No. 632,643. Patented Sept. 5, 1899.

J. N. CHOATE.

RETOUCHING FRAME.

(Application filed Oct. 31, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

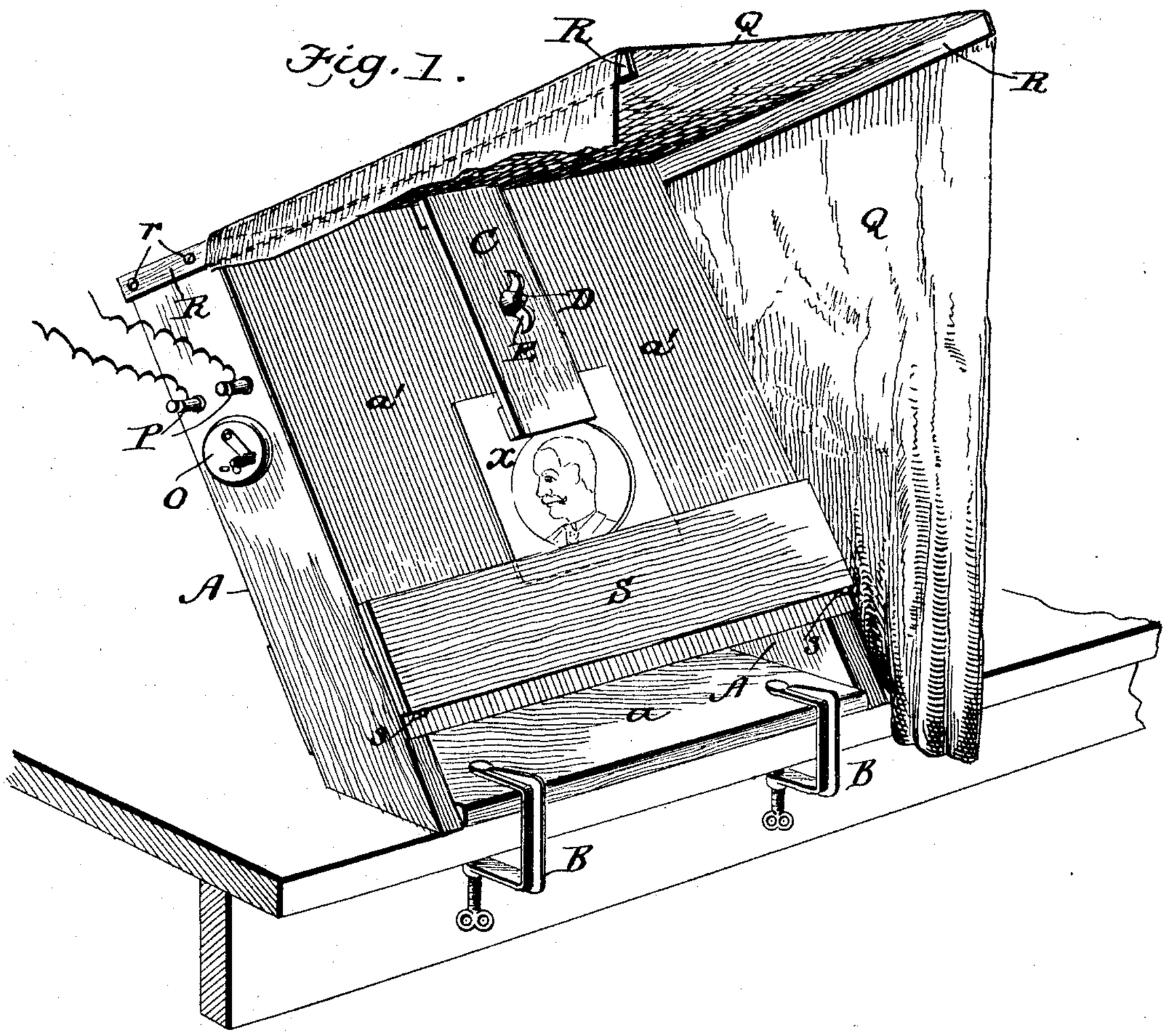

Fig. 2.

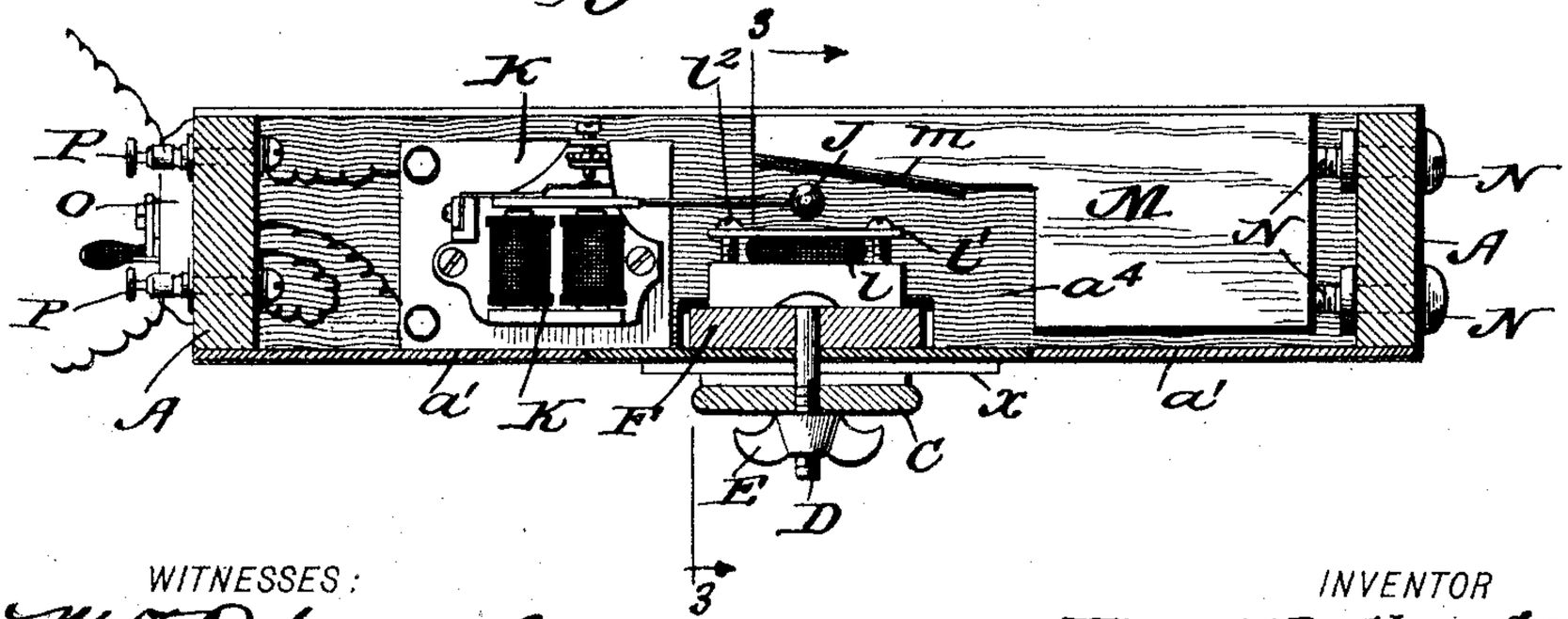

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Fig. 3.

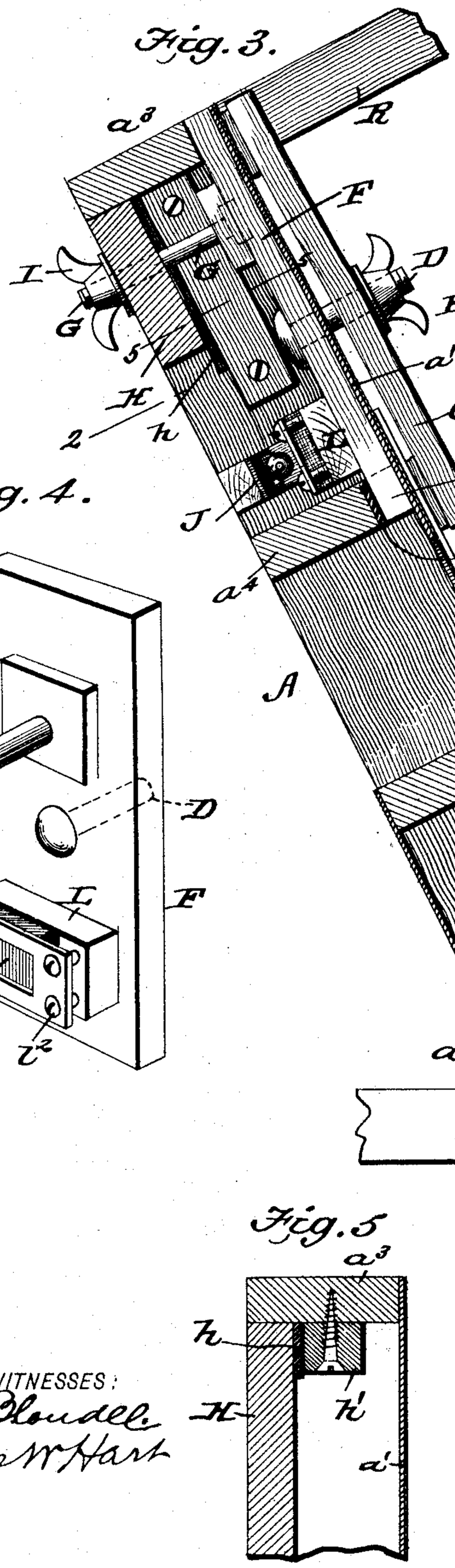

Fig. 4.

Fig. 5

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RETOUCHING-FRAME.

SPECIFICATION forming part of Letters Patent No. 632,643, dated September 5, 1899.

Application filed October 31, 1898. Serial No. 695,067. (No model.)

To all whom it may concern:

Be it known that I, JOHN N. CHOATE, residing at Carlisle, in the county of Cumberland and State of Pennsylvania, have made certain new and useful Improvements in Apparatus for Retouching Photographic Negatives, of which the following is a specification.

A superior artistic effect can be produced in tatooing or retouching negatives by means of vibrations imparted to the negative itself instead of the retouching-pencil or the hand of the operator holding the same. I have devised and obtained patents for improved apparatus for this purpose, and my present invention is an advance in the same direction.

The several novel features of construction and combination of parts constituting my invention are hereinafter described and illustrated in accompanying drawings, two sheets, in which—

Figure 1 is a perspective view showing the apparatus arranged for use. Fig. 2 is a horizontal section of the same on line 2 2 of Fig. 3. Fig. 3 is a vertical longitudinal section of the apparatus on line 3 3, Fig. 2. Fig. 4 is a perspective view of the "regulator" or bar carrying the anvil. Fig. 5 is a cross-section on line 5 5 of Fig. 3.

The box-like rectangular frame A, on which the negatives x to be retouched are supported and clamped by means hereinafter described, has one end a inclined to adapt it to serve as a bottom or base when the apparatus is in use. Such base a then resting on a table or shelf stands inclined, as shown in Figs. 1 and 2, and it is conveniently secured temporarily in such position by means of screw-clamps B, applied as shown. The face or front side of the frame is covered by stiff paper-board a' or a thin wooden board having a circular opening a^2, Fig. 3, at or about the middle. By preference the portion of said board a' having said opening a^2 is cut out from the main portion to reduce the resistance and that access may be readily had to the interior of frame A. The negative x which is to be retouched is held directly over this opening a^2 and supported independently or out of contact with the board a', so that vibrations may be imparted to it independently of the frame A. The means employed for this purpose is a clamp composed of a wooden piece or bar C and a screw-bolt D, having a wing or thumb-nut E. Said bolt G passes through a wooden piece or bar F, Figs. 2 and 3, arranged lengthwise of the frame A and flush with its face, being let into gains in the top bar a^3 and the parallel cross-bar a^4 of said frame.

By adjusting the thumb-nut E the negative x may be clamped or released at will.

The bar F is held adjustably in place by means of a screw-bolt F, Fig. 3, that passes through a cross-bar H, forming part of the back of the frame A, and has a thumb-nut I, as shown. The lower end of such bar or piece F is supported elastically, since it rests on a rubber strip a^5, laid in the gain in the cross-bar a^4. By adjusting the nut I the bolt G will cause the bar F to press more or less tightly on its end supports. Thus a sort of pressure-regulator is produced, which is important in function.

The cross-bar H rests at its ends on elastic strips h, Figs. 3 and 5, that lie upon cleats h', secured to the side bars of frame A. This provides an elastic bed for the piece F.

Vibrations are imparted to the clamp and the negative held by it by means of a hammer J, Fig. 2, which forms part of a magneto-electric apparatus K, resembling or similar to that commonly used for vibrating or continuously-ringing electric bells. The said apparatus K is attached by screws to the upper side of the transverse frame-bar a^4, and the hammer J projects parallel to the latter and beneath the regulator-bar F before described. The head of said hammer J strikes upon an elastic anvil L, whose degree of elasticity may be varied at will. The same consists of a rubber block l, attached to the under side of the aforesaid regulator piece or bar F and held by a metallic plate l', having adjusting-screws l^2, as shown. The center of said plate l' is cut out, and the hammer-head J strikes upon the portion of the rubber block l thus exposed. It is apparent that by adjusting the screws l^2 the degree of compression and density of the rubber l may be varied as required for the best effect in respect to vibration of the negative x.

Beneath or behind the hammer-head J is arranged an elastic and adjustable stop M, Fig. 2, the same consisting of a rubber or other soft strip m, secured to a wooden bar

that is made adjustable to vary the normal distance between it and the hammer-head J. For this latter purpose I prefer to adjust the bar M lengthwise and provide it with a slope or incline at the point where the aforesaid strip *m* is applied. The enlarged outer end of said bar M is held by two screws N, that pass through the side of frame A and serve to adjust it lengthwise, whereby the incline varies the distance the hammer-head can recoil at each stroke. By this means a very delicate regulation of the force and effect of the stroke may be produced, ranging from a gentle or merely perceptible tremor to a decided and sudden jar.

The electric circuit of the magneto-electric vibrator K includes a hand-switch and posts P, with clamp-screws on the outer side of the frame A, (see Figs. 1 and 2,) whose construction and arrangement have no peculiarity, and hence require no detailed description nor illustration.

By employing several battery-cells it is practicable to obtain a wide latitude of hammer-stroke and consequent vibration of the negative.

For the purpose of affording due support for a cloth Q, Fig. 1, which serves as a hood for excluding side light from the negative *x*, I employ two arms R, the same being secured to the upper end of the frame A, on the sides thereof, and projecting at right angles to its face. The cloth Q is hung loosely over these parallel bars or arms R, as shown. By removing one of the two screws *r* used to secure the said arms R the latter may be folded down alongside of and parallel to the sides of the box-frame A, and will thus be out of the way when it is required to stow away the apparatus or pack it for shipment.

A hand-rest S is provided in the form of a thin narrow board having end cleats. The same is supported when in use by screws *s*, fixed in the side bars of frame A. This hand-rest is to relieve the negative and vibrator of the weight of the hand.

What I claim is—

1. The combination with a suitable frame and a clamp adapted to support the negative out of contact with the adjacent portions of the frame, of a hammer for striking upon the clamp and thus imparting vibration to the same and to negative independently of the frame proper, substantially as shown and described.

2. The combination with the frame of a screw-clamp for holding the negative, an elastic block or anvil secured to said clamp, a hammer adapted to strike said anvil, and means for vibrating the hammer, substantially as described.

3. In an apparatus for retouching negatives, the combination with the frame on which the negative rests, of the means for adjusting or regulating the rigidity of the base-support for the negative, which comprises a bar resting on an elastic cushion and a screw-clamp for holding it in place, substantially as shown and described.

4. In an apparatus for retouching negatives, the combination with the frame on which the negative is supported, of a clamp securing the said negative, a bar arranged beneath said clamp and having an elastic bed, a clamp-screw securing the two parts together, and another screw which regulates the pressure of the under bar upon its bed, substantially as shown and described.

5. In an apparatus for retouching negatives, the combination with the frame for supporting the negative, of a vibrator arranged beneath the surface of the same, an anvil-carrying bar arranged over said vibrator, and means for regulating the pressure of such bar upon its seat or bed, substantially as shown and described.

6. In an apparatus for retouching negatives, an anvil for the vibrator or hammer which comprises an elastic block a metal plate having a cut-out portion through which said block is accessible, and screws passing through the plate and regulating the pressure of the same upon the block, substantially as shown and described.

7. In an apparatus for retouching negatives, the combination with a frame for supporting the negative, of a vibrator or hammer, an elastic anvil for the same, and a bar to which said anvil is attached, the same resting upon an elastic bed and a clamp for regulating the pressure of said bar upon the bed, substantially as shown and described.

8. In an apparatus for retouching negatives, the combination with the frame for supporting the negative, of a vibrator and an anvil for the same, and a back-stop which is adjustable, to regulate the throw of the hammer, substantially as shown and described.

9. In an apparatus for retouching negatives, the combination with the frame for supporting the negative, of the vibrator or hammer and an anvil therefor, an adjustable back-stop comprising an inclined surface which is adjustable for varying the distance between itself and the anvil, substantially as shown and described.

10. In an apparatus for retouching negatives, the combination with the frame for supporting the negative, of a vibrator or hammer, an anvil for the same, and the adjustable back-stop comprising a bar having an inclined surface on which said hammer strikes, and screws passing through the side of the frame for adjusting said bar endwise, substantially as shown and described.

11. In an apparatus for retouching negatives, the combination with the frame supporting the negative and having a central cut-out portion, of an electric vibrator arranged contiguously to said opening, an electric circuit

and switch, the latter arranged on the outer side of said frame, and a suitable anvil arranged substantially as shown and described.

12. In an apparatus for retouching negatives, the combination with the frame for supporting the negative, of a transverse bar arranged at the back of said frame, an elastic bed for said bar, an anvil-carrying bar having an elastic bed, and a clamp-screw securing the two bars together adjustably as to pressure, substantially as shown and described.

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