No. 828,790. PATENTED AUG. 14, 1906.

A. K. WAIT.

PICTURE SLIDE CONTROLLER FOR STEREOPTICONS.

APPLICATION FILED MAR. 30, 1906.

2 SHEETS—SHEET 1.

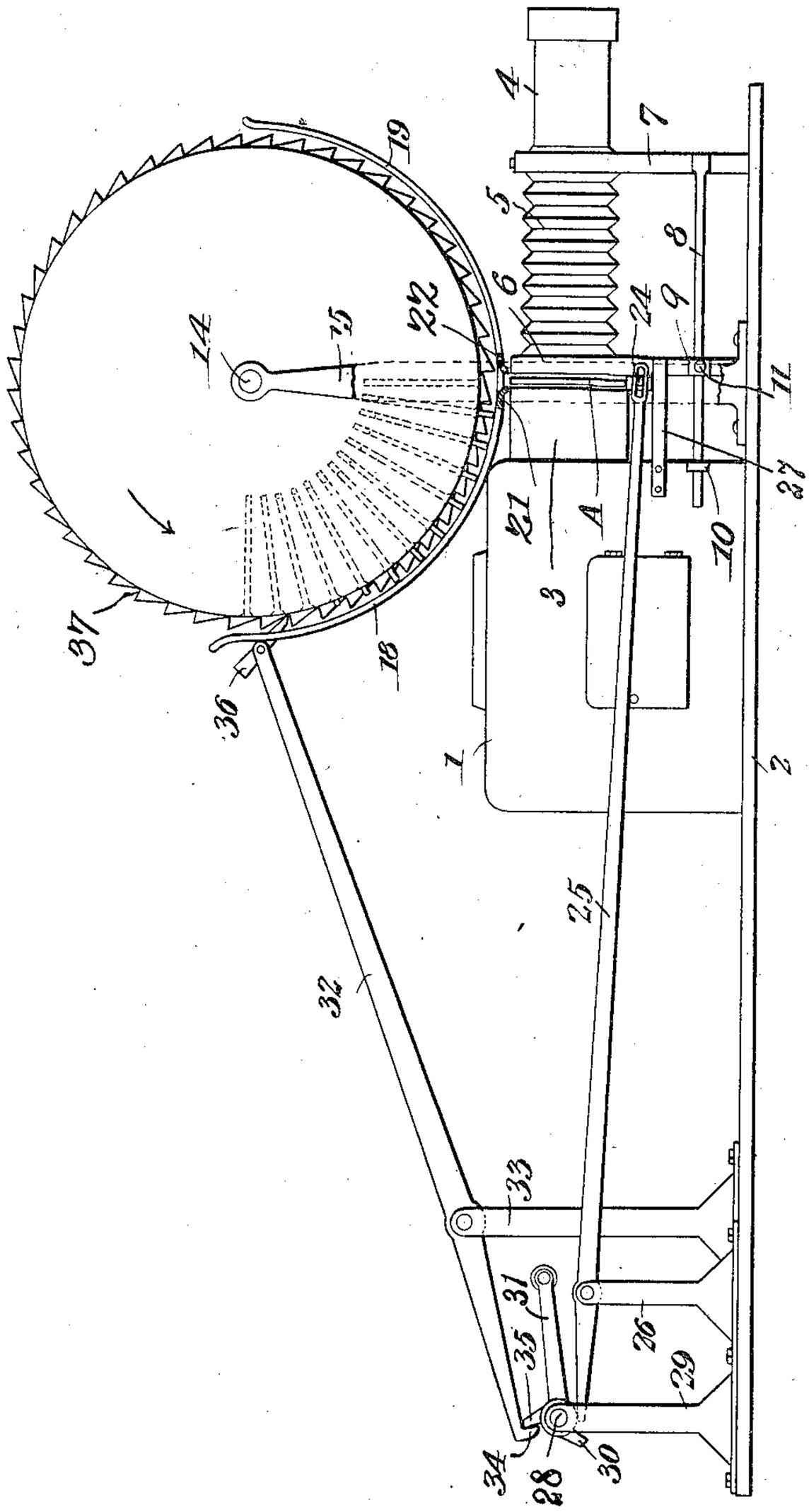

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

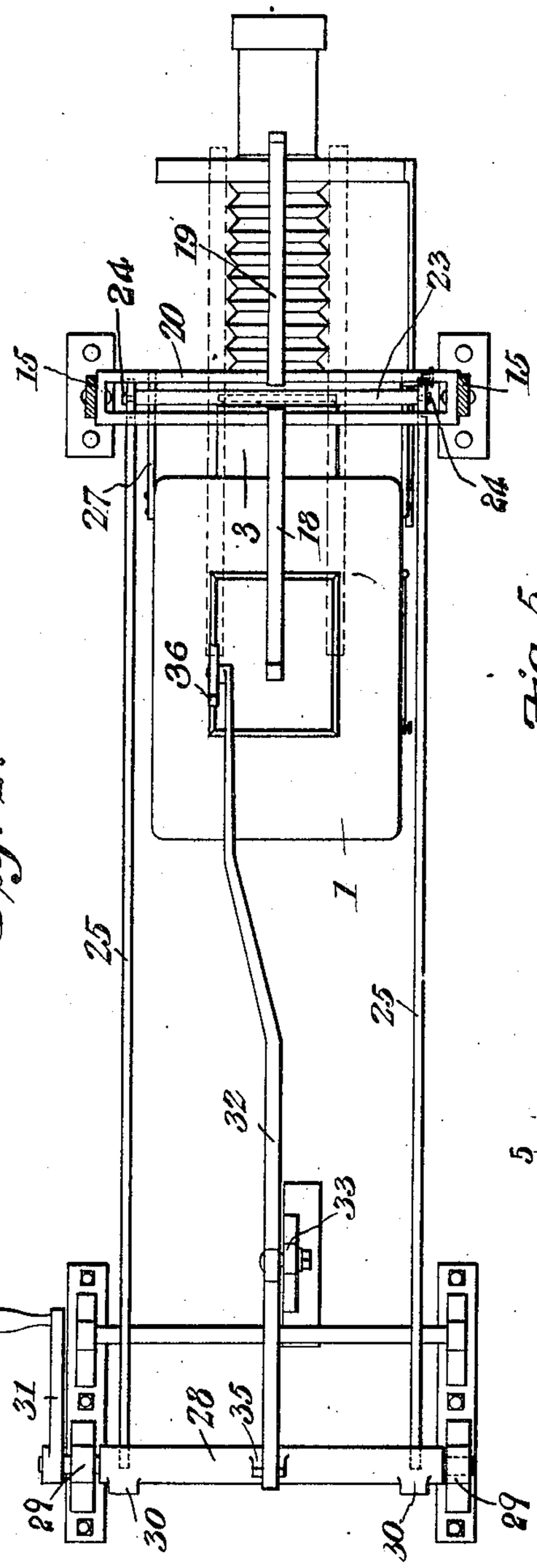

Fig. 3.

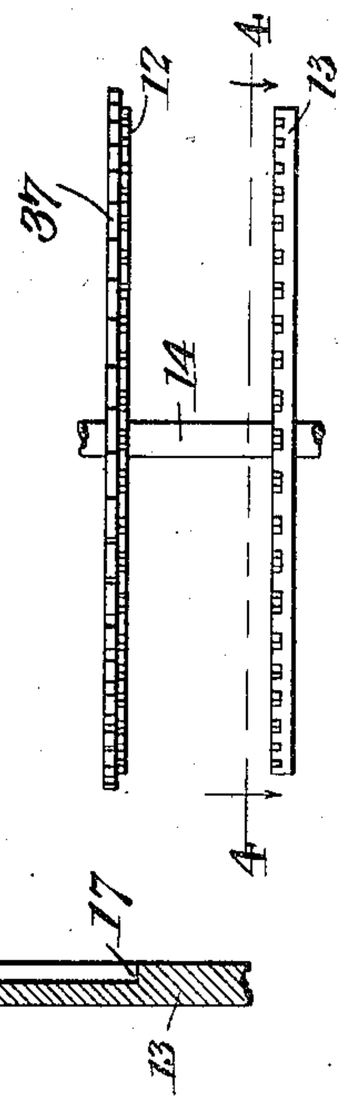

Fig. 5.

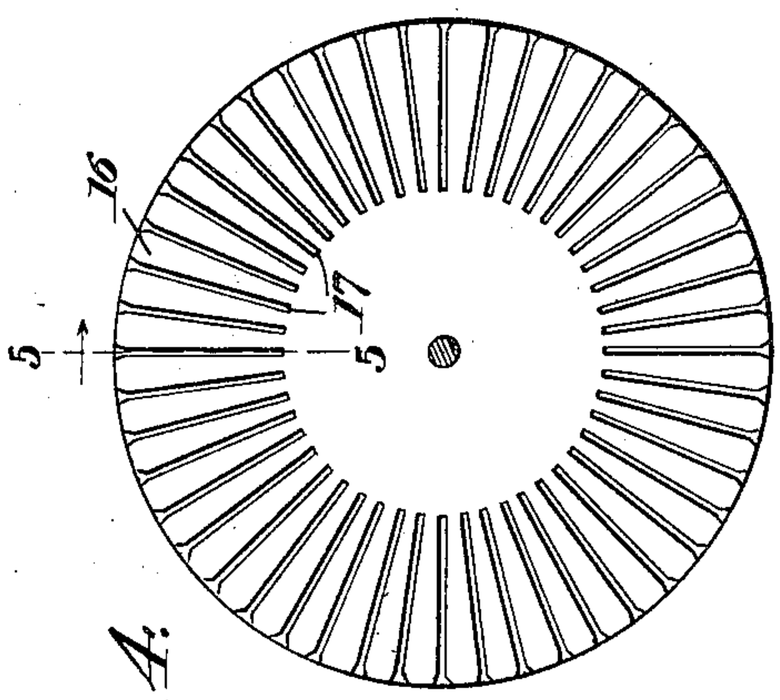

Fig. 4.

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PICTURE-SLIDE CONTROLLER FOR STEREOPTICONS.

No. 828,790. Specification of Letters Patent. Patented Aug. 14, 1906.

Application filed March 30, 1906. Serial No. 308,942.

To all whom it may concern:

Be it known that I, ARTHUR K. WAIT, a citizen of the United States, residing at Roanoke, in the county of Roanoke and State of Virginia, have invented a new and useful Picture-Slide Controller for Stereopticons, of which the following is a specification.

This invention is an attachment for stereopticons and the like, and has for its object to provide for bringing picture-slides into and out of the path of light without manually handling each and every slide, thereby to facilitate the manipulation of the stereopticon and to make the change of plates rapidly or slowly, as may be desired.

In order that the attachment may occupy as small a space as possible, it is proposed to have the attachment include a rotary drum or slide-holder with the slides radially carried thereby and capable of being withdrawn from the carrier into the path of light and then returned into the carrier while a step-by-step rotary movement is being imparted to the carrier, so as to bring the successive plates into position for movement into and out of the path of light.

It is a further object of the invention to adapt the attachment for use in connection with any conventional form of stereopticon or picture-exhibitor without altering or changing the same in any material manner whatsoever.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation of a conventional form of stereopticon equipped with the slide-controlling attachment of the present invention. Fig. 2 is a plan view with the slide-carrier removed. Fig. 3 is a plan view of the slide-carrier. Fig. 4 is a sectional view on the line 4 4 of Fig. 3. Fig. 5 is an enlarged detail sectional view on the line 5 5 of Fig. 4.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

For the adequate understanding of the application and operation of the present invention a conventional form of stereopticon or picture-exhibitor has been shown in the accompanying drawings, including a light-box or lantern 1, mounted upon a suitable base 2 and provided with the usual condensing-lens tubular frame 3. In front of the condensing-lens tube there is the usual magnifying-lens tube 4, connected to the front end of a bellows 5, the rear end of which is carried by a stationary upright frame 6, while its front end and the lens-tube 5 are carried by an upright adjustable frame 7, movable toward and away from the frame 6. A gage-rod 8 extends rearwardly from the frame 7 and passes through guides 9 and 10 upon the frame 6 and the lantern 1, there being a suitable set-screw 11, carried by the guide 9, for engagement with the rod 8, so as to fix the frame 7 when it has been properly adjusted according to the distance between the stereopticon and the screen upon which the pictures are to be cast. These parts are common and well known and of themselves form no part of the present invention.

In carrying out the present invention there is provided a rotary picture-slide carrier, preferably in the nature of a drum, including spaced heads 12 and 13, carried by a shaft 14, having each end supported in a suitable bracket 15, rising from the bed or base 2. In the inner face of each head there is a series of radial grooves or guideways 16, which are open at their outer ends and are closed at their inner ends by suitable shoulders 17. It will of course be understood that the grooves or guideways of the two heads are in alinement in order that each pair of corresponding grooves may receive a picture-slide which is supported upon the shoulders 17 and is capable of being moved outwardly through the open outer ends of the grooves. This picture-slide carrier is mounted above the condensing-lens of the stereopticon in such position that when each pair of guideways is brought into a vertical position at the lower side of the carrier said guideways will be alined with the space between the condensing-lens and the magnifying-lens, whereby the picture-slide in said grooves may be lowered into the path of light and then returned into the same pair of grooves after the desired exposure has been made.

For the support of the slides during the lower half of the path of their rotary move-

ment there is provided a pair of supporting elements 18 and 19 in the nature of arcuate strips or plates embracing the lower peripheral portions of the drums between the heads 12 and 13. The inner end portions of the members 18 and 19 are connected to a suitable rectangular bracket 20, which is in turn carried by the standards 15, so as to support the guard members 18 and 19 independently of any portion of the stereopticon. The inner or lower ends of the guards have the respective downturned lips 21 and 22, which are spaced at a suitable interval, so as to guide a plate downwardly from the carrier into the space between the condensing and magnifying lenses.

With the slide-carrier rotating in the direction of the arrow in Fig. 1 of the drawings the guard member 18 supports those slides which are approaching a vertical position, and when the slides come into alinement with the space between the two guards they drop downwardly, and after they have been returned into the carrier the guard 19 supports them until they pass into the upper half of their rotary path.

For the purpose of supporting each slide in the path of light and also for returning the slide into the carrier a cross-head 23 is mounted to slide vertically in front of the condensing-lens and is provided at each end with a projection or trunnion 24, working in a longitudinal slot in the front free end of a vertically-swinging lever 25, fulcrumed adjacent its rear end upon a suitable bracket 26, rising from the bed or base 2. The levers or arms 25 lie at opposite sides of the lantern 1 and are simultaneously operated to raise and lower the cross-head, the downward movement of the latter being limited by means of bars 27, applied to opposite sides of the lantern and extending between the latter and the fixed frame 6.

The means for operating the levers 25 consists of a substantially horizontal rock-bar 28, mounted at each end in a suitable bearing-bracket 29, rising from the base 2 and provided with a pair of cams or tappet projections 30, disposed for simultaneous engagement with the rear extremities of the levers 25. This rock-bar is adapted to be driven by hand or by power, a crank-handle 31 having been shown in Figs. 1 and 2 as an appropriate means for operating the rock-bar.

A step-by-step rotary movement is imparted to the picture-slide carrier by means of a lever 32, fulcrumed intermediate of its ends upon a bearing-bracket 33, rising from the base 2, the rear free end of the lever having a downwardly-extending heel 34 for engagement by a cam or tappet 35, carried by the rock-bar 28. The front end of the lever 32 is provided with a pivotal dog 36, coöperating with a series of ratchet-teeth 37, provided upon the head 12 of the picture-slide carrier.

In practice, the picture-carrier being supplied with slides and one of the slides, as shown at A in Fig. 1 of the drawings, being supported upon the cross-head 23 in the path of light, the shaft 28 is rotated in the direction indicated by the arrow on Fig. 1 until the cams or tappets 30 engage the levers 25, and thereby lift the cross-head 23 and the slide A until the latter has been moved back into the carrier. Before the cams 30 disengage the levers 25 the cam 35 engages the heel 34 of the lever 32, and thereby imparts a rotary movement to the picture-carrier sufficiently to move the slide A from the cross-head to the guard 19, so as to be supported thereby when the cross-head descends. The several parts of the attachment are so proportioned that when the cam 35 disengages the lever 32 and the rotary movement of the carrier is thus stopped the cams 30 will then disengage the levers 25, and thus permit the cross-head to descend with the next in rear slide supported thereon. The length of time for any exposure may be governed by the manipulation of the shaft 28, and the picture-slides will be brought into the path of light and then returned into the carrier in a prompt and positive manner without manually handling the individual slides, thereby materially facilitating the handling of the apparatus.

Having thus described the invention, what is claimed is—

1. In an apparatus of the class described, the combination of a rotary carrier having radial guideways provided with open outer ends for the reception of picture-slides, a guard embracing the open outer ends of the guideways to retain the picture-slides therein and provided with an opening with which the guideways are adapted to successively register for the outward movement of the slides through the opening, an annular series of ratchet-teeth for the carrier, a lever having a dog associated with the ratchet-teeth, a swinging arm carrying a cross-head alined with the opening in the guard and working toward and away from the same, and a rotary shaft having a plurality of cams adapted to engage and operate the lever and the arm.

2. The combination with a stereopticon, of a rotary picture-slide carrier mounted above the stereopticon and provided with radial guideways open at their outer ends for the reception of picture-slides, said carrier having ratchet-teeth, a guard embracing the lower side of the carrier to retain the picture-slides in the guideways and having an opening in alinement with the picture-slide guide of the stereopticon and with which the guideways are adapted to successively register for the discharge of the picture-slides, a picture-slide support working in the picture-guide of the stereopticon, pivotal arms mounted at opposite sides of the stereopticon and connected to the picture-slide support, a lever

having a dog to engage the teeth of the picture-carrier, and a shaft having a crank-handle at one end and a plurality of cams adapted to engage the pivotal arms and the lever at different times for operating the same.

3. The combination of a stereopticon having a vertical slot adjacent the forward end thereof, a rotary picture-slide carrier mounted above the stereopticon and provided with radial grooves, said carrier having ratchet-teeth, a pair of parallel pivotal arms extending along opposite sides of the stereopticon and having longitudinal slots in their forward ends, a cross-head extending through the vertical slot in the stereopticon and having trunnions engaging the longitudinal slots of the pivotal arms, uprights for supporting the pivotal arms, an independent lever having a dog to engage the ratchet-teeth of the rotary picture-carrier, an upright for supporting said independent lever, a shaft supported adjacent the rear ends of the pivotal arms and independent lever, said shaft having a pair of cams for operating the pivotal arms, and a separate cam for operating the independent lever, and a crank-handle for said shaft.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ARTHUR K. WAIT.

Witnesses:
W. E. THOMAS,
W. C. ALLEN.