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J. BRIELOFF.

PHOTOGRAPHING APPARATUS.

APPLICATION FILED JAN. 19, 1912.

1,070,400.

Patented Aug. 19, 1913.

3 SHEETS—SHEET 1.

Fig. 1.

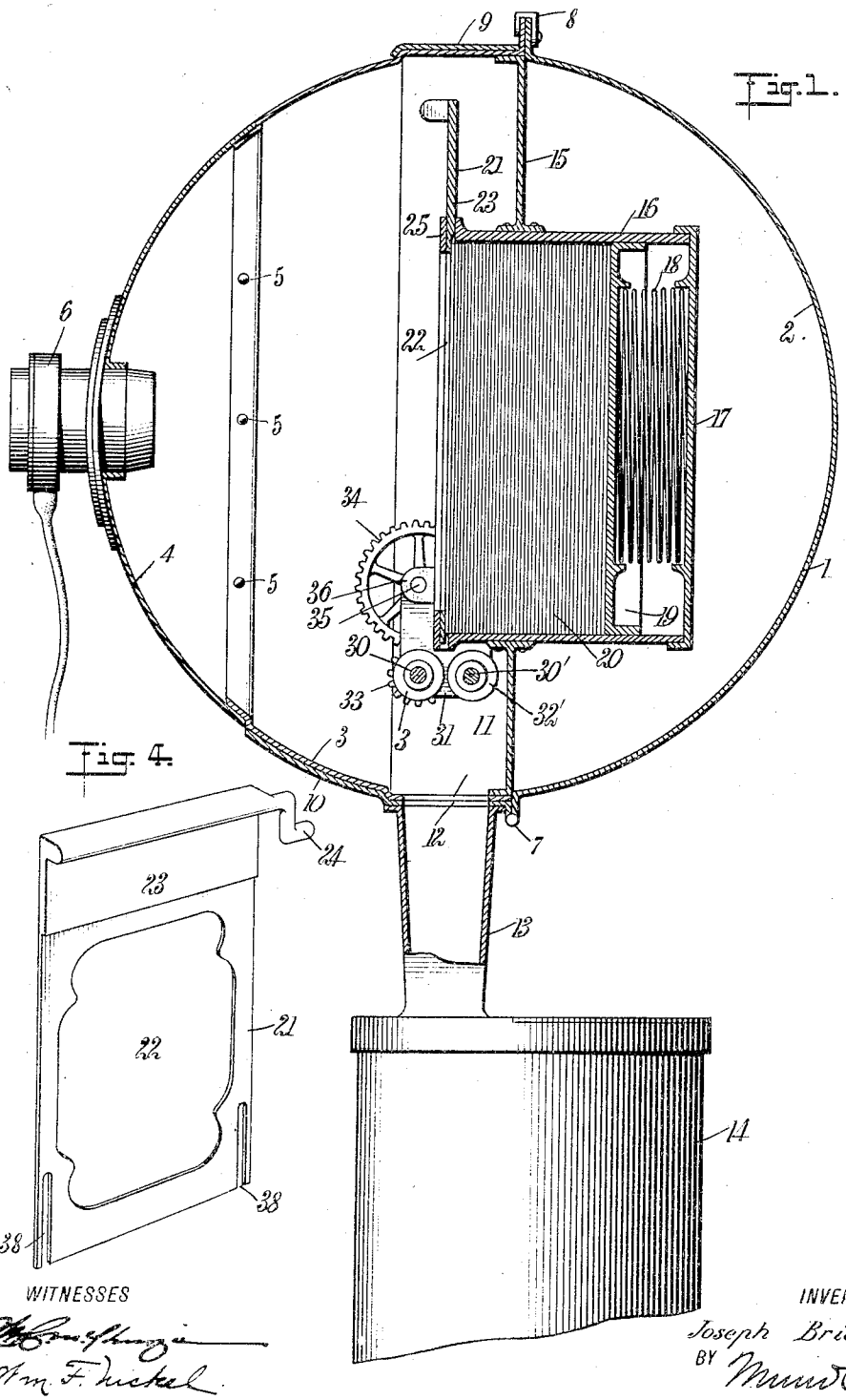


Fig. 4.

WITNESSES

Wm. F. Fuckel.

INVENTOR

Joseph Brieloff

BY Munn & Co

ATTORNEYS

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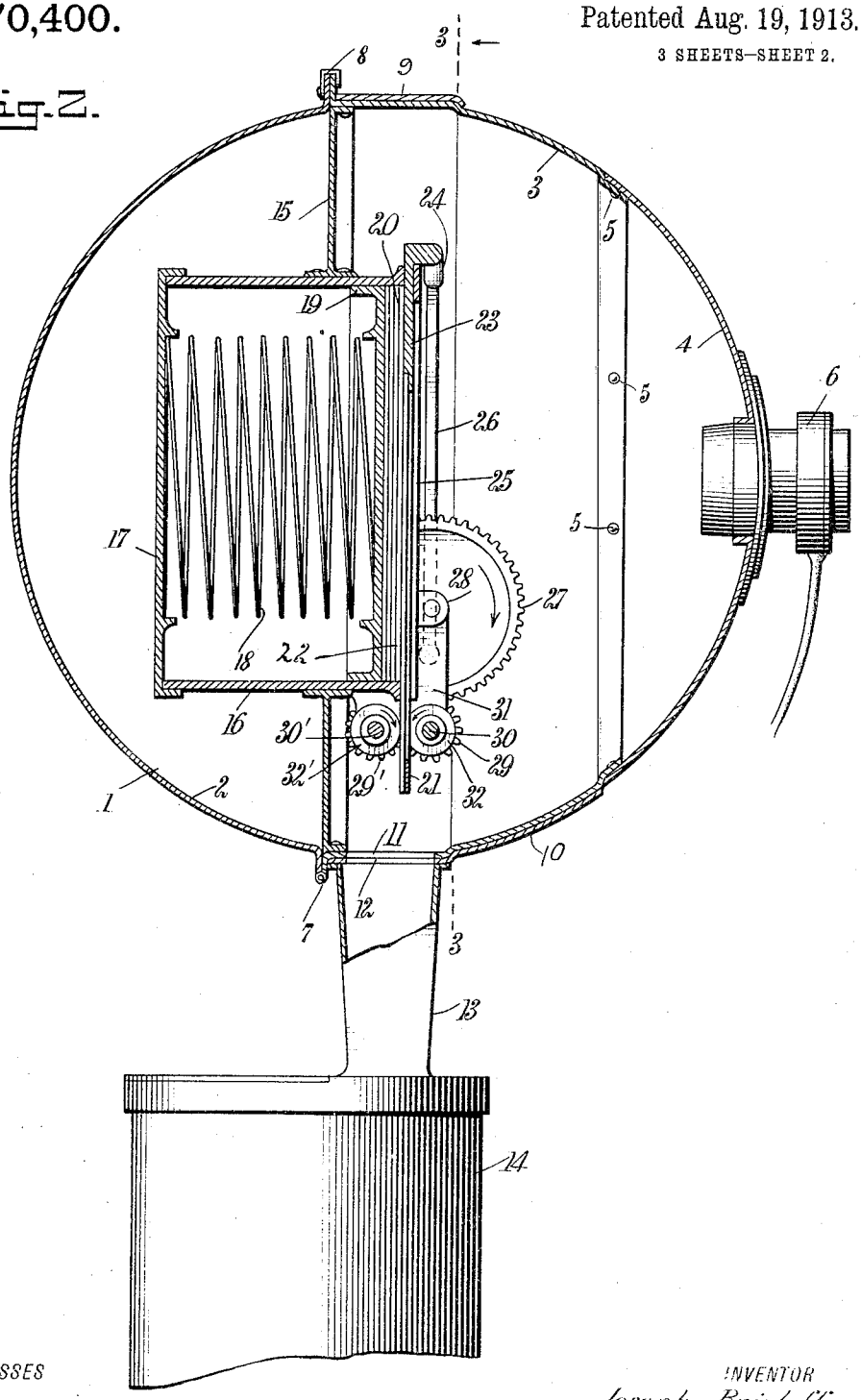
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3 SHEETS—SHEET 2.

Fig. 2.



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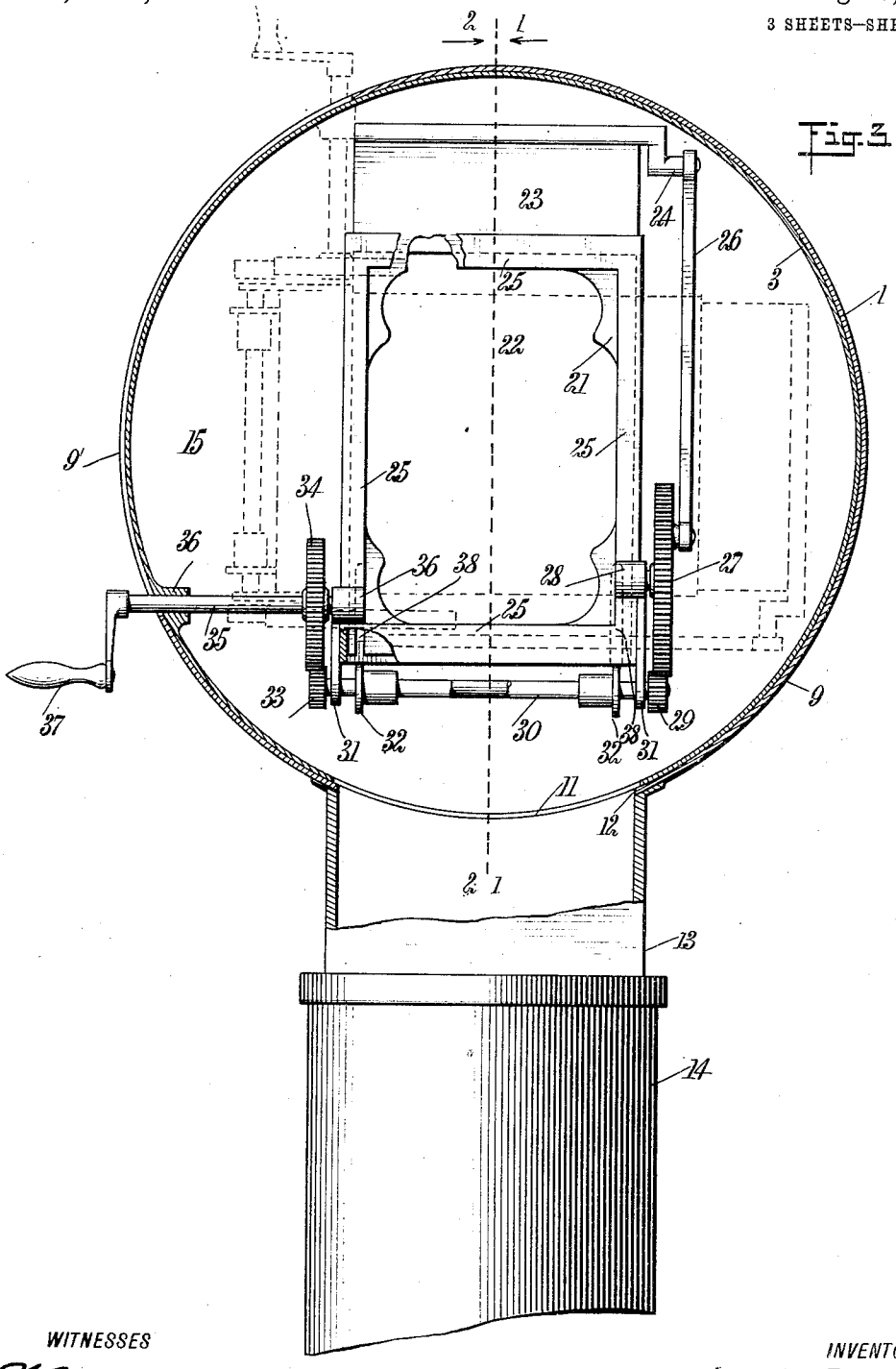
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3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH BRIELOFF, OF NEW YORK, N. Y.

PHOTOGRAPHING APPARATUS.

1,070,400. Specification of Letters Patent. Patented Aug. 19, 1913.

Application filed January 19, 1912. Serial No. 672,086.

To all whom it may concern:

Be it known that I, JOSEPH BRIELOFF, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Photographing Apparatus, of which the following is a full, clear, and exact description.

My invention relates to a photographing apparatus designed to be used to take pictures upon postal cards and similar articles, and it comprises a magazine wherein a large number of cards to be photographed can be placed, and suitable mechanism for moving said cards, suitably sensitized, into and out of position with respect to the lens of the apparatus by means of which the image to be reproduced is focused thereon.

Reference is to be had to the accompanying drawings forming a part of this specification, in which the same characters of reference indicate the same parts in all the views.

Figure 1 is a longitudinal sectional view of my invention taken on the line 1—1 of Fig. 3, looking in the direction of the arrow at the right; Fig. 2 is a similar view taken on the same line of Fig. 3, but looking in the direction of the other arrow; Fig. 3 is a perspective view on the line 3—3 of Fig. 2; and Fig. 4 is a perspective view of part of the actuating or feeding mechanism by means of which my photographing apparatus is operated.

My photographing apparatus comprises a spherical casing 1, which is preferably made in three sections, 2, 3 and 4. The sections 2 and 3 are hinged together at 7, and held together opposite the hinge 7, by means of a fastener or clip 8; while the sections 3 and 4 are bolted or riveted together, as shown at 5, the section 3 having a flange which extends into the section 4 for this purpose. The section 4 is centrally perforated to receive a lens carriage 6, by means of which light is emitted into the interior of the casing. This casing is supported in a ring or band 9 having a lateral extension 10 adjacent the bottom thereof. The section 3 has an aperture 11 therethrough which communicates with a similar aperture 12 in the ring 9; and to this ring is secured a neck or conduit 13, which leads down into a developing tank 14, upon the lid of which the casing 1 is supported.

Supported inside the casing 1 by means of a web 15 which is secured by its flanged ends to the interior of the section 3, is a magazine 16 having a lid or cover 17. Inside of this magazine is a sliding head 19, which is engaged by a spring 18 abutting against the head 19 at one end and inside of the cover 17 at the other.

The numeral 20 represents a number of postal cards which are placed in the magazine 16, the magazine being so shaped that the postal cards or similar articles, suitably sensitized, will fit the same snugly, and when the cover 17 is secured to the magazine 16, the spring 18 will always be under sufficient compression to tend to force the postal cards out through the other end of the magazine, as will be readily understood. The other end of the magazine 16 is open, but engages a sliding member 21, which has an enlarged opening cut through the same, as shown at 22. This member 21 is in the form of a flat plate having a thickened section 23 at the top, forming a shoulder; and 24 is an arm connected to the plate 21 adjacent its upper edge to enable the sliding member 21 to be operated. The member 21 slides in guides 25 across the front end of the magazine 16, and it is reciprocated to effect this sliding movement by means of a link 26 pivotally connected to the arm 24 at one end and to a crank pin projecting from the face of a gear wheel 27 at the other. This gear wheel 27 is mounted on a spindle carried in a bearing 28 supported by one end of the magazine 16. This gear wheel 27 is actuated by a pinion 29 mounted upon a shaft 30 carried in bearings 31 secured to the sides of the magazine 16, and the shaft 30 also carries a pair of friction wheels 32, the object of which will be described later. At the opposite end of the shaft 30 is a gear wheel 33, which meshes with a pinion 34 on a shaft 35. This shaft 35 is mounted in bearings 36 carried upon one end of the magazine 16 and the section 3, and terminates at its opposite end in a crank or operating handle 37.

Beneath the magazine 16 and behind the shaft 30 is a similar shaft 30′, parallel with the shaft 30 and also mounted in the bearings 31. This shaft carries friction wheels 32′ thereon, located adjacent the friction wheels 32, and the same is actuated by means of a gear wheel 29′ meshing with the gear wheel 29.

The thickness of the sides, top and bottom of the magazine 16 is shown in dotted lines in Fig. 3; and the guides 25, which are open at the top and bottom to allow the sliding member 21 to pass through them, form an inward-projecting rim at the front end of the casing. Adjacent the lower ends of the sides of the member 21 are formed a pair of slots 38, these slots being located in vertical alinement with the friction wheels 32, so that, when the member 21 is lowered, its lower edge can pass beyond the shaft 30 a certain distance.

The ring or band 9 has an aperture 9′ in one side to give passage to the shaft 35. This construction permits the entire casing to be rotated in the band or ring 9 so that the postal cards can be photographed either with the long axis thereof in vertical position or with the short axis thereof in vertical position; that is to say, the casing can be rotated from the position shown in full lines to that shown in dotted lines in Fig. 3, according to the nature of the picture that is to be taken.

To operate my photographing apparatus, the magazine is filled with sensitized cards, the magazine being of sufficient capacity say to hold one hundred of such cards; and when the cover 17 is fastened in position, the spring 18 will press the cards over toward the end of the casing carrying the sliding member 21. Normally, this sliding member will be in the position shown in Fig. 3; that is, the thickened portion 23 will be above the top edge of the cards, and the shoulder formed by the lower edge of this thickened portion will be directly above the card which is exposed through the open end of the magazine 16. In this position, a picture can be taken upon this card in the usual way, by means of the light passing through the lenses in the lens carriage 6. As soon as the exposure is complete, the crank 37 is turned, and owing to the connection of the link 26 with the gear 27, the sliding member 21 will be pulled down. In the course of its descent the shoulder formed by the lower edge of the thickened portion 23, will engage the upper edge of the exposed card and push it downward through the space between the horizontal portions of the guides 25, and the front edge of the bottom of the magazine 16. As soon as the card has been pushed down a short distance it passes between the two pairs of friction rollers 32 and 32′, and as these rollers are gear-connected to be actuated when the handle 37 is turned, they operate to draw the card entirely out of the magazine 16 and force the same into the neck or discharge conduit 13, which guides the card into the developing tank 14, to be finished. In its downward movement, the slots 38 in the sides of the sliding member 21 adjacent the lower ends thereof enable the lower edge of the same to pass the friction wheels 32. These slots are substantially equal in length to the stroke of the link 26, and when the handle has made one complete revolution, the sliding member 21 will have been returned to its upper position, as shown in Fig. 1. The manner in which the shoulder formed by the lower edge of the thickened portion 23 engages the card exposed through the opening 22 in the member 21, and the manner in which the friction wheels 32 and 32′ engage the lower portion of the card that has been photographed and force the same down into the developing tank 14, is shown in Fig. 2. On the return movement of the link 26, the inner surface of the thickened portion 23 slides over the front face of the ends of the magazine until the shoulder formed by the lower edge of this thickened portion clears the upper edge thereof. The spring 18 now moves the cards forward, until the first card occupies the position of the card that has just been finished, and after the second card has been exposed, operating the parts of the mechanism in the same way will cause this second card to be removed from the magazine and pass into the tank 14 to be developed likewise. Normally, the space between the guides 25 and the top and bottom edges of the magazine 16 is equal to the thickness of the portion 23 of the sliding member 21, and the thickness of the body of the member 21 will be less than the thickness of the portion 23 by an amount equal to the thickness of one of the cards in the magazine 16. As a result, when the apparatus is in operation, the sliding member 21 with the card it engages will at all times have a snug fit with the guides 25, and the card will be prevented from getting creased or broken after the same has been photographed and been made ready to be passed down into the tank 14 to be finished. The shoulder separating the flat surface of the thickened portion 23 from the rear surface of the plate 21 will of course engage and move down one card every time the plate 21 is reciprocated in a downward direction, so that a card will be taken out of the magazine for every turn of the crank 37.

By means of my apparatus it will be apparent that I may take pictures on a large number of cards in a short space of time. As fast as one card is finished the mechanism of the apparatus removes the same and simultaneously feeds another one in position. The apparatus by means of which this result is produced is simple, certain and positive in its operation, and owing to the simplicity and the relatively small number of parts there is little danger of anything getting out of order.

Obviously, my apparatus can be employed to feed plates of any kind, such as negatives,

into and out of exposed position, as well as postals and other sensitized cards.

When cards are placed in my photographing apparatus they are of course so made sensitized that they can be developed by one operation in a single solution, producing a finished picture postal card without a negative.

From the above description it will be seen that the shoulder 23 on the apertured plate 21 engages each post card at one end, and the friction wheels located just above the mouth of the neck 13 engage it at the other end as soon as the lower edge emerges from the front of the magazine. As a result, any danger of bending or creasing the card as it is passed into the developing tank 14 is eliminated.

I wish to have it understood that the above description and drawings accompanying the same illustrate one embodiment of my invention, and that I do not care to be restricted to the details thereof, except in so far as indicated in the accompanying claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. Photographing apparatus comprising a casing having a magazine therein, said magazine adapted to contain a plurality of sensitized cards or plates, said magazine permitting said cards or plates to be exposed through one end thereof, means for moving said cards or plates into exposure position, a plurality of guides mounted upon said magazine adjacent said end and spaced from the edges of said end, a sliding member movable in said guides and having a shoulder to engage the edges of said plates or cards to engage said cards or plates by turns when the exposure thereof is finished, and remove the same from said magazine, friction means for engaging said cards or plates as they emerge from said magazine, to complete the removal thereof, and means for operating said sliding means and said friction means.

2. Photographing apparatus comprising a casing, a magazine carried thereby for receiving a plurality of sensitized cards or plates, said magazine permitting said cards or plates to be exposed through one end, means for moving said cards toward said end into exposure position, guides carried by said magazine adjacent the edges of said end and spaced therefrom, sliding means having a shoulder movable in said guides to engage said cards or plates by turns when the exposure thereof is finished, to remove the same from said magazine, said sliding member being spaced from one edge of the said end of the magazine to permit one of said cards or plates to emerge therefrom, friction wheels carried by said casing in position to engage each card or plate as it emerges from said casing, and operating means projecting through the side of said casing and comprising gearing carried within said casing for reciprocating said sliding means and actuating said friction means, whereby, after the sliding means engages the exposed card and forces the same partly out of exposure position, the friction means will engage said card or plate as it emerges from the magazine and complete the removal thereof.

3. Photographing apparatus comprising a sliding member having a shoulder to engage a sensitized card or plate edgewise and move the same out of exposure position, a link pivotally connected to said sliding member at one end, a crank connected to the link at its other end, friction wheels mounted beneath said sliding member, said sliding member having notches to enable the lower edge thereof to move past said friction wheels, said friction wheels adapted to engage a card or plate after the same has been moved by its engagement with the shoulder of the sliding member, and means for rotating said crank and actuating the friction wheels, whereby the sliding member will be reciprocated to force the card or plate partly out of exposure position, and the friction wheels actuated to engage a card or plate after the same has been partly forced out of exposure position, and complete the removal thereof from said position.

4. Photographing apparatus comprising a magazine to receive a number of sensitized cards or plates, said magazine permitting said cards or plates to be exposed through one side thereof, a reciprocating member located adjacent said magazine to engage each of said cards or plates in turn at one end to impart motion thereto when said exposure is finished, and a pair of friction rollers located in the path of each of said cards or plates to receive each of said cards or plates between them after the same has been set in motion by said member, said member having a clearance space into which said rollers pass in the course of the relative movements of said rollers and said reciprocating member.

5. Photographing apparatus comprising a magazine to receive a number of sensitized cards or plates, said magazine permitting said cards or plates to be exposed through one side thereof, a movable member located adjacent said magazine to engage each of said cards or plates in turn at one end to impart motion thereto when said exposure is finished, and a pair of friction rollers located in the path of each of said cards or plates to receive each of said cards or plates between them after the same has been set in motion by said member, said member having a clearance space into which said rollers

pass in the course of the relative movements of said rollers and said reciprocating member.

6. Photographing apparatus comprising a sliding member having a shoulder to engage a sensitized card or plate edgewise and move the same out of exposure position, a link pivotally connected to said sliding member at one end, a crank connected to the link at its other end, friction wheels mounted beneath said sliding member, said friction wheels adapted to engage a card or plate after the same has been moved by its engagement with the shoulder of the sliding member, and means for rotating said crank and actuating the friction wheels, whereby the sliding member will be reciprocated to force the card or plate partly out of exposure position, and the friction wheels actuated to engage the card or plate after the same has been partly forced out of exposure position and complete the removal thereof from said position.

7. Photographic apparatus comprising a sliding member, a shoulder to engage a sensitized card or plate edgewise and move the same out of exposure position, a link pivotally connected to the sliding member at one end, a gear wheel having pivotal connection with said link at its other end, friction wheels mounted beneath said sliding member and having a gear meshing with the first gear, said friction wheels adapted to engage a card or plate after the same has been moved by its engagement with the shoulder of the sliding member, and means for rotating the friction wheels, whereby the sliding member will be reciprocated to force the card or plate partly out of exposure position, and the friction wheels actuated to engage the card or plate after the same has been forced partly out of exposure position and complete the removal thereof from said position.

8. Photographic apparatus comprising a sliding member, a shoulder to engage a sensitized card or plate edgewise and move the same out of exposure position, a link pivotally connected to the sliding member at one end, a gear wheel having pivotal connection with said link at its other end, friction wheels mounted beneath said sliding member and having a gear meshing with the first gear, said sliding member having notches to enable the lower edge thereof to move past said friction wheels, said friction wheels adapted to engage a card or plate after the same has been moved by its engagement with the shoulder of the sliding member, and means for rotating the friction wheels, whereby the sliding member will be reciprocated to force the card or plate partly out of exposure position, and the friction wheels actuated to engage the card or plate after the same has been forced partly out of exposure position and complete the removal thereof from said position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH BRIELOFF.

Witnesses:
WILLIAM F. NICKEL,
JOHN P. DAVIS.