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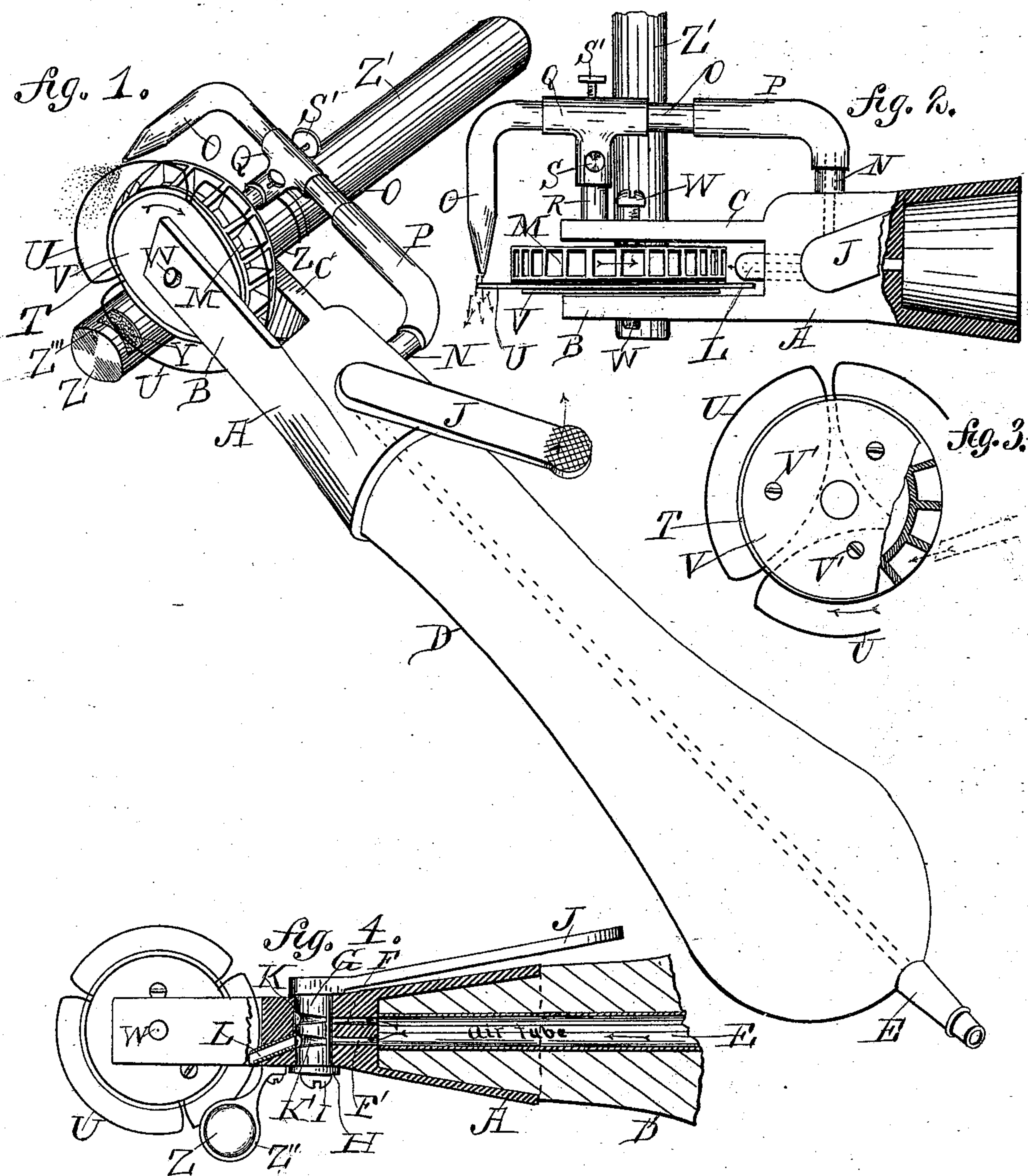
2 Sheets—Sheet 1.

J. S. WERTSBAUGHER & G. H. McCUNE.

ROTARY AIR BRUSH.

No. 506,450.

Patented Oct. 10, 1893.



Judson S. Wertsbauger,
and George H. McCune

INVENTORS;

WITNESSES:

L. Schaeffer.
W. A. Richison.

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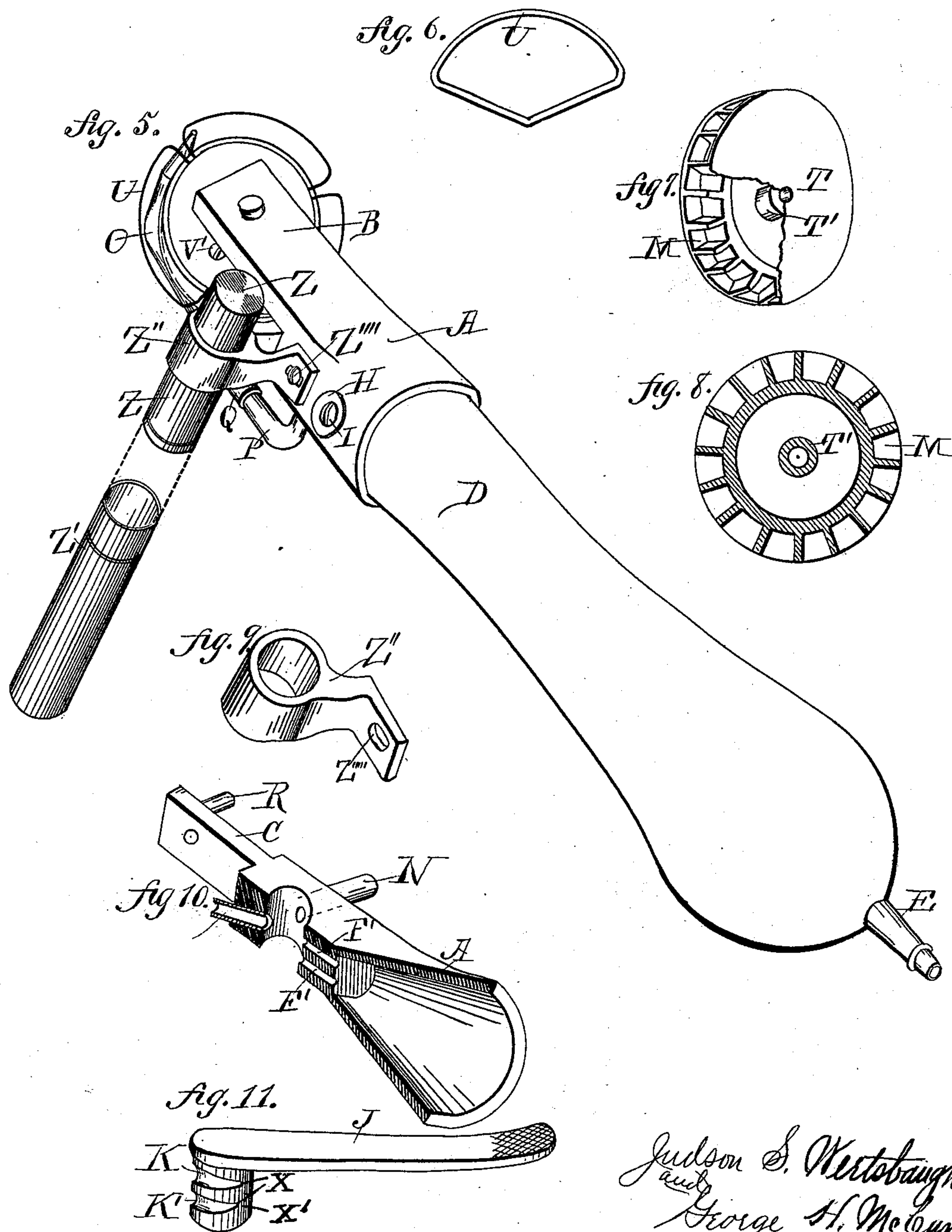
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UNITED STATES PATENT OFFICE.

JUDSON S. WERTSBAUGHER AND GEORGE H. McCUNE, OF FORT WAYNE,
INDIANA.

ROTARY AIR-BRUSH.

SPECIFICATION forming part of Letters Patent No. 506,450, dated October 10, 1893.

Application filed August 2, 1893. Serial No. 482,151. (No model.)

To all whom it may concern:

Be it known that we, JUDSON S. WERTSBAUGHER and GEORGE H. McCUNE, citizens of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented a new and useful Improvement in Rotary Air-Brushes, which are used in making pictures of persons, such as enlarging photos, &c., of which the following is a specification.

The objects of our invention are to construct a cheap, simple and durable air brush, and one that is not likely to get out of order. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1, is a perspective view of a complete brush. Fig. 2, is an edge view of a brush showing handle removed and the shank in section. Fig. 3, is a detail view of ink wheel. Fig. 4, is a section of the shank, and detail of the air tubes. Fig. 5, is a perspective view of a complete brush showing an opposite side from Fig. 1. Figs. 6, 7 and 8 are detail views of the ink wheel. Fig. 9, is a view of the ink tube holder. Fig. 10, is a section of a part of the shank showing the air passages, and Fig. 11, is a view of the air valve.

Similar letters refer to similar parts throughout the several views.

The shank A is made bifurcated at one end having prongs B and C, between which the ink wheel is journaled; as shown in Figs. 1, 2, and 5. The other end of the shank is rounded and made hollow so as to receive the handle D. The handle contains a small tube E which projects through the outer end of the handle and extends up against the inside of the shank, registering over two small holes or air passages F F' which lead to the air valve G, most clearly shown in Fig. 4. The said air valve is made round and passing through the shank it is held in its position by a washer H and screw I. The valve is made movable in its position by the handle or lever J which extends outward toward the handle D and parallel therewith. The outer end of the said le-

ver J is checked and made suitable to be controlled by the thumb while the brush is held in the hand in use. On the body of the valve G there are two grooves K K', which are cut tapering, or wider at one end than at the other, the said grooves commencing very small at a point marked X and widening as they extend around the said body, but the said grooves do not extend entirely around the said body, as the smooth strip marked X' intervenes to prevent the ends of the grooves from meeting and also closes the inner passages F F' when the lever is resting in the closed position shown in Fig. 4, in which position the direction of said lever is parallel with the shank and handle. When the lever is turned outward as indicated by the arrow in Fig. 1, the grooves come around to the openings F F'. The outlet of the air is increased as the lever is turned outward, caused by the widening of the grooves K K'. The air passage F is delivering air to the ink spray, and the outlet F' delivers air to the tube L which causes the air wheel to revolve. The tube L projects from between the prongs B and C, at an angle so as to strike the pockets M as indicated by the dotted arrow in Fig. 3, causing the wheel to revolve as indicated by the solid arrow in said figure. The air passing through the outlet F and groove K goes out through a small tube N which is secured in the shank on the top side of the said shank as shown in Figs. 1 and 2. The air passes from the tube N into the tube O as shown in Figs. 1 and 2. The tube O is held firmly in its position by a connection Q, the said connection Q is held to a stud R by set screw S, and a similar set screw S' holds the tube O firmly in the said connection Q, all as shown in Figs. 1 and 2. The stud R and pipe N are cast or otherwise secured to the upper side of the shank A, and the outlet end of the tube O is pointed so as to reduce the exhaust air to a very small jet.

What we shall term the ink wheel comprises the power-wheel T, having parallel circular sides secured upon the hub T', and buckets M disposed peripherally between the said circular sides; a circular sectional wire rim

U concentric with the power-wheel and a disk or washer V to which the sectional rim is soldered or otherwise secured and which is itself secured by screws V' to one side of the power wheel. The ink wheel is journaled, between the prongs B and C, by a screw shaft W, and the ink wire U is made to run close to the air jet from the tube O, and to draw or rub the sponge Y, most clearly shown in Fig. 1. The ink tube Z is made hollow and in two parts, the end Z fitting into the holder Z'' so that the slot Z''' will register in line with the ink wheel, all as shown in Figs. 1 and 5. The cap Z' is removable for convenience in filling. The tube holder Z'' is secured to the shank by a set screw Z'''' passing through the slot Z'''''. A small soft sponge Y is inserted in the lower end of the ink tube so as to fill up the slot Z''' and to prevent the ink from running out too freely.

The operation of our invention is as follows: The ink tube is charged or loaded with ink, by removing the cap Z'; after filling, the cap Z' is replaced thus closing the ink-tube. The air is applied to the brush from some suitable blower or pump by attaching a hose to the end of the tube E, the brush is held in the right hand with the prong B on the under side and held next to the paper, the air jet from the tube O pointing directly at the paper. By turning the valve lever J outward the air at once begins to flow through the tube O striking the wire rim U, and air at the same time flows out at the tube L against the buckets of the wheel T causing it to revolve rapidly in the direction indicated by the arrow in Fig. 1. By the wheel revolving the wire rim U is drawn through the sponge in the slot in the lower end of the ink tube, thereby gathering a small deposit of ink on the wire and when said wire comes around under the strong blast of air from the pipe O the ink is blown off in a fine mist against the paper; the amount of the mist varying according to the amount of air turned on by the valve J.

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

1. In a device of the class described, the combination of the power wheel journaled to rotate in bearings, an ink or paint supply, a rim carried by the power wheel and adapted to receive ink from the ink-supply, and an air-tube adapted to discharge against the rim, substantially as described.

2. In a device of the class described, the combination of the handle, the power wheel journaled to rotate in bearings on the handle, an ink-supply, a rim carried by the power wheel and adapted to receive ink from the ink supply, an air tube adapted to discharge a current of air to drive the power wheel, and a second air tube adapted to discharge a current of air against the rim, substantially as described.

3. In a device of the class described, the

combination of the handle, a power wheel journaled in bearings on the handle, an ink-supply, a rim carried by the power wheel and adapted to receive ink from the ink supply, a main air tube adapted to discharge a jet of air against the power wheel to drive the same, a branch air tube leading from the main air tube and adapted to discharge a jet of air against the rim, and a valve and an operating lever therefor located at the junction of the main and branch air tube to regulate the flow of air through both, substantially as described.

4. In a device of the class described, the combination of the power wheel journaled to rotate in bearings, an ink supply secured to the handle, a rim carried by the power wheel and adapted to receive ink from the ink supply, an air tube adapted to deliver a jet of air against the power wheel to drive the same, and a second air tube adapted to deliver a jet of air against the rim, substantially as described.

5. In a device of the class described, the combination of the handle, a power wheel journaled in bearings in the handle, a rim carried by the power wheel, an ink supply tube secured to the handle and having a slot or opening on the side adjacent the rim, a sponge in the opening adapted to receive ink from the ink supply tube and to transfer the same to the rim when the latter is rotated, an air tube adapted to discharge a jet of air against the power wheel to drive the same and a second air tube adapted to discharge a jet of air against the rim, substantially as described.

6. In a device of the class described, the combination of the power wheel, a wire rim carried by the power wheel, means for furnishing a constant supply of ink to the wire rim, and an air tube adapted to discharge a jet of air against the rim to drive the ink therefrom, substantially as described.

7. In a device of the class described, the combination of the power wheel provided with buckets to adapt it to be driven by a jet of air, an extension rim U carried by the power wheel, an ink supply tube, an air passage adapted to deliver a jet of air at an angle against the buckets of the power wheel, a second air passage adapted to deliver a jet against the rim, a valve G provided on its body portion with two grooves K K' which register respectively with the aforesaid air passages, and means for controlling the said valve whereby the jets of air through both air passages may be controlled by a single valve, substantially as described.

8. In a device of the class described, the combination of the handle, the power wheel journaled in bearings at one end of the handle, a rim U carried by the power wheel, an ink-tube carried by the handle and adapted to deliver ink to the rim, an air supply tube E leading to the handle, an air passage F'

leading from the air supply tube, and adapted to deliver a jet of air against the power wheel to drive the same, a second air passage F adapted to deliver a jet of air against the
5 said rim U, and a single valve G adapted to control the flow of air through both passages, substantially as described.

In testimony whereof we affix our signatures
in presence of two witnesses.

JUDSON S. WERTSBAUGHER.
GEORGE H. McCUNE.

Witnesses:

READER SMITH,
JOHN C. ABEL.