

Dec. 20, 1966

T. R. PENN
HYPODERMIC STORAGE KIT

3,292,776

Filed Nov. 12, 1964

2 Sheets-Sheet 1

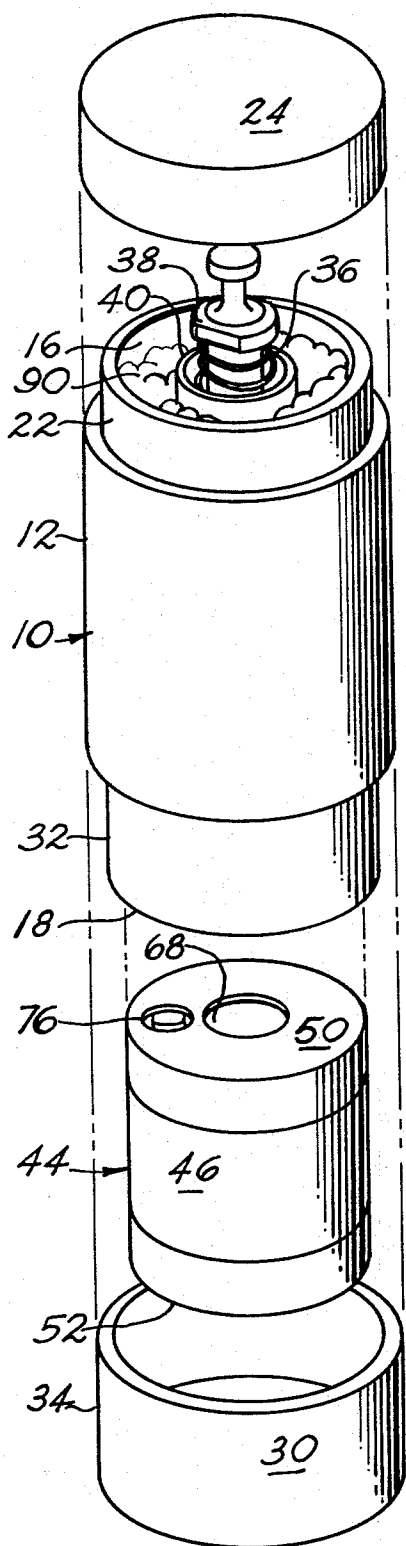
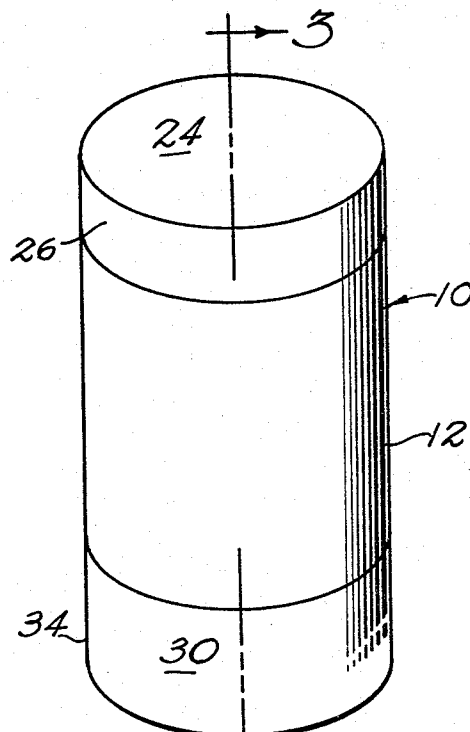
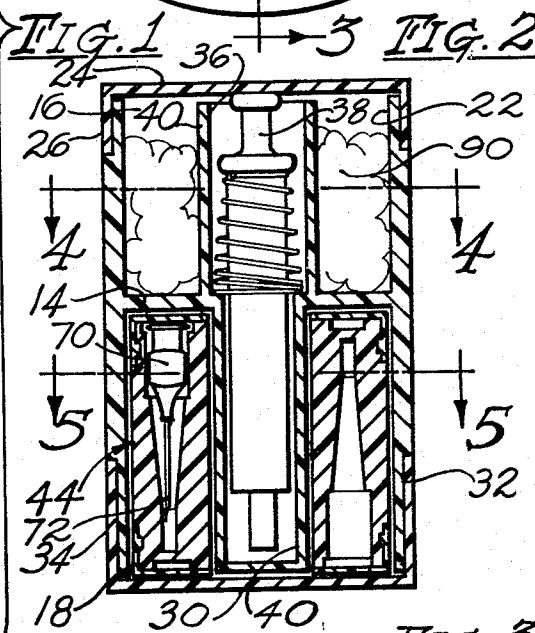


FIG. 3
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2 Sheets-Sheet 2

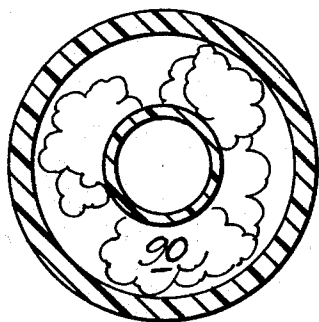


FIG. 4

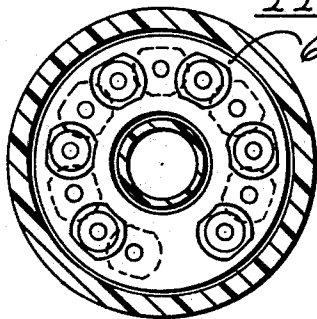


FIG. 5

FIG. 6

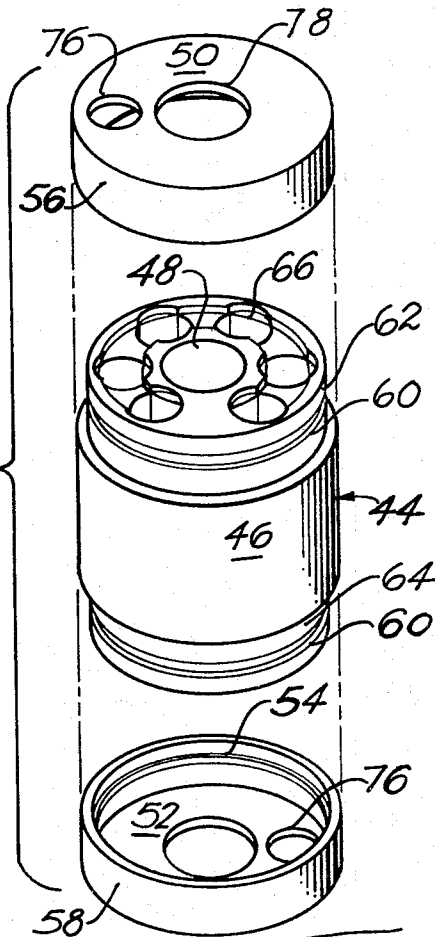
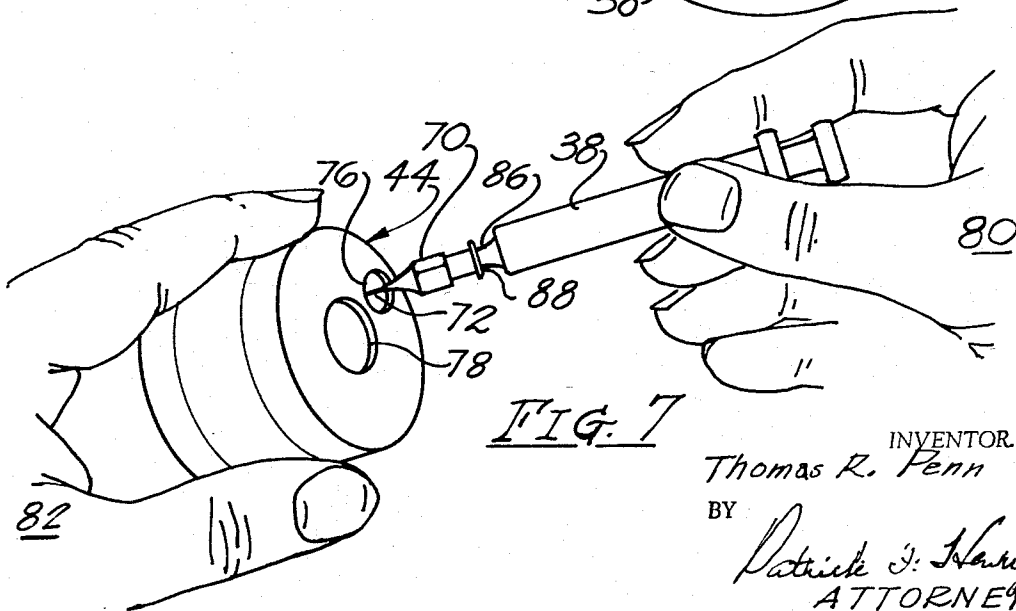


FIG. 7

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1

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HYPODERMIC STORAGE KIT
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12 Claims. (Cl. 206—43)

This invention relates to a hypodermic storage kit and is especially directed to the storage of the parts of a hypodermic needle including both sterile and used or unsterile needles and in such a manner as to present the sterile needles for convenient attachment and also detachment and storage after use.

In my Patent Number 2,929,510 issued March 22, 1960, I show a Hypodermic Needle Holder which among other things is concerned with holding the needles during sterilization and presenting the needles for convenient engagement with a syringe. That arrangement did not include any means for storage of the plunger cylinder of the syringe. In addition, the storage of sterile and unsterile needles is not as prearranged as in the present improved device.

In addition to the problem encountered with the use of hypodermic syringes and getting the hypodermic needle on the syringe barrel tip and off again, there is also the problem and the importance of separating and storing sterile needles and cotton from unsterile or used. Normally a diabetic, or any other regular user of injections, boils and prepares a number of needles in advance to be used, say, for one week or for a specific length of time such as a trip. It is therefore important that the sterile and unsterile or used needles be readily recognized and also be readily available so that the diabetic at the proper time can select and attach a sterile needle detach it after use and at all times keeping the sterile and unsterile separated and clearly marked in case the user forgets where he has placed the sterile and unsterile needles.

My previous Patent 2,929,510 adequately discloses a satisfactory type of hypodermic needle, such as Luer "LUERLOK." It is therefore unnecessary to go into specific disclosures of the needle hub construction or the other details of the hypodermic syringe itself which per se forms no part of the present invention except that the parts are stored in the present container kit.

Generally described, without restriction on the scope of my invention and to defined in the appended claims, a cylindrical kit which may be manufactured from one of many suitable plastics or the like by molding or any other process, comprises a main cylindrical body having a central partition defining two cylindrical compartments, there being one on each end covered by a cap that occupies a reduced portion of the outer end presenting a complete cylindrical surface when in place. One end of one compartment is formed with a tubular holder in the center of the cylindrical portion arranged concentrically with the axis of the cylinder on that end. In this bore is normally placed a typical syringe barrel, plunger and end which is inserted in a coil spring fastened inside the tubular bore. When the cap is placed on this end of the container it pushes against the coil spring by pushing on the syringe which is retracted under spring pressure and which will spring out when the cap is removed so that it may be easily taken from the holder. The other cylindrical compartment on the other end of the holder receives a second removable cylinder manufactured from plastic or the like which is a syringe needle holder. The syringe needle holder comprises a central body of plastic or the like may have a center bore and which is provided with identical needle holder openings arranged around a circle and radially spaced from each other thereon. Each of the syringe holder openings is recessed into the body of the cylinder and is conformed in a complementary fashion

2

to the shape of a needle and its holder. A rotating cap with an opening covers each end of the needle holder cylinder and is permanently affixed thereto for rotation normally covering all of the openings on that end and in which needles are inserted until the opening in the cap aligned with one of the openings or with a blank space which seals the end altogether. One end of the needle holder cylinder may be of colored plastic or otherwise clearly marked both to show that it is for the sterile needles and each opening may be suitably indicated by number or otherwise and the other end is also suitably marked either by color or by indicia. Therefore, the user need never become confused because sterile needles are kept on one side and used needles on the other and after one is used it is deposited in the used needle portion which may contain the same number of needle storage openings as the unused side.

An object of this invention is to provide a storage container kit in which may be stored a syringe and separately marked used and unused needles.

A further object of this invention is to provide a storage kit mentioned in the previous paragraph in which there is a place on opposite ends of the needle storage compartment for used and unused needles which are clearly marked.

Still another object of this invention resides in the cylindrical construction of the present invention which enables the outside to be a cylinder and the internal parts to be smaller cylinders for compact arrangement and separation.

A further object of this invention resides in the removable needle holder cylinder which contains needle storage compartments on both ends and a closure for closing both ends whereby used needles may be placed on one end and unused needles on the other so as clearly to separate the two and to remove the chance of accidental use of an unsterile needle.

Another feature of the present invention resides in the spring mounting of the hypodermic syringe in a compartment where cotton may be stored in such manner as to retract the syringe when the closure is closed and to cause the syringe to spring upwardly for removal when the closure is open.

Other and further objects and advantages of my invention will become apparent upon reading the following specification taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of the present holder disassembled.

FIG. 2 is a perspective view of the present hypodermic storage kit in completely assembled condition.

FIG. 3 is a cross-sectional view taken centrally and longitudinally substantially along lines 3—3 in FIG. 2.

FIG. 4 is a cross-sectional view taken substantially along lines 4—4 in FIG. 3.

FIG. 5 is a cross-sectional view taken substantially along lines 5—5 in FIG. 3.

FIG. 6 is a perspective assembly view of the needle holder of the present storage kit removed from its normal stored position.

FIG. 7 is a perspective view of the needle holder shown in FIG. 6 and the hands illustrating the insertion or removal of a needle therefrom.

Referring initially to FIG. 1 and then to the other figures of the drawings as the specification unfolds and back and forth among the various figures as the descriptive material develops, the entire assembly of the present hypodermic storage kit is indicated by reference numeral 10 and comprises a main cylindrical body 12 of substantially hollow construction and having a transverse central partition 14 therein separating the holder or body 12 into two separate cylindrical compartments—16 on one

end and 18 on the other end. Each respective end 16, 18 has a reduced end flange 22 which receives a closure cap 24 having a flange 26 thereon fitting over flange 22 making a smooth cylindrical container as shown in FIG. 2. Cap 30 on one end is larger than cap 24 on the other end as is the complimentary flange portion 32 on the body 12 and the flange 34 on cap 30. Arranged concentrically within the cylindrical compartment 16 is a second cylindrical compartment 36 or tubular bore which accommodates a standard syringe barrel and plunger arrangement 38 therein. Compartment 36 is formed by a sleeve or tubular member 40 which is attached at the lower end to the transverse partition 14 and this may be made in a type of plastic molding all in one piece.

The compartment 18 in the body 12 contains a removable cylindrical needle storage holder designated as a complete assembly by the reference numeral 44 and comprising a main needle holder body 46 which is of cylindrical construction of plastic such as polyethylene, polypropylene or the like. Holder 44 may be molded or otherwise formed with a central longitudinal bore 48 therethrough leaving a cylindrical body or shell 46.

Referring to FIG. 6, it is seen that the needle holder 44 is provided with rotatable and normally permanently fixed caps or closures 50 on one end and 52 on the other which are attached in place through the use of a thread 54 internally of respective flanges 56, 58 of each respective member 50, 52 and a complimentary thread 60 formed on reduced respective ends 62, 64 of the body 46. With this arrangement, the closures 50, 52 are pushed on and snapped in place more or less permanently but will rotate complete around the longitudinal axis of the holder 44. In the present embodiment, there are six needle compartments 66 formed in the body 44 in the cylinder and outside of the central longitudinal bore 48. Compartments 66 are spaced circumferentially from each other and are radially positioned from the center of the center line of member 46. Each compartment 66 is slightly larger than and generally conforming in shape and complementary to the shape of a needle holder 70 having a needle 72. The cross-sectional shape of this is shown clearly in FIG. 3 which also shows there is a central tubular member 40 extending down into the cylindrical compartment 18 in which the needle holder 44 is positioned by inserting same with the tubular portion 40 inside of the bore 68. This readily positions and neatly retracts the needle holder 44 into place. There are six needle compartments 66 in the top on one end under cap 50 of holder 44 and there are six identical compartments on the other side extending from the opposite direction and normally beneath cap 52. Both caps 50 and 52 have respective openings 76 through which needle holders 70 are inserted and removed and also a center opening 78 corresponding with the center bore 68 and through which the protruding bottom portion of tubular member 40 extends and is inserted. Cap 50 may be molded from plastic in one color such as red whereas cap 52 can be molded in the same mold but from a different plastic such as green or blue or white to indicate respectively the used and unused needles. In addition, numbers or letters, such as the initials of the days of the week, may be placed opposite the respective opening 66 to indicate that the injection has been taken for that day in the case of some people who are forgetful during the day as to whether they have taken the daily injection or not and also to indicate whether that is a used or unused needle. If there is any doubt, of course, then the user simply can disregard that needle being cautious not to use an unsterile needle.

As seen in FIG. 7, the procedure for inserting and removing the needle without touching the needle at all with the unsterile hands is generally the same as described in my aforementioned patent. It is noted that the barrel of the syringe 38 is held in the fingers of one hand 80 while the other hand 82 holds the removable holder 44 which has been removed from the container body 12 and the

tip 86 of the hypodermic syringe 38 is pushed down into the barrel 88 of the needle holder 70. In reverse action, the needle holder 70 is inserted back down into the respective compartment through openings 66 and then inclined against the side or the top 50 or 52 closed slightly so that the tip 86 may be pulled from the barrel 88.

Outside of tubular member 40 in compartment 16, there may be placed sterile cotton 90 for use in applying alcohol or other antiseptic use prior to giving the injection.

While I have shown and described a particular form of my inventive concept together with a complete description and drawings thereof, this is by way of illustration and disclosure only and does not limit my invention since various alterations, changes, embodiments, ramifications, deviations, variations and departures may be made in or from the device shown and described without avoiding the scope of my invention as defined in the appended claims.

I claim:

1. In a container kit for holding the hypodermic syringe and needles separately from each other, there being both sterile and unsterile needles stored in the container:

(a) a container body of generally three-dimensional construction having a three-dimensional compartment in each end thereof normally closed by a removable closure member thereon,

(b) a tubular syringe storage compartment formed in one of said compartments in said container body and having a space therein adapted to contain a syringe without needle,

(c) one of said compartments being generally three-dimensional and having a three-dimensional needle holder therein,

(d) said needle holder having a plurality of inwardly extending and circumferentially spaced needle compartments therein extending from opposite ends thereof inwardly substantially longitudinally into the body to receive both used and unused needles,

(e) closure means for said needle compartments normally permanently attached thereon and being movable to expose selectively said compartments to insert or remove a needle therefrom.

2. The device claimed in claim 1 wherein there is spring means normally resisting the insertion of said syringe into the syringe compartment and wherein said closure cap when placed on the container pushes the syringe against the spring means to create spring pressure on said syringe causing same to spring outwardly from said container when the closure is removed.

3. The device claimed in claim 1 wherein there is a central member extending into said compartment for said needle holder and wherein said needle holder has an opening that through positionable upon said protruding member to locate same properly in said compartment.

4. The device claimed in claim 1, wherein said closure members for said needle holder have means complementary with other means on said body of said needle holder to snap into place thereon.

5. The device claimed in claim 2, wherein there is a space in the syringe compartment end of the container for sterile cotton or the like.

6. In a container kit for holding the hypodermic syringe and needles separately from each other, there being both sterile and unsterile needles stored in the container:

(a) a container body of generally three-dimensional construction having a three-dimensional compartment in each end thereof normally closed by a removable closure member thereon,

(b) a separate tubular syringe storage compartment formed coaxially in one of said compartments in said container body and having a space therein adapted to contain a syringe without a needle,

(c) one of said compartments being generally three-dimensional and having a separate three-dimensional needle holder therein, said compartment containing

5

the needle holder also having a central tubular member coaxially therein,

- (d) said separate three-dimensional needle holder having a plurality of inwardly extending and circumferentially spaced needle compartments therein extending from opposite ends thereof inwardly substantially longitudinally into the body to receive both used and unused needles, said holder having a central bore therein removably receiving said tubular member,
- (e) closure means for said needle compartments normally permanently attached thereon and being moveable to expose selectively said compartments to insert or remove a needle therefrom.

7. The device claimed in claim 6 wherein there is a coil spring around the syringe and normally resisting the insertion of said syringe into the syringe compartment and wherein said closure cap when placed on the container pushes the syringe against the spring means to spring bias same to be sprung outwardly from said container when closure is removed.

8. The device claimed in claim 7, wherein said central tubular member extends into said compartment for said needle holder and wherein said needle holder has an opening receiving said protruding member to locate said needle holder for easier positioning properly in said compartment.

6

9. The device claimed in claim 8, wherein said needle holder is a solid cylinder having the needles compartments circumferentially therein and the closure members for said needle holder have means complementary with other means on said body of said needle holder to snap into place thereon, and depending circular lips on each closure fitting over the needle holder.

10. The device claimed in claim 9, wherein there is a space for cotton in the syringe compartment end of the container which space is outside the syringe compartment itself.

11. The device in claim 10, wherein said individual needle compartments each has an elongated open space and each has an opening smaller than the needle attachment portion to prevent needles from touching the bottom.

12. The device in claim 9, wherein said closure caps for said needle compartments each has a center opening and at least one other opening radially spaced therefrom.

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25 LOUIS G. MANCENE, *Primary Examiner*.