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MEANS FOR SPRAYING OR PROJECTING POWDER

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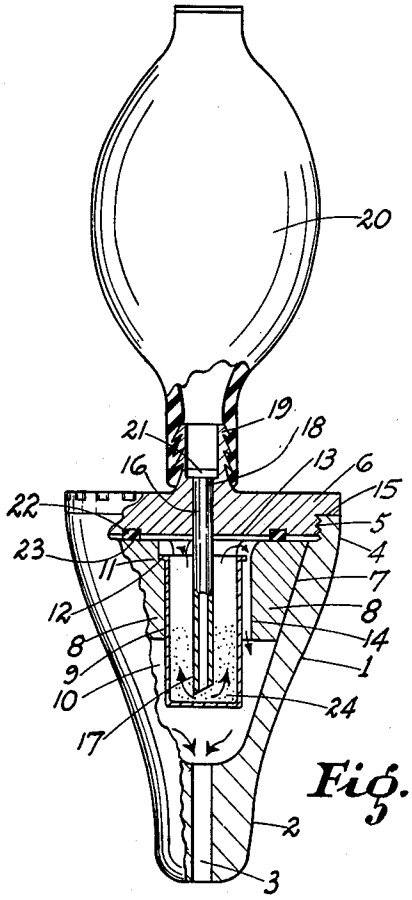
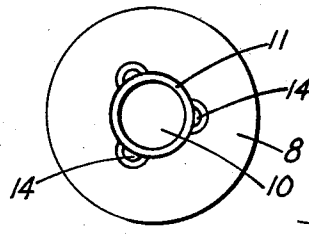


Fig. 1.

Fig. 2.



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MEANS FOR SPRAYING OR PROJECTING POWDER

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5 Claims. (Cl. 128—266)

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This invention relates to means for spraying or projecting powder, and has particular reference to hand powder-sprays for introducing medicated powders into body cavities, or applying powders to the skin, surface wounds or the like.

One object of this invention is to provide a powder projecting device which is simple in construction, inexpensive to manufacture and easy to handle and to clean. Another object of this invention is to provide such device which enables the user to introduce or apply an exactly predetermined quantity of the powder.

A powder projecting device according to this invention comprises a body part formed at its one end with a discharge orifice and means within said body part providing a space for receiving a powder container or cartridge, said body part also providing a connection between said orifice and the end of said space remote from said orifice; the device also comprising a cover member providing a tube arranged to project into said space and means for connecting said tube to means for blowing air through said tube.

Preferably, the device also includes means for providing an annular powder-tight seal between said cover member and said container-receiving means and surrounding the mouth of the cartridge-receiving space.

According also to this invention, a powder projecting device comprises means having a recess for receiving a powder container or cartridge, said means providing a discharge orifice and a connection between said orifice and the end of said recess remote from said orifice; said device also comprising means for blowing powder from such container through said connection and out of said discharge orifice.

In a preferred form of this invention, the means for receiving said powder container consists of a holder which fits into the end of the body part distant from said orifice and which provides a central bore or open-ended recess of suitable shape to accommodate said container. Said holder also provides at least one conduit which leads from a point adjacent that end of said bore which is arranged to face the cover member and which is intended to accommodate the open end of the powder container, to the other end of said holder which faces said discharge orifice.

Preferably, several conduits are provided which are arranged symmetrically around said bore. Such symmetrical arrangement of the conduits enables the device to be used in any position without affecting its efficiency.

The bore or recess is preferably formed with an inner lip or other suitable means for temporarily securing the powder container in a predetermined position.

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The invention will be further described with reference to the accompanying drawings, in which:

Fig. 1 is a partly sectioned elevation of a spraying device.

Fig. 2 is a plan view of the holder of Fig. 1.

The spraying device comprises a body part 1 of generally conical shape, the end 2 of which is shaped suitably for introduction into a body cavity and is formed with a discharge orifice 3. The body part 1 is hollow and is formed at its end 4 opposite the discharge orifice 3 with a screw thread 5 for connection with the cover member 6. Adjoining said screw-threaded end 4, the body part provides a conical seat 7 for the holder 8. Said holder 8 is formed with a central bore 9 which is arranged to accommodate a powder container or cartridge 10. 11 indicates a flange which determines the position of the container 10 within the bore 9 by engaging a flange 12 on said container. As shown, the open end 13 of said container 10 faces the screw-threaded end 4 of the body part, and the container is so positioned by said flange 11 that the mouth 13 of the container is within said bore 9 and below the upper face of the holder 8.

The holder 8 is further formed with three conduits 14 which open into the upper end of said bore 9 and thus establish a connection between the open end 13 of the container 10 and the discharge orifice 3.

Said conduits 14 are equidistantly spaced around said bore 9 and each conduit is provided by an open-sided groove in the wall of said bore 9 which is parallel with the axis of said bore. The container 10 is formed to fit tightly into said bore so that the wall of said container closes, when the container is inserted in said bore 9, the side of the groove which is open towards said bore and thus provides a part of the wall of such conduit 14.

The cover member 6 is screw-threaded at 15 for connection with the body part 1 and provides a tube 16 the lower end 17 of which is arranged to project into the powder container 10. The other end 18 of said tube 16 opens into a duct 19 which is arranged for connection with a deflatable air bulb 20. The tube 16 is held in said duct as by a lip or bead 21.

An annular resilient washer 22 is secured in a groove 23 in the cover member 6 and is preferably arranged to surround the open end 13

and the openings of the conduits 14 and to provide a powder-tight seal between the cover member 6 and the holder 8.

The medicated powder 24 is provided in the powder container 10 which, before use, is closed as by a resilient or other cap and which may contain such predetermined quantity of the powder as may be prescribed for any particular treatment.

For use, the powder container 10 is opened and the open container is inserted, with its opening upwards, into the holder 8. The cover member 6 is then screwed down so that the annular washer 23 forms a tight seal between the cover member 6 and the holder 8 and holds the latter securely in position in the body part 1. Operation of the deflatable bulb 20 forces air through tube 16 into the container 10 and such air carries powder 24 in the direction indicated by the arrows through the conduits 14 and the discharge orifice 3 until the container 10 is completely emptied and substantially the whole of its contents is deposited in the body cavity or applied to the wound or the like.

After unscrewing the cover member 6, the powder container or cartridge 10 can be removed and all parts of the device can be easily cleaned for further use. As a rule, the container 10 will be discarded after use.

I claim:

1. A powder projecting device comprising a body part formed with an imperforate side wall of generally conical shape suitable for introduction into a body cavity and with a discharge opening at the smaller end, said body part being hollow and shaped to receive a holder, the end of said body part opposite the discharge orifice being arranged for connection with a cover member; said device further comprising a cover member shaped for connection with said body part, and a holder suitable to be seated within said body part; said holder having an open ended recess suitable to receive a powder container or cartridge with the open end of such cartridge below the mouth of said recess and facing away from said discharge orifice, and also including conduits arranged to establish a connection between the open end of such cartridge and said discharge orifice; said cover member having a tube which is arranged to have its one end projecting into said recess and to have its other end connected to a deflatable bulb.

2. The device claimed in claim 1, in which the open-ended recess is circular in cross-section and each conduit comprises a groove which is formed in the wall of said recess and is materially parallel with the axis of said recess, said groove being open at its side facing said recess.

3. A powder projecting device comprising a hollow body closed at one end, a discharge orifice at the other end of said body, a supporting holder within said body having a bore receiving a powder container or cartridge, one end of which cartridge is permanently closed and the other end of which is open and faces away from the discharge orifice, means in said holder forming at least one conduit for the passage of powder out of and reversely along said powder container or cartridge to the discharge orifice, and means for setting up an air current carrying powder in suspension from the container or cartridge through said conduit and out of said discharge orifice.

4. A powder projecting device comprising a body part formed at its one end with a discharge orifice and means within said body part providing space receiving a powder container or cartridge one end of which is permanently closed and the other end of which is open and faces away from the discharge orifice, said body part having therein means forming at least one conduit adapted for the passage of powder out of and reversely along said powder container or cartridge to the discharge orifice, said device also comprising a cover member, means for blowing air into the container so as to force powder in suspension in the said air through said connection and out of said discharge orifice, and means for connecting said air blowing means through said cover member.

5. A powder projecting device comprising a body of generally conical shape formed with an end of an uninterrupted shape suitable for introduction into a body cavity and with a discharge opening at said latter end, said body part having therein a means formed with a space receiving a powder container or cartridge one end of which is permanently closed and the other end of which faces away from the discharge orifice, said body part also including a connection adapted for the passage of powder out of and past the said powder container or cartridge to the discharge orifice, and said device also including a cover member having a tube which is arranged to project into said powder container or cartridge and means for connecting said tube to means for blowing air through said tube.

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