F. MURAVOUR.

MACHINES FOR RETOUCHING PHOTOGRAPH NEGATIVES.

No. 177,874. Patented May 23, 1876.

Fig. 1.

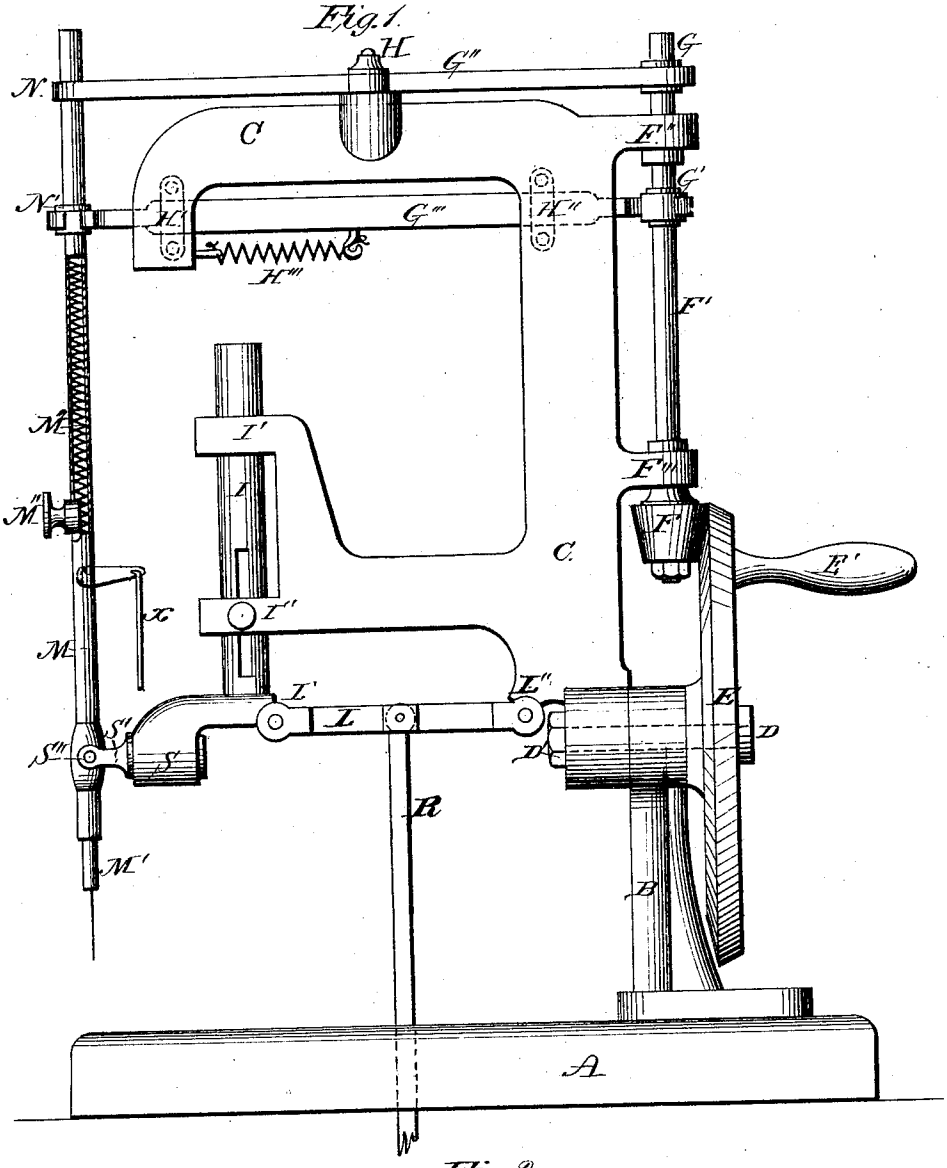


Fig. 2.

Fig. 3.

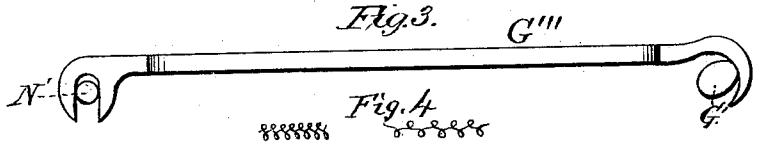
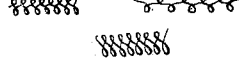


Fig. 4



Attest:

E. Myers

E. Fondaunt

Inventor:

F. Muravour

UNITED STATES PATENT OFFICE.

FLEURY MURAVOUR, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR RETOUCHING PHOTOGRAPH-NEGATIVES.

Specification forming part of Letters Patent No. **177,874**, dated May 23, 1876; application filed February 6, 1875.

To all whom it may concern:

Be it known that I, FLEURY MURAVOUR, of the city, county, and State of New York, have invented a new and useful Improvement in Machines for Retouching Photograph-Negatives, &c., of which the following is a specification:

My invention consists in constructing a machine for stippling and etching photograph-negatives, to relieve the artist of the tedious operation of performing the same by hand, and accomplishing the work more rapidly and at less expense.

The construction and operation of the various parts will be more fully described in the following specification:

Figure 1 is a side elevation of my machine. Figs. 2 and 3 are plan views of the forked lever and rod used for the same; and Fig. 4 shows the result produced by the point of the pencil.

A is a base or bed-plate, having an upright or stancheon, B, to which the frame C is pivoted by means of a bolt or stud, D, which is provided with a nut, D′. The frame C turns on said stud to allow the operator to adjust the machine at any desired angle, so as to have the pencil or brush correspond with the various positions of the work operated upon, and is clamped in such position by means of the nut D′. The said stud also forms a bearing for the bevel friction driving-wheel E, which is operated by the handle E′. The said wheel engages with and operates a bevel friction-pinion, F, attached to the shaft F′, which has its bearings at F″ F‴, attached to the frame C. The shaft F′ has attached to it two cams, G G′, which engage with and operate the forked lever G″ and the forked rod G‴. The lever G″ is pivoted to the frame C at H, and vibrates about the pivot transversely. The rod G‴ has its bearings at H′ H″, through which it reciprocates longitudinally. These movements are produced by the cams operating between the forks of the lever and rod, as shown in Figs. 2 and 3. The fork of the rod G‴ is kept in contact with the cam by the spring H‴. I is a rod sliding in guides I′ I″, and pivoted to the arm L at L′, which arm is also pivoted to the frame C at L″, and is raised or lowered by means of the rod R, operated by the foot. The rod I is clamped at any height by a screw, I″. At the lower end of the rod I is the socket S, in which turns the pivot S′, forked at its outer end, in which fork is pivoted at S″ the rod or tube M. The pivots S, S′, and S″ thus form a universal joint. The tube M receives a pencil-holder, M′, which is held in place by a thumb-screw, M″, which moves in a slot or guide in the tube M, and is for the purpose of raising and lowering the pencil and fastening the same at any height. The rod M′ is constructed at the lower end to receive the pencil, which may be of any desired construction, various designs being now in use for that purpose. The tube M is provided with a collar, N′, which engages with a fork in the rod G‴, by which it is made to oscillate in one direction while the fork of the lever G″ at N causes it to oscillate in a direction at right angles to the other. These two motions cause the pencil to describe a continuous figure 8, as shown at Fig. 4, which may be made fine or coarse, as desired, by means of the rod R operated by the foot, which raises or lowers the collar or sleeve S, and with it the tube M and pencil M′. When raised, the vibration of the pencil is increased; when lowered it is decreased, thus giving the operator full control of the pencil, changing the vibration at will.

The vibrating rod or tube also contains a spring, M‴, which exerts its force upon the pencil-holder M′, which may be raised from the work as may be desired by means of a lever, X.

I prefer to construct the machine of iron and steel, but it may be made of any suitable material, and may be operated by any simple motive power desired.

I do not wish to confine myself to the construction of the various parts, as it can be varied without departing from the principle of my invention; but

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

1. The vibrating rod M, pencil-holder M′, thumb-screw M″, and universal joint S S′ S″, substantially as and for the purpose set forth.

2. In combination with the vibrating rod

and universal joint, the rod I, arm L, and rod R, substantially as and for the purpose set forth.

3. The frame C, in combination with the pivot D and stand B, as and for the purpose shown and described.

4. The combination of the bevel-wheel E, pinion F, shaft F′, cams G and G′, lever G″, rod G‴, and vibrating rod M, substantially as and for the purpose shown and described.

F. MURAVOUR.

Witnesses:
F. MYERS,
E. FORDEUX.