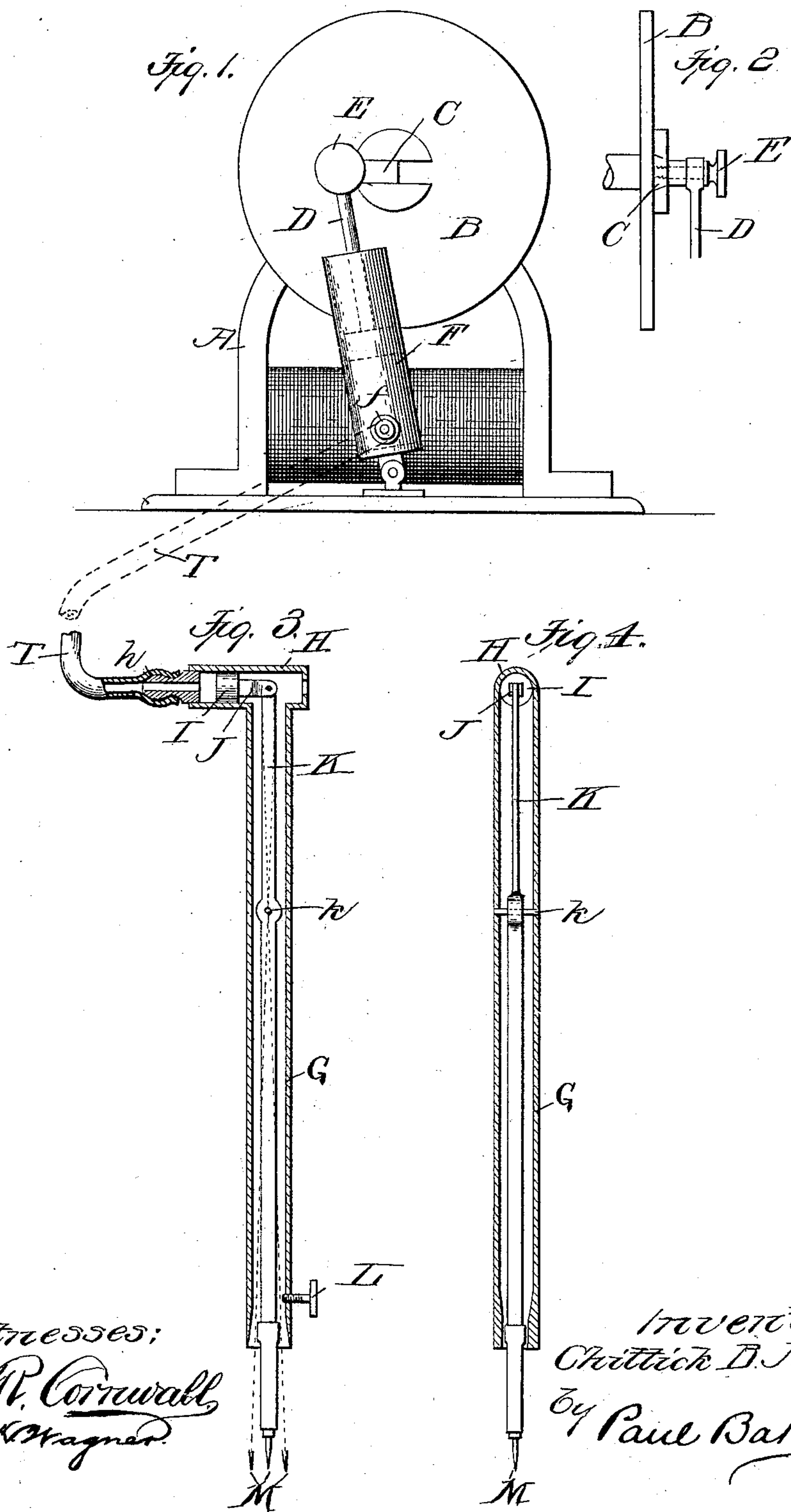


(No Model.)

C. B. MORTLAND.
PHOTOGRAPHIC RETOUCHER.

No. 544,681.

Patented Aug. 20, 1895.



Witnesses:
J. R. Cornwall
Hugh H. Wagner

Inventor
Chittick B. Mortland
by *Paul Bakewell*
his atty.

UNITED STATES PATENT OFFICE.

CHITTICK B. MORTLAND, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF
TO JASON C. SOMERVILLE, OF SAME PLACE.

PHOTOGRAPHIC RETOUCHER.

SPECIFICATION forming part of Letters Patent No. 544,681, dated August 20, 1895.

Application filed April 23, 1895. Serial No. 546,895. (No model.)

To all whom it may concern:

Be it known that I, CHITTICK B. MORTLAND, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Photographic Retouchers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a front elevational view of the motor. Fig. 2 is a side elevational view of the motor-wheel, showing the manner of adjusting the stroke of the piston. Fig. 3 is a sectional view of the pencil; and Fig. 4 is a similar view of the pencil, taken at right angles to the line of section of Fig. 3.

This invention relates to a new and useful improvement in photographic retouchers of that class shown and described in United States Letters Patent granted to Arthur E. Peck on March 26, 1895, No. 536,291.

In the Peck patent above referred to the pencil is carried in the hollow end of a reciprocating piston, above which air was forced under pressure and withdrawn by a suitable motor, causing the piston and its carried pencil to reciprocate. In this manner a stippling effect can be produced on the photographic negative.

My invention contemplates the use of air as a power medium, which air is forced in behind and withdrawn from a piston, which piston imparts an oscillating movement to a pivoted pencil-carrying rod, and in this manner I can not only produce a stippling effect, but also a stroke. The production of both these strokes in a single instrument is of great advantage, as the operator can accommodate the tool to different classes of work by simply turning it a quarter of a revolution in his hand.

In the drawings, A indicates a motor, (shown as an electric motor,) the fly-wheel B of which is formed with a transversely-disposed dovetail or T groove, in which is slidingly mounted a block C. The piston-rod D is mounted on this block, and the whole is adjusted toward or from the axis of the wheel by a binding-screw E, which locks the block in place,

but permits free movement of the piston-rod thereon.

F indicates a cylinder which is pivoted to the base of the motor-stand, in which cylinder works a piston-head on rod D. Leading from the lower end of the piston is a nipple *f*, to which is attached a flexible pipe T, in the other end of which the nipple on the pencil is inserted. As the piston reciprocates in cylinder F it forces the air through the pipe in its downward movement, and as the piston rises it draws the air back or after it.

G indicates the pencil, on the upper end of which is arranged a cylinder H, in which reciprocates a piston I, preferably at right angles to the pencil. A nipple *h* is arranged at one end of the cylinder, to which the flexible pipe T from cylinder F is connected.

Extending from the piston I is a rod or projection J, to which is pivotally connected the pencil-carrying rod K.

The pencil-carrying rod is pivoted in the pencil-shell, as at *k*, in the outer end of which rod is received the pencil-point M, secured thereto or therein in any suitable manner.

To adjust the stroke of the pencil-carrying rod, I mount in the shell at some convenient point an abutting-screw L, whose function and operation are well understood. I also prefer to thicken the metal of the lower end of the shell to guide the lower end of the pencil-carrying rod in its oscillations.

If it is desired to give great force to the strokes of the pencil, the pivotal point of the piston-rod D is moved away from the axis of wheel B, which will give to the piston in cylinder F a long stroke. An adjustment in the opposite direction will cause the piston to make a shorter and much lighter stroke. When using the pencil for stippling, it is held so that the oscillations of the pencil-carrying rod are vertically disposed.

When it is desired to make strokes with the pencil, it is held on its side, as shown in Fig. 3, the length of the strokes being adjusted by screw L.

I am aware that many minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and

described without in the least departing from the nature and principle of my invention.

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

1. The combination with a shell, of a cylinder arranged at one end thereof and at an angle to said shell, a pencil carrying rod pivoted in the shell and connected to the piston, and means for reciprocating the piston, which piston, in turn, oscillates the pencil carrying rod; substantially as described.

2. The combination with a shell, of a cylinder arranged at one end thereof and at an angle to said shell, a pencil carrying rod pivoted in the shell and connected to the piston, and an adjustable screw or bolt mounted in the shell for limiting the oscillations of the pencil carrying rod; substantially as described.

3. In a photographic retoucher, the combination with a suitable pump which creates an air pressure and suction, of a flexible tube leading from said pump, and a retouching pencil attached to the end of the flexible tube, said pencil comprising a shell, an oscillatory pencil-carrying rod pivotally mounted in the shell, a cylinder arranged at one end of the shell and at an angle thereto, to the end of which cylinder the tube is connected, and a piston reciprocally mounted in said cylinder

and connected to the pencil-carrying rod; substantially as described.

4. The combination with a shell, of a cylinder arranged at one end thereof, a pencil-carrying rod pivoted in the shell and connected to the piston, and means for adjusting the oscillations of said rod; substantially as described.

5. The combination with a shell, which is formed with thickened side walls at one end, an oscillatory pencil-carrying rod mounted in the shell and protruding between said thickened walls, and means for oscillating said rod; substantially as described.

6. The combination with a shell, of a cylinder arranged at one end thereof and at an angle thereto, a nipple on one end of the cylinder, a piston in the cylinder, a pencil-carrying rod pivoted in the shell and operated by the piston, and means for adjusting the oscillations of the pencil-carrying rod; substantially as described.

In testimony whereof I hereunto affix my signature, in presence of two witnesses, this 17th day of April, 1895.

CHITTICK B. MORTLAND.

Witnesses:

F. R. CORNWALL,
HUGH K. WAGNER.