

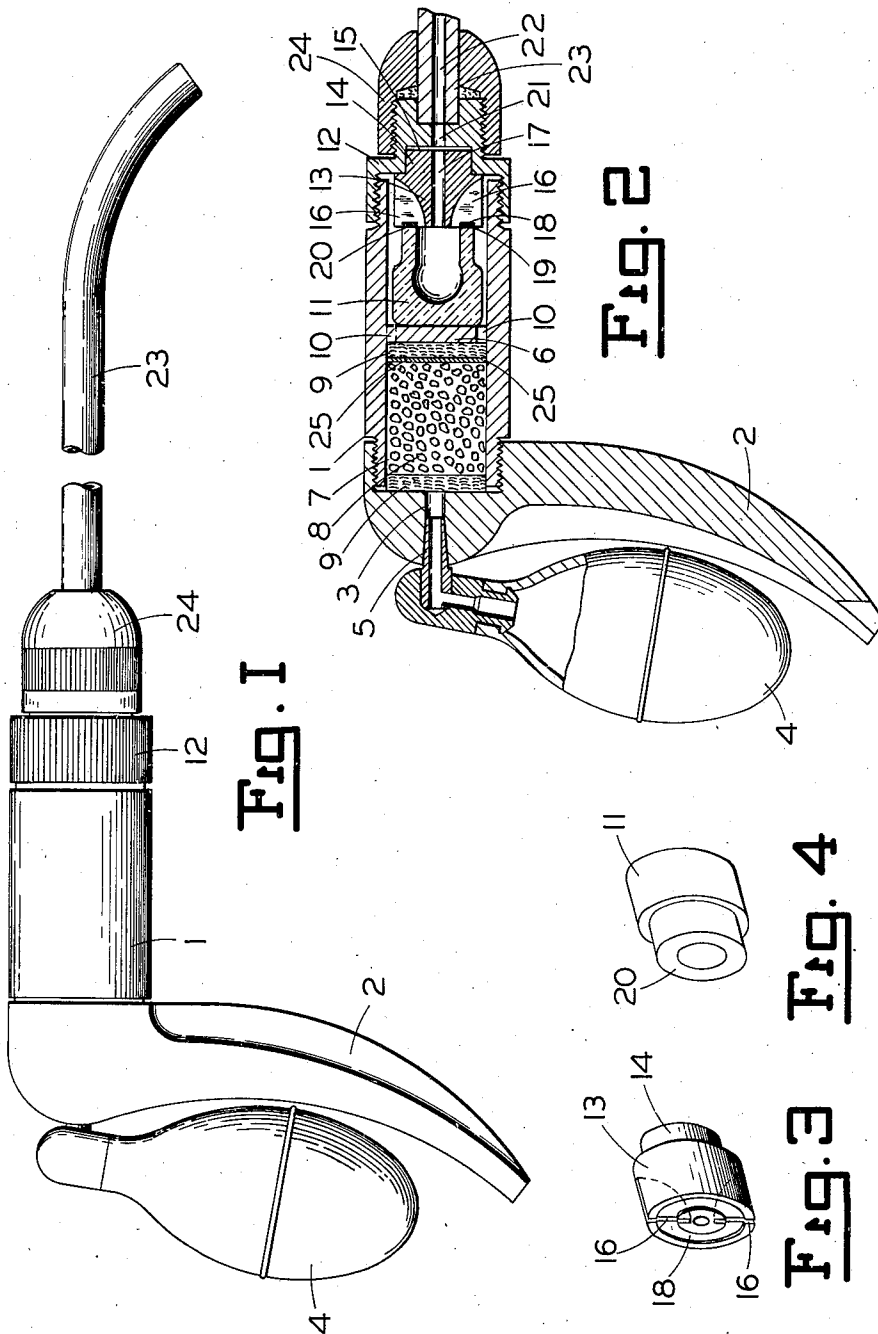
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POWDER BLOWER

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POWDER BLOWER

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This invention relates to powder blowers and particularly to such instruments used for the application of medicaments.

The primary object of this invention is the provision of a powder blower suitable for spraying a measured amount of powdered anti-biotics, such as penicillin.

Another object of the invention is to provide a design which reduces the possibility of contamination of the medicinal substance.

A further object is the provision of an instrument which is compact and easy to operate.

Other objects and advantages of the invention will become apparent upon reference to the following description and the accompanying drawing in which

Figure 1 is a side elevational view of a powder blower embodying my invention;

Figure 2 is a vertical longitudinal section;

Figure 3 is a perspective view of the container retainer; and

Figure 4 is a similar view of the container.

The powder blower embodying my invention as shown in the drawing has a tubular body 1 threaded externally at each end. Attached to the rear end of the body is a handle 2. This has a passage 3 through its upper end for the atomizing air entering the body 1 of the powder blower. A hand compressible rubber bulb 4 is connected to passage 3 by a tapered nipple 5. Where a more constant air supply is desired the bulb may be replaced by a hose from a compressed air source which may be available in the doctor's office.

Across the center of the interior of the body 1 is a partitioning wall 6. The chamber 7 to the rear of this wall is filled with a desiccative 8 for removing moisture from the air directed there-through. This desiccative, which may be calcium sulphate, is retained in position by porous cotton discs 9. A perforated plastic disc 25 reinforces the inner cotton disc. In the partition 6 are several annularly placed ports 10 for the passage of air toward the forward end of the powder blower. Abutted against the front side of the partition 6 is the bottom of a glass vial or bottle 11. This bottle is held in position and axially centered within the tubular body by an intermediate cap member 12 threaded to the forward end of the cylindrical body 1 and by an associated bottle retainer 13. This retainer 13 is maintained axially in line through an integral cylindrical tail piece 14 which fits closely into a corresponding cavity 15 in the intermediate cap member 12. Cut through the sides and through the rearward face of retainer 12 are two radial slots 16 spaced

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180° apart. Axially through the retainer is a bore 17, and in its rearward face crossing the slot openings is an annular groove 18 in which is lodged a gasket 19. The edge 20 of the bottle opening fits within the groove against this gasket. The atomizing air on passing through the ports 10 in the partition 6 travels along the sides of the bottle 11 and is turned rearwardly into the bottle through the slots 16. The air then proceeds, with the powder it has entrained in the bottle, forwardly through bore 17 in the retainer 13 and bore 21 in the intermediate cap into passage 22 in the elongated discharge nozzle 23. This nozzle is attached to the blower by cap 24 threadedly engaged to intermediate cap 12.

In using my powder blower it is preferable for the medicament to be furnished in a small individual dose vial of a size that may be inserted within the instrument. With this arrangement the material is not removed from the container until it is to be applied and accordingly its purity and quantity has less chance of being affected. Then, too, the cover of the container need not be removed until just before it is inserted in the powder blower. In this way any long exposure with the atmosphere and any deleterious effect therefrom are avoided.

As some therapeutic substances are adversely affected by moisture and other elements in the atmosphere, the possibility of trouble from this source is reduced by the inclusion in my powder blower of drying material and the cotton discs 9 which not only retain the desiccative in place, but also act as air strainers.

It may be seen therefore that I have provided a device particularly suited for maintaining the potency of the medicament and applying it in an effective manner.

While I have shown and described the preferred form of my invention, it will be appreciated that various changes and modifications may be made, particularly in the form and relation of parts without departing from the spirit of my invention as set forth in the appended claims.

What I claim is:

1. In a powder blower of the type described a tubular body, a ported transverse partition dividing the interior of the body into two cylindrical chambers, an air inlet at one end of the body, air drying material in the chamber adjoining said end, an air and powder outlet at the other end of the body, a powder receptacle in the chamber adjoining the latter end, the bottom of the receptacle facing toward the air inlet and the receptacle opening facing toward the air and

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powder outlet and means directing air past the receptacle and rearwardly into the receptacle opening.

2. In a powder blower of the type described a tubular body, an air inlet at one end and an air and powder outlet at the other, a receptacle for powder within the body, the bottom of the receptacle facing toward the air inlet and the receptacle opening facing toward the air and powder outlet, and means directing air past the receptacle and rearwardly into the receptacle opening.

3. A powder blower as set forth in claim 2 in which the means for directing the air into the receptacle has radial slots providing passages for the air entering the receptacle and a central bore for a discharging passage for the air and powder.

4. In a powder blower of the type described a tubular body, an air inlet at one end, an air and powder outlet at the other, a medicament vial fitting somewhat loosely within the tubular body with its bottom toward the air inlet and its open end toward the air and powder outlet, and a vial retainer member having a central bore there-through communicating with the outlet, slots from the sides of the retainer opening into the rearward face of the retainer, said slots having

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arcuate bottoms turning the air rearwardly into the powder vial.

5. In a powder blower of the type described a tubular body, an air inlet at one end, an air and powder outlet at the other, a cylindrical medicament vial mounted axially within the body with space for air between its outer wall and the inner surface of the tubular body, the closed bottom of the vial facing the air inlet end of the body, the open end of the vial facing the opposite end of the body, and means holding the vial axially centered within the body and directing the air flow into the open end of the vial.

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