No. 751,561. PATENTED FEB. 9, 1904.

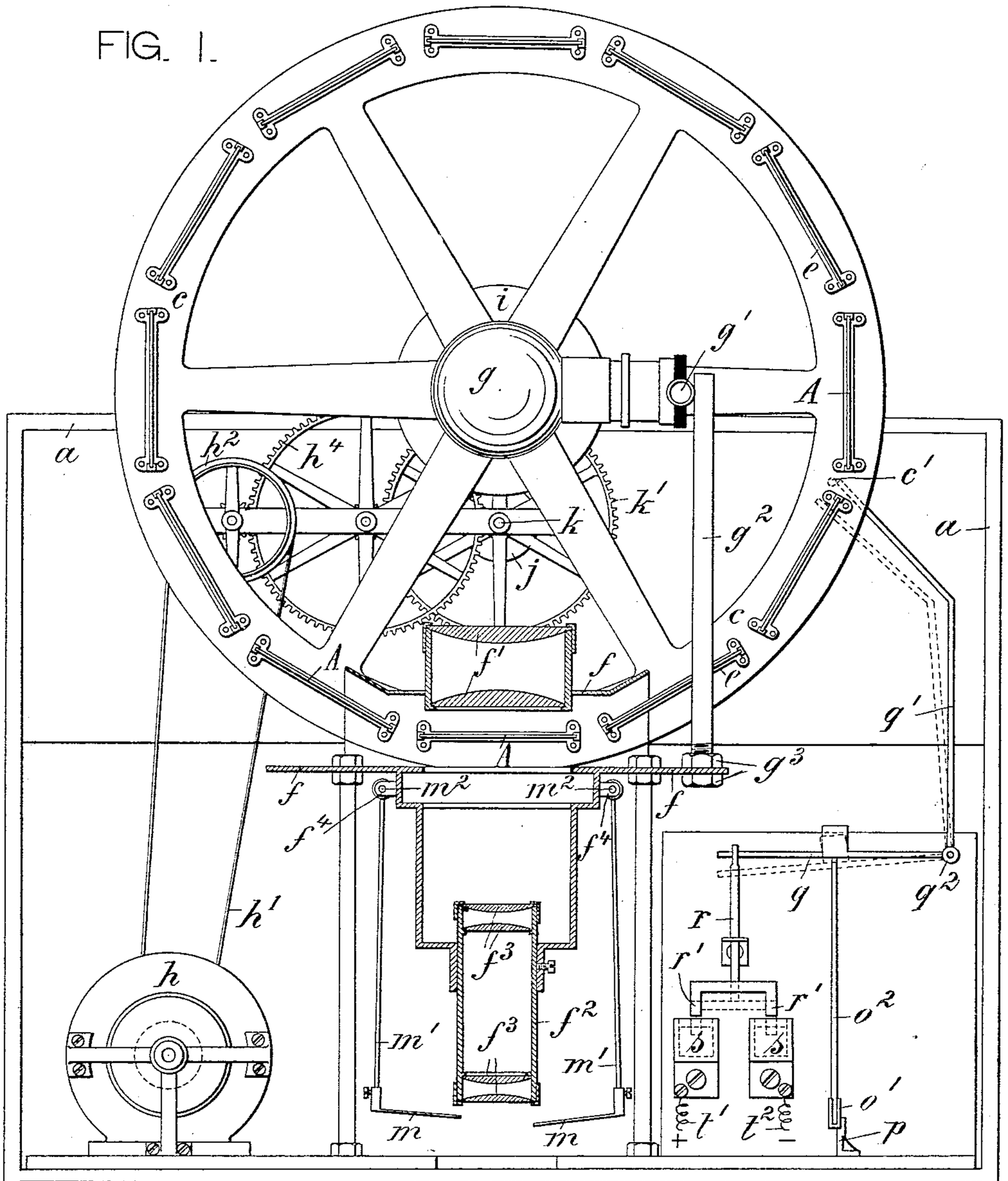
J. ROEVER & S. S. BALDWIN.

PICTURE EXHIBITOR.

APPLICATION FILED JUNE 27, 1903.

NO MODEL. 3 SHEETS—SHEET 1.

FIG. 1.



Witnesses:
Arthur Jacobs.
William Schulz.

Inventors:
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Samuel S. Baldwin
by their attorney
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NO MODEL. 3 SHEETS—SHEET 2.

FIG. 10.

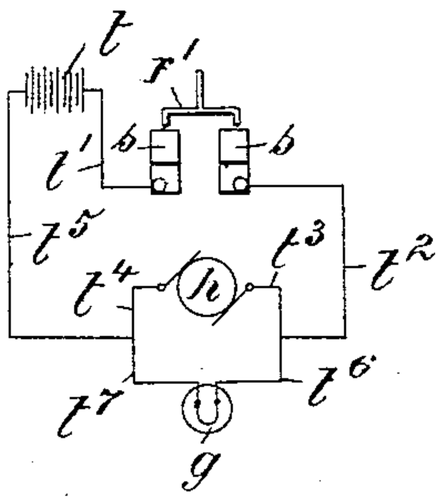

FIG. 2.

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NO MODEL. 3 SHEETS—SHEET 3.

FIG. 3.

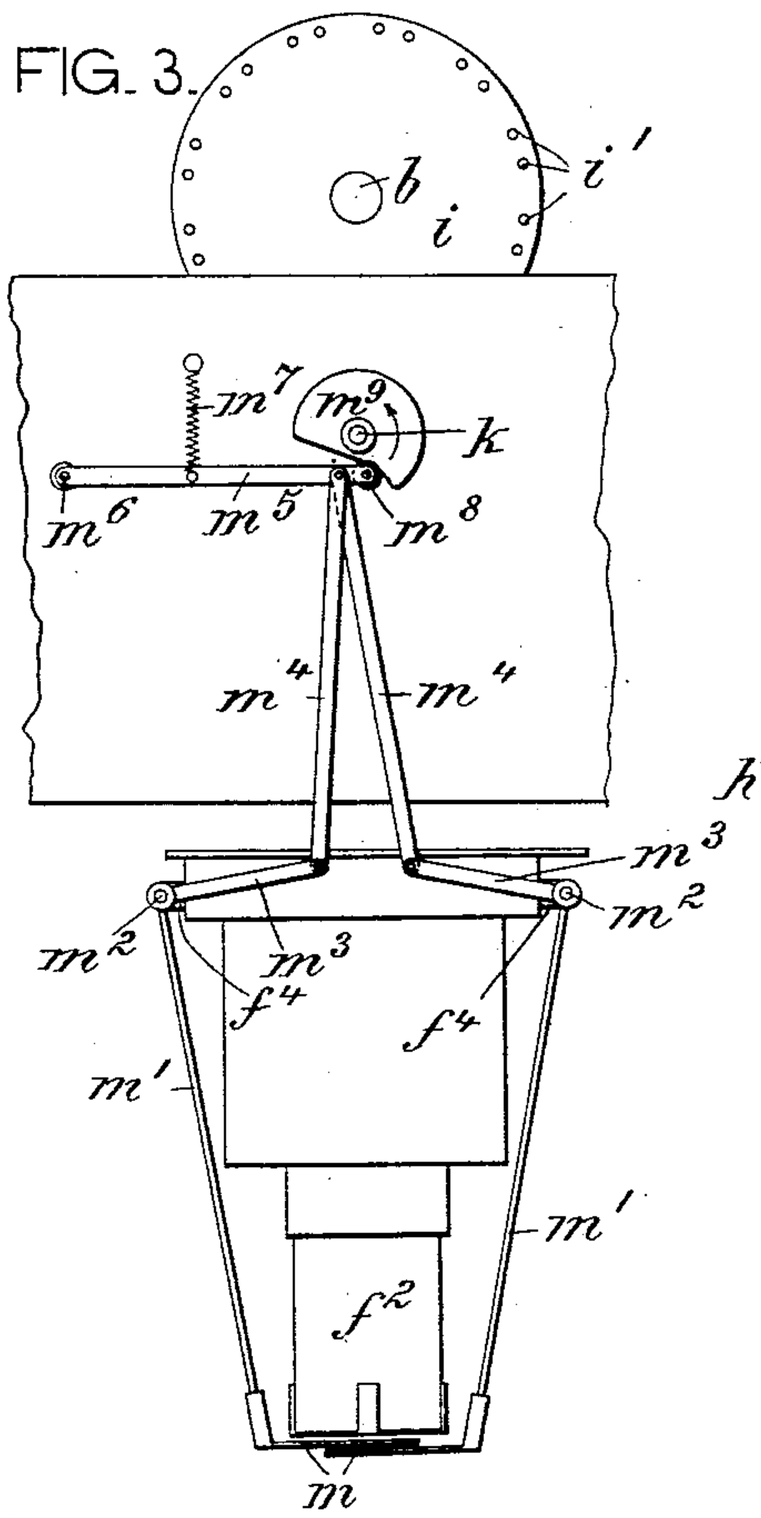


FIG. 4.

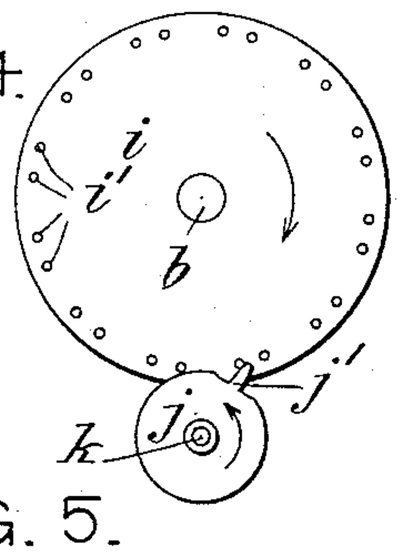


FIG. 5.

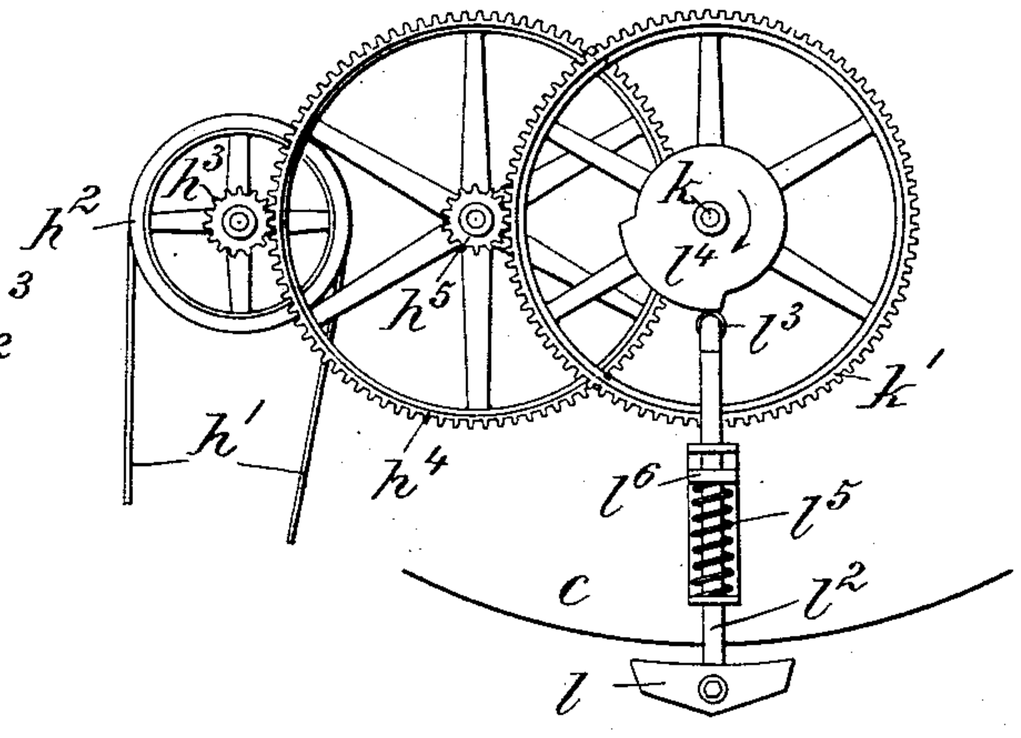


FIG. 9.

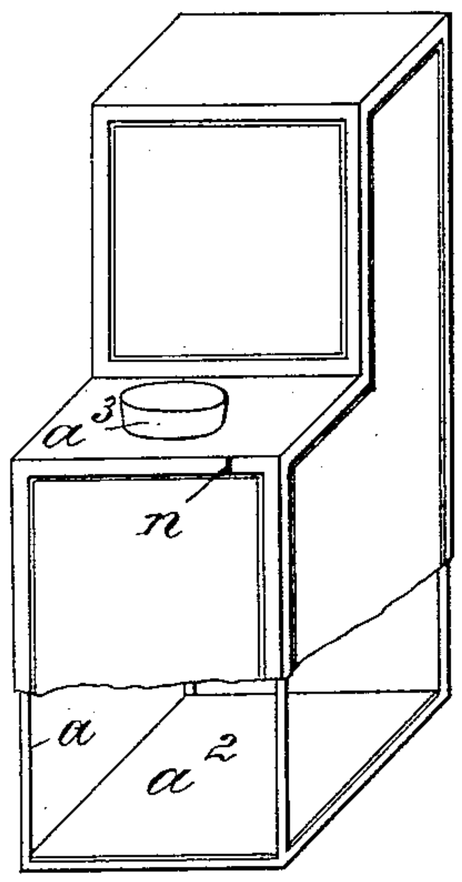


FIG. 6.

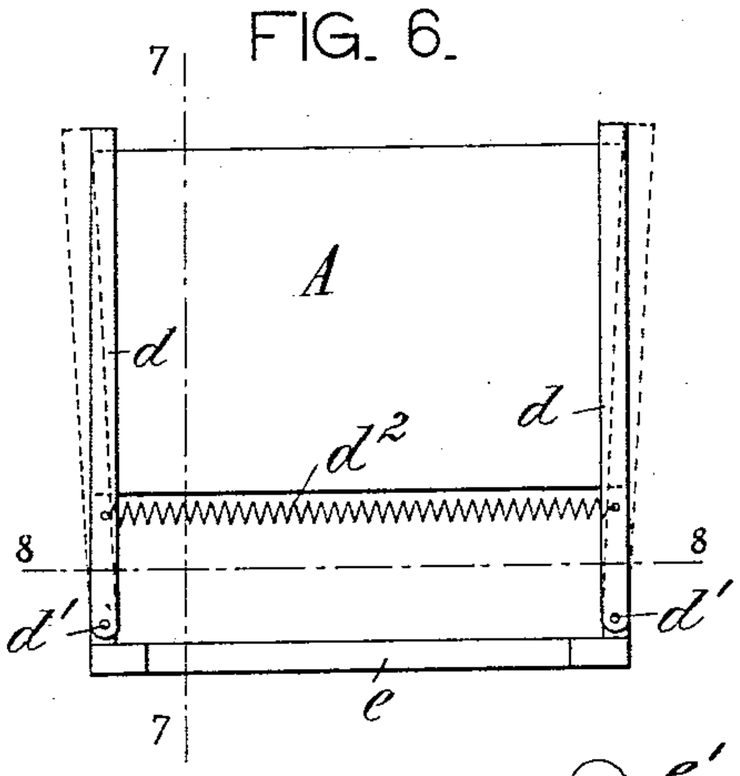


FIG. 7.

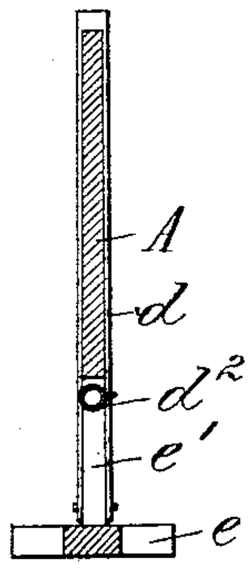
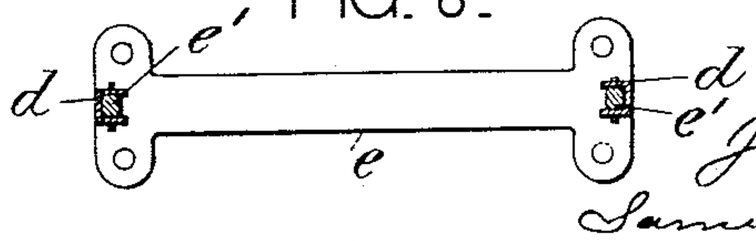


FIG. 8.



Witnesses:
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by their attorney
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No. 751,561. Patented February 9, 1904.

UNITED STATES PATENT OFFICE.

JULIUS ROEVER, OF NEW YORK, N. Y., AND SAMUEL S. BALDWIN, OF PHILADELPHIA, PENNSYLVANIA.

PICTURE-EXHIBITOR.

SPECIFICATION forming part of Letters Patent No. 751,561, dated February 9, 1904.

Application filed June 27, 1903. Serial No. 163,357. (No model.)

To all whom it may concern:

Be it known that we, JULIUS ROEVER, a resident of New York city, Brooklyn, county of Kings, and State of New York, and SAMUEL S. BALDWIN, a resident of Philadelphia, county of Philadelphia, and State of Pennsylvania, citizens of the United States, have invented new and useful Improvements in Picture-Exhibitors, of which the following is a specification.

This invention relates to a picture-exhibitor, by means of which a number of pictures are successively carried across a magic lantern upon the introduction of a coin into the coin-slot. After the exhibition of the pictures is finished the apparatus is automatically arrested.

In the accompanying drawings, Figure 1 is a front elevation, partly in section, of our improved picture-exhibitor, with the lower part broken away; Fig. 2, a sectional end view of the same; Fig. 3, a detail of the shutter-operating mechanism; Fig. 4, a detail of the pin-disk; Fig. 5, a detail of the brake-actuating mechanism; Fig. 6, a detail of the picture-holding clamp; Fig. 7, a section on line 7 7, Fig. 6; Fig. 8, a section on line 8 8, Fig. 6; Fig. 9, a perspective view, partly broken away, of the apparatus, on a reduced scale; and Fig. 10, a diagram of the electric circuit.

The letter a represents a casing having a bearing a' for a shaft b, to which intermittent rotary motion may be imparted in manner hereinafter described. Upon shaft b is mounted a wheel or picture-holder c, to the rim of which a series of pictures A are adapted to be clamped at right angles to one of the faces of the wheel. The means for attaching the pictures removably to the wheel are shown to consist of a series of clamps, each of which is composed of a pair of grooved arms d, pivoted at d' to posts e' of a plate e, the plates e being arranged at equal distances upon the wheel c. The arms d are drawn against opposite edges of the inclosed pictures A by a spring d^2, which connects the arms. As the wheel is rotated the pictures A are successively carried across the frame f of a magic lantern, which is adapted to project the image downward upon a screen or base-plate a^2, inclosed by casing a and forming the bottom thereof. Here the pictures may be viewed through a hood a^3, carrying, preferably, magnifying sight-glasses a^4.

g is an electric-light bulb in alinement with the axis of the magic lantern and surrounded by the pictures. This bulb is placed over the refracting-lenses f', which are mounted in frame f, and are also surrounded by the pictures to be exhibited. The lens-tube f^2 of the lantern is arranged below the picture on exhibition and carries, preferably, a multitude of objective lenses f^3, which will produce a greatly-magnified image at a short distance. The bulb g is carried by a horizontal arm g', adjustably connected to a hollow upright post g^2, which is in turn adjustably secured by nuts g^3 to frame f.

The means for operating the exhibitor consist of a coin-controlled motor h, which drives the wheel c, actuates a brake for said wheel, and also operates a shutter adapted to be interposed between the objective tube and the screen. In order to intermittently rotate wheel c, the latter is provided with a disk i, carrying a series of pins i', arranged in pairs, such pins corresponding in position with the position of the pictures A upon wheel c. The pins i' are engaged by a finger j' of a wheel j, mounted upon counter-shaft k. This counter-shaft is rotated by the following transmission from motor h, the transmission shown being particularly adapted for an electromotor. Motor h drives by rope h' pulley h^2, which by pinion h^3 drives wheel h^4. Wheel h^4 by pinion h^5 drives wheel k', fast on counter-shaft k.

By means of the mechanism described the pictures A are successively brought into alinement with the magic lantern and are arrested for a predetermined time while on exhibition. In order to prevent any vibration of wheel c while the picture is on exhibition, we provide a brake-shoe l, adapted to engage the periphery of wheel c during its periods of rest. The brake-shoe l is secured by an arm l' to a plunger l^2, having a roller l^3, engaged by a cam l^4, fast on counter-shaft k. The cam pro-

jection will on each rotation depress the plunger, Fig. 5, to take brake l off wheel c while the latter is in motion. When the wheel c is at rest, the brake l will be drawn against its periphery by a spring l^5, acting against a collar l^6 of plunger 1^2, so that the wheel is thus locked.

While the pictures A are in motion, a pair of shutters m are interposed between the lens-tube f^2 and the screen a^2. These shutters are mounted upon arms m', fast on rock-shafts m^2, that turn in suitable bearings f^4 of frame f. The rock-shafts are provided with arms m^3, which are connected by rods m^4 to a lever m^5, turning on fulcrum m^6 and influenced by a spring m^7. The lever m^5 has a roller m^8, engaging a cam m^9, fast on shaft k. The rotation of this cam will oscillate the arms m', and thus open and close the shutters m at each rotation of shaft k.

The motor h is coin-controlled and is operated in the following manner: The coin B introduced in coin-slot n falls through chute n' into a pocket o', which is carried by the lower arm o of an elbow-lever $o\,o^2$, fulcrumed to a bearing p at o^3. The upper arm o^2 of the elbow-lever constitutes a trigger which is adapted to engage the lower arm q of a second elbow-lever $q\,q'$, turning on fulcrum q^2. From the arm q is suspended a bar r, having two contacts r', adapted to dip into mercury-cups s, arranged below the contacts. The upper arm q' of the elbow-lever is arranged in the path of a pin or stop c' on wheel c.

If a coin is dropped into pocket o', it will tilt the elbow-lever $o\,o^2$ and cause the trigger o^2 to clear the lower arm q of the elbow-lever $q\,q'$, (dotted lines, Fig. 2.) The elbow-lever $q\,q'$ being thus unsupported will drop into the position shown by dotted lines in Fig. 1, so that the contacts r' will enter mercury-cups s. Thus a circuit will be closed which will start the motor h and illuminate bulb g, the current traveling as follows, Fig. 10: from source of electricity t through wire t' to first cup s, contacts r', second cup s, wires $t^2\,t^3$, motor h, wires $t^4\,t^5$, back to source t. From wire t^2 part of the current flows through wire t^6 to lamp g, and thence through wire t^7 to wire t^5. After the coin has tilted the elbow-lever $o\,o^2$ the coin will drop into a drawer u, while the lever is swung backward until the trigger o^2 obtains a bearing against the arm q. This movement of the lever is effected by a spring p', which connects trigger o^2 with a projection p^2 of bearing p.

The motor being started as described will impart an intermittent rotary motion to the wheel c, and thus cause the images of the pictures A to be successively projected through the magic lantern upon the screen a^2, so that a pleasing exhibition is effected. During the intermittent rotation of the wheel c the brake l and shutters m will also be actuated in the manner hereinbefore described. When the wheel c has made a complete rotation, its stop c' will engage and tilt arm q' of elbow-lever $q\,q'$, so as to raise arm q and cause the latter to withdraw contacts r' from cups s, and thus break the current. The motor will consequently be arrested to stop the wheel c, while simultaneously the light g will be extinguished. As soon as the lever-arm q has been swung up the trigger o^2 will be drawn underneath the same by spring p', so that the arm is locked in its elevated position. Thus the apparatus is reset ready for the introduction of a subsequent coin.

What we claim is—

1. In a picture-exhibitor, the combination of a magic lantern with a rotatable picture-holding wheel, means for rotating the same, posts projecting from the wheel, grooved arms pivoted to the posts, and a spring connecting the arms, substantially as specified.

2. In a picture-exhibitor, the combination of a magic lantern with a rotatable picture-holding wheel, a motor for intermittently rotating the wheel, a cam rotated by the motor, and a spring-influenced brake-shoe operated by the cam, substantially as specified.

3. In a picture-exhibitor, the combination of a casing with an inclosed wheel, means for securing pictures thereto, a brake engaging the wheel, a magic lantern, a screen at the bottom of the casing, and a shutter adapted to be interposed between the magic lantern and the screen, substantially as specified.

Signed by us at New York city, Manhattan, New York, this 26th day of June, 1903.

JULIUS ROEVER.
SAMUEL S. BALDWIN.

Witnesses:
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FRANK V. BRIESEN.