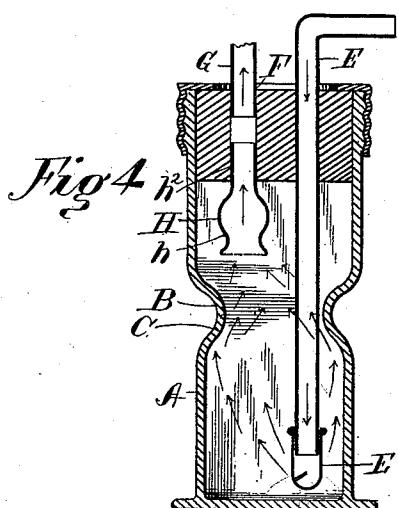
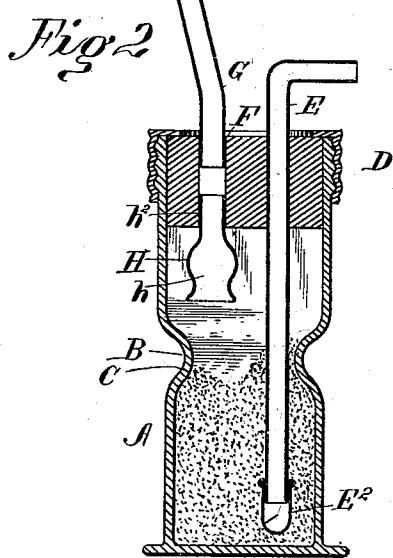
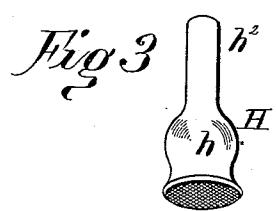
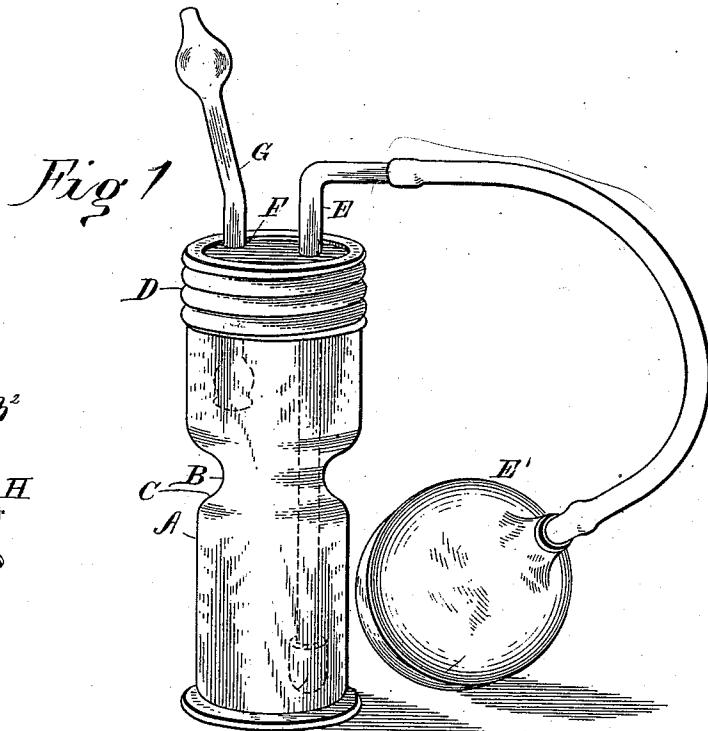


(No Model.)

W. J. EVANS.
POWDER BLOWER.

No. 478,744.

Patented July 12, 1892.



Attest;
C. C. Burdine
W. D. Hall Brown

Inventor,
William J. Evans
per, L. S. Bacon Atty.

UNITED STATES PATENT OFFICE.

WILLIAM JAMES EVANS, OF NEW YORK, N. Y., ASSIGNOR TO MCKESSON & ROBBINS, OF SAME PLACE.

POWDER-BLOWER.

SPECIFICATION forming part of Letters Patent No. 478,744, dated July 12, 1892.

Application filed March 11, 1892. Serial No. 424,559. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JAMES EVANS, a citizen of the Dominion of Canada and a subject of the Queen of Great Britain, residing at 5 New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Powder-Blowers; 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 appertains to make and use the same.

My invention relates to an improvement in powder-blowers; and it consists in the construction and arrangement of parts more fully hereinafter described, and definitely pointed out in the claims.

The object and purpose of this invention is the provision of means for eliminating or interrupting the movement of crystals or other foreign matters through the discharge-tube or powder-blowers used in connection with or for the purpose of treating diseases, or for distributing impalpable powders to the desired 25 points or surfaces.

Heretofore powder-blowers have been arranged and constructed so that air forced into the powder will carry the same up through and out of the discharge-tube, allowing aggregations and all hard or foreign matter to be carried out with the powder. Powder-blowers have also been made with sieves or reticulated material placed across the discharge-tube to interrupt the passage of large 30 foreign matter, or to more thoroughly divide the powder and break up the lumps. They have, however, been so attached and arranged as to be impracticable, soon becoming coated and thereby making the device inoperative 35 and ineffectual.

The devices heretofore used are intended more particularly for the distribution of powder to destroy insects, and could not be adapted for use in treating disease or for toilet purposes.

The aim and object of my invention is to so apply the reticulated diaphragm that it may be readily removed and replaced by others, and so that the surface of the diaphragm will 45 be so arranged as to preclude the passage of foreign matter therethrough, as well as to have

its under surface relieved of accumulated material.

In the drawings, wherein like letters of reference indicate corresponding parts in the several views, Figure 1 is a perspective view of the device. Fig. 2 is a vertical section through the holder and tubes. Fig. 3 is a perspective view of the bulb, and Fig. 4 is a sectional elevation showing the direction of the air-current in the holder.

A represents a holder formed, preferably, of glass, having an annular indentation B at or near its upper end, with sloping side walls C. The upper end of the holder has a screw-threaded cap D, the threads of which mesh with suitable threads formed on the upper end of the holder. Through this cap the air-supply tube E passes, the outer end of which is connected with an air-bulb E' and the lower 65 end is extended down to or near the bottom of the holder, at which point it is provided with the usual flexible valve E². An aperture F is formed in the cap to one side of the tube E, from which extends the discharge-tube G, the lower end of the tube G extending 70 partly through the aperture F.

H represents a bulb formed with an enlarged portion h and a reduced discharge end h², of a diameter sufficiently small to admit of 80 its being inserted in the lower end of the aperture F and closely fit therein. The lower end of the bulb H is provided with a flaring mouth, across which is placed a diaphragm of fine bolting-cloth or silk. This end of the 85 bulb is preferably arranged at a point directly above the indentation of the holder, so that as the air is discharged from the valve E² the air-current created in the holder will have a direction of discharge similar to that shown 90 by the arrows, thereby striking the diaphragm at an angle and tending to relieve the same of accumulated obstructions. By forming the bulb or sieve piece with an enlarged mouth, I am enabled to thoroughly sift the powder 95 passing therethrough, and at the same time obtain the regular quantity of discharge at the discharge end of the tube.

In many cases it is desired and needful to utilize powder more or less coarse, in which 100 case the sieve would prevent its passage therethrough. I therefore make the bulb or sieve

piece so that the same may be quickly removed from the stopper or cap and replaced by others having diaphragms of coarser mesh.

In the use of powder for nasal diseases it is absolutely necessary that the same should be impalpable and freed from all foreign matters which would tend to irritate the diseased parts. I am therefore enabled to eject from the nozzle of the discharge-pipe an imperceptible dust or powder by the use of the sieve-piece, and thereby greatly add to the efficiency and desirability of powder-blowers of this nature.

It is evident that the shape of the holder, as well as the sieve-piece or bulb, may be changed or altered in many respects, and that the manner of attaching the sieve-piece to its cap may also be changed or varied, and I am also aware that many other minor changes can be made in the construction and arrangement of the parts of my device without in the least departing from the nature and principle of my invention.

It will be further understood that although, as specified above, the device is adapted for

medicinal purposes, it may also be used for the application of toilet-powders.

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

1. In a powder-blower, the combination, with a holder and its cap, of means for supplying air to the holder, a discharge-tube fitted to the cap, and an independently-removable sieve-piece in the cap, communicating with and detachable from the discharge-tube, substantially as described. 30

2. In a powder-blower, the combination, with a holder and its cap, of an air-supply, a discharge-tube, and a removable sieve-piece formed with an enlarged lower end having a reticulated diaphragm thereon and a reduced upper end fitted to the cap below the discharge, substantially as described. 40

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM JAMES EVANS.

Witnesses:

S. RUSSELL TOWNSEND,
FRANK L. ZABRISKIE.