(No Model.)

G. A. JAMES.

PHOTOGRAPHIC PRINTING FRAME.

No. 412,094. Patented Oct. 1, 1889.

Fig. 1.

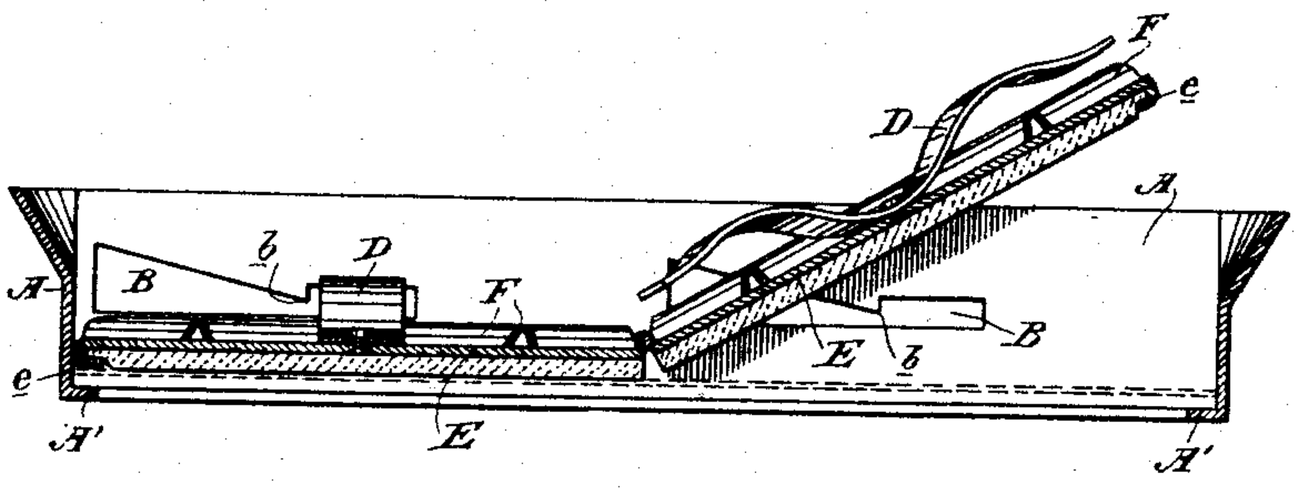
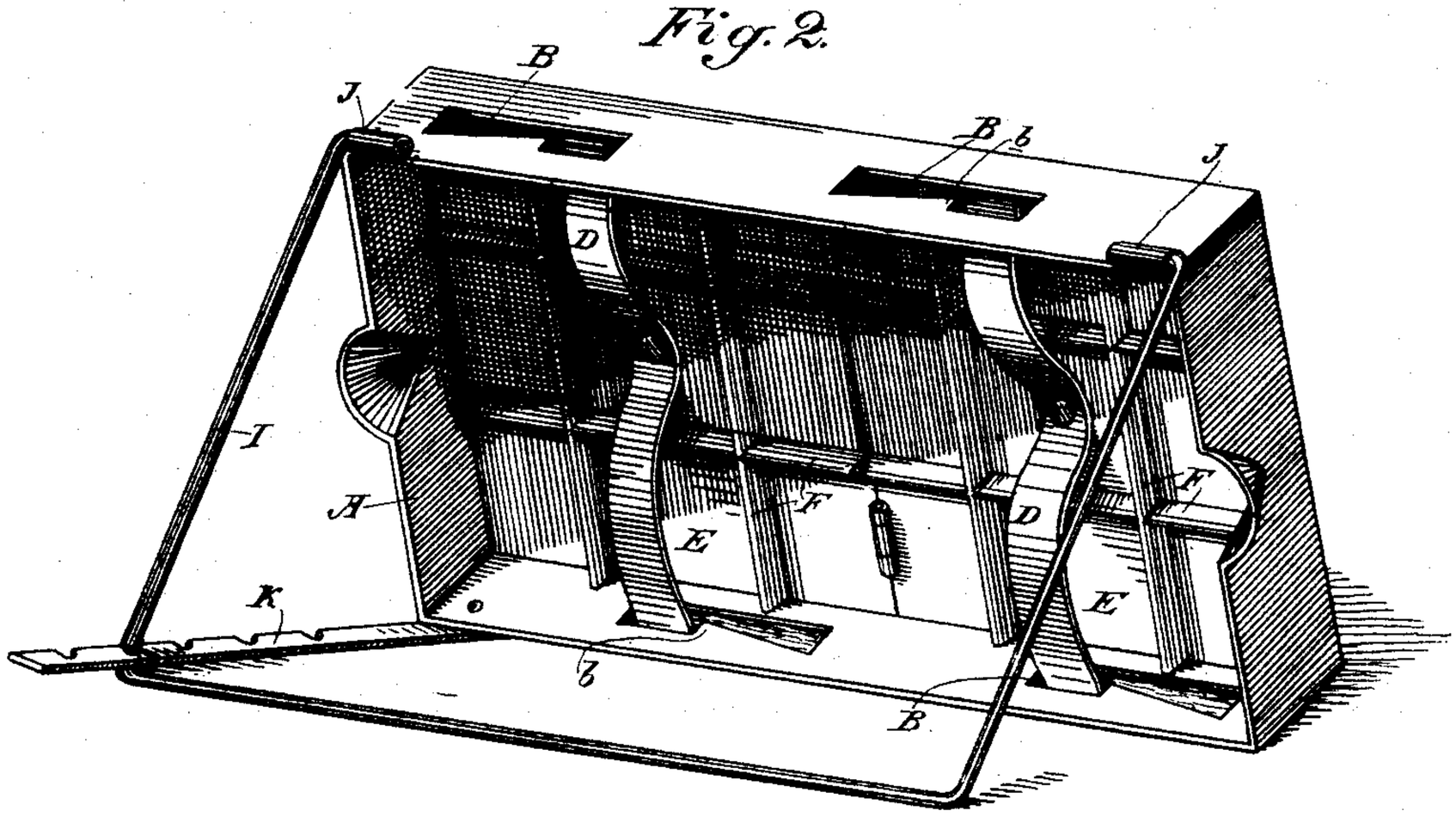


Fig. 2.



Witnesses,
Geo. H. Strong
J. B. Howe

Inventor
George A. James
By Dewey & Co.
Attys

UNITED STATES PATENT OFFICE.

GEORGE A. JAMES, OF SAN FRANCISCO, CALIFORNIA.

PHOTOGRAPHIC-PRINTING FRAME.

SPECIFICATION forming part of Letters Patent No. 412,094, dated October 1, 1889.

Application filed April 20, 1889. Serial No. 308,008. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ALFRED JAMES, of the city and county of San Francisco, State of California, have invented an Improvement in Photographic-Printing Frames; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in photographic-printing frames; and it consists in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section taken through the frame and showing half of the hinged plate turned backward. Fig. 2 is a perspective view of the frame and its support in position for printing.

It has been customary to make frames for the printing of photographs of wood, having a wooden holding-plate hinged in the center and provided with springs, which keep it pressing against the negative and the sensitized paper after these two have been placed in the frame. The hinge is intended to allow a portion of the plate to be turned back and examined from time to time to ascertain the progress of the printing, the half that remains fastened retaining the paper in its proper relation to the negative while this is being done. In the construction of these frames they must be made of considerable thickness, and it is not possible to turn the hinged plate back sufficiently to enable the operator to obtain a good view of the print on account of the thickness of the plate, and for the same reason great care must be taken to expose the frame squarely to the light of the sun, in order to prevent the projecting thickness of the edges of the opening at the front from casting shadows, which will spoil the print.

My invention is intended to provide certain improvements in these plate-holders.

It consists in stamping out the rim or frame A of thin but stout metal, having the angular slots B made in the sides to receive the ends of the springs D. The central portions of each spring press upon the sections of the negative-holding plate E, and retain it in place while the printing is being done. In order to lock the ends of these springs, they are turned so that the ends move down the inclined portions of the slots B until they pass the projecting points or angles *b*, when the ends of the springs will lie upon the horizontal portion of the slot, and these projecting angles will prevent the springs from slipping back until they are disengaged from the two angles or points.

The pressure-plate E, which holds the negative and sensitive paper in place against the inwardly-turned flanges of the frame A, is hinged in the center. For small plates these plates are simply hinged together by the felt with which the faces are covered; but for larger plates it may be found desirable to introduce light metallic hinges at their points of junction, which will allow either of the sections of the plate to be turned backward, so as to expose the sensitive paper, which may then be turned back sufficiently to examine the printed surface as far as the central joint. This becomes perfectly practicable, because the thickness of the metal is so slight that it does not oppose any obstacle to the turning back of the paper, which is the objection of the thicker wooden plates. I am also enabled to secure the felt to these plates by clamping it beneath the edges *e* of these plates, which are folded over and pressed down upon the felt, thus holding it without the necessity of glue or other similar holding material.

In order to properly strengthen these plates E for large prints, they are provided with re-enforcing strips F, which extend across them in one or more directions and at right angles to each other, and these re-enforcing strips may be made of any desirable or needed depth to give the proper strength and rigidity to the plates E.

The holding-springs D are preferably made with a double curvature, or in the form of a cupid's bow, so that the central portion may be secured by a pivot upon the back of the plate E, while the end portions arch upward from this point and afterward bend down, so that the ends may turn into the slots B. They will thus clear the re-enforcing strips F when they are turned.

The inwardly-turned flanges A′ of the frame A serve to receive the edges of the negative which rest upon these flanges, the sensitive paper being placed upon the back and the hinged holding-plate E laid upon this

[redacted]

paper, after which the springs D are turned, so as to engage the slots B, and the frame will be ready for the work of printing. The flanges A′ are so thin that no shadow will be formed, and it is only necessary to set the frame with its face reasonably toward the direction of the sun, when it may be left to print.

I order to hold the frames in proper position for printing without depending upon a box or other device to lean them against, I have shown a support consisting of a bent wire frame I, the ends of which turn in sockets J, which are fixed upon one side of the frame A. The opposite side of this support rests upon the floor or ground and will hold the printing-frame at any desired angle toward the sun. In order to hold this wire support and prevent its slipping away, I have shown a catch K, hinged upon the side of the frame A, so that it may be turned outward and hooked upon the support to retain it in place.

Another advantage obtained by this printing-frame is the superior pressure which appears to be brought upon the paper and negative, thus holding them, so that they will not slip with reference to each other when either portion of the holding-plate E is turned back for the purpose of inspecting the part of the proof which lies beneath it.

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

1. The photographic-printing frame consisting of metallic sides A, with the inwardly-turning flanges A′, and the inclined locking-slots B, with the lugs or projections *b*, substantially as and for the purpose herein described.

2. The frame A, having the slots and locking-lugs, in combination with the metallic pressure-plate E and the springs D, pivoted thereto, so that the ends of the springs will engage the slots in the sides of the frame and be locked therein, substantially as herein described.

3. The metallic plate made in sections with the adjacent edges meeting, in combination with the facing or covering of felt forming a hinge or flexible connection between the parts and the turned-over edges or flanges of the plates, whereby the flexible facing is held in place, substantially as herein described.

4. The pressure-plates E, held in sections, the re-enforcing bars F, extending across the backs of the sections, and the flexible facing with the turned-over flanges, whereby it is held in place, in combination with the springs having the center portion pivoted to the sections of the plate E, and the outer ends curved upward from the back of the plate, so that the springs may be turned clear of the re-enforcing strips F, substantially as herein described.

5. A photographic-printing frame consisting of the exterior slotted sides stamped from sheet metal and having the inwardly-turned flanges to support the negative and sensitive paper, in combination with the hinged metallic sectional pressure-plates fitting within the frame, and the springs pivoted thereto having their ends adapted to engage the slots and locking-points in the frames, substantially as herein described.

6. The flanged slotted metallic outer frame, the sectional metallic pressure-plate with the flexible front, and the locking or holding springs, together with the yoke or support hinged to the frame and the holding-latch engaging said yoke, substantially as herein described.

In witness whereof I have hereunto set my hand.

GEORGE A. JAMES.

Witnesses:
S. H. NOURSE,
H. C. LEE.