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D. T. HORTON

POWDER APPLYING DEVICE FOR MEDICINAL PURPOSES

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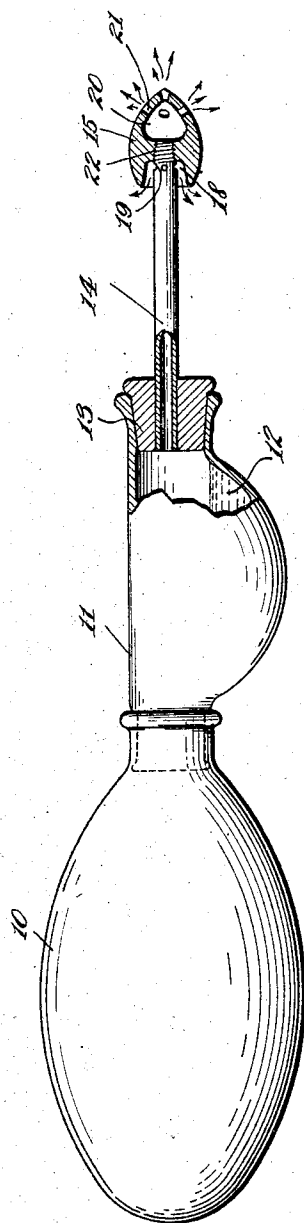


FIG. 1.

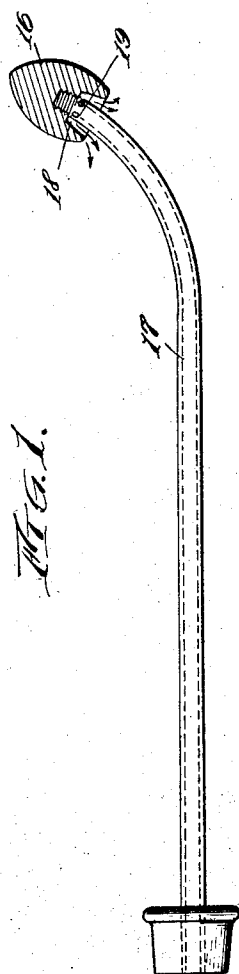


FIG. 2.

INVENTOR,
Daniel T. Horton
BY Thurston K. Hudson
ATTY'S

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DANIEL T. HORTON, OF EAST CLEVELAND, OHIO, ASSIGNOR TO THE THYGOEN COMPANY, OF EAST CLEVELAND, OHIO, A CORPORATION OF OHIO.

POWDER-APPLYING DEVICE FOR MEDICINAL PURPOSES.

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This invention relates to a powder applying device for medicinal purposes; the invention residing particularly in the tip, or nozzle which has a novel construction to cause the powder to be discharged in the proper manner and in the desired direction, or directions to obtain the best results.

In treating certain diseases the passageway to be treated is formed of muscular folds and the powder cannot be gotten under these folds if it is discharged in a forward direction as is the case with the powder applying devices which have been generally used heretofore.

By the present invention the tip or nozzle is so formed that the powder is directed in an effective manner rearwardly, or both rearwardly and forwardly; the direction of the rearward discharge being brought about by the provision in the rear end of the tip of a cavity into which all, or a portion of the powder passing along the stem is discharged. If the device is to be used for the rearward discharge of powder only all the powder passing along the stem enters the cavity and is deflected rearwardly and outwardly. On the other hand, if the device is to be used to discharge the powder both forwardly and rearwardly the tip will be provided with two cavities, one like that above described, and one at the forward end of the tip and provided with outlet openings in which event part of the powder will enter one cavity and part the other.

The invention may be further briefly summarized as consisting of certain novel details of construction and combinations and arrangements of parts which will be described in the specification and set forth in the appended claims.

In the accompanying sheet of drawings Fig. 1 is a side view of a complete powder applying device with parts in section, the tip or nozzle here shown being utilized for the discharge of powder both forwardly and rearwardly. Fig. 2 is a side view with the tip in section showing the stem and tip only, the tip here shown being for the rearward discharge of the powder.

In this instance the device consists of a bulb 10, preferably formed of rubber and connected to a receptacle 11 adapted to contain the powder, or other material to be discharged to treat the affected member, the material being indicated at 12. Connected

to the forward end of the receptacle 11 by means of a plug 13 of rubber or other suitable material is a stem 14 to the forward end of which my improved tip or nozzle is attached. In Fig. 1 the tip is designated by the reference character 15, and in Fig. 2 it is designated by the reference character 16; the tip in the latter figure being connected to the stem 17, which corresponds to the stem 14 of Fig. 1.

It is quite immaterial in what length, or shape the stem is formed. For certain purposes it will be short, and for certain other purposes it will be relatively long. In some instances it will be straight as shown in Fig. 1, and in other instances it will be curved as shown in Fig. 2. Likewise, the size of the tip 15 or 16 will depend upon the purpose for which the powder applying device is to be used as is obvious.

Referring first to Fig. 2 which shows the tip for discharging the powder in a rearward direction only, it will be observed that this stem is screwed into a threaded portion of the tip 16, the front part of which is imperforate. Likewise, it will be observed that the rear end of the tip is provided with a rearwardly facing cavity 18 which is open at the rear and provided with a somewhat tapered, or beveled wall. In order that the powder may be discharged from the stem into this cavity the stem is provided near the forward or closed end of the cavity with a series of small outlet openings indicated at 19.

It will be observed that with a stem and tip arranged and constructed as shown in Fig. 2 the powder will leave the stem by way of the small openings 19 and be discharged into the rearwardly facing cavity 18 from which it will be discharged rearwardly, or rearwardly and outwardly.

It is the provision of this rearwardly facing cavity with the outlet openings 19 in the stem which constitutes the principal feature of the invention whether or not this cavity has associated with it a cavity at the front end of the nozzle for the simultaneous discharge of the powder in a forward direction.

In Fig. 1 the tip 15 has a rearwardly facing cavity 18 and small outlet openings 19 precisely as shown in Fig. 2, but in addition it is provided with a front cavity 20 having forwardly facing discharge openings 21.

In this instance the threaded end of the stem 14 is screwed into an opening formed in the equivalent of a bridge or partition 22 separating the front and rear cavities. 5 When this tip is employed part of the powder passes through the openings 19 into the rear cavity and is discharged in a rearward direction as in the first instance, and part passes straight through the stem to 10 the front cavity and from this cavity is discharged from the tip in a forward, or forward and outward direction.

Although the device constructed as shown in Figs. 1 and 2 has proved by practice to be very efficient, and although I prefer that 15 the tip be constructed as shown in Figs. 1 and 2 I do not wish to be confined to the precise details shown and aim in my claims to cover all modifications which do not involve a departure from the spirit and scope 20 of my invention as set forth in the appended claims.

Having thus described my invention; what I claim, is:

25 1. A powder-applying device for medicinal purposes comprising a stem and a tip

or nozzle attached to the stem, said tip having rearwardly of the point of attachment, a rearwardly facing open ended cavity, and forwardly of the point of attachment hav- 30 ing a front cavity, the stem having openings communicating with the rear cavity and the forward cavity having divergent forwardly directed discharge openings leading therefrom. 35

2. A powder applying device comprising a bulb, a receptacle for powder connected to the bulb, a delivery stem connected to the receptacle, and a tip carried by the stem, said stem being connected to an intermedi- 40 ate part of the tip, the latter having a rearwardly facing open ended cavity for the rearward discharge of the powder, and having at the front forwardly of the stem a second cavity with divergent forwardly di- 45 rected discharge openings leading therefrom, said stem having lateral discharge openings leading into said rearwardly facing cavity.

In testimony whereof, I hereunto affix my 50 signature.

DANIEL T. HORTON.