

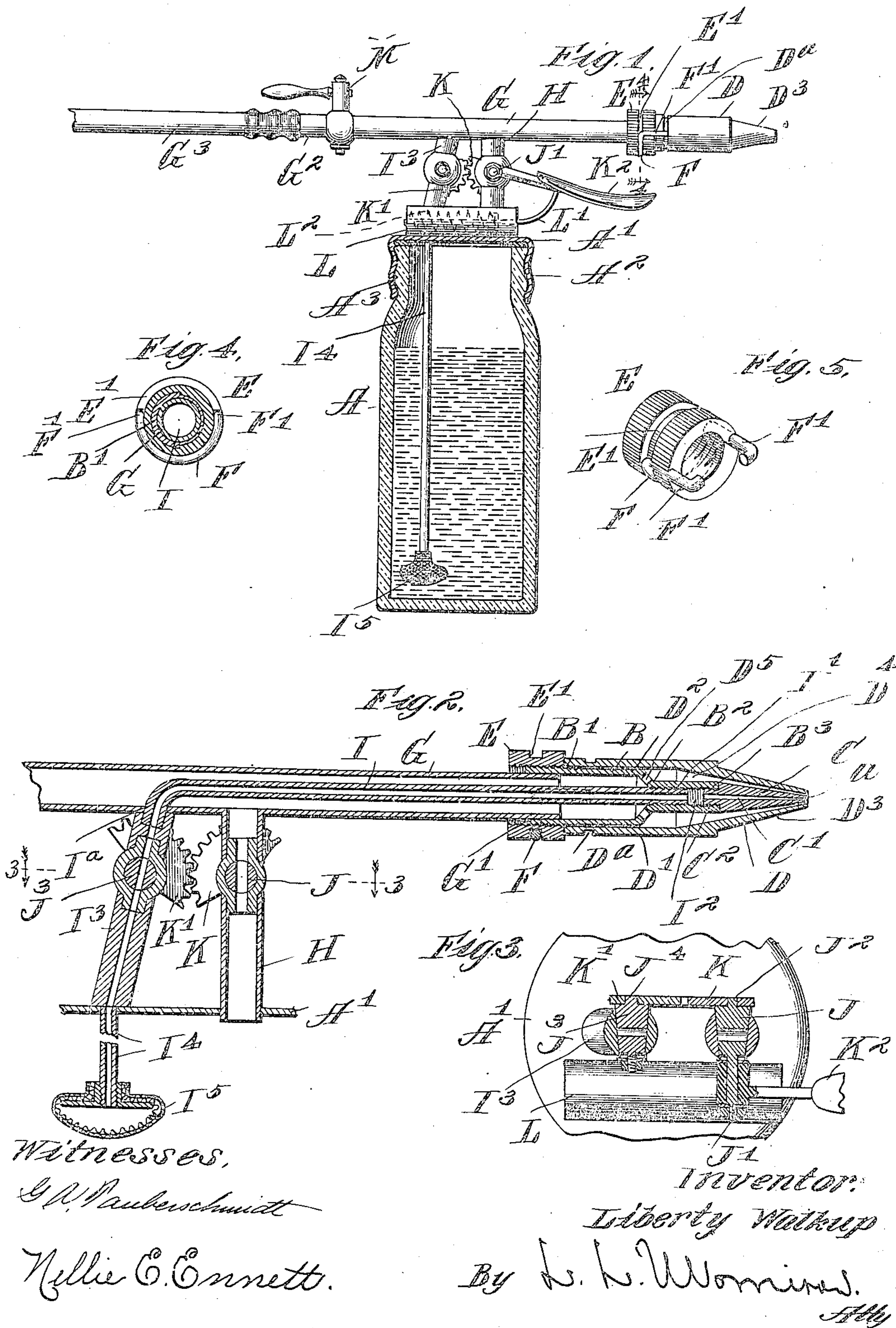
No. 817,819.

PATENTED APR. 17, 1906.

L. WALKUP.

AIR BRUSH.

APPLICATION FILED AUG. 18, 1905.





# UNITED STATES PATENT OFFICE.

LIBERTY WALKUP, OF ROCKFORD, ILLINOIS.

## AIR-BRUSH.

No. 817,819.

Specification of Letters Patent.

Patented April 17, 1906

Application filed August 18, 1905. Serial No. 274,803.

*To all whom it may concern:*

Be it known that I, LIBERTY WALKUP, a citizen of the United States of America, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Air-Brushes, of which the following is a specification.

My invention relates to that class of instruments whereby artists are enabled to reduce india-ink and other pigments, when in a more or less fluid condition, to the form of spray during the act of applying the same to produce pictorial effects; and it consists of the constructions and combinations of parts forming an air-brush hereinafter described and specifically pointed out in the claims hereof.

Referring to the accompanying drawings, which form a part of this specification, Figure 1 is a side view of an air-brush embodying my invention with the pigment-receptacle thereof vertically sectioned. Fig. 2 is a longitudinal central vertical section of the same minus the pigment-receptacle. Fig. 3 is a section, at the dotted line 3 3 in Fig. 2, of parts there shown. Fig. 4 is a section, at the dotted line 4 4 in Fig. 1, of parts there shown. Fig. 5 is an isometrical detail of a clamp detached from the instrument.

Like letters of reference indicate corresponding parts throughout the several views.

A is a pigment-receptacle, preferably of glass and provided with a cover A', preferably of metal and having its connecting-flange A<sup>2</sup> threaded to adapt it to be turned upon and removed from the correspondingly-threaded neck A<sup>3</sup> thereof.

B is a tubular body threaded exteriorly at B' throughout a portion of its length and provided with an inwardly-sloping perforated shoulder portion B<sup>2</sup>, terminating in a neck B<sup>3</sup>.

C is a conical plug having a tapering central bore C', extending longitudinally there-through and tapped at its base C<sup>2</sup> into the free end of the neck B<sup>3</sup> of the body B.

D is a conical cap provided with an annular groove D<sup>a</sup> in the exterior thereof and having the interior of its larger end portion D' fitted closely to but slidable upon the unthreaded portion D<sup>2</sup> of the body B and the interior of its smaller end portion D<sup>3</sup> tapered to conform to but not contact the exterior of

the conical plug C, thereby forming an annular air-chamber D<sup>a</sup> between such cap D and neck B<sup>2</sup> of the body B and the conical plug C, extending from the perforations D<sup>3</sup> in the shoulder B<sup>2</sup> of the body B to the point a of the instrument.

E is a circular nut having an annular groove E' in the exterior thereof and threaded interiorly to adapt it to be turned upon the correspondingly-threaded portion B' of the body B.

F is a clamp seated in the groove E' in the nut E, and projecting arms F' into loose engagement with the groove D<sup>a</sup> in the cap D, so as to regulate the endwise movement of the latter while leaving the nut E free to rotate.

G is an air-tube tightly fitted at one end G' into the large end of the body B and connected by its other end G<sup>2</sup> and by means of a rubber-tube G<sup>3</sup> with an air-pump. (Not shown.)

H is an air-tube opening into and extending transversely from the air-tube G through the cover A' into the interior of the pigment-receptacle A.

I is a pigment-tube tapped by one end I' thereof into the inner end portion of the neck B<sup>3</sup> of the body B so as to leave a pigment-chamber I<sup>2</sup> in the central portion of such neck B<sup>3</sup> and extending therefrom along the interior of the air-tube G for the greater part of its length and thence transversely there-out through its side at I<sup>a</sup> into connection with another tube I<sup>3</sup>, extending through the cover A' into the pigment-receptacle A.

I<sup>4</sup> is a downward extension of the tube I<sup>3</sup> and is provided at its lower end with a pigment-strainer I<sup>5</sup>.

J is a valve mounted in the tube H and provided with oppositely-extending integral pintles J' J<sup>2</sup>.

J<sup>3</sup> is a valve mounted in the tube I<sup>3</sup> and provided with an outwardly-extending pin-tle J<sup>4</sup>.

K K' are segment-gears mounted fast on the pintles J<sup>2</sup> J<sup>4</sup> and intermeshing.

K<sup>2</sup> is a finger-lever fast to the pintle J' on the valve J.

L is a spring-case fast to the cover A of the pigment-receptacle A.

L' is an arm fast to the lever K<sup>2</sup> and extending therefrom through and lengthwise of the spring-case L.



L<sup>2</sup> is a spring included in the case L and coiled about the arm L' and acting through the latter and the lever K<sup>2</sup> to close the valves J J<sup>3</sup>, as in Fig. 3. If the lever K<sup>2</sup> be depressed to its lower limit, the valves J J<sup>3</sup> will be thereby opened, as in Fig. 2.

M is a valve for closing the air-tube G.

Air under pressure being supplied to the instrument through the tube G<sup>2</sup>, its operation is as follows: Liquid pigment is thereby forced through the parts I<sup>5</sup>, I<sup>4</sup>, I<sup>3</sup>, and I into the reservoir I<sup>2</sup> in the neck B<sup>3</sup> of the body B, whence it passes under pressure through the bore C' in the plug C to its point. At the same time air under pressure is passing through the parts G B and from the latter through the perforations D<sup>5</sup> in the shoulder portion B<sup>2</sup> of the body B into the annular air-chamber D<sup>4</sup>, whence it passes under pressure to the point of the cap D and atomizes the liquid pigment at the point of the plug C. The farther the point of the cap D is projected beyond the apex of the plug C by the nut E the more finely will the liquid pigment be atomized, since it will be acted upon by a larger volume of compressed air than when the interior of the cap D is in closer proximity to the plug C.

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

1. In an air-brush, in combination, a tubular body threaded exteriorly throughout a portion of its length and provided with an inwardly-sloping perforated shoulder portion terminating in a neck, a conical plug having a tapering central bore extending longitudinally therethrough and tapped at its base into the free end of the neck of the tubular body, a conical cap having the interior of its larger end portion fitted closely to and slidable upon the unthreaded portion of the tubular body and the interior of its smaller end portion tapered to conform to but not contact the exterior of the conical plug, thereby forming an annular air-chamber between such cap and the neck of the tubular body and the conical plug and means for longitudinally adjusting the cap to the conical plug, substantially as and for the purpose specified.

2. In an air-brush, in combination, a tubular body threaded exteriorly throughout a portion of its length and provided with an inwardly-sloping perforated shoulder portion terminating in a neck, a conical plug having a tapering central bore extending longitudinally therethrough and tapped at its base into the free end of the neck of the tubular body, a conical cap provided with an annular groove, in the exterior thereof, and having the interior of its larger end portion fitted

closely to and slidable upon the unthreaded portion of the tubular body, and the interior of its smaller end portion tapered to conform to but not contact the exterior of the conical plug, a circular nut having an annular groove in the exterior thereof and threaded interiorly to adapt it to be turned upon the correspondingly-threaded portion of the tubular body, and a clamp seated in the groove in the nut and projecting arms into loose engagement with the groove in the cap, so as to adapt it to regulate the endwise movement of the latter while leaving the nut free to rotate, substantially as and for the purpose specified.

3. In an air-brush, in combination, a tubular body threaded exteriorly throughout a portion of its length and provided with an inwardly-sloping perforated shoulder portion terminating in a neck, a conical plug having a tapering central bore extending longitudinally therethrough and tapped at its base into the free end of the neck of the tubular body, a conical cap provided with an annular groove, in the exterior thereof, and having the interior of its larger end portion fitted closely to and slidable upon the unthreaded portion of the tubular body and the interior of its smaller end portion tapered to conform to but not contact the exterior of the conical plug, a circular nut having an annular groove in the exterior thereof and threaded interiorly to adapt it to be turned upon the correspondingly-threaded portion of the tubular body, and a clamp seated in the groove in the nut and projecting arms into loose engagement with the groove in the cap, an air-tube tightly fitted at one end into the large end of the tubular body, and a pigment-tube tapped by one end into the inner end portion of the neck of the tubular body—so as to leave a pigment-chamber in the central portion of such neck—and extending therefrom along the interior of the air-tube and thence transversely thereout through the side thereof, substantially as and for the purpose specified.

4. In an air-brush, in combination, a body B threaded exteriorly at B' and provided with a perforated shoulder portion B<sup>2</sup> terminating in a neck B<sup>3</sup>, a conical plug C having a tapering central bore C' extending longitudinally therethrough and tapped into the free end of the neck B<sup>3</sup> of the body B, a conical cap D fitted with an annular groove D<sup>4</sup> in the exterior thereof and having the interior of its end portion D' fitted closely to but slidable upon the unthreaded portion D<sup>2</sup> of the body B and the interior of its end portion D<sup>3</sup> tapered to conform to but not contact the interior of the plug C, a nut E having an annular groove E', in the exterior thereof, and applied to the threaded portion B' of the body



B, and a clamp F seated in the groove E' in the nut E and projecting arms F' into loose engagement with the groove D<sup>a</sup> in the cap D, so as to regulate the endwise movement of the latter while leaving the nut E free to rotate, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LIBERTY WALKUP.

Witnesses:

L. L. MORRISON,  
NELLIE E. ENNETT.