No. 766,684. PATENTED AUG. 2, 1904.

M. L. FRINK.

ADVERTISING OR PICTURE EXHIBITING APPARATUS.

APPLICATION FILED MAR. 25, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. I.

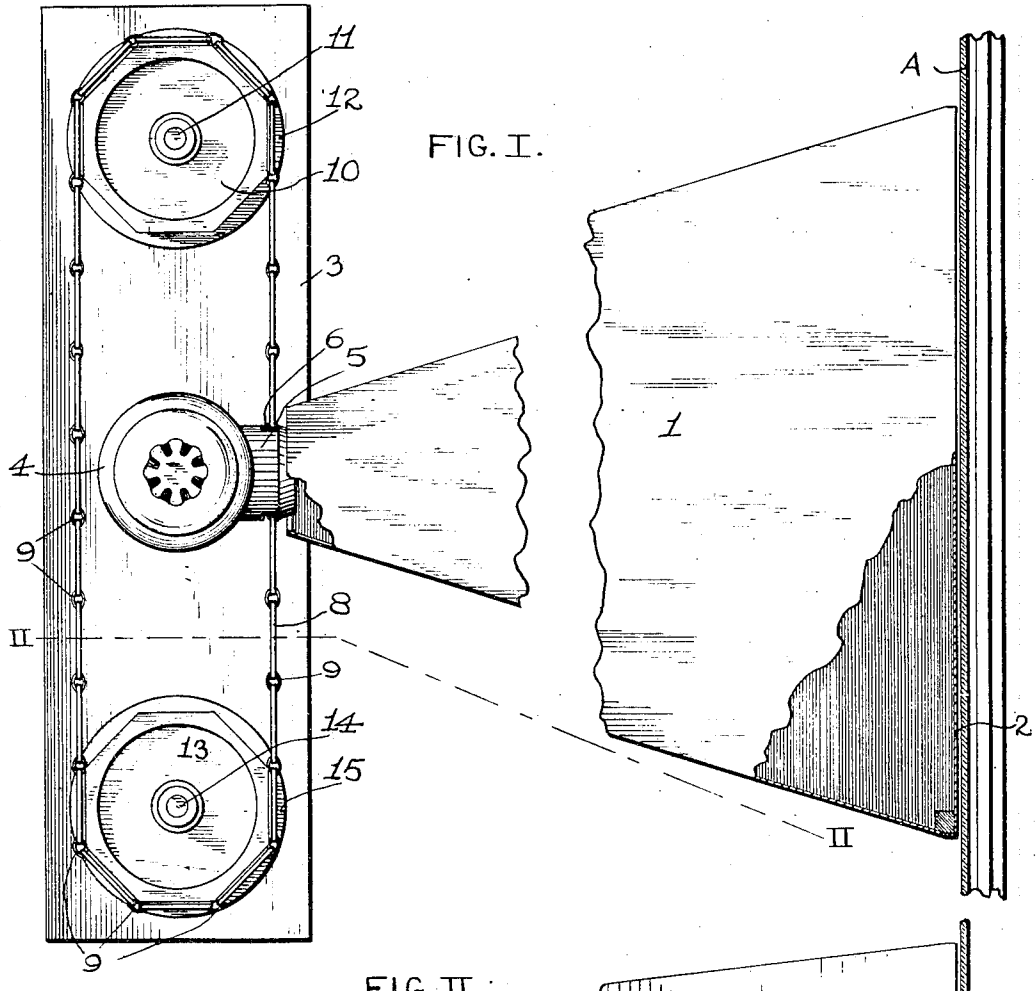
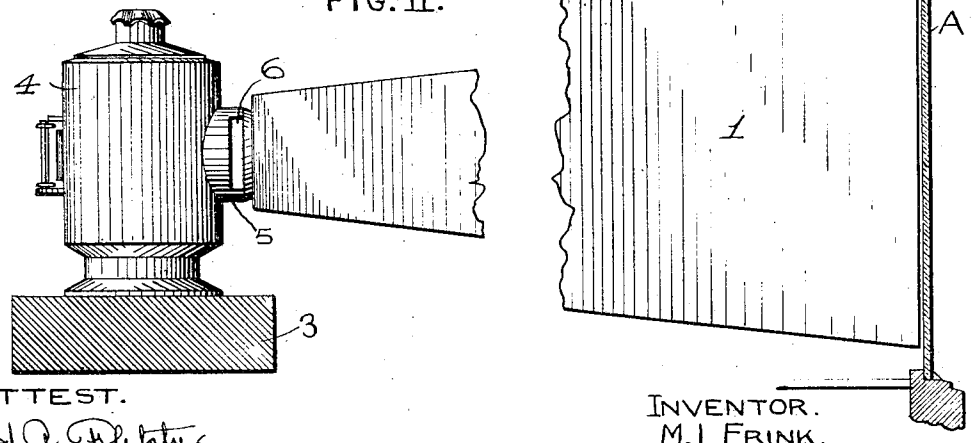


FIG. II.



ATTEST.

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ADVERTISING OR PICTURE EXHIBITING APPARATUS.

APPLICATION FILED MAR. 26, 1904.

NO MODEL. 2 SHEETS—SHEET 2.

FIG. III.

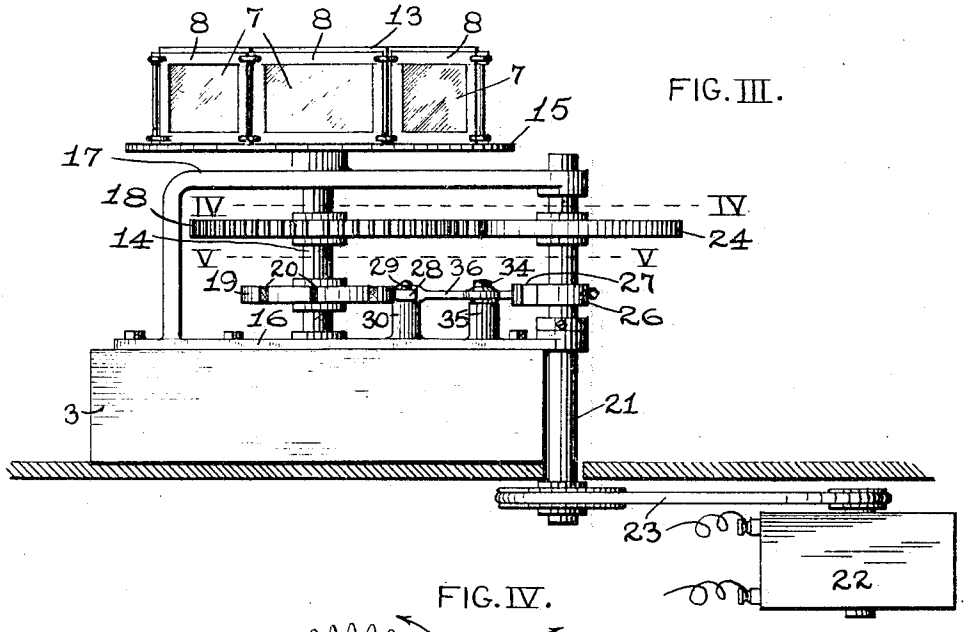


FIG. IV.

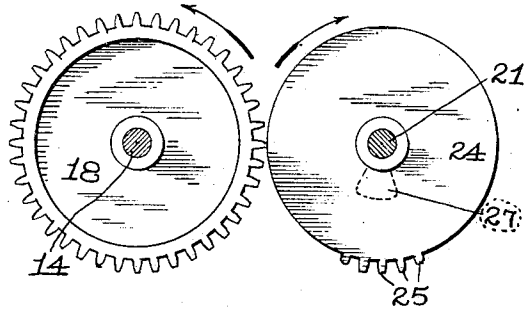


FIG. V.

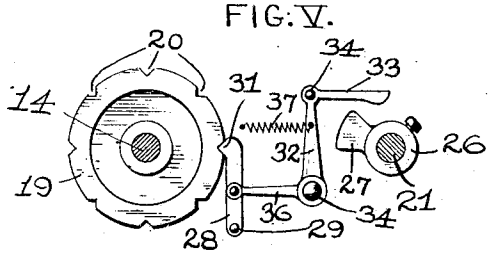
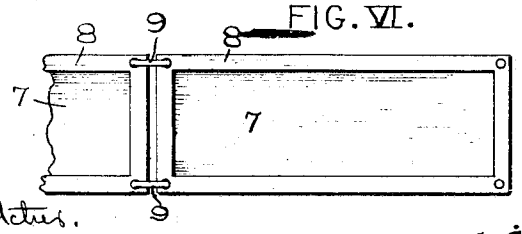


FIG. VI.



ATTEST

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No. 766,684. Patented August 2, 1904.

UNITED STATES PATENT OFFICE.

MELVIN L. FRINK, OF ST. LOUIS, MISSOURI, ASSIGNOR TO JEFFERSON D. NIFONG, OF EAST ST. LOUIS, ILLINOIS.

ADVERTISING OR PICTURE-EXHIBITING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 766,684, dated August 2, 1904.

Application filed March 25, 1904. Serial No. 199,900. (No model.)

To all whom it may concern:

Be it known that I, MELVIN L. FRINK, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Advertising or Picture-Exhibiting Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an apparatus for use in exhibiting advertising matter or pictures projected from a magic lantern or lamp onto a screen.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view of my apparatus, the screen-box being shown partly broken out. Fig. II is a side elevation of the apparatus, with parts partially in section, taken on line II II, Fig. I. Fig. III is an enlarged end elevation of the driving-gear of the apparatus. Fig. IV is a top or plan view of the intermittent picture-carrier-driving gears, with the shafts of said gears shown in horizontal section, taken on line IV IV, Fig. III. Fig. V is a top or plan view of the detent mechanism of the apparatus, with the intermittent gear-shafts shown in horizontal section, taken on line V V, Fig. III. Fig. VI is an enlarged view of one of the view-plates and its frame and illustrating a portion of an adjoining frame and view-plate connected to the full frame and plate illustrated.

My apparatus is more particularly intended for use in a store show-window to face the glass front A of said window, as seen in Figs. I and II, although it may be used in other places.

1 designates a screen-box of conical shape, the sides of which are composed of opaque material, such as black cloth.

2 is the front end of the screen-box, which is in the form of a semitransparent sheet, such as white muslin or other cloth.

3 designates a table located at the rear end of the screen-box, and 4 is a magic lantern or other lamp mounted on said table. This lamp is provided with a lens-tube 5, that extends into the rear end of the screen-box, as seen in Figs. I and II, and is furnished with slots 6.

7 designates a series of view-plates that may be pictures or advertising matter or both pictures and advertising matter. These view-plates are of transparent material, such as glass, isinglass, or transparent paper. Each view-plate, as seen in Figs. I, III, and VI, is inclosed within a frame 8 or binding that is perforated at its ends to receive links 9, by which the view-plates and their frames are connected into an endless series, thereby forming an endless view-carrier that may be conducted through the slots in the lamp lens-tube 5.

10 designates a polygonal-shaped idler-drum that is carried by a shaft 11, seated in the table 3 and on which the endless view-carrier travels. The idler-drum is provided at its lower side with a circular rim 12, that supports the view-carrier.

13 is a view-carrier-driving drum of polygonal shape, that is carried by a driven shaft 14 and is provided with a view-carrier-supporting rim 15. The driven shaft 14 is journaled in a frame 16, having an arm 17.

18 is a gear-wheel fixed to the driven shaft, and 19 is a stop-wheel, also fixed to said shaft and provided with a series of notches 20 in its perimeter, that are spaced apart uniform distances corresponding to the lengths of the individual view-plates and their frames.

21 designates a driving-shaft that receives power from a suitable motor 22, that is connected thereto by a belt 23 or other driving mechanism. Fixed to the driven shaft 21 is a mutilated gear-wheel 24, that has at its perimeter a short series of teeth 25, that are brought into mesh with the teeth of the gear-wheel 18 and impart a degree of rotation to said gear-wheel sufficient to carry the picture-carrier a distance corresponding to the length of one of the view-plates and its frame each time that the mutilated gear engages said gear-wheel.

26 is a collar secured to the driving-shaft 21 and bearing a finger 27, so positioned that its forward edge relative to the path of rota-

tion of said shaft and the mutilated gear thereon is disposed slightly in advance of the foremost mutilated-wheel tooth 25.

28 designates a detent pivotally mounted at 29 on a post 30. (See Figs. III and V.) This detent has a point 31, that is arranged to enter either of the notches 20 in the stop-wheel 19.

32 and 33 are bell-crank arms that are at their junction pivotally mounted at 34 upon a post 35, the arm 33 being positioned in the path of movement of the collar-finger 27 to be engaged thereby on the rotation of the drive-shaft 21. The bell-crank arm 32 is united to the detent 28 by a link 36.

37 is a spring by which the arm 32 is normally drawn toward the stop-wheel 19 to hold the detent 28 in engagement therewith.

In the practical use of my apparatus power is communicated to the drive-shaft 21 to rotate it and impart corresponding rotation to the mutilated gear-wheel 24 and collar 26 carried thereby. As the drive-shaft rotates the collar-finger 27 first passes into engagement with the bell-crank arm 33 and by tripping said bell-crank causes the detent 28 to be withdrawn from engagement with the stop-wheel 19 by retracting it from the notch 20 in said wheel in which its point was previously seated. Continued rotation of the driving-shaft causes the teeth 25 to be brought into engagement with the teeth of the gear-wheel 18, with the result that rotation is imparted to said gear-wheel and the driven shaft 14, said rotation being permitted, due to the freeing of the stop-wheel 19 in the manner stated. The engagement of the mutilated-gear-wheel teeth with the gear-wheel 18 is just sufficient to impart a limited degree of rotation to the driven shaft to an extent that will cause one of the view-plates 7 to be moved out of the lens-tube of the lamp 4 and another view-plate to be moved into said tube, due to the movement of the drum 13, carried by said driven shaft. The view-plates are thereby carried in succession through the lamp lens-tube for the pictures or advertising matter thereon to be projected by rays of light from the lamp onto the screen 2. Immediately after the mutilated-wheel teeth 25 have performed their office of rotating the gear-wheel 18 to move the picture-carrier as described the collar-finger 27, that has continued in engagement with the bell-crank arm 33, passes said arm, and therefore the point of the detent 28 is permitted to return to the stop-wheel 19 to seat in the notch 20 therein next succeeding that in which it was previously seated, thereby locking said stop-wheel and the driven shaft 14 from further rotation until the detent is again released, thereby holding the gear-wheel in the proper position to receive the next succeeding engagement of the mutilated-gear-wheel teeth.

I claim as my invention—

1. In an apparatus of the character described, a lamp, an endless view-carrier consisting of framed view-plates, a pair of horizontally-disposed drums having carrier-supporting flanges at their lower sides on which said carrier operates, and means for rotating one of said drums to impart movement to said carrier, substantially as set forth.

2. In an apparatus of the character described, a lamp, a view-carrier arranged to travel in front of said lamp, a pair of drums on which said view-carrier operates, a driven shaft on which one of said drums is mounted, a gear-wheel fixed to said shaft, a mutilated gear-wheel for imparting intermittent rotation to said first-named gear-wheel, and stop mechanism for intermittently checking the rotation of said driven shaft, substantially as set forth.

3. In an apparatus of the character described, the combination of a lamp, an endless view-carrier arranged to travel in front of said lamp, a pair of drums on which said view-carrier operates, a driven shaft on which one of said drums is mounted, a gear-wheel fixed to said driven shaft, a power-shaft, a mutilated gear-wheel on said power-shaft arranged to intermittently engage said first-named gear-wheel, and stop mechanism for said driven shaft; said stop mechanism consisting of a notched wheel fixed to said driven shaft, a detent arranged to engage said notched wheel, a bell-crank connected to said detent, and a finger carried by said power-shaft arranged for engagement with said bell-crank, substantially as set forth.

4. In an apparatus of the character described, the combination of a lamp, an endless view-carrier arranged to travel in front of said lamp, a pair of drums on which said view-carrier operates, a driven shaft on which one of said drums is mounted, a gear-wheel fixed to said driven shaft, a power-shaft, a mutilated gear-wheel on said power-shaft arranged to intermittently engage said first-named gear-wheel, and stop mechanism for said driven shaft; said stop mechanism consisting of a notched wheel fixed to said driven shaft, a detent arranged to engage said notched wheel, a spring-controlled bell-crank connected to said detent, and a finger carried by said power-shaft arranged for engagement with said bell-crank, substantially as set forth.

MELVIN L. FRINK.

In presence of—
BLANCHE HOGAN,
E. S. KNIGHT.