, two of the arms being connected to the shoes and the other arm to the slide by a link, substantially as described.

13. In a machine of the class described, the combination with a cylinder, card-frames thereon, a reciprocating slide, and means for operating the cylinder from the slide, of a pivoted three-armed lever, a link connecting one arm of the lever to the slide, and shoes provided with arms having guided movement on a support and to which the other arms of the said lever are pivoted, substantially as described.

14. In a machine of the class described, the combination with a cylinder, card-frames thereon, and a star-wheel on the shaft of the cylinder and having pivoted teeth, of a slide below the star-wheel, a pivoted and spring-pressed lever on the slide and projecting into the path of the teeth of the star-wheel, a swinging lever, a link connecting the lever with the slide, and means for swinging said lever from a door or the like, substantially as described.

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