

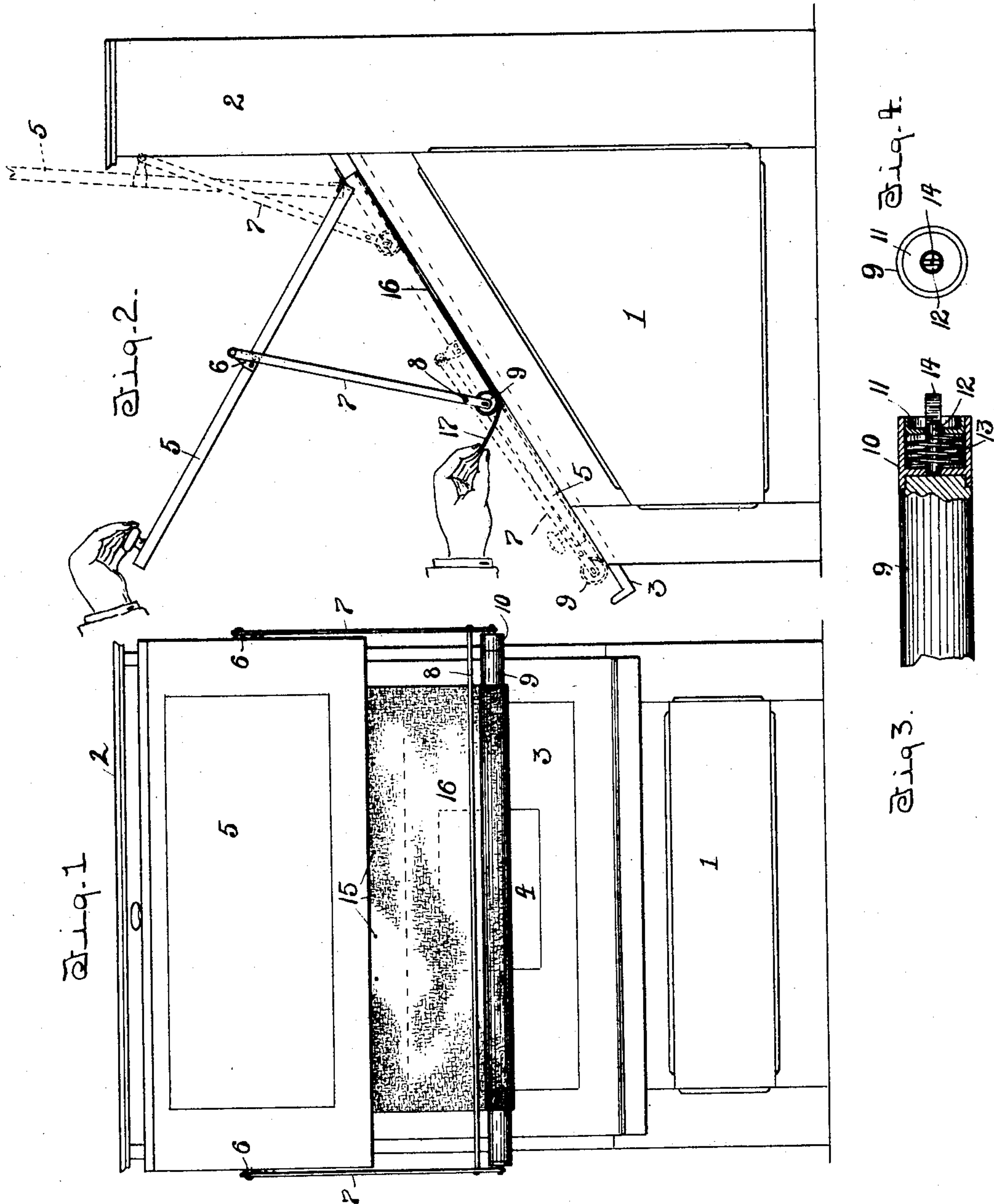
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H. H. McINTIRE.  
PHOTOGRAPHIC PRINTING MACHINE.

APPLICATION FILED JUNE 9, 1903.

NO MODEL.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## PHOTOGRAPHIC-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 754,083, dated March 8, 1904.

Application filed June 9, 1903. Serial No. 160,718. (No model.)

*To all whom it may concern:*

Be it known that I, HERVEY H. McINTIRE, a citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Photographic-Printing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in photographic-printing apparatus, and has for its object to provide a simple and inexpensive hand-operated device of this character wherein the photographic paper is readily and more accurately applied to the negative and held in position thereon during the printing operation.

The invention consists in the construction and novel aggroupment of the parts, all as will be more fully described hereinafter, illustrated in the accompanying drawings, and finally pointed out in the appended claims.

In the drawings, Figure 1 is a front elevation of the machine with the platen partially lowered. Fig. 2 is a side elevation of Fig. 1 with the platen and paper-retaining mechanism shown in dotted lines in an elevated position and in its lowered position. Fig. 3 is a fragmental view, partly in longitudinal section, of the roller which carries the paper-retaining apron. Fig. 4 is an end view of the roller.

Referring to the drawings, wherein like reference-notations indicate corresponding parts appearing in the several illustrations and reference being had thereto, 1 designates a case or cabinet having an upright rear portion 2 and a forwardly-inclined top 3. The inclined top or face board 3 is provided with an opening in which the negative 4 is detachably positioned, and the case is adapted to contain the usual source of light, such as an electric lamp, for emitting light to the negative for printing the picture on the photographic paper while the latter is held in contact with the former. The light and the means for emitting and shutting it off are not shown in the drawings, as they form no part of the present invention.

Hinged to the face-board, near the upper end thereof, is a platen 5, having arms 6 secured to the side edges thereof and extending a short distance above the upper face of the same. The platen carries a swinging frame, which consists of links 7, the upper ends of which are pivoted to the ends of the arms 6, and near their lowered ends they are braced by a cross-bar 8. In the extreme ends of these links is mounted a roller 9, one end of which is formed with a pintle, which is journaled in one of the arms, and the other end is provided with a hollow cap 10. The end of this cap 10 is closed by a bushing 11, which provides a bearing for a spindle 12, which extends centrally through the cap and has its inner end journaled in the cap. Mounted in the chamber formed by the cap and its bushing is a coil-spring 13, one end of which is secured to the cap and the other end to the spindle. The projecting end 14 of the spindle is made angular to engage a correspondingly-shaped aperture in the end of one of the links 7, whereby the spindle is prevented from rotating. The tension of the spring is such as to be normally expanded when the platen is raised to the position shown in dotted lines in Fig. 2; but upon the lowering of the platen and the rotation of the roller the tension of the spring is increased, and since the spindle 12 is held against rotation the roller has a tendency to rotate in a direction opposite to the rotation given it by the depression of the platen.

Secured to the upper end of the face-board, as at 15, is an apron 16, which is secured to the roller at its opposite end and wound around the same when the platen is raised, the spring 13 serving to maintain it in this condition.

When a picture is to be printed, the operator places the photographic paper 17 over the negative and at the same time lowers the platen, which causes the roller 9, with the apron thereon, to roll down the inclined face-board and unwind the apron, which will contact with the photographic paper. When the photographic paper has been partially covered by the apron, so that it is prevented from slipping off the negative, the operator may



release the paper, and upon a continued downward movement of the platen and roller the apron will entirely cover the paper, and the parts may be held in this position until the picture has been printed. It will be observed that the links 7 and their connecting-rod 8 are free to swing around the platen and that the platen may be passed between the links and brought into close engagement with the apron, which has now been unwound from the roller to hold the photographic paper flat upon the negative, as shown in dotted lines in Fig. 2. When the picture has been printed, the platen is released and the tension of the spring in the roller is sufficient to rotate that element to wind the apron thereon and at the same time raise the platen. Thus the spring-roller serves the dual purpose of rewinding the apron on the roller and raising the platen, and the links and roller also provide a support for the platen when the latter is elevated, since the platen cannot be lowered without unwinding the apron and the spring has sufficient tension to overcome the weight of the platen.

From the above description it will be apparent that extremely sensitive photographic paper may be used without danger of it getting "light-struck," as the platen may be operated rapidly, it requiring no particular attention on the part of the operator other than to apply the paper and lower the platen.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A photographic-printing apparatus comprising a case having means for holding a negative therein, a platen hinged to the case and adapted to be lowered to hold the photographic paper against the negative, means carried by the platen to automatically raise it, and means operated by the raising means for holding the paper upon the negative during the printing operation.

2. A photographic-printing apparatus comprising a case having means to hold a negative therein, a platen hinged to the case, a swinging frame carried by the platen, means carried by the frame to roll over and hold the photographic paper in contact with the negative when the platen is lowered, and means for automatically restoring said paper-holding means to its normal condition and for raising the platen, substantially as specified.

3. A photographic-printing apparatus comprising a case having means to hold a negative therein, a platen, a swinging frame carried by the platen, an apron carried by the swinging frame and adapted to engage and hold the photographic paper in contact with the negative during the printing operation, and means

for automatically removing the apron and for synchronously raising the platen.

4. A photographic-printing apparatus comprising a case having means for holding a negative therein, a platen, a swinging frame carried by the platen, means secured to the case and to the swinging frame for applying and holding the photographic paper upon the negative, means to permit the platen to engage the paper-holding means to press the paper upon the negative, and means carried by the swinging frame for automatically resetting the platen and the paper-holding means.

5. A photographic-printing apparatus comprising a case having means for holding a negative therein, a platen hinged to the case, a swinging frame carried by the platen, a roller mounted in the swinging frame, an apron wound upon the roller and having one end secured to the case, means whereby the apron is unwound and rolled over the photographic paper to hold the latter against the negative, and means for automatically rewinding the apron on the roller and for synchronously raising the platen.

6. A photographic-printing apparatus comprising a case having means for holding a negative therein, a platen hinged to the case, a frame pivoted to the platen and carrying at its free end a roller, an apron on the roller having one end secured to the case and adapted to be unwound and engage the photographic paper when the platen is lowered, means to permit the platen to pass through the frame to engage the apron when the platen has reached the limit of its downward movement, and a spring mounted in the roller to rewind the apron thereon and to simultaneously raise the platen.

7. A photographic-printing apparatus comprising a case having an inclined face-board provided with an opening in which the negative is mounted, a platen hinged to the case at the upper end of the face-board, links pivoted to the platen upon the side edges thereof, a roller mounted in the ends of the links, an apron normally wound around the roller and secured at one end to the case, a spring in one end of the roller adapted to have its tension increased when the apron is unwound therefrom and the platen is lowered, the roller and links being mounted to swing around the platen and support the latter when it is raised, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

HERVEY H. McINTIRE.

Witnesses:

GEORGE OLTSCH,  
MAGGIE OLTSCH.