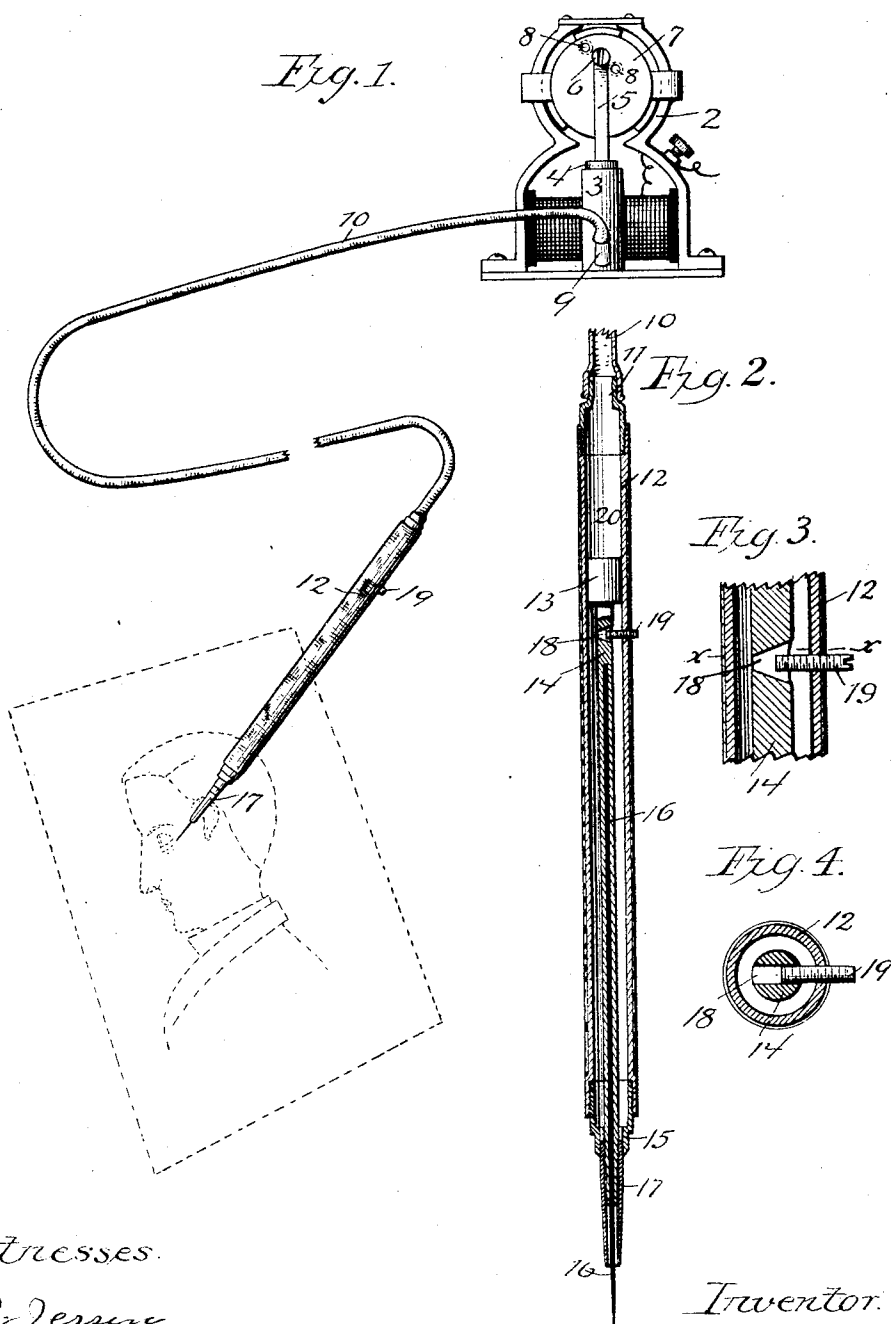


(No Model.)

A. E. PECK.
PHOTOGRAPHIC RETOUCHER.

No. 536,291.

Patented Mar. 26, 1895.



Witnesses.

J. J. Jerns.
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UNITED STATES PATENT OFFICE.

ARTHUR E. PECK, OF MINNEAPOLIS, MINNESOTA.

PHOTOGRAPHIC RETOUCHER.

SPECIFICATION forming part of Letters Patent No. 536,291, dated March 26, 1895.

Application filed March 20, 1894. Serial No. 504,383. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR E. PECK, of Minneapolis, Hennepin county, State of Minnesota, have invented certain new and useful
5 Improvements in Photographic Retouchers, of which the following is a specification.

My invention relates to means for retouching photograph negatives, and the object of my invention is to provide mechanical means
10 for reciprocating a retouching pencil, whereby a stippled effect may be obtained.

To this end my invention consists, in the combination with a barrel or handle part, of a piston arranged therein, the piston rod
15 whereto the pencil is attached, and means for reciprocating said piston and therewith said pencil, whereby as the barrel or handle is held in the hand steadily the pencil will be reciprocated and strike against the surface of
20 the negative, the blow being light, short and rapid.

My invention further consists in details of construction and in combinations all as hereinafter described and particularly pointed out
25 in the claims.

The invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a view showing apparatus embodying my invention. Fig. 2 is an enlarged longitudinal section of the retoucher. Fig. 3
30 is a still further enlarged longitudinal sectional detail, showing means for regulating the length of the stroke. Fig. 4 is a cross
35 section on the line $x-x$ of Fig. 3.

As shown in the drawings, I preferably employ a small electric motor 2 for driving the small air pump, by which the retoucher pencil is operated. The air pump consists in the
40 short cylinder 3, the piston 4 adapted to work therein, and from which the connecting rod 5 extends to a crank pin 6 provided on the crank or crank-disk 7, which is fixed to the armature shaft of the motor. I preferably
45 provide three pin holes 8 in the disk at varying distances from the center thereof, in order that the stroke of the piston may be regulated. From the nipple 9 at the bottom of the cylinder a flexible pipe 10 leads to an attachment 11
50 on the upper end of the hollow handle holder or barrel 12 of the retoucher proper. This barrel is about the size and length of an ordi-

nary pencil, and owing to the lightness of the metal which is used in making the same is very little heavier than a pencil.

13 represents a piston which fits nicely in the smooth bored upper end of the barrel, the joint between the parts being air tight. From the piston a piston-rod 14 extends down through a central guide nipple or sleeve 15
55 provided in the lower end of the barrel. The greater part of the piston rod is hollow so as to receive a long lead 16, the lower end of which is nicely sharpened. The lower end of the piston rod or lead carrier is tapered and
60 split so that upon screwing on the tapered sleeve 17 the pencil will be firmly grasped and held therein. The opening within the sleeve 15 is preferably large enough to receive the upper end of the clamping sleeve 17, which
65 reciprocates therein. The construction of this part may, however, be varied at pleasure. In the solid part of the piston rod or lead carrier, I provide the V-shaped or tapered hole 18, and opposite this and in the outer wall of the barrel I arrange the small set screw 19. By screwing
70 this in or out the distance between the end of the screw and the upper and lower walls of the hole 18 will be decreased or increased, whereby the length of the stroke of the piston
75 rod and the lead will be regulated.

It will be seen that the rapid rotation of the motor armature and the rapid reciprocation of the pump piston will cause an equally rapid backward and forward thrust or suction
80 of the small body or column of air contained in the pump, in the pipe and in the chamber 20 in the upper part of the barrel or handle, thereby forcing down or drawing back the piston and the lead carrier. The rapidity of
85 the stroke may be regulated by the speed of the pump and the lightness of the stroke either by the position of the hand of the person holding the instrument or by decreasing the stroke of the pump piston.

Each stroke of the pencil when held close to a negative or plate will imprint a small dot thereon, and as the instrument is moved about over the plate a series of distinct dots will be made thereon, producing the stippled effect
90 so much desired as being a close resemblance to the actual appearance of the skin.

An advantage of my device is that all of the usual up and down movements of the

hand of the operator are dispensed with, it being only necessary to hold the pencil steadily with the pencil point just out of contact with the surface of the plate to be acted upon.
5 Further, the speed of the instrument may be regulated as desired and also the length and force of the stroke may be changed at will. It is obvious that the piston of my retoucher may be operated in other ways than by the
10 pneumatic means shown; further, that the means for operating the small air pump may be readily altered; and further, that the various regulating devices may be replaced by different though equally effective means to
15 the same end, and I therefore do not confine my invention to the specific constructions shown and described.

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

1. In a photographic retoucher, the combination of the barrel or handle, the piston having secured to it so as to reciprocate therewith the hollow piston rod to receive the lead,
25 and means for creating an air pressure and suction in alternation for reciprocating the piston and its attached pencil carrying rod,

substantially as and for the purposes described.

2. In a photographic retoucher, the combination of the barrel or handle, the piston reciprocable in said barrel, the hollow piston rod to receive a lead, and a clamp for securing said lead in various adjustments in the piston rod, said clamp being attached to the
35 piston rod to reciprocate therewith, substantially as and for the purposes described.

3. In a photographic retoucher, the combination with the barrel or handle, of the piston and its attached rod reciprocable in the barrel, of means for adjustably limiting and controlling the length of reciprocation of the piston and its rod, said means consisting of a tapered hole formed in the piston rod and an adjustable screw passing through the barrel
45 and entering said hole, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 17th day of March, A. D. 1894.

ARTHUR E. PECK.

In presence of—

C. G. HAWLEY,
M. E. GOOLEY.