

No. 741,215.

PATENTED OCT. 13, 1903.

C. A. BARRETT & R. W. PAGE.
MAGAZINE PHOTOGRAPHIC PLATE HOLDER.

APPLICATION FILED JUNE 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

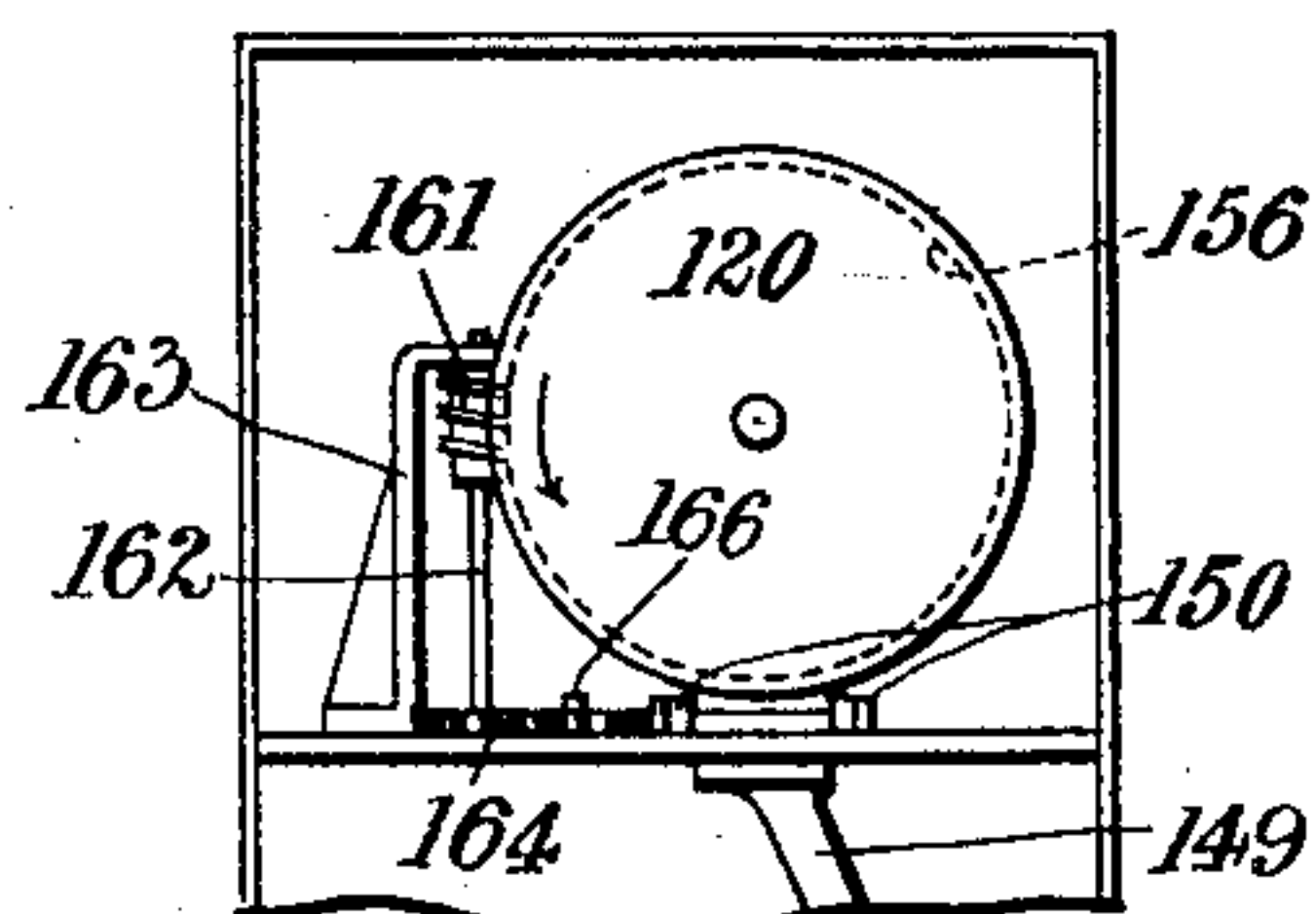
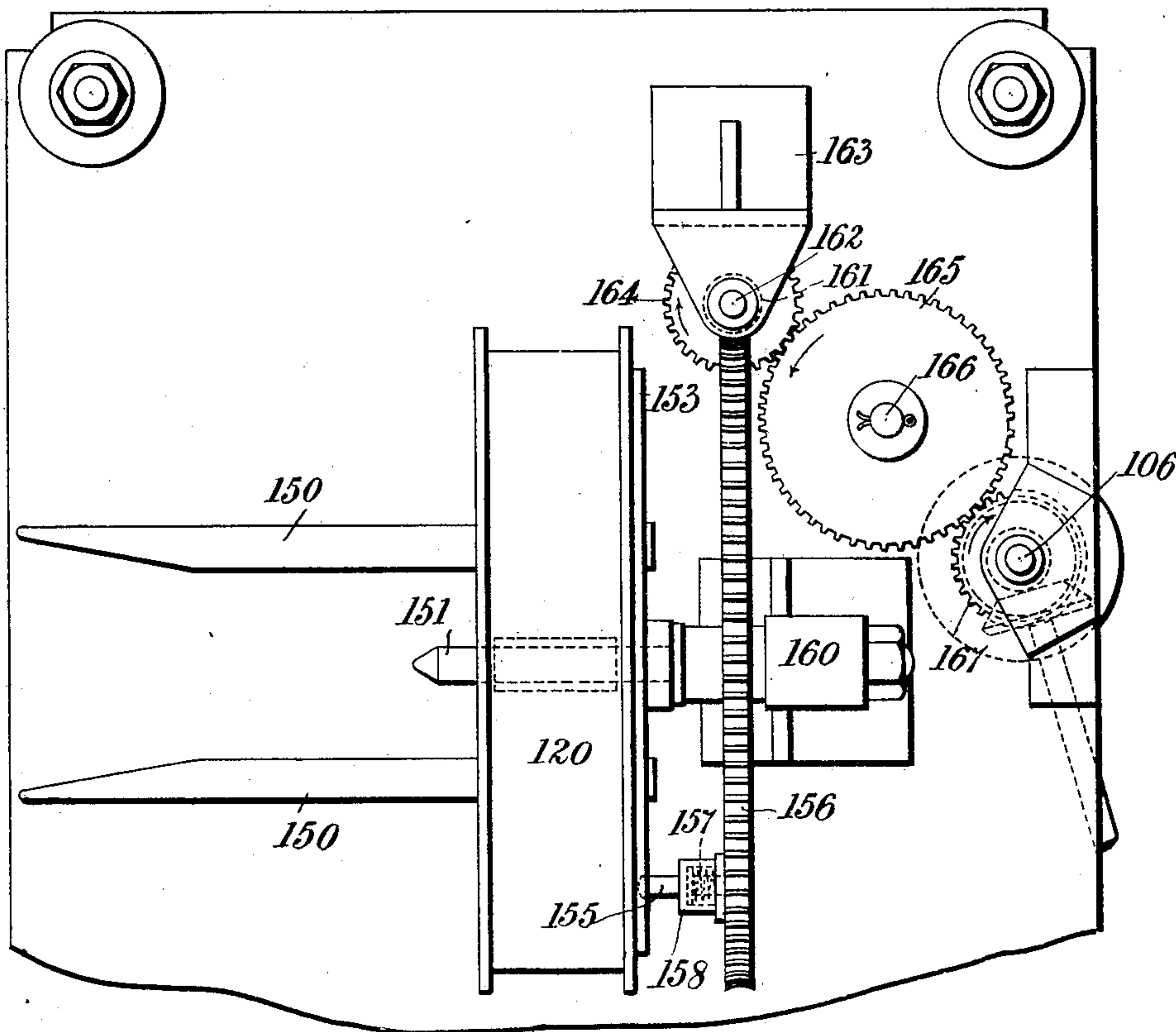


Fig. 2.



WITNESSES.

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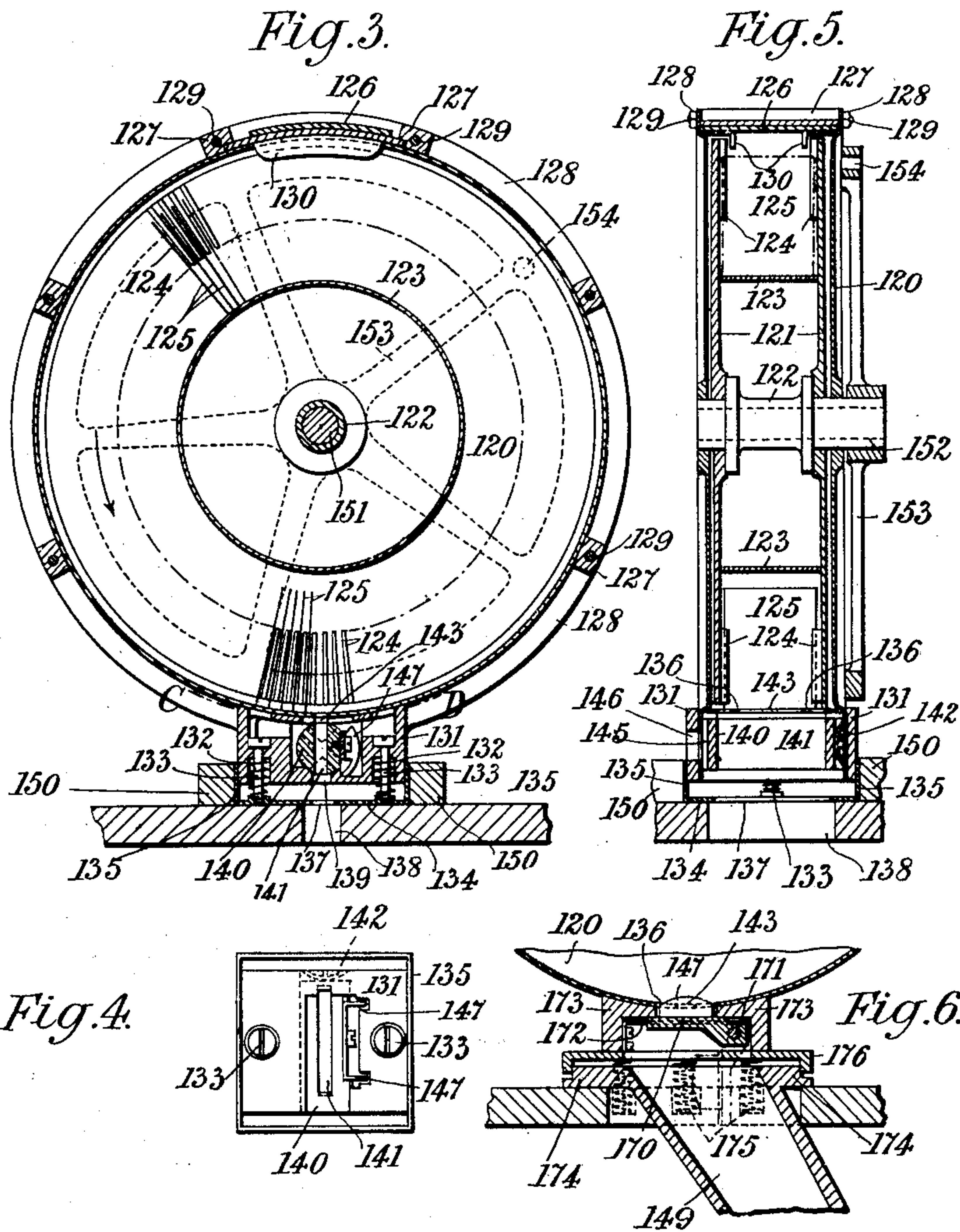


Fig. 4.

Fig. 6.

WITNESSES.

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UNITED STATES PATENT OFFICE.

CHARLES ARTHUR BARRETT AND ROBERT WILLIAM PAGE, OF LONDON, ENGLAND, ASSIGNORS TO R. BARRETT & SON, LIMITED, OF LONDON, ENGLAND, A COMPANY OF GREAT BRITAIN.

MAGAZINE PHOTOGRAPHIC-PLATE HOLDER.

SPECIFICATION forming part of Letters Patent No. 741,215, dated October 13, 1903.

Original application filed October 17, 1902, Serial No. 127,738. Divided and this application filed June 13, 1903. Serial No. 161,376. (No model.)

To all whom it may concern:

Be it known that we, CHARLES ARTHUR BARRETT and ROBERT WILLIAM PAGE, subjects of His Majesty the King of Great Britain, residing at London, England, have invented a certain new and useful Magazine Photographic-Plate Holder, of which the following is a specification.

The invention relates to magazine photographic-plate holders and is a division from Serial No. 127,738.

In apparatus for taking photographs either mechanically or automatically in which the operations of exposing, developing, and finishing the plate take place in an inclosed casing it is necessary for the economical working of the machine that the empty plate box or reservoir can be removed and a full one inserted or handled in other ways without the plates in the latter being exposed to the light and without the necessity of any skill on the part of the attendant in putting them in position or disengaging them. Plate-boxes which partially fill this purpose have been before proposed; but none, so far as we are aware, have been effective in all of these points.

Our improved construction is illustrated in the accompanying drawings, in which—

Figure 1 is a view on a small scale, showing the top tier or floor of the photograph apparatus with the plate-box in position. Fig. 2 is a plan of the tier or floor with the plate-box and operating parts on an enlarged scale. Fig. 3 is a side elevation in section of the plate-box and part of the floor. Fig. 4 is a plan on line C D, Fig. 3. Fig. 5 is a cross-section of Fig. 3. Fig. 6 is a similar view to a part of Fig. 3, but showing a modification.

The plate-box 120 consists of a circular casing, inside which are two disks 121 121, Fig. 5, mounted on a sleeve 122, capable of rotating within the box. These disks are connected by a part forming a drum 123, which acts as a bottom for the annular chamber thus formed between the disks. Above the drum the portions of the disks forming the side walls of the annular chamber are pro-

vided with radial strips 124, forming between them grooves in which rest the plates 125. 50 At the upper part of the box is an opening covered by a plate 126, the ends of which when in position are passed under blocks 127 127, which are notched for the purpose. The blocks are held between flanges 128 128 by 55 bolts 129, passing through the blocks. On the under side the plate 126 carries felt to make a light-tight joint and also ribs 130 130, having rounded ends, the object of which is to enable the plates to pass over the opening in the box if it should be inverted when being 60 handled and while in that position have its plate-carrying disks rotated. There are similar blocks 127 and bolts 129 all around the box, connecting the flanges, so that the side 65 of the box can be separated. At the bottom the box has a base 131 secured to the flanges 128. This base consists of a casting having internal recesses 132 for screws 133, the heads of which pass loosely through the cast- 70 ing, the ends engaging with a bottom plate 134, having side walls 135 embracing the base 131 like a tray. Springs surrounding the screws 133 force the plate 134 outwardly within the limits of the screws. In the plate 75 134 is a slot 137, and in the floor of the tier is a slot 138. In the base 131 is a plug 140, having a slot 141 beneath an opening 143 in the box 120 and above an opening 139 in the base 131. Said plug is forced to the left, Fig 5, 80 by a spring 142, and at its opposite end is provided with a notch 145, situated opposite an opening 146 in the base 131, so that a screw-driver may be inserted to rotate the plug and bring its opening 141 at right angles to the 85 opening 143 of the box. When this is done, a bent plate formed into a pair of curved ribs 147, attached to a flattened side of the plug, is brought around through slots 136 136 of the box, so as to project into same in the path of 90 the plates, thus providing the latter with a bridge similar to that on the cover 125, whereby they may pass the opening if the carrying-disks are rotated when the plug is closed. Normally, however, when the plate-box is in 95 position the plug is open, a plate being caused

to drop through the openings at each step-by-step movement of the plate-carrying disks and down a chute 149, Fig. 1, to the plate holding and exposing devices. The object of the spring-projected plate 134 is to enable the base 131 to seat light-tight on the floor between the guide-strips 150, Fig. 5. To obtain the necessary pressure on the box for this purpose, it is when placed in position by sliding between the strips 150 caused to engage with the end of a spindle 151, Fig. 2, which passes into the sleeve 122, and which spindle will only pass into the sleeve when the box is pressed sufficiently down. On one side of the box and secured to a projecting part 152 of the sleeve 122 is a wheel 153, having an opening 154 in the rim, with which it can engage a pin 155, carried by a worm-wheel 156, said pin being normally projected forward by a spring 157 in a box 158. In this way the box 120 may be slid into position and quickly engaged by rotating the wheel 153 until the spring-pin engages with its hole. The worm-wheel 156, which has the same number of teeth as there are plates in the box, is carried in a bearing in a bracket 160 and is rotated by a worm 161 on a spindle 162, carried by a bracket 163 and having at its base a gear-wheel 164, engaging a loose gear 165 on a stud 166, which in turn engages a gear 167 of the vertical shaft 106, which is rotated by any suitable operating mechanism. The result of the slow-motion gearing thus described is to cause the worm-wheel 156 to be moved one tooth by a complete rotation of the shaft 106, whereby the plate-carrying disks will through wheel 153 be moved with a step-by-step movement sufficiently only to cause one plate to drop through the open plug 140. It will be understood that the plug is only closed when the box is being moved about and that the arrangement of spring-pin and other parts is provided as a connection between the wheel 156 and the box to afford an easy means of placing the box in operative position and removing it.

In Fig. 6 an alternative arrangement to the plug 140 is provided. This consists of a hinged door 170, carrying similar bridging-ribs 147, adapted to pass into the slots 136, and so protect the lower opening 143 of the plate-box. This door has a squared part 171, on which bears the free end of a spring 172, secured inside a base-piece 173, and which base piece slides on a plate 176, embracing the flanged head 174 of the chute 149, which for this purpose is on the upper side of the floor. Springs 175, seated in recesses in the floor and projecting above same and forcing the plate 176 upwardly, are employed to provide a light-tight joint between the base 173 and the plate 176. The squared part 171 and spring 173 enable the door to remain in either an open or closed position, the former being shown in

dotted lines. This hinged door 170 is opened or shut by means of a screw-driver through a hole in the base-piece 173.

What we claim is—

1. In a magazine photographic-plate holder, a box comprising a casing having a discharge-opening, an internal rotatable drum having radial grooves for the plates wholly inclosed by said casing, means for rotating the drum, a valve in the casing for opening and closing the discharge-opening, a base carried by the casing, a floor-plate and means carried by the base for forming a light-tight joint with the floor-plate.

2. In a magazine photographic-plate holder, a plate-box comprising a casing having a discharge-opening, an internal rotatable drum having radial grooves for the plates wholly inclosed by said casing, means for rotating the drum, a valve in the casing for opening and closing the discharge-opening, and ribs carried by said valve adapted to pass into the box in the path of the plates and prevent them falling into the opening when the valve is closed.

3. In a magazine photographic-plate holder, a plate-box comprising a casing having a discharge-opening, a floor supporting the box, an internal rotatable drum having radial grooves for the plates wholly inclosed by said casing, a sleeve carrying such drum, means for rotating the drum, a valve in the casing for opening and closing the discharge-opening, a base carried by the box, means for making a yielding contact between the base and the floor supporting it, and a spindle adapted to pass into the sleeve and hold the box with its base tightly in contact with said floor.

4. In a magazine photographic-plate holder, a plate-box comprising a casing having a discharge-opening, means for closing same, an internal rotatable drum having radial grooves for the plates wholly inclosed by said casing, a toothed wheel for rotating the drum with a step-by-step motion, a spring-pin carried by said wheel, a disk carried by the rotatable drum outside of the box having a hole for said pin, said pin and disk forming the connection between the rotatable drum and the toothed wheel, and means for driving the latter.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

CHARLES ARTHUR BARRETT.

ROBERT WILLIAM PAGE.

Witnesses to the signature of Charles Arthur Barrett:

ROBERT HENRY COLE,

JOHN ASHBY.

Witnesses to the signature of Robert William Page:

JOSEPH J. WRIGHT,

PAUL DOWNES.