

No. 612,504.

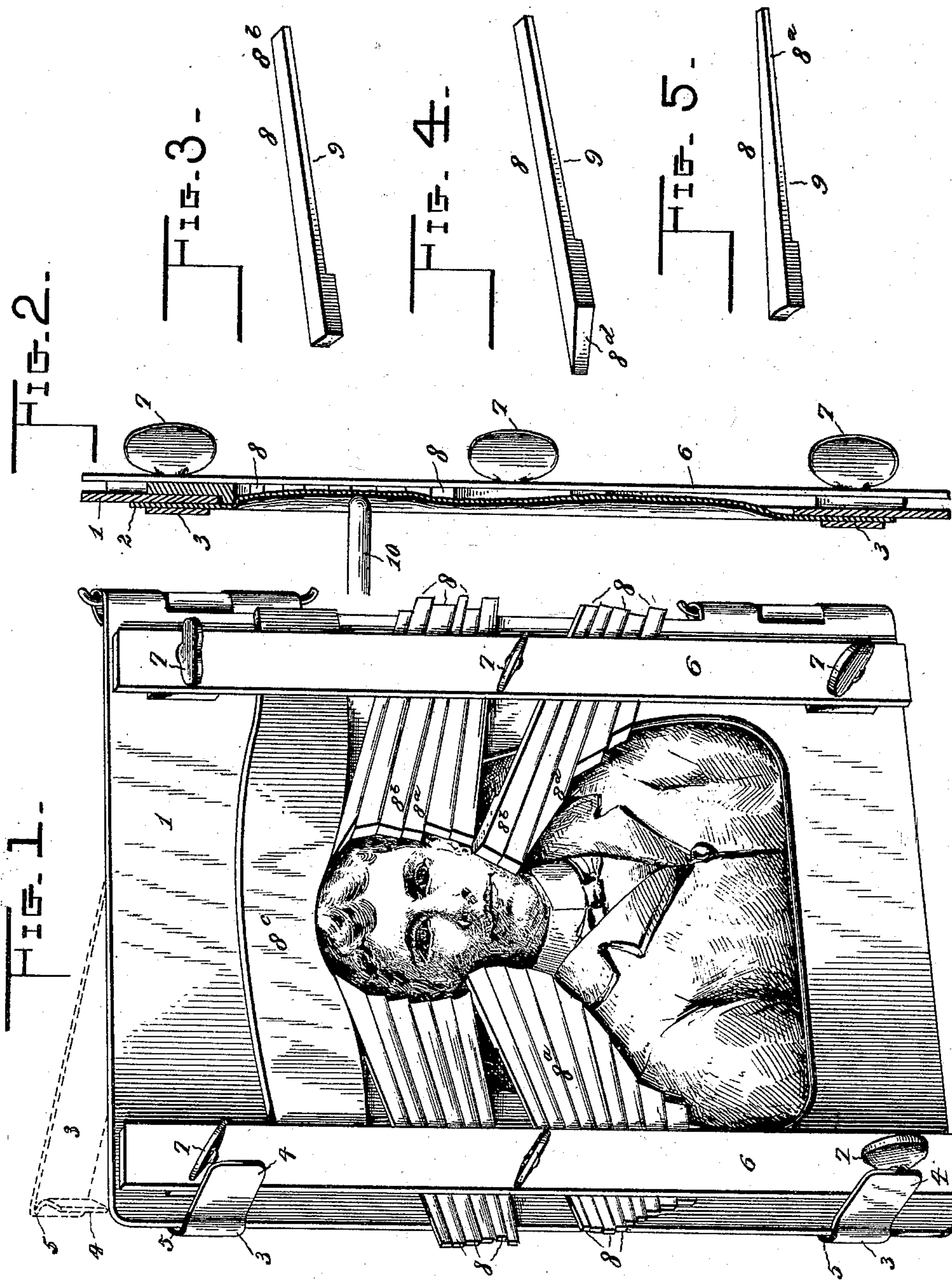
Patented Oct. 18, 1898.

J. C. OLIVER.

APPARATUS FOR PRODUCING PHOTOGRAPHS IN RELIEF.

(Application filed Jan. 24, 1898.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR PRODUCING PHOTOGRAPHS IN RELIEF.

SPECIFICATION forming part of Letters Patent No. 612,504, dated October 18, 1898.

Application filed January 24, 1898. Serial No. 667,768. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. OLIVER, a citizen of the United States, residing at Versailles, in the county of Darke and State of Ohio, have invented a new and useful Apparatus for Producing Photographs in Relief, of which the following is a specification.

My invention relates to apparatus for producing photographs in relief, and has for its object to provide a holding or forming frame or die having adjustable die sections or members adapted to be arranged to conform at their operative terminals or faces to the configuration or outline of the photographic image to avoid the necessity of constructing a special die or "mask" for each photograph which is to be embossed.

A further object in view is to provide a simple and efficient construction of holder and clamping devices, whereby the photograph may be securely maintained in operative position during the embossing operation.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of an apparatus embodying my invention, showing a photograph to be embossed arranged in the operative position therein and the die members adjusted to conform to the outline or configuration of the image, one of the clamping-arms being shown in dotted lines in its disengaged position. Fig. 2 is a longitudinal section of the same, showing the end of an embossing-tool arranged in operative relation with the rear surface of the photograph. Figs. 3, 4, and 5 are detached detail views of die members.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The photograph-holder includes a plate 1, in contact with the rear surface of which is adapted to be arranged a photograph card or mount 2 and having an opening through which the image or print is exposed, as will be seen by reference to Fig. 2, said plate carrying clamping-arms 3, hinged to the plate and having upturned yielding extremities 4,

provided with offsets 5, adapted to snap over the opposite edge of the plate, and thereby lock the photograph-card firmly in place. Also mounted upon the holder-plate for adjustment toward and from the plane of the front surface thereof are clamping bars or strips 6, adjusted by any suitable means, such as thumb-screws 7 or their equivalents, and interposed between these clamping bars or strips and the surface of the holder-plate are the members 8 of a sectional die, having the rear surfaces of their body portions flush with the rear surfaces of the holder-plate and having end faces intersecting said rear surfaces in abrupt marking-angles, which bear upon the surface of the photograph at the outline of the print thereon, said faces being of different transverse shapes and at different angles with relation to the side edges of the body portions to provide for arranging said faces accurately in registration with the outline of the print. Extending outwardly from the body portions of the die members are reduced tongues 9, adapted to be clamped by the means provided for holding the die members in place, said reduction being such as to allow the above-described body portions to extend rearwardly to the plane of the surface of a photograph clamped in contact with the rear surface of the holder-plate.

In the construction illustrated the die members are essentially of the same construction, except in so far as the relative positions or angles of the faces thereof are concerned, as hereinbefore described, with the one further difference that in order to facilitate the arrangement of the members I have found it desirable to longitudinally taper certain of them in width, as shown at 8^a, while others (indicated at 8^b) are parallel-sided. Also, the head die member, as shown at 8^c, may extend entirely across the frame and have a curved die-face; but obviously such a construction of head die member could be used only in connection with photographs having a print with a rounded upper line, whereas the separate approximately plane-faced die members having their faces arranged at different angles to their side edges can be adapted to register with the outline of any photograph-print. Also, as shown at 8^d, the die members may

have a plurality of die-faces, or the side edge of a die member may be utilized as a die-face, one of said faces being arranged at an angle to the other to simplify the operation of following the angular outline of a print; but with a moderate number of die members having their faces arranged in different positions with relation to their side edges or in different positions with relation to their longitudinal centers, and also by having some or all of the die members constructed with outwardly-convergent side edges to allow said members to be varied in relative position to correspondingly adjust their faces, the outline of a photograph-print may be accurately followed in setting up the die embodying the essential feature of my invention.

Having constructed the die as described, the unsupported portion of the photograph card or mount may be upset in the space between the die-faces by rubbing or working the rear surface of the card by means of a suitable upsetting-tool (shown at 10) until the proper projection of the embossed surface beyond the plane surface is accomplished.

An important advantage of the construction described resides in the fact that the die members, which may be of metal or any other practically - unyielding material, positively and firmly hold all portions of the surface of the photograph in a flat or plane condition during the operation of upsetting or embossing the portion between the die-faces, and hence when the operation is completed the line of demarcation between the embossed surface and the plane surface is sharp without any injury having been caused to the surface of the photograph. The angle between each of the die-faces and the lower surface of the body portion of the die member is preferably a right angle, whereby the die-face rises perpendicularly from the surface of the photograph, and hence in upsetting or embossing the portion of the photograph not held by the die members a portion of the surface of the photograph contiguous to said upset or embossed portion is not affected. Therefore it will be seen that by the construction described I have provided an unyielding die having a face which is adjustable as to contour to suit the configuration of a print, and hence in upsetting the exposed portion of a photograph I am enabled to work positively and by the application of a firm pressure without the risk of injury to the photograph by the yielding of the die-face. In practice the photograph-card may, if preferred, be moistened; but no other preparation of the card is necessary, and it is possible to satisfactorily upset the same without moistening, particularly when the extent to which the surface is to be upset is not excessive.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. A photograph-embossing apparatus having a sectional die comprising relatively adjustable members, substantially as specified.

2. A photograph-embossing apparatus having a die provided with an adjustable face adapted to register with the outline of an image, substantially as specified.

3. A photograph-embossing apparatus having a die provided with a face rising perpendicularly from the surface of an applied photograph, and adjustable to conform to the contour of an image, substantially as specified.

4. A photograph-embossing apparatus having a holder-plate, a sectional die comprising relatively adjustable die members having bearing-surfaces and perpendicularly-disposed faces for registration with the outline of an image, and means for securing the die members with their faces in their adjusted positions, substantially as specified.

5. A photograph-embossing apparatus having a holder-plate provided with clamping devices, and a sectional die having its members engaged by said clamping devices, and provided with bearing-surfaces, for contact with the surface of a photograph, and faces disposed at an angle to said bearing-surfaces, to register with the outline of an image, substantially as specified.

6. A photograph-embossing apparatus having a holder-plate provided with clamping devices, and a sectional die having independently-adjustable members engaged by said clamping devices, said members having die-faces for registration with the outline of an image, and being longitudinally tapered toward their outer ends, substantially as specified.

7. A photograph-embossing apparatus having a holder-plate provided with an opening for the exposure of an image, clamping bars or strips for adjustment toward and from the plane of the plate, means for securing said bars or strips at the desired adjustment, and a sectional die having its members engaged between the plane of the plate and said bars or strips, and having bearing-surfaces flush with the rear surface of the plate, and die-faces for registration with the outline of an image, substantially as specified.

8. A photograph-embossing apparatus having a holder-plate provided with an opening for the exposure of a portion of the surface of a photograph, clamping-arms mounted upon said plate for engaging a photograph, and a die mounted upon the plate and bearing upon a portion of the exposed surface of the photograph within the opening of the holder-plate, substantially as specified.

9. A photograph-embossing apparatus having a holder-plate provided with an opening through which a portion of the surface of a photograph may be exposed, clamping-arms hingedly mounted upon the plate to swing toward and from the plane of the rear surface

thereof, and provided with upturned extremi-
ties having offset seats for engagement with
the edges of the plate opposite to their hinges,
and a die mounted upon the holder-plate for
5 contact with a portion of the surface of a
photograph exposed through the opening
thereof, substantially as specified.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

JOHN C. OLIVER.

Witnesses:

J. G. STIERLE,
H. B. WARD.