

(No Model.)

W. H. LEWIS.
PHOTOGRAPHIC PRINTING FRAME.

No. 576,203.

Patented Feb. 2, 1897.

Fig. 1.

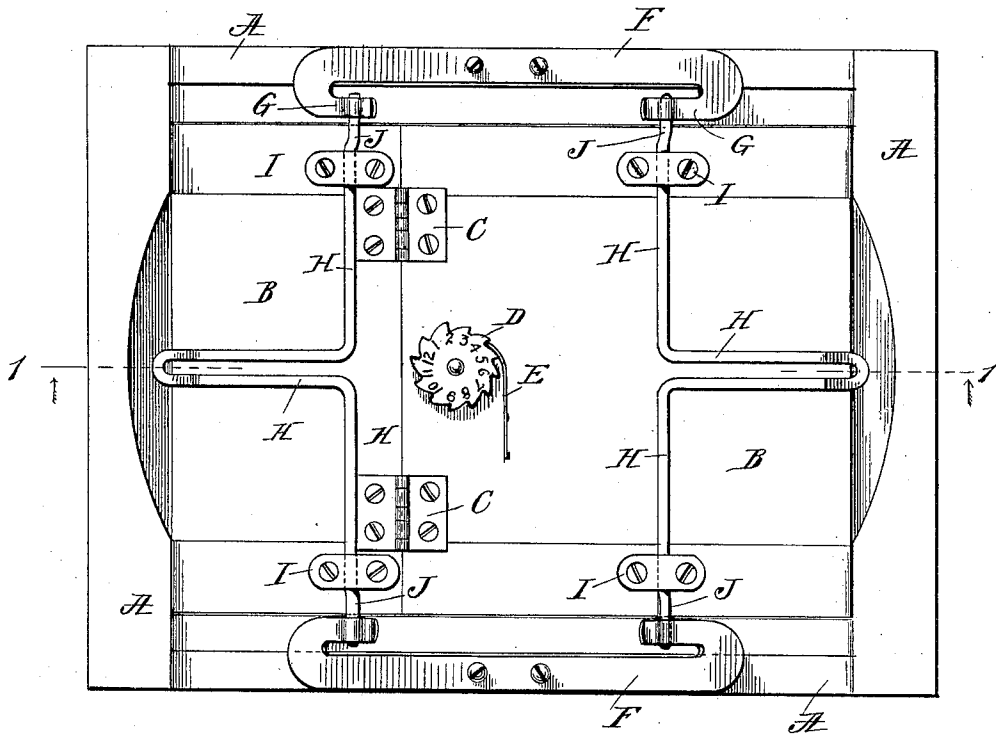
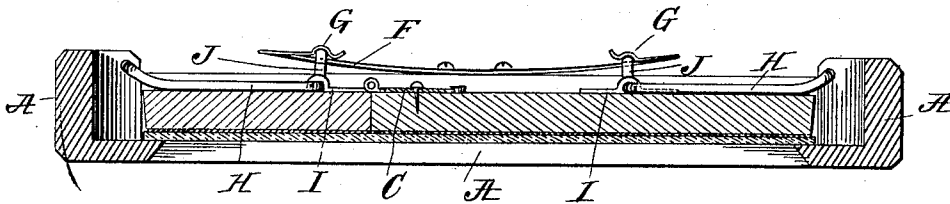


Fig. 2.



Witnesses
Edward C. Cowland
H. Bodine Morrison

William H. Lewis
Inventor
By his Attorneys Phillips Abbott

UNITED STATES PATENT OFFICE.

WILLIAM H. LEWIS, OF HUNTINGTON, NEW YORK, ASSIGNOR TO MARY L. LEWIS, OF SAME PLACE.

PHOTOGRAPHIC-PRINTING FRAME.

SPECIFICATION forming part of Letters Patent No. 576,203, dated February 2, 1897.

Application filed October 16, 1896. Serial No. 609,133. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. LEWIS, a citizen of the United States, and a resident of Huntington, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Photographic-Printing Frames, of which the following is a specification.

My invention relates to improvements in photographic-printing frames; and it consists in the new and useful devices for operating the pressure-board or back plate of the device, and the construction is such that I secure convenience and effectiveness of operation, economy in manufacture, durability of the apparatus, and likewise avoid certain objections to other forms as heretofore made, that is to say, the paper is always rigidly held relative to the negative, so that no movement of it and consequent double printing is possible; also the back plate or pressure-board is forced against the glass by pressure applied to it at four points at or near its edges and not at one or two points in the medial line, as heretofore. Consequently the glass is not so likely to be broken by such pressure; also all of the operative parts of the back board are so located that they are not likely to be loosened or disengaged during the movement of the frame, which sometimes results in the violent reaction of the compressing-springs, tending to break plates, shift the paper, or otherwise injure the picture.

Referring to the drawings hereof, Figure 1 illustrates a plan view of the invention. Fig. 2 illustrates a longitudinal vertical section on the line 1 1 of Fig. 1.

A illustrates the main frame of the apparatus.

B is the back plate, the two parts whereof are hinged together, as usual, by hinges C.

D is an indicator.

E is the pawl for the indicator. This feature forms no essential part of the invention.

F F are two springs which may be fastened by screws, as usual, one on each side of the frame A. They are made of spring metal of requisite stiffness, and their ends G G preferably turn inwardly and are provided with notches or detents, as shown in Fig. 2.

H H are levers, which may be of wire bent into the form shown, and they are confined in proper position relative to the back plate by means of bearing-blocks I I, which are screwed to the back plate, as shown, so as to embrace the levers H and constitute bearings or journals for them. The outward ends J J of the levers H are bent at substantially right angles to the main portions thereof, so that they have an offset from them, and then the extreme end projects laterally again to engage with the under side of the springs F at or near the ends thereof.

The operation is obvious. The glass, the paper to be printed, and the back plate are put into the frame, as usual, with the levers projecting upwardly into the air. When in position, the levers are swung over, one to the right and the other to the left, as shown in Fig. 1, and during their swinging movement the ends J J of the levers engage with the under side of the springs F F at G G, and as the levers are still farther pressed over into the horizontal position shown in the drawings the springs are put under tension and consequently the back plate or pressure-board is firmly pressed down upon the paper and glass, and when desiring to view the print to see its progress one of the levers will be untouched. Thus all parts will be maintained in their clamped position, but the other will be swung upwardly, and as the parts J J of that lever come in contact with the surface of the pressure-board the lever will then act as a handle and that portion of the board will swing upwardly, oscillating upon its edges C C. In this way the print can be examined and in an instant lowered and the pressure-board made to assume its original pressing position.

It will be especially noticed that the pressure is applied at four parts, *i. e.*, at or near the bent ends J J of the levers. Consequently there is no pressure in the medial part of the board, which sometimes springs it after the board has already become somewhat sprung or curved by long use, and which tends to fracture the glass beneath. Consequently the pressure applied under my improvement is safer; also the operation of the device is

such that when the ends of the levers come in contact with the springs the pressure is almost directly downward, so that there is no tendency on the part of the back plate or pressure-board to slip, and the difficult operation of springing the old plate springs downwardly and under the side slips is entirely avoided. This operation has always been attended with danger, because of the liability of the frame or the operator's hands to slip under the strong pressures required, particularly when large frames are being used; also an operator, particularly if not a strong person, has frequently to exert himself or herself to an unpleasant degree in the act of depressing the ends of the springs, and likewise when they are released there is a tendency on the part of the apparatus to jump unless great care be taken, and this frequently induces fracture of some part of the apparatus or of the negative; also all of the operative parts of the apparatus are, as will be seen by reference to Fig. 2, not higher or not materially higher than the edges of the ends of the frame, and the levers are decidedly below that level. Consequently there is no likelihood that the levers will be caught upon or come in contact with anything upon the table or bench of the operator which would have a tendency to move the levers or throw them out of their proper engagement.

It will be obvious to those who are familiar

with this art that modifications may be made in the details of construction without departing from the essential features of my invention. I therefore do not limit myself to them.

Any form of apparatus in which a lever or levers which are substantially bell-crank in construction are attached either to the frame or to the back plate, and which engage with springs located upon the other part, is within the invention.

I claim—

1. The combination of a printing-frame, a back plate or pressure-board therefor, composed of two parts, hinges connecting the two parts, a bell-crank lever fulcrumed upon each of said parts, and two springs at each side of the frame adapted to engage with the respective ends of said bell-cranks, for the purposes set forth.

2. The combination of a printing-frame, a back plate or pressure-board therefor, and spring-actuated, compressing devices, located at or near the edges of the back plate, for the purposes set forth.

Signed at Huntington, in the county of Suffolk and State of New York, this 12th day of October, A. D. 1896.

WILLIAM H. LEWIS.

Witnesses:

DOUGLASS CONKLIN,
HARRY S. WEEKES.