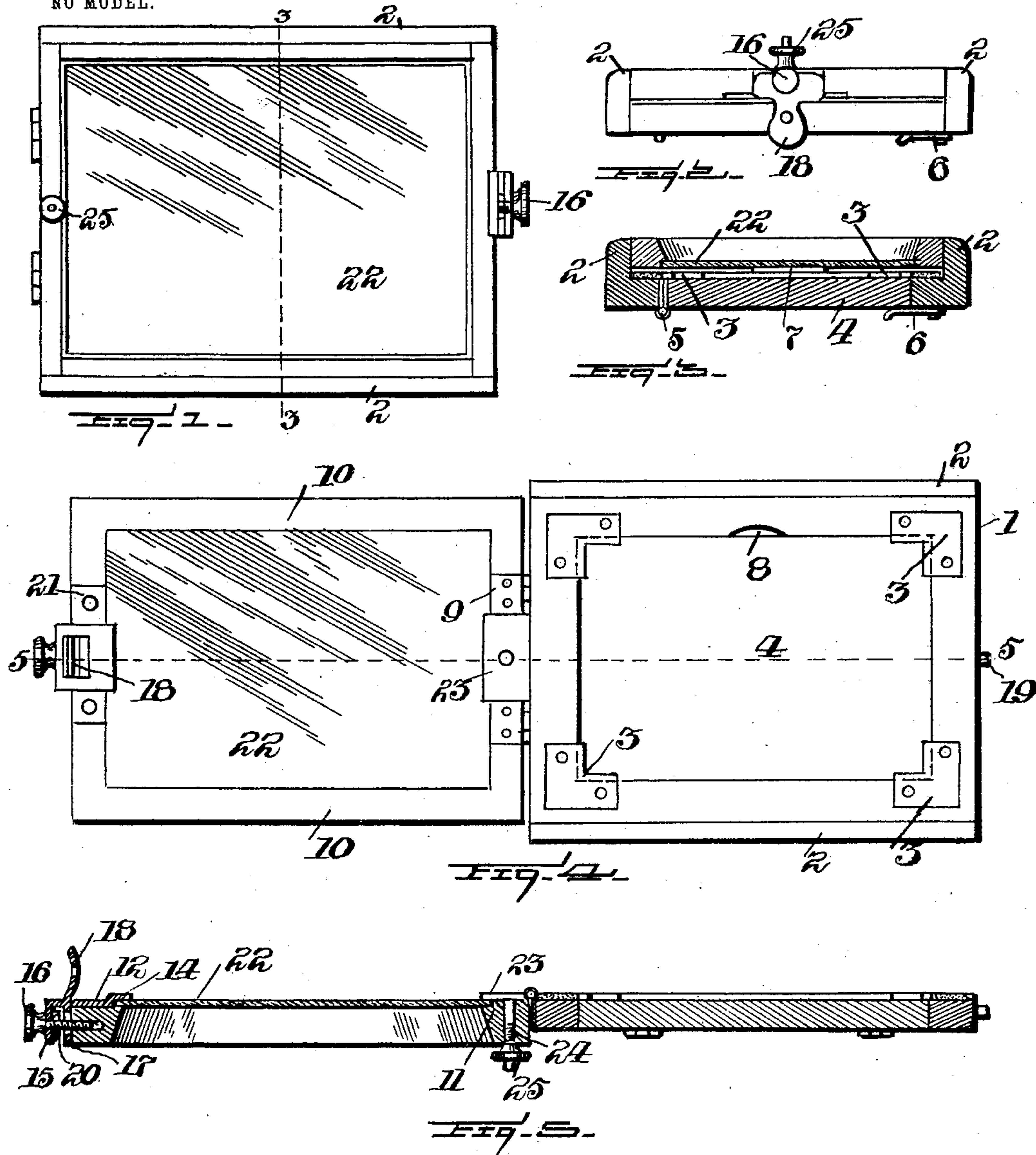


W. H. SMITH.
PHOTOGRAPHIC PRINTING FRAME.

APPLICATION FILED MAY 5, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

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PHOTOGRAPHIC-PRINTING FRAME.

SPECIFICATION forming part of Letters Patent No. 719,523, dated February 3, 1903.

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To all whom it may concern:

Be it known that I, WILLIAM H. SMITH, a citizen of the United States of America, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Photographic-Printing Frames, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in photographic-printing frames; and the invention has for its main object to provide means whereby a negative may be moved out of the printing position and the print inspected at any time during the printing process without danger of any displacement of the print.

A further object of the invention is to construct a frame wherein this is possible with either a plate or a film as a negative; furthermore, to provide means for holding the negative in position whether the same be a plate or a film.

25 With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

30 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

35 Figure 1 is a top plan view of my improved frame with the hinged negative-holder closed in position for printing. Fig. 2 is an end view of the same. Fig. 3 is a transverse vertical sectional view taken on the line 3 3 of Fig. 1. Fig. 4 is a plan view showing the hinged negative-holder opened. Fig. 5 is a central longitudinal sectional view taken on the line 5 5 of Fig. 4.

45 To put my invention into practice, I construct the frame 1 of suitable dimensions, and the side rails of which are provided with upwardly-extending flanges 2, projecting some distance above the upper face of the end rails of said frame. This frame is provided on its upper face, on each corner thereof, with angular-shaped plates or strips 3, projecting a slight distance into the opening of the frame in order to form a stop, as well as a rest, for the hinged

door 4. This door 4 is secured to the inner edge of one of the side rails by hinges 5 and is adapted to close the space within the frame 1 and forms a support for the print and holds said print in a stationary position by impinging the corners of the print between the door and the triangular-shaped plates or strips 3. The door 4 is held in position by one or more buttons 6, pivoted to the underneath face of one of the side rails of the frame 1, so that they may be moved around on their pivot-point into engagement with the underneath face of the door to hold the latter closed or swung around out of engagement with said under face to permit the opening of the door to insert the print or remove the same from within the frame. This door 4 may be provided on its inner face with a cushion 7, which may be composed of any suitable material—such as felt, cloth, or the like—and in order to form a neat fit of the negative-holder, which will hereinafter be described, upon the frame 1 it is preferable to also provide the cushioning material on the upper face of the rails comprising this frame. In order to permit the free opening of the door, the side rail of the frame adjacent to the unhinged edge of the door is preferably provided with a notched or cut-away portion 8 in order that the finger may be inserted for swinging the door open after the buttons have been moved around out of engagement with the underneath face of said door. Secured to one end of this frame 1, preferably by means of a pair of hinges 9, is the negative-holder, embodying the frame 10, the rails of which are rabbeted, as at 11, to receive the plate, whether this plate be in the form of a negative or in the form of an unprinted plate, which is necessarily used when the film constitutes the negative. Assuming that the negative is in the nature of a plate, I retain the same therein by securing means, a practical form of which I have shown in the present illustration and which I will now describe. This securing means embodies a plate 12, having an inwardly-extending flange 14 struck up or, in other words, lying above the plane of the plate and engaging the latter, as clearly shown in Fig. 5. This plate has an overhanging flange 15, which lies in front of the end of the frame 10 and receives therethrough

a set-screw 16, passing into the end rail of the frame through the small metal strip 17, which is countersunk in the end of the frame. This plate or strip 17 is constructed with an integral spring-haspl 18, which is apertured to receive the headed button or stud 19, carried on the end of the frame 1. In order that the plate 12 may be moved in or out, according to the direction in which the set-screw 16 is turned, I provide this screw with a collar 20, placed on the screw, so as to engage the inner face of the flange 15. The plate 12 is provided with beveled edges, which match with beveled edges carried by small plates 21, countersunk in the under face of the end rail of the frame 10, these plates 21 forming the guides within which the plate 12 is moved. When the negative being used is in the nature of a plate, no other securing means will be necessary other than herein described, as it will be observed that the one end of the plate 22 is engaged against one end of the frame, while the other end of said plate is engaged by the plate 12, with the flange 14 of the latter overlying the plate. Where, however, the negative is in the form of a film, it is always necessary to employ a plain glass plate, upon which the film is placed in order that it may be printed. In such case the plain glass plate will be placed in the same position as is shown for the negative 22, and the film will be placed on top of the plate, with the inner end thereof inserted under the overlying flange 14, which will impinge the same upon the plate, while the other end of this film will be engaged underneath a securing device at the other end of the frame. A practical form of this securing device is illustrated in the present drawings, consisting of a clamping-plate 23, which is carried by the end rail of the frame 10 between the hinges 9 and is secured to the set-screw 24, passing through the end rail of the frame 10 and carrying a thumb-nut 25, by means of which the clamp 23 may be loosened, so as to permit the insertion of the film, and then tightened after the film has been placed therein. When the negative-holding frame is closed upon the print-holding frame, it will be observed that the film will lie within the upwardly-extending flanges 2 inclosed therein, the spring-haspl 18 engaging the headed button or stud 19 and holding the negative-holding frame in the closed position. The print is readily inserted in its frame by turning the buttons 6 so that the door 4 is free to be opened on its hinges, and the print is then laid in position in the frame 1, the corners of the print lying upon the angular strips or plates 3, as will be readily apparent, and when the door 5 is closed and the buttons 6 turned into engagement with the under face of the door the latter is clamped securely upon the print for holding it in position. If during the printing process it is desired to inspect the print, the negative-holder is swung backward on its hinges, which may be readily done af-

ter the spring-haspl 18 has been disengaged from the headed stud or button 19, and the entire print is exposed to the view of the operator, the negative having been swung out of position. The print cannot be displaced during such inspection, since it is clamped between the door and the triangular corner-plates 3, carried by the frame 1. 70 75

It is a well-known fact that printing-frames employing doors made in sections, whereby one portion of the door can be swung outwardly and a portion of the print inspected, are objectionable, inasmuch as only a part of the print may be exposed for inspection at one time, and there is also danger of displacing the print, so that when the printing operation is again proceeded with the picture will be ruined. This danger is entirely obviated in my improved frame, as the entire print is exposed to inspection at the same time, yet is securely clamped, whereby the negative must of necessity when closed be in the same position as formerly. 80 85 90 95

While I have herein shown and described a form of means for securing the negatives in the negative-holder, yet I do not wish to be unduly limited to this securing means, as it will be observed that changes can readily be made therein so as to hold the negative, while such changes would be clearly within the scope of the present invention, which is to construct a frame with means for holding a print therein and for so securing the negative-holder to the printing-frame as will permit the said holder to be swung out of position and expose the entire print to view at any time which may be desired during the process of printing and to hold said print firmly in position, so that it may not be displaced during such inspection. 100 105

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is— 110

1. In a printing-frame, a print-holding frame having a hinged door, means for securing said door in a closed position, clamps carried by the frame at each corner of the door-opening to form stops for the door and between which and the door the print is held, a negative-holding frame hinged at one of its ends to the print-holding frame and adapted to close on top of the latter, and adjustable means carried by the other end of said negative-holding frame for securing the negative therein, substantially as described. 115 120

2. In a printing-frame, a print-holding frame having a hinged door, side rails carried by said frame, clamps carried by the frame at each corner of the door-opening forming stops for said door between which and the door the print is held, a negative-holding frame hinged to one end of the print-holding frame and adapted to fold on top of the latter, an adjustable plate mounted on the free end of the negative-holding frame and having a struck-up portion overlying the opening in said frame, means operating through said 125 130

plate and in the end rail of said frame to adjust said plate, and means carried by the free ends of the frames to secure the latter when closed one on top of the other, substantially as described.

5 3. A printing-frame embodying a print-holding frame, a door hinged to one of the side rails of the frame, stop-plates secured to said frame at each corner of the door-opening
10 and projecting over the said opening whereby the print is clamped between the stops and the door, a negative-holding frame hinged at one of its ends to the print-holding frame, an adjustable plate carried by the free end of the
15 negative-holding frame, said plate having one end overlying the opening in the frame to secure a negative within the frame, an overhanging flange carried by the plate, and a set-screw operating through said flange and in
20 the end rail of said frame for adjusting the plate, substantially as described.

4. A printing-frame embodying a print-holding frame, a door hinged to one of the side rails of the frame, stop-plates secured to
25 said frame at each corner of the door-opening and projecting over the said opening whereby the print is clamped between the stops and the door, a negative-holding frame hinged at one of its ends to the print-holding frame, an
30 adjustable plate carried by the free end of the negative-holding frame, said plate having one end overlying the opening in the frame to se-

cure a negative within the frame, an overhanging flange carried by the plate, a set-screw operating through said flange and in
35 the end rail of said frame for adjusting the plate, and adjustable means carried by the hinged end of said negative-holding frame for securing the negative therein, substantially as described.

40 5. In a printing-frame, the combination with a print-holding frame having a hinged door adapted when closed to lie within the frame, clamps carried on the upper face of the frame at each corner of the door-opening
45 and projecting over said opening whereby they act as stops for the door and clamp the print in position, means carried by said frame for securing the door in the closed position, a negative-holding frame hinged at one of its
50 ends to one end of the print-holding frame, adjustable means on the free end of said frame, and separate adjustable means on the hinged end of the frame for securing the negative therein, and means carried by the free
55 ends of the two frames for securing the same in the closed position, substantially as described.

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

WILLIAM H. SMITH.

Witnesses:

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E. E. POTTER.