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L. H. SLOCUMB

2,333,342

SUPPOSITORY

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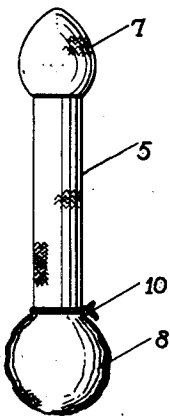


Fig. 1.

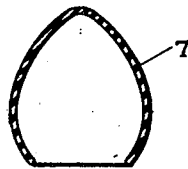


Fig. 3.

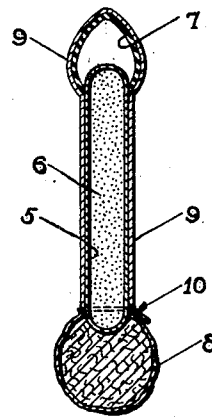


Fig. 2.

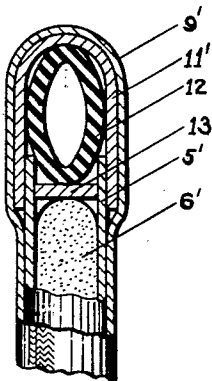


Fig. 5.

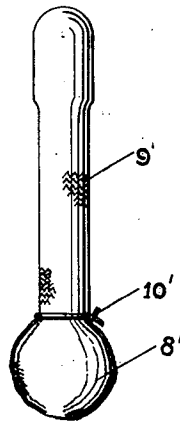


Fig. 4.

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SUPPOSITORY

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2 Claims. (Cl. 128—271)

My invention relates to improvements in suppositories and especially to suppositories for the treatment of the ano-rectal canal.

The principal object of my invention is attained in the provision of an improved suppository wherein many of the faults and deficiencies of suppositories of prevailing type are eliminated; wherein the medicament is retained in and adjacent to the anal canal and topically applied to the areas requiring treatment at such rate that it can be readily assimilated by the tissue with little or no waste.

A further object is to provide a suppository which can be retained in the canal and continues to medicate the morbid tissues for long periods of time without discomforting or in any wise inconveniencing the patient.

Other objects and advantages will be explained in the course of the following description wherein reference is made to the accompanying drawing showing several embodiments of my invention.

Fig. 1 of the drawing is a vertical elevation showing one form of suppository;

Fig. 2 is a sectional view of the article of Fig. 1;

Fig. 3 is an enlarged sectional view of a cap element, Fig. 4 is an elevational view of a suppository having a head portion of modified form, and Fig. 5 is an enlarged sectional view of the head portion of the suppository of Fig. 4.

Referring now by characters of reference to Figs. 1 and 2 of the drawing, the suppository shown therein comprises a tubular casing 5 which is formed of a suitable water-soluble material such as solidified gelatine, a conventional drug-gist's capsule being suitable for the purpose. The capsule 5 serves as a container for the medicinal agents, indicated at 6, which are preferably incorporated in a cocoa butter or other normally solid or semi-solid heat-softenable base. Disposed on the upper or forward end of the tubular casing 5 is a cap member 7 which is insoluble, being formed as by molding, of hard rubber, or of a suitable plastic. As best appears in Fig. 3, the cap member 7 is generally pear-shaped, tapering forwardly to a rounded point and having its greatest diameter forwardly of its rear end so that it is well adapted to pilot the suppository in and through the canal and can also be drawn backwardly without irritating tender tissue.

At its rear end the suppository comprises a wad 8 of cotton, wool, or other soft, absorbent material, the end of the capsule 5 being partly embedded in the wad as shown. The casing 5, cap 7 and wad 8 are completely enclosed in an envelope 9 of soft, absorbent, textile material, such as tex-

tile mesh or stockinet, which material is resilient and closely clings to the surface of the members invested therein. In order to maintain the wad 8 properly positioned at the end of the suppository, a cord or band 10 may be provided and is extended about the casing in the region of its juncture with the wad 8.

In use, the suppository is initially immersed in water to start dissolution of the casing member 5. Thereafter the suppository is inserted so that the medical central portion extends along the anal canal, the enlarged cap or head portion 7 protrudes into the rectal ampulla and the terminal wad 8 seats adjacent the anal verge. When properly positioned in this manner the terminal wad acts as a retaining member to prevent upward displacement of the suppository, and similarly, the cap 7 prevents expulsion of the suppository under the action of the sphincter muscles.

The heretofore prevailing type of rectal suppository is grossly inefficient because when it is inserted it passes immediately into the rectal ampulla where upon melting, its contents become partially absorbed by the mucous membrane of that area. Inasmuch as there are no sensory nerves in this area its effects if any, are constitutional rather than topical.

The tissues of the anal canal and those closely adjacent thereto are abundantly supplied by sensory nerves and inasmuch as almost all painful entities have their origin in the canal or close to it, sustained topical application of the remedial drug agent to these tissues is necessary for the relief of pain, irritation and inflammation.

The suppository of my invention is held in the canal by means of the textile investment 9 and the retaining elements 7 and 8, and all surplus medicines not taken up by the tissue are absorbed by and temporarily stored in the said investment 9 and in the outer terminal wad 8. These members, thusly impregnated, will function to medicate the tissues of the anal canal and those closely adjacent thereto for long periods of time, if such is desired. In addition to its purpose as a retainer, the wad 8 acts somewhat in the manner of a reservoir to receive and temporarily hold the surplus medicines which are conveyed capillaryly to the tissues by means of member 9. This member becomes soft and flexible as the medicated core melts, is prevented by the terminal members from drawing together or bunching, and consequently it may be retained in the canal without discomfort for long periods, thereby providing a slow, continuous application

of the medicine which is highly effective. And in addition to this, drug ingredients that are released, flow upward into the rectal ampulla, serve the same purpose as the conventional type of suppository.

A modified form of my improved suppository is illustrated in Fig. 4. This article is constructed similarly to the suppository shown in Fig. 2 except that a different type of inner retaining element is employed. The suppository of Figs. 4 and 5 has an elongated, water-soluble casing 5' of gelatine or the like, containing the desired medicines in a cocoa-butter or ointment base, indicated at 6'. A cap element 11' fitting over the open end of casing 5' provides a chamber containing an expandible retaining element 12 which, in the present example, is an annulus formed of a short section of rubber tubing. The annulus is laterally compressed to elliptical form so that it will fit the interior of the cap element. Contact of the rubber retaining element 12 and the cocoa-butter or other oily substance in the casing 5' may be mutually detrimental, and hence a partition element 13 is recommended. As in the case of the suppository of Figs. 1 and 2, a wad 8' of cotton, wool, or other fibrous absorbent material provides an exterior retaining means and reservoir for the excess

medical substances, and the parts are enclosed in a textile mesh envelope 9'. It will be comprehended that the head portion of the article is substantially no greater in diameter than the body and can be easily inserted, yet after the cap element dissolves, the expanded retainer will forestall unintended expulsion of the article.

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

10 1. A rectal suppository comprising an elongated medical body, an expandible member at one end of said body for preventing expulsion of the suppository from the anal canal, a dissoluble casing for normally holding the expandible member in a relatively compacted condition, a fibrous, absorbent wad at the opposite end of said body, and a textile envelope snugly environing said body, wad, and retaining means.

20 2. A rectal suppository comprising an elongated medical body having a soluble casing structure, a soluble cap on one end of said body, expandible retaining means confined in a relatively compacted condition within said cap, a fibrous absorbent wad at the opposite end of said body, and a textile envelope snugly environing the aforesaid members.

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