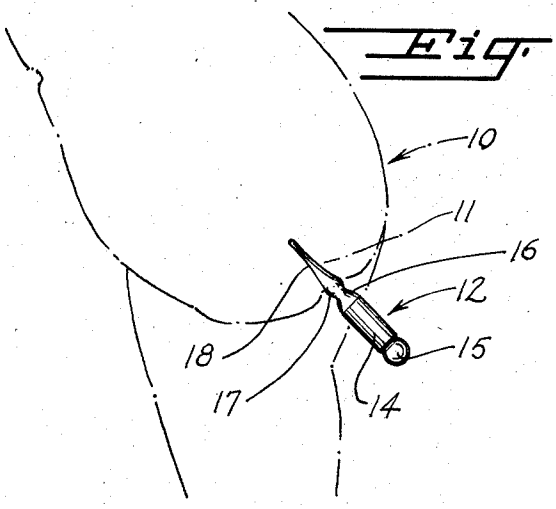
Oct. 28, 1958 P. E. CARLINER 2,857,914

MEANS FOR ADMINISTERING MEDICINES

Filed Jan. 31, 1955

Fig. 1



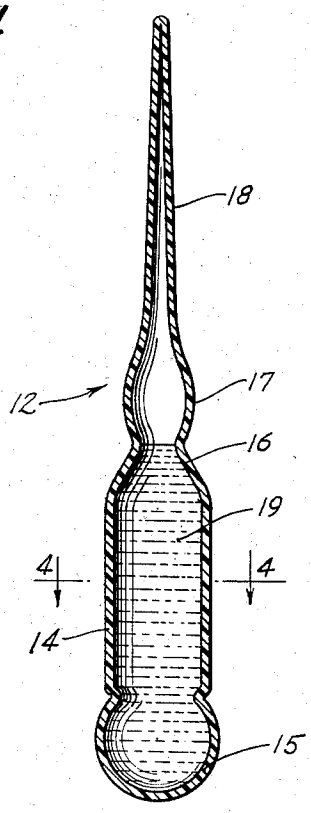


Fig. 3

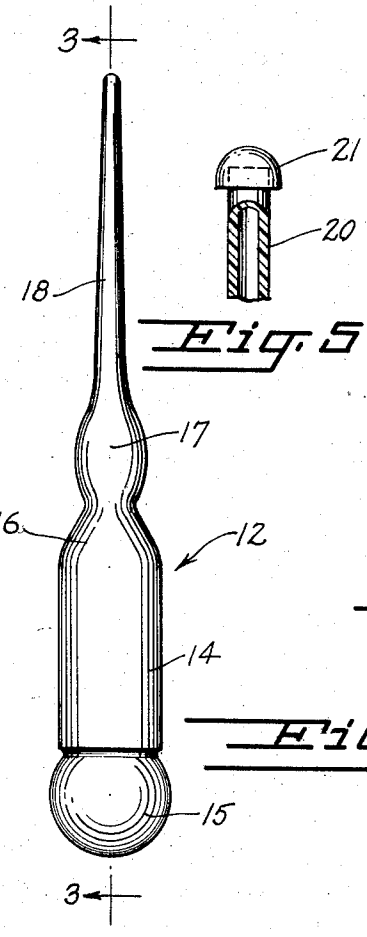


Fig. 5

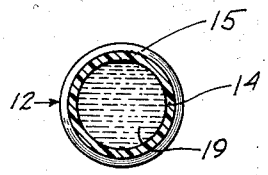


Fig. 4

Fig. 2

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United States Patent Office 2,857,914
Patented Oct. 28, 1958

2,857,914

MEANS FOR ADMINISTERING MEDICINES

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Application January 31, 1955, Serial No. 485,208

1 Claim. (Cl. 128—232)

This invention relates to a method of and means for adminstering medicines, drugs and the like, and more particularly to a method of and means for administering medicines rectally.

The object of the invention is to provide a method of and means for administering various types of fluid medicines or drugs rectally so that such medicines can be administered or dispensed in measured doses whereby the medicines or drugs will be rapidly absorbed into the patient's body.

Another object of the invention is to provide a means for administering single doses of medication through the anus, whereby the device is shaped so that it can be easily inserted into the anus without injuring the membranes around the anal sphincter.

A further object of the invention is to provide a means for administering medicines which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a side elevational view illustrating the dispenser of the present invention having a portion thereof inserted into the anus or rectum of a person, a portion of a person's body being shown in broken lines.

Figure 2 is an enlarged elevational view of the rectal administering device of the present invention.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a fragmentary sectional view illustrating a modification.

Referring in detail to the drawings, the numeral 10 designates a portion of a person's body, Figure 1, wherein the body is shown in broken lines, and the body 10 includes the anus or rectum 11.

The present invention is directed to a method of and means for administering or dispensing medicines or drugs such as the medicine 19 into the patient's body through the anus 11. The present invention is directed to a dispenser which is indicated generally by the numeral 12, and the dispenser 12 can be made of any suitable material such as a compressible plastic. The dispenser 12 may be shaped to include a cylindrical body portion 14 which has a spherical casing 15 extending from an end thereof, Figures 2 and 3. The casing 15 may be manually squeezed in order to cause the medicine 19 to pass out of the dispenser 12 and into the rectum when the dispenser is inserted into the rectum.

Extending from the other end of the body portion 14 is a tapered portion 16 which terminates in an enlarged section 17, and extending from the enlarged section 17 is a tapered tip 18. The dispenser 12 can be filled with the medicine 19 in any suitable manner, and just before the device is to be used, an end of the tip 18 can be

snipped or cut off in any suitable manner so as to permit the medicine 19 to pass out through the tip 18 when pressure is manually applied to the casing 15 or body portion 14.

Referring to Figure 5 of the drawings there is shown a modification wherein a portion of the tip is indicated by the numeral 20 and a removable cap 21 may be mounted on the end of the tp 20. Thus, when the medicine is to be dispensed, the cap 21 is removed from the tip 20 so as to permit the material to be discharged into the anus or rectum.

It is to be understood that other shapes of dispensers can be used and the dispensers 12 can be made in any desired size and of any suitable material. However, by having the dispenser shaped as shown in the drawings, the enlarged section 17 acts as a stop member to limit insertion of the tip 18 into the rectum. The body portion 14 acts as a reservoir for holding a sufficient quantity of medicine 19, and the tapered tip 18 facilitates the insertion of the tip into the rectum.

From the foregoing it is apparent that there has been provided a method of and means for administering or dispensing medicines or drugs rectally. In use, the container or dispenser 12 can be filled with the medicine 19 in a fluid condition in any suitable manner. Then, just before it is to be dispensed into the rectum, the end of the tip 18 can be snipped off or cut off, or else the cap 21 can be removed. Then, the tip 18 is inserted into the rectum as shown in Figure 1, and manual pressure is applied on the portion or casing 15. The dispenser 12 is made of a compressible plastic-like material so that by pressing on the casing 15 the medicine 19 will pass out through the tip 18 and into the rectum. After the medicine has been dispensed from the container, the container is removed from the rectum and may be discarded. The medicine will thus effectively be absorbed into the patient's body. It is to be understood that the dispenser body 12 does not remain in the rectum after the medicine has been dispensed, and this is in contrast to the well known suppositories wherein the outer shell or body of the suppository remains in the rectum to be melted.

It will be seen that there has been provided a disposable plastic container which will serve to deliver to the rectal mucosal membrane medication such as the medication 19 in solution for rapid absorption. The dispenser 12 contains a single dose of the medication 19 to be administered and the device is shaped so as to allow easy insertion of the soft plastic tip 18 without injuring the membranes around the anal sphincter. At present methods of administering medications are by the oral route, inhalation of medications by the nose and mouth by means of sprays or vapors, subcutaneous or intramuscular administration by hypodermic needle, intravenous administration, and rectal administration by means of suppositories or enemata.

In many cases rectal administration of medication is often the preferred route of administration for drugs. For example when patients are vomiting and cannot retain drugs given orally, it is known that drugs given rectally often act more quickly than those given by mouth.

At the present time rectal administration of measured doses of medication is by means of suppositories which consist of the medication mixed in an ointment type base which is shaped for rectal administration. This form of administration of the drug is unsatisfactory because the suppository base causes irritation to the tissues around the anus in some people, and absorption of the medication in the suppository is at times uncertain because of the variability of the melting point of the suppository. Furthermore, often the suppository is passed out of the rectum in an unmelted and unabsorbed condition. Thus, it is desirable to be able to administer

single measured doses of medication in a disposable plastic container for rapid and more certain absorption. The container can be made in various sizes for infants, children and adult use, and can be made to hold various sizes or doses of medication. It is to be understood that the present invention is not limited to any specific medication.

The drugs being administered rectally by means of the present invention do not require sterilization and are intended for self-administration or administration by members of the family.

The problem solved by the present invention has been recognized in the medical art and for example to quote from Pharmacology in Medicine by Victor Drill, 22–5: "Aminophyllin is absorbed rapidly from rectal retention but poorly from suppositories." Ibid, 14–8: "Rectal administration of barbiturates is more efficient than oral, since the drug is not subjected to metabolic action by the liver, an organ which has been demonstrated to play a significant role in the metabolism of most barbiturates." Ibid. 20–10: "Rectal administration of salicylates is said to produce no irritation with little alteration in bowel rhythm." Ibid, 30–22: "It is also true that the advanced stages of heart failure, edema and congestion of the gastrointestinal tract produce nausea and vomiting and make oral administration difficult and unreliable. Routine intravenous injections or rectal administration are used in such cases."

In actual practice the dispenser may be of any desired shape or size. For example if the dispenser is to hold 5 cc. of medicine, the body of the dispenser may be two inches long and the tip portion may be two and one-half inches long. The material for making the dispenser can be translucent or transparent plastic, and is symmetrical in shape. If the dispenser is to accommodate 10 cc. of solution, then the body may be four inches long and the tip portion two and one-half inches long.

With the present invention, no sterilization is required, and measured doses of medicine can be administered to insure rapidity of absorption, and the container is disposable.

The examples and modifications included herein are merely illustrative and it will be understood, of course, that the invention is to be taken as limited only by the scope of the appended claim.

I claim:

As a new article of manufacture, a container for use in dispensing fixed and accurate doses of medicaments into the rectum, said container being made of material which is substantially rigid but which can be manually compressed, said container embodying a cylindrical body portion having a substantially uniform diameter throughout, a spherical casing extending from an end of said body portion and adapted to be manually squeezed, the junction between said casing and body portion being of less diameter than either the body portion or the casing, said casing being of smaller capacity than said body portion, a tapered portion extending from the other end of said body portion and terminating in an enlarged section, the junction between said tapered portion and said enlarged section being less in diameter than the diameter of either said tapered portion or said enlarged section, the maximum diameter of said enlarged section being less than the maximum diameter of said body portion, said enlarged section terminating in a hollow tapered tip for insertion into the rectum, said tip being sealed off, said tip being of soft pliable material to prevent injury to the membranes around the anal sphincter, said tip being of less diameter at its outer end than at the portion adjacent the enlarged section, the end of said tip adapted to be severed off before the tip is inserted into the rectum, said container adapted to be disposed of after it has been used for delivering a single measured dose of medication for absorption, said container adapted to deliver a fixed amount of medication.

References Cited in the file of this patent

UNITED STATES PATENTS

1,699,965	Herzog	Jan. 22, 1929
1,911,671	Blauvelt	May 30, 1933
1,961,489	Hein	June 5, 1934
2,690,181	Boyer	Sept. 28, 1954