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MEDICINE FEEDER

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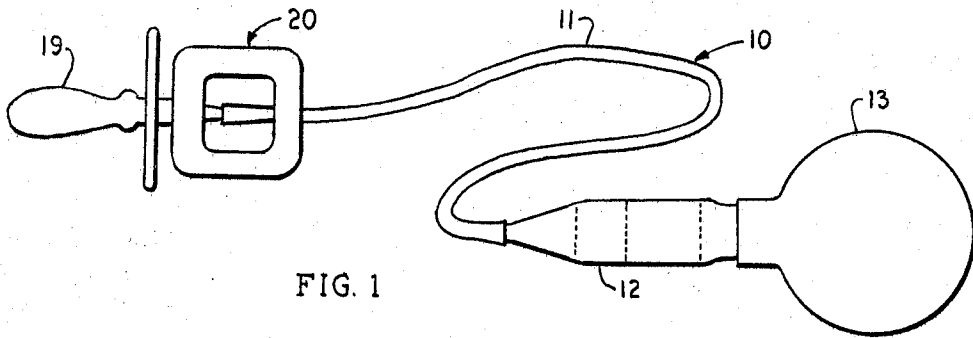


FIG. 1

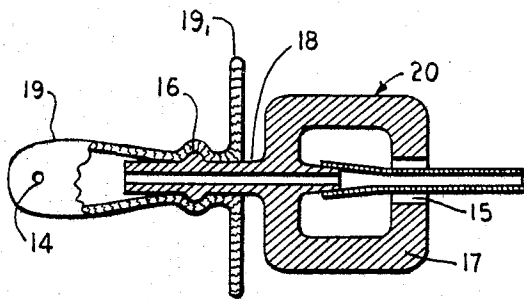


FIG. 2

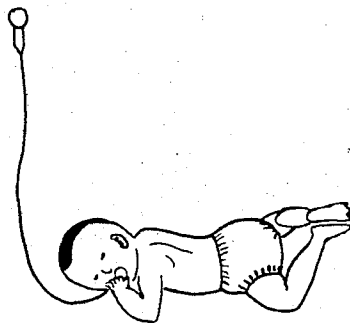


FIG. 3

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7 Claims 5

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ABSTRACT OF THE DISCLOSURE

This invention relates to apparatus for oral administration of medicine. In particular, it relates to new and novel apparatus suitable for administering medicine to children, especially to infants and small children. The device is a pacifier provided with a tubular member having a flanged portion, or enlarged projecting surface, over an end of which an open end nipple is fitted. The tubular member is provided with a stirrup or surrounding ring portion. The stirrup is provided with an opening, and a flexible tube is fitted through the opening and connected to the tubular member. The flexible tube is connected to a vial, appropriately scribed with indicia marks, and an oversized squeeze bulb is fitted thereon for forcing medicine from the vial, through the tube and nipple. Preferably, at the delivery end, the opening through the nipple is located to the side and medicine injected therethrough to the mouth of an infant or child who normally eagerly accepts the pacifier and nipple, while lying or sitting in virtually any position.

Often it is desirable and, at times, absolutely necessary to orally administer medicine to infants and small children. It is common knowledge, however, that this is, even under the best of circumstances, not always an easy task. Even when feeding medicine to relatively large or older children the medicine is often rejected with considerable commotion and discomfort.

The task of feeding medicine to a small child or infant, especially when the latter is very sick or uncomfortable, is often a painful experience for both the child and the person attempting to feed the child. The spoon containing the medicine is generally always rejected and often, due to the urgency of the occasion, force is used to open the child's mouth. This, aside from mental pain and anguish, sometimes results in bruised gums or lips, especially, as often is the case, when the child is awakened from sleep. Efforts to feed children by addition of medicine to food also introduces many difficulties.

Often a child, and especially a very sick infant, refuses to eat or drink and hence efforts to introduce medicine with its food, or in its food, result in failure. Even efforts to introduce the medicine with milk, e.g. via a nursing bottle, often result in dismal failure. This is especially so where the child is awakened from sound sleep, forced to sit up, or lie in an uncomfortable position.

Accordingly, it is the primary objective of the present invention to obviate these and other prior art difficulties. In particular, it is an object to provide apparatus for orally dispensing medicine to an infant or small child while it is awake or asleep, and while the child is in virtually any position, even while the child is lying on its stomach with its face down. More particularly, it is an object to provide apparatus of a type which the child will eagerly accept, by insertion of the delivery end into its mouth, and by which action the desired dosage of medicine can be injected gradually and almost unnoticed by the child. It is a further object to provide apparatus of relatively simple structure for ease of disassembly and convenience in cleaning and sterilizing, and for reassembly.

These objects and others are accomplished by an apparatus combination which comprises a discharge or dispensing end or portion, a container of relatively small volumetric capacity appropriately scribed with indicia marks for measurement of a proper dosage of medicine to be placed therein, a flexible tubing connecting together the dispensing end and the container, the container having associated therewith a squeeze bulb of sufficient size and capacity to substantially displace the contents of the container and flexible tubing through the dispensing end of the apparatus.

The invention will be better understood by reference to the attached drawing, and to the following detailed description which makes specific reference to the drawing.

In the drawing:

FIGURE 1 depicts a preferred device, and is a perspective view of the overall combination,

FIGURE 2 is a cross-sectional view showing the details of the dispensing end of the device, and

FIGURE 3 depicts a method of using the device in orally dispensing a medicinal fluid to an infant while the child is reclined in a rather awkward position for conventional delivery or dispensing of medicine.

Referring to FIGURE 1 is shown a medicine dropper combination 10 which includes a dispensing end 20 to which is connected via a flexible tubing 11, an open end container or vial 12 into which a medicinal fluid or fluid-like substance can be charged. The vial 12 is tapered at one end for ease of connection with an end of flexible tubing 11 and preferably is of sufficient capacity to contain most normal dosages of medicine. Preferably also, the vial 12 is appropriately scribed with indicia marks so that the volume of the medicine placed therein can be readily and conveniently provided by direct measurement. Suitably, the total volumetric capacity of vial 12 ranges up to about five tablespoons, and most often from about one to about two tablespoons, the divisions or fractions as well as the total volumetric capacity being scribed thereon. Preferably, the vial 12 is constituted of relatively inert transparent substances suitably glass, plastic or plastic-like materials, most preferably materials which can be elevated to sufficient temperatures for sterilization, e.g. high temperature polyethylene, polypropylene, polystyrene, polyvinylchloride and the like.

To the larger end of the vial 12 is detachably mounted a flexible walled squeeze bulb 13 the volumetric capacity of which is equal to or greater than the sum-total volumetric capacity of the vial 12 and the inside volume of flexible tubing 11, as well as the volume within the dispensing end 20 of the apparatus. Suitably the volumetric capacity of the squeeze bulb 13 ranges as high as about ten times the volume of the vial 12, but preferably from about two to about six times the volumetric capacity of the vial 12. The flexible bulb 13 is also preferably constructed of materials which are relatively inert and which can be subjected to sterilizing temperatures. Exemplary of suitable materials are certain non-rigid types of plastics and plastic-like materials, viz polyethylene, crystalline polyvinylchloride and the like.

The dispensing end 20 of the device 10, best shown by reference to FIGURE 2, is characterized by the presence, at the terminal end thereof, of a nipple 19 which is connected to the flexible tubing 11 via a central opening through the tubular member 18 which generally is a unitary part of the stirrup 17. The dispensing end 20 of the device 10 is of simple construction and relatively easy to disassemble for cleaning and sterilizing. The stirrup 17 includes the said tubular member 18, a projection or flanged portion 16, over which the nipple 19 is fitted and held in place, and a ring-like portion which can

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serve as a handle. The ring-like portion of stirrup 17 is also provided with an opening 15 through which the flexible tubing 11 is passed to connect to the tubular member 18. An advantage of this type of connection is that the tube 11 can be moved in all directions, yet will not be subjected to any sharp bends and will not be readily detached by accident from the tubular member 18. On the other hand, the tube 11 can be conveniently detached if desired, as after a desired dosage of medicine has been administered.

The stirrup 17 is preferably constructed of rigid relatively inert materials which can be subjected to sterilizing temperatures e.g. metals, plastic and plastic-like materials of the type already mentioned. The ring-like portion of stirrup 17 provides a convenient handle so that the over-all dispensing end 20 of the total apparatus has the appearance of a pacifier-type device which a child or infant will readily accept for placement of the nipple into its mouth.

Nipple 19 is generally the same in structure and appearance, and can be constituted of similar materials, as the more conventional nipples of commerce. The nipple 19 includes a flange portion 19₁ which protects the child's lips, gums and teeth from possible injury. A preferred feature of nipple 19 however is that it is provided with a side perforation or opening 14 away from the terminal end of the nipple. By virtue of the side opening 14 medicine can be projected onto the back portion of the tongue rather than directly toward the throat. This produces swallowing which goes unnoticed by the child or infant. By slowly administering the medicine it is easily admixed with the natural saliva so as to flow readily and easily into the throat to be swallowed. Further, the medicine is placed beyond many of the taste buds and unpleasant, unfamiliar or undesired tastes are largely inhibited or suppressed.

Referring to FIGURE 3 is illustrated an actual example of the feeding of an infant, e.g. one which is asleep, or nearly asleep, and one which has constantly rejected food or drink via attempts to spoon or bottle feed.

In actual tests the squeeze bulb 13 was thus removed, vial 12 filled with the desired dosage of medicine ranging from a few drops of fluid to one teaspoon, and the bulb 13 replaced. The dispensing end 20 was given to the infant, or inserted into its mouth, and in either case was eagerly accepted as sharply contrasted with experiments where a nursing bottle had been offered, or spoon feeding had been attempted.

In some instances the medicine was gradually administered over a period of time, and sometimes rather rapidly, while the child exercised its natural tendency to suck, apparently completely oblivious to the fact that it was taking medicine which it had formerly completely rejected with considerable show of temper.

The present device is thus designed, inter alia, to administer medicine to any infant or child in any position, in bed, in a chair, while held in an attendant's arms, and it creates a circumstance whereby the mouth is exposed willingly to effect comfortable administration without excitement of the child.

It is apparent that certain modifications and changes can be made without departing from the spirit and scope of the invention,

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Having thus described the invention what is claimed is:

1. A pacifier-like device for administering fluid-like medicine to infants and small children in virtually any lying or sitting position, comprising the combination of a rigid tubular member provided with a flanged portion, an open end nipple fitted over the flanged portion covering an end of the tubular member,

a stirrup affixed upon and surrounding a projecting end of the tubular member opposite the nipple,

an opening through the stirrup in line with and opposite the projecting end of the tubular member,

a flexible tubing passed through the opening through the stirrup and affixed upon the projecting end of the tubular member,

a vial connected to the opposite end of the flexible tubing, and

a flexible squeeze bulb of volumetric capacity greater than the sum-total volume of the vial and tubing for squeezing to dispense the fluid-like medicine from the vial, through the flexible tube and nipple.

2. The pacifier-like device of claim 1 wherein the nipple is flanged to protect the mouth of the child and also provided with a side opening for injecting medicine to the back of the child's throat.

3. The pacifier-like device of claim 1 wherein the vial is scribed with indicia marks for convenient measurement of the fluid-like medicine.

4. The pacifier-like device of claim 3 wherein the volumetric capacity of the chamber ranges from about one to about two tablespoons.

5. The pacifier-like device of claim 1 wherein the volumetric capacity of the squeeze bulb ranges from about two to about six times the volume of the chamber and flexible tubing.

6. The pacifier-like device of claim 1 wherein the vial is constructed of a transparent rigid substance appropriately scribed with indicia marks for direct measurement of fluids up to about five tablespoons in volume, and the flexible tubing and rigid tubular member are of clear transparent plastic materials, these materials being capable of withstanding subjection to sterilizing temperatures.

7. The pacifier-like device of claim 6 wherein the substances constituting the vial are selected from polyethylene, crystalline, polyvinylchloride and the like, and the flexible tubing is constituted of materials selected from polyethylene, polypropylene, polystyrene, polyvinylchloride and the like.

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