

A. S. JOHNSON.
Automatic Machines for Retouching Photographic
Negatives.

No. 149,405.

Patented April 7, 1874.

Fig. 1.

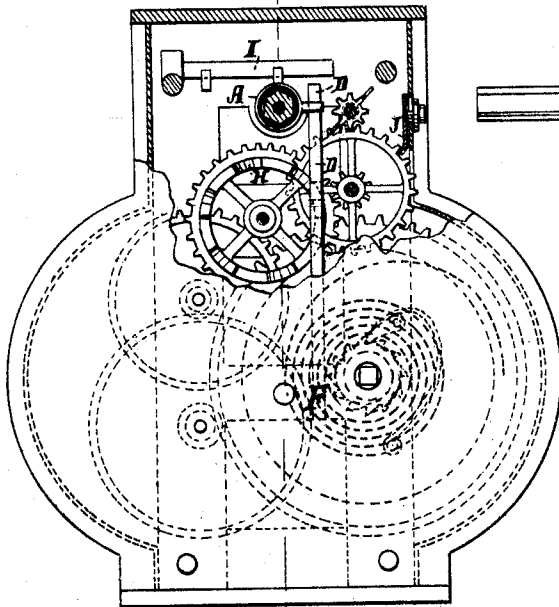


Fig. 2.

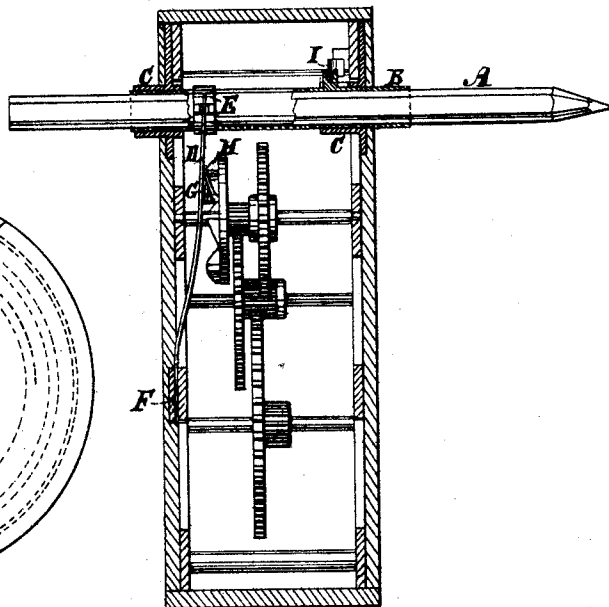
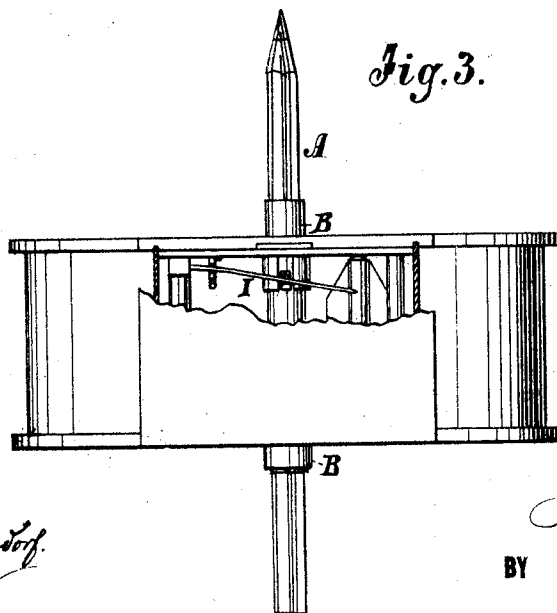


Fig. 3.



WITNESSES.

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ALFRED S. JOHNSON, OF WAUPUN, WISCONSIN.

IMPROVEMENT IN AUTOMATIC MACHINES FOR RETOUCHING PHOTOGRAPHIC NEGATIVES.

Specification forming part of Letters Patent No. **149,405**, dated April 7, 1874; application filed February 21, 1874.

To all whom it may concern:

Be it known that I, ALFRED S. JOHNSON, of Waupun, in the county of Fond du Lac and State of Wisconsin, have invented a new and Improved Automatic Machine for Retouching Photographic Negatives, of which the following is a specification:

My invention consists of automatic mechanism to be worked by spring power or other means, a pencil-holder, a cam or other equivalent device, and one or more springs, so combined and arranged that a reciprocating motion may be imparted to the pencil to cause it to strike blows on the negative with its point in quick succession, for the employment of mechanical means in substitution of the hand process always heretofore employed for this purpose.

In this example I have represented spring-actuated clock mechanism as a simple and convenient form of means for imparting the motions; but I do not limit myself to it, for any other equivalent method will answer.

Figure 1 is partly a front elevation and partly a sectional elevation of a machine contrived according to my invention. Fig. 2 is a sectional elevation, taken on the line *x x* of Fig. 1; and Fig. 3 is partly a top view and partly a horizontal section of the machine.

Similar letters of reference indicate corresponding parts.

A is the pencil, to which the reciprocating motion is to be given. B is a tubular holder, adapted to receive and hold the pencil and to impart to it the motion, the tube itself being worked forward and backward in suitable bearings C. D is a spring arm or lever, connected by its free end with the tube B by a collar, E, and attached at its other end to a support at F, said spring-arm having a lug, G, about midway between its ends, whereon a tappet-wheel, H, impelled by the clock-work

acts to throw the pencil back. I is another spring, for throwing the pencil forward.

The spring-arms give the pencil an elastic action, which is desirable for this kind of work. A spiral spring may be used instead of spring I, if desired. The effect will be the same.

Any substitute for the holding-tube may be used—for instance, it may be placed directly in the bearings B, and the springs may be connected by collars or other means directly attached.

The machine may rest on its base, as in the drawing, and work the pencil horizontally against the negative held by the hand or any other way, and it may be tilted to raise the point to lessen the force of the blow or lower the point for increasing the force, which, in the one case, will be effected by the gravity of the pencil retarding the spring, and in the other case by its accelerating the spring.

The spring-arm D may be used without the spring I, but I prefer to use them both. The tension of one or both of the springs may be varied by any suitable adjusting device for varying the force of the blows.

A holding pawl, J, may be used for preventing the machine from running when not required.

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

The combination of tubular holder B, spring-arm D, having midway lug G, tappet-wheel H, and spring I, all arranged in an automatic machine for retouching negatives, substantially as and for the purpose described.

ALFRED S. JOHNSON.

Witnesses:

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