

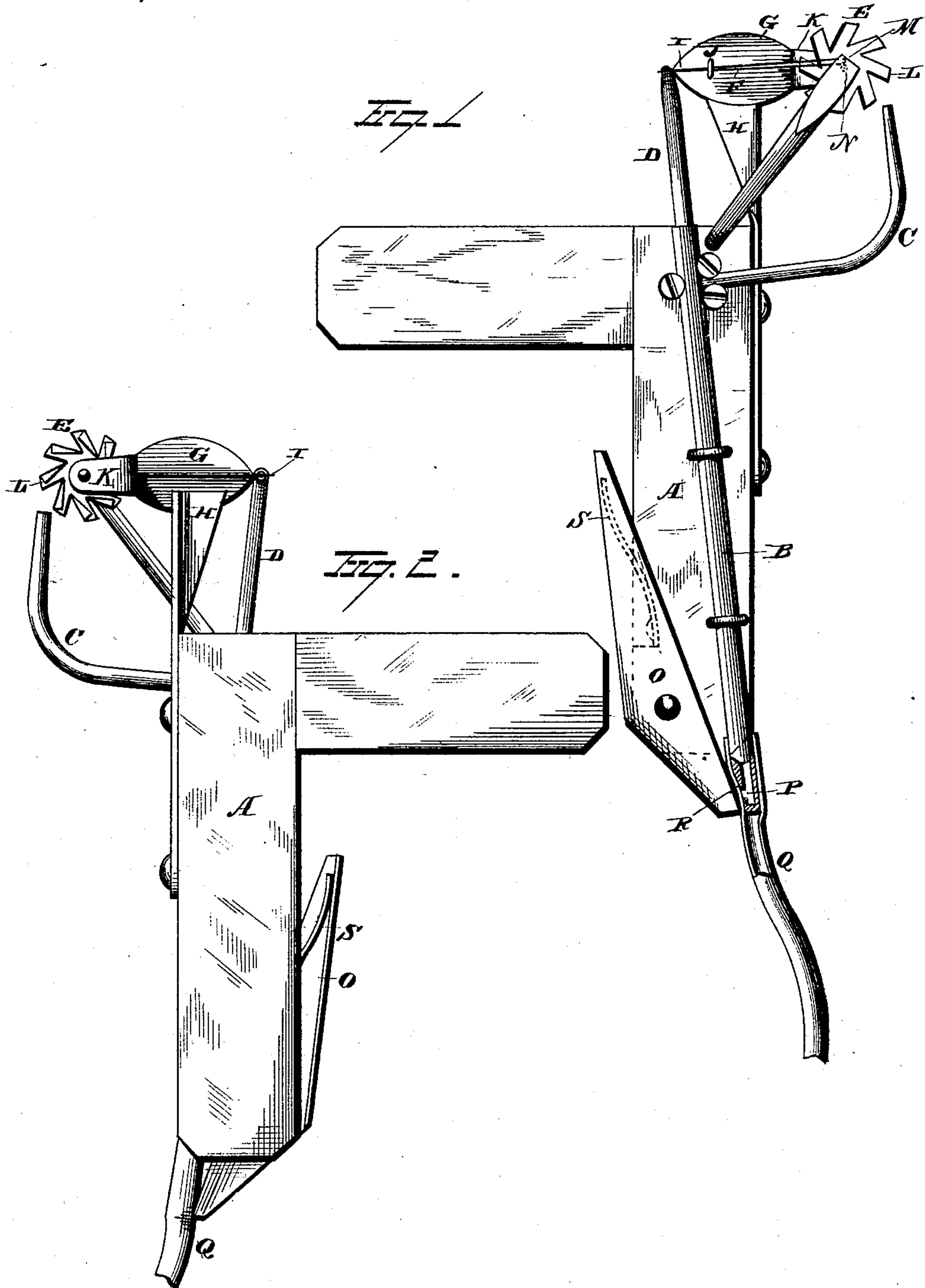
(Model.)

2 Sheets—Sheet 1.

A. PEELER.  
PAINT DISTRIBUTER.

No. 256,852.

Patented Apr. 25, 1882.



WITNESSES

*E. L. Nottingham*  
*Herman Moran.*

INVENTOR

*Abner Peeler.*  
By *H. A. Seymour.*  
ATTORNEY

(Model.)

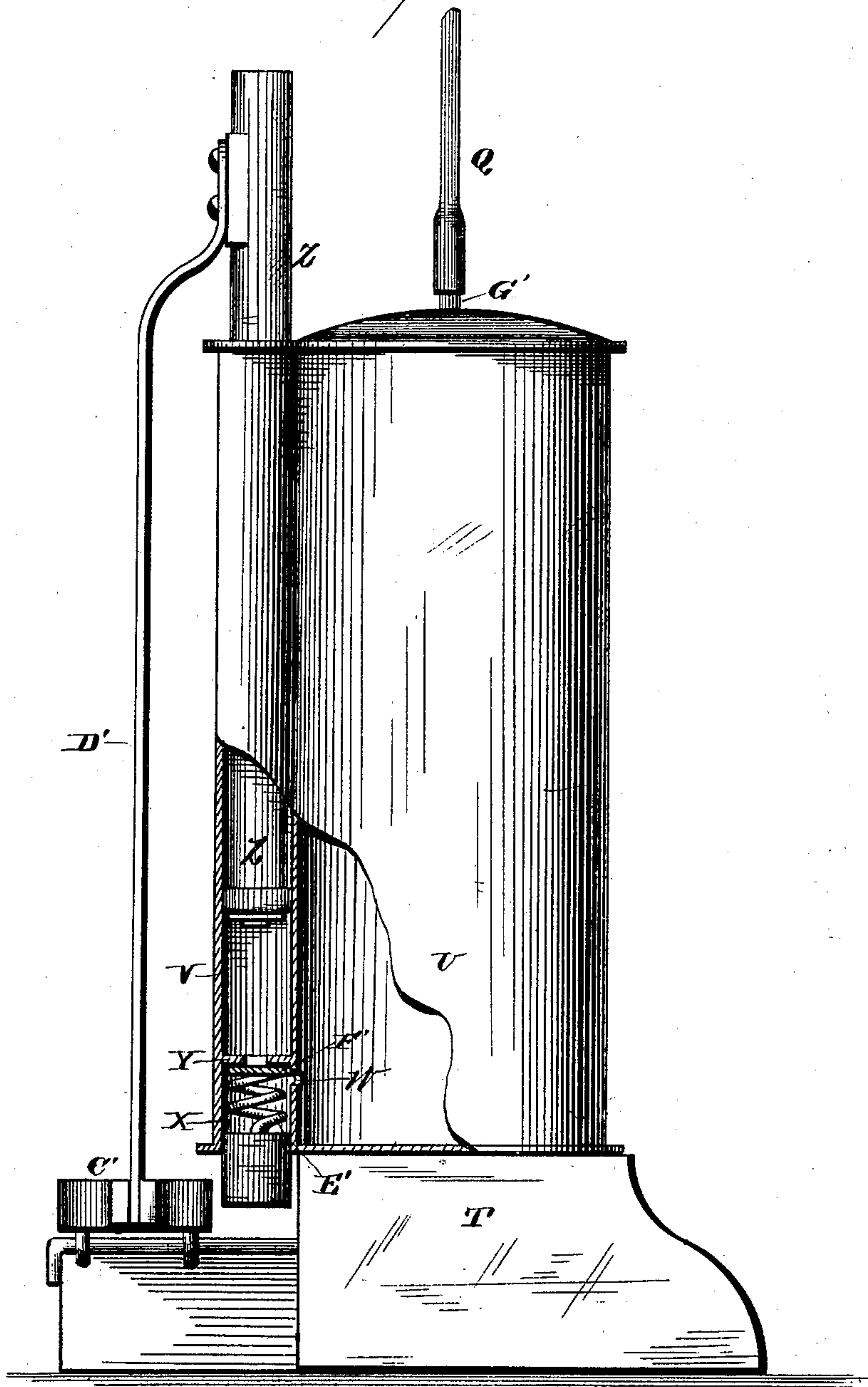
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FIG. 3.



WITNESSES

*E. J. Nottingham,*  
*Herman Moran.*

INVENTOR

*Abner Peeler.*  
*By H. A. Symour,*  
ATTORNEY



# UNITED STATES PATENT OFFICE.

ABNER PEELER, OF FORT DODGE, IOWA, ASSIGNOR TO LIBERTY WALKUP  
AND CHARLES WALKUP, OF SAME PLACE.

## PAINT-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 256,852, dated April 25, 1882.

Application filed October 1, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, ABNER PEELER, of Fort Dodge, in the county of Webster and State of Iowa, have invented certain new and useful  
5 Improvements in Pigment-Distributers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

10 My invention relates to an improvement in devices for distributing pigments, the object being to apply to surfaces of any character all kinds of liquid coloring-matter in a state of extreme attenuation.

15 With this end in view my invention consists in the combination, with a reciprocating needle arranged and adapted to feed a quantity of liquid pigment to its point at every stroke, of devices for projecting a jet of air against the  
20 needle and atomizing the liquid pigment.

My invention further consists in the combination, with a reciprocating needle and a grooved or trough-shaped liquid-pigment receptacle, of devices for projecting a jet of air  
25 against the point of the needle and atomizing the liquid pigment.

My invention further consists in the combination, with a liquid-pigment receptacle, of a fan and a needle connected with the fan and  
30 adapted to be reciprocated thereby.

My invention further consists in the combination, with a liquid-pigment receptacle, a fan, and a needle connected therewith, of devices to project a jet of air both upon the fan and  
35 upon the needle.

My invention further consists in the combination, with a reciprocating needle, a pigment-receptacle, and a fan, of a supply-pipe branching at its upper end into two pipes respectively  
40 adapted to project a jet of air upon the fan and the point of the needle.

My invention further consists in the combination, with a reciprocating needle, a pigment-receptacle, and a fan, of a supply-pipe adapted  
45 to carry to and project jets of air upon the fan and needle, and a valve arranged to regulate the passage of air through the supply-pipe.

My invention further consists in the combination, with a reciprocating needle, a pigment-

receptacle, and a fan, of a supply-pipe adapted 50 to carry compressed air to the fan and needle, and an air-pump in connection with said supply-pipe.

My invention further consists in certain details of construction and combinations of parts, 55 as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a top view of my pigment-distributer. Fig. 2 is a reverse view thereof; and Fig. 3 is a view, 60 partly in elevation and partly in section, of the air pump and chamber.

A represents a hand-piece, of any size, material, and construction, to which the several parts of my improved pigment-distributer are 65 secured.

B is a supply-pipe, through which compressed air is forced from any desired source to the small pipes C and D, which branch from its upper extremity, and which respectively conduct 70 jets of air to the fan E and to the point of the needle F.

A receptacle, G, designed to receive and contain the pigment to be distributed, is mounted upon a support, H, secured to the hand-piece 75 A. The groove I on the front face of the said receptacle is adapted to receive the needle F, which is retained therein by a staple, J, or by any equivalent device. As this groove forms the deepest portion of the receptacle, the coloring-matter introduced therein will gravitate toward it and supply the feeding-needle 80 F until exhausted. The receptacle is not necessarily confined to the spoon-like form shown in the drawings, as it is apparent that many 85 other shapes may be resorted to, if desired, which will fill the same function equally well. The form shown is, however, excellently adapted for the purpose, inasmuch as the pigment can be readily introduced into it and as easily 90 removed when desired to employ a pigment of another color. This last is a valuable feature, for in the transition from one color to another all artists' tools should be perfectly clean.

The fan E, which is pivotally secured to an 95 arm, K, projecting rearwardly from the said receptacle G, is rapidly revolved by an air-jet, which issues from the pipe C, and which im-



5 pinges against its cup-shaped arms L. Any  
 other form of fan adapted to be revolved by  
 an air-current may, however, be employed in  
 lieu of the one shown. The needle F acts as  
 a vehicle for carrying forward and allowing  
 minute quantities of the pigment in the re-  
 ceptacle to be subjected to the action of an  
 air-jet issuing from the pipe D. To this end  
 it is reciprocated in the receptacle and before  
 10 the mouth of the said pipe, which should be  
 located at right angles to it. This is accom-  
 plished by securing its rear end to the fan just  
 to one side of the axis thereof. The union be-  
 tween the fan and the needle may be effected  
 15 in several different ways. The rear end of the  
 needle may be bent at right angles to it and  
 the bent portion inserted in a socket, M, lo-  
 cated close to the axis N of the fan; or the fan  
 may be provided with a wrist-pin and the nee-  
 20 dle adapted to be connected therewith. Still,  
 again, the needle may be reciprocated by the  
 fan by providing the latter with a crank-shaft  
 and attaching the rear end of the needle  
 thereto.

25 In order that the device may be perfectly  
 under the control of the operating artist, the  
 supply-pipe B is provided with a valve adapt-  
 ed to be operated by the hand. It consists of  
 a plate, O, pivotally secured to the hand-piece  
 30 A, the lower end of the said plate being adapt-  
 ed to impinge against and force into the aper-  
 ture P a portion of the flexible pipe Q, through  
 which the air is conducted to the pipe B. A  
 shallow groove, R, extends from the aperture  
 35 to the lower end of the pipe B, and thus in-  
 sures the ready passage of air from one pipe  
 to the other. The valve is normally closed by  
 the action of a spring, S, which is readily over-  
 come and the valve opened by a slight press-  
 40 ure of the finger of the hand holding the hand-  
 piece. As this pressure may be applied and  
 released as often as need be, the valve is made  
 perfectly responsive to the wish of the artist.

45 The air-pump designed to be used with my  
 pigment-distributor is adapted to be worked  
 by foot-power. It consists of a standard, T,  
 to which an upright cylindrical air-chamber,  
 U, is secured. A cylinder, V, has communi-  
 cation with the said chamber U through an  
 50 aperture, W, located in the chamber X, which  
 is the lower of the two chambers into which  
 the said cylinder is divided by the perforated  
 disk Y.

55 A piston-rod, Z, suitably packed, is adapted  
 to be reciprocated in the upper chamber of the  
 cylinder V by power transmitted from the foot-  
 pedal C' through a pitman, D'. As the piston  
 descends it will force a column of air into the  
 lower chamber, X, and in so doing overcome  
 60 the force of the spring E', which normally sup-  
 ports a disk, F', in contact with the perforated  
 disk Y, and thus prevents the escape of com-  
 pressed air from the chamber U through the  
 chamber X into the chamber in which the pis-  
 65 ton itself is located. When the said disk F'  
 is depressed the air carried before the piston

will flow into the chamber X, and thence into  
 the air-chamber U. The moment the piston  
 completes its stroke, the pressure being re-  
 moved from the spring E', it will react and  
 70 again hold the disk F' against the perforated  
 disk Y. A short pipe, G', is secured to the top  
 of the chamber U for the attachment of the  
 flexible pipe Q, which conducts the air to the  
 supply-pipe B of the distributor. The particu-  
 75 lar value of the air-chamber U lies in the fact  
 that the compressed air is supplied to the pipe  
 B in a more even current than could be ob-  
 tained by its connection directly with the cyl-  
 80 nder V.

Having fully described my invention in de-  
 tail, I shall now proceed to explain its *modus*  
*operandi*.

Let it be first supposed that the air-chamber  
 is filled with air under pressure, and that a  
 85 suitable quantity of color has been introduced  
 into the pigment-receptacle. If, now, by a  
 slight pressure of the finger, the valve in the  
 supply-pipe is opened, a current of air will flow  
 through both of the pipes C and D, respect-  
 90 ively actuating the fan and reciprocating the  
 needle and projecting a jet across the space  
 in front of the needle and at right angles to  
 the path in which it reciprocates. In the re-  
 ciprocatory movement of the needle its point  
 95 is drawn within and immersed in the pigment  
 in the receptacle, a small quantity of which will  
 adhere to it. When, now, the needle is thrown  
 forward its point will divide the air-jet issuing  
 from the pipe D, and the adhering color will  
 100 be blown from its opposite sides thereby and  
 carried to any object within convenient range  
 of the jet. The quantity of color adhering to  
 the needle is so small and its atomization so  
 perfect that the individual particles of color  
 105 are hardly discernible upon the object on which  
 they are thrown. It will therefore follow that  
 with my distributor and with one pigment col-  
 ored effects may be produced which will de-  
 scend from the palest tints capable of being  
 110 produced by the extreme attenuation of the  
 color through all of the intermediate tints  
 down to the depth of color formed by the paint  
 in mass. As the tone of the different effects  
 will depend upon the length of time that the  
 115 jet is directed to any one point, exquisitely  
 graded shading may be produced by its care-  
 ful manipulation.

In polychromatic painting, in the prosecu-  
 tion of which it is often necessary in order to  
 120 obtain the desired tints to apply one pigment  
 upon the surface of another color, my distrib-  
 utor will be of great value, as after it has been  
 used to apply one color the pigment-receptacle  
 may be cleansed and another color introduced  
 125 into it and distributed upon the color first ap-  
 plied. In this way a blending of color may be  
 produced almost unattainable in brush-paint-  
 ing. In painting portraits, either in color or  
 in sepia, and in finishing solar prints the de-  
 130 vice may also be used to excellent purpose on  
 account of its adaptation to produce those soft



and delicate tints which this class of work demands. In fact, in all situations requiring delicate coloring my device will be found a great aid in the application thereof.

5 I would have it understood that I do not limit myself to the exact construction shown and described, but hold myself at liberty to make such slight changes and alterations as fairly fall within the scope and spirit of my  
10 invention.

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

1. The combination, with a reciprocating  
15 needle arranged and adapted to feed a quantity of liquid pigment to its point at every stroke, of devices for projecting a jet of air against the needle and atomizing the liquid pigment, substantially as set forth.

20 2. The combination, with a reciprocating needle and a grooved or trough-shaped liquid-pigment receptacle, of devices for projecting a jet of air against the point of the needle and atomizing the liquid pigment, substan-  
25 tially as set forth.

3. The combination, with a reciprocating needle and a liquid-pigment receptacle, of an air-jet tube arranged at right angles to the point of the needle, and apparatus for pro-  
30 jecting a jet of air against the needle-point, substantially as set forth.

4. The combination, with a liquid-pigment receptacle, of a fan and a needle connected with the fan and adapted to be reciprocated  
35 thereby, substantially as set forth.

5. The combination, with a liquid-pigment receptacle, a fan, and a needle connected there-  
40 with, of devices to project a jet of air both upon the fan and upon the needle, substan- tially as set forth.

6. The combination, with a liquid-pigment receptacle, of a fan, a needle adapted to be re-  
ciprocated in the receptacle by attachment to the fan at a point near the axis thereof, and

devices to project a jet of air both upon the  
45 point of the needle and upon the periphery of the fan, substantially as set forth.

7. The combination, with a reciprocating needle, a pigment-receptacle, and a fan, of a supply-pipe branching at its upper end into  
50 two pipes respectively adapted to project a jet of air upon the fan and the point of the needle, substantially as set forth.

8. The combination, with a reciprocating needle, a pigment-receptacle, and a fan, of a  
55 supply-pipe adapted to convey jets of air upon the fan and needle, and a valve adapted to regulate the passage of air through the supply-pipe, substantially as set forth.

9. The combination, with a reciprocating  
60 needle, a pigment-receptacle, and a fan, of a supply-pipe for carrying air-jets to the fan and needle, a flexible pipe attached to the lower end of the supply-pipe and communicat-  
65 ing therewith through an aperture in the side thereof, and a spring-pressed plate adapted to compress the flexible pipe, substantially as set forth.

10. The combination, with a reciprocating needle, a pigment-receptacle, and a fan, of a  
70 supply-pipe adapted to convey compressed air to the fan and needle, and an air-pump in connection with said supply-pipe, substantially as set forth.

11. The combination, with a reciprocating  
75 needle, a pigment-receptacle, and a fan, of a supply-pipe adapted to convey compressed air to the fan and needle, an air-chamber connected with said pipe, and an air-pump for forcing air into the said chamber, substantially  
80 as set forth.

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

ABNER PEELER.

Witnesses:

L. WALKUP,  
J. M. DERING.