No. 733,706. PATENTED JULY 14, 1903.

O. H. EICHLER.

AUTOMATIC REGISTER FOR PRINTING FRAMES.

APPLICATION FILED DEC. 8, 1902.

NO MODEL.

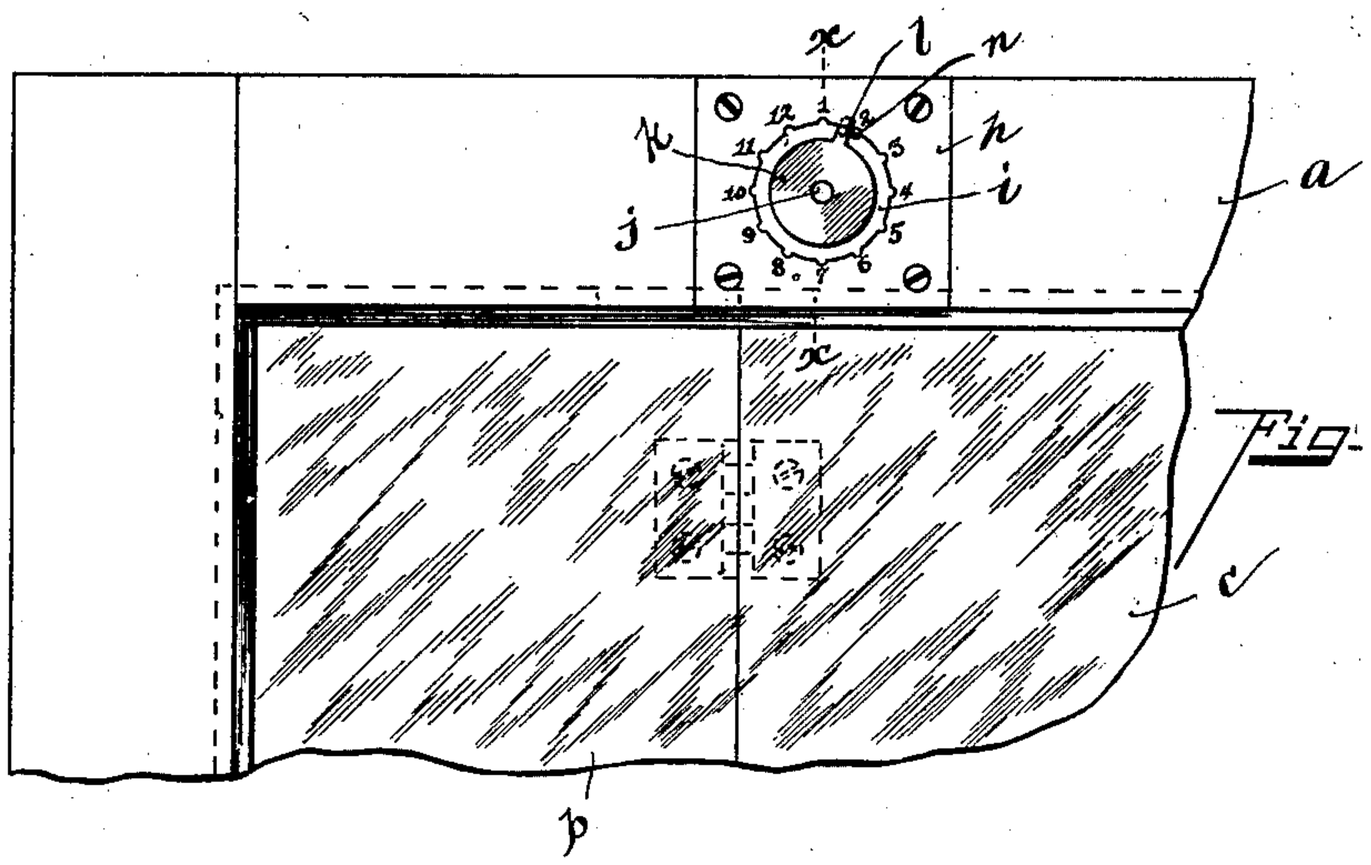

Fig. 1.

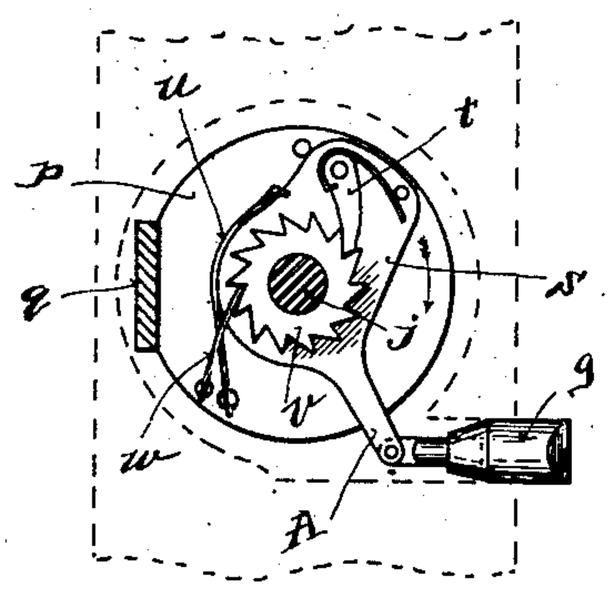

Fig. 4.

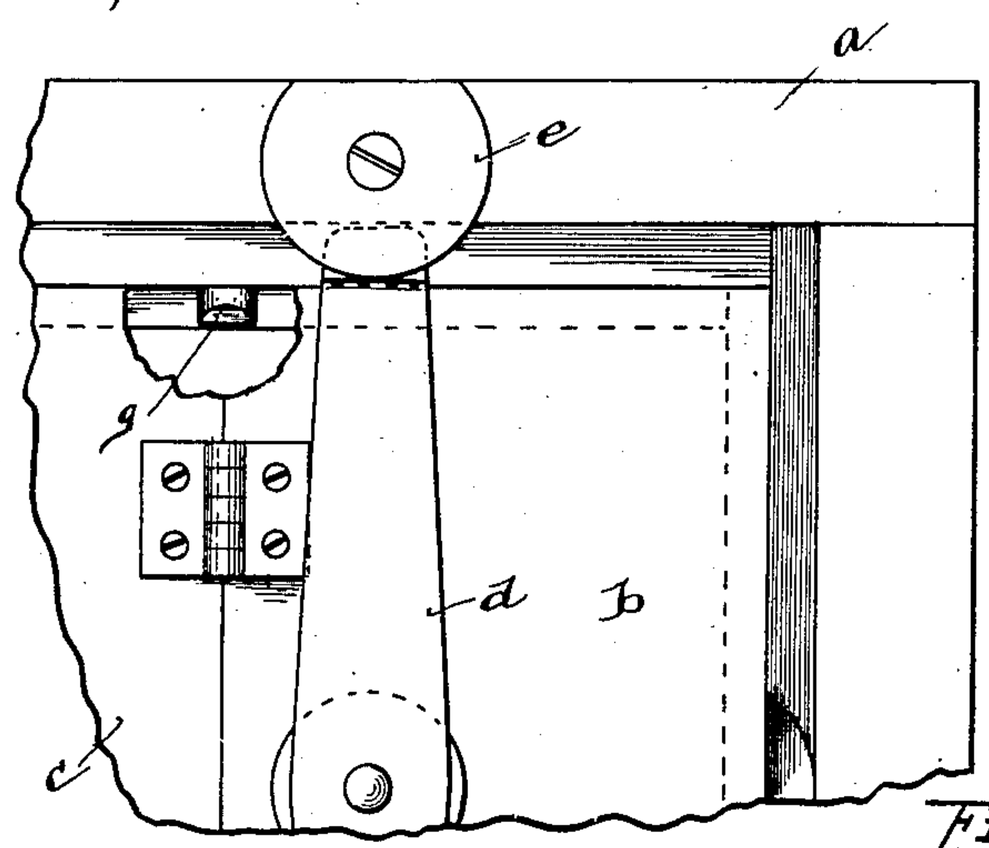

Fig. 2.

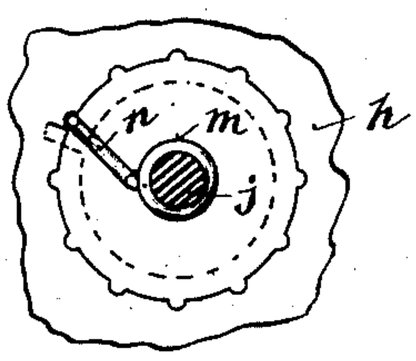

Fig. 5.

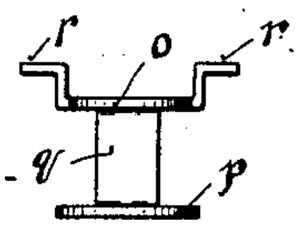

Fig. 6.

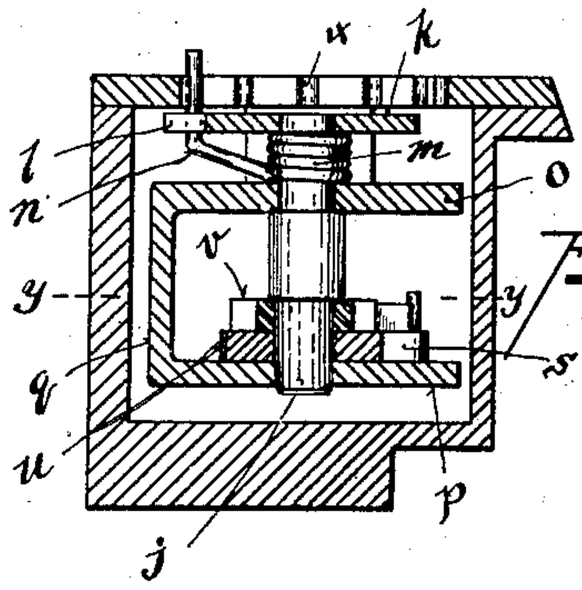

Fig. 3.

Witnesses
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No. 733,706. Patented July 14, 1903.

UNITED STATES PATENT OFFICE.

OSCAR H. EICHLER, OF CINCINNATI, OHIO.

AUTOMATIC REGISTER FOR PRINTING-FRAMES.

SPECIFICATION forming part of Letters Patent No. 733,706, dated July 14, 1903.

Application filed December 8, 1902. Serial No. 134,245. (No model.)

To all whom it may concern:

Be it known that I, OSCAR H. EICHLER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Automatic Registers for Printing-Frames, of which the following is a specification.

My invention relates to an improvement in automatic registering and stop device for printing-frames.

The object of my invention is to provide a simple device which can be used to automatically register the prints taken from a photographic plate and which can, if desired, be fixed to limit the printing from a particular plate to a predetermined number.

The features of my invention are more fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of the front of my device applied to a plate-holder. Fig. 2 is a plan view of the rear, showing a portion of the shutter detached. Fig. 3 is a vertical section on line *x x*, Fig. 1. Fig. 4 is a section on line *y y*, Fig. 3. Fig. 5 is a plan view of the stop mechanism. Fig. 6 is a view of the mechanism supporting the frame.

a represents a plate-holder; *b c*, a hinged shutter-section; *d*, spring-clasp on the shutter pivotally attached; *e*, one of the clasps on the plate-holder for engaging the ends of the spring-clasp *d*, one spring-clasp being employed for each shutter-section, as is usual in printing-frames of this class.

Preferably my device is attached to the marginal frame of the plate-holder, with an operating-plunger *g* projected through a recess in the holder into the space to be occupied by the shutter, as shown in Fig. 2. This arrangement, however, could be reversed, if desired, without any essential reorganization of the elements.

h represents a plate, which constitutes the face of my register, provided with an open orifice *i*, having the peripheral notches 1 to 12. Holes in the face of the plate could also be employed and a removable pin inserted for a stop. *j* represents the central shaft, to which is fixed a plate *k*, having a radial finger *l*. This plate and finger are placed below the level of the face of the register, with the finger projected inside of and below the said notches.

m represents a spring coiled around the shaft *j*, one end of which, *n*, projects radially outward from the shaft and is upturned, so as to pass through the said orifice *i* in the face of the register and to engage into the notches 1 to 12. This spring *m* is free to move, and the stop-pin *n* can be placed in any desired one of the numbered notches and when so placed constitutes a stop, which prevents the further rotation of the shaft *j* when the finger *l* is engaged against the stop. These parts are best shown in Figs. 1, 3, and 5.

The following instrumentalities are employed to rotate the shaft *j*, with its finger *l*. This finger *l*, it is apparent, is an index-finger, as well as part of the stop mechanism. The supporting-frame of the actuating mechanism consists of the parallel plates *o p*, united by a cross-piece *q*. The parts previously described lie between plate *o* and the face of the register, whereas the actuating devices lie between the plates *o* and *p*. *r* represents lugs for attaching this frame to the face of the register.

s represents a segmental oscillating plate lying on the plate *p* and centrally fulcrumed on the shaft *j*. On its upper face is located a spring-actuated pawl *t*, actuated by the plate *s*.

u represents a spring one end of which is fixed to the plate *p* and the other end to the oscillating plate *s*.

v represents a ratchet-wheel fixed to the shaft *j* and lying upon the upper face of the plate *s*. The teeth of the ratchet-wheel are engaged by the pawl *t* and by spring *w*, the other end of which is fixed to the plate *p*. This spring *w* is to prevent any reverse movement of the ratchet-wheel *v*.

A represents a radial finger of the plate *s*, projected outwardly, to which is pivoted an actuating-plunger *g*. This plunger *g* is projected beyond the margin of the frame-holder, (shown in Fig. 2 and in Fig. 4,) and it may be beveled on one edge, so as to be automatically attached as the shutter is slipped into the frame, or it may have a square end, in which case the shutter has to be slid in sidewise in order to depress the plunger.

Operation: The shutter being out, should it be desired to make six printings the stop-pin *n* is moved into the notch 6, the finger *l* being at notch 12, the shutter is inserted, the plunger *g* is depressed, and the finger *l*, through shaft *j*, ratchet-wheel *v*, pawl *t*, and segmental plate *s*, is rotated one notch toward the stop-pin *n*. Each time the shutter is removed the spring *u* returns plate *s* to its initial position.

This device is very simple and efficient, and by its use it is impossible for the operator to print more than the predetermined number desired, and also the finger constitutes an index-denoting the number consecutively printed.

Having described my invention, I claim—

1. In combination with a print-holder and shutter, a register comprising a notched plate, a stop-pin adapted to be inserted in any one of the notches, a rotating shaft, a radial finger secured thereto and adapted to move around the notched index in position to be intercepted by the stop-pin, a pawl-and-ratchet mechanism for rotating the shaft, a plunger adapted to be operated by the insertion and removal of the shutter, and tension devices for said mechanism, substantially as described.

2. In combination with a print-holder and shutter, a register comprising a peripherally-notched plate, a rotating shaft, a radial finger fixed thereto, a stop-pin adapted to be selectively engaged with said notches in the path of travel of said finger, a ratchet-wheel fixed to said shaft, an oscillating plate fulcrumed on said shaft, a pawl pivoted to the plate engaging the ratchet-teeth, a plunger engaging the oscillating plate, said plunger being projected so as to be operated by the insertion and removal of the shutter, and a tension device attached to the oscillating plate, adapted to return the said plate and plunger to normal position when the shutter is removed, substantially as described.

In testimony whereof I have hereunto set my hand.

OSCAR H. EICHLER.

Witnesses:
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