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HYPODERMIC SYRINGE HOLDER

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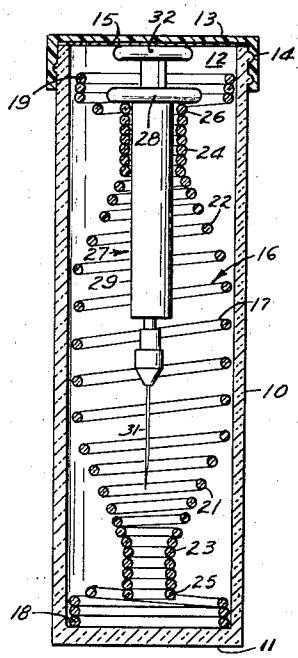


FIG. 1

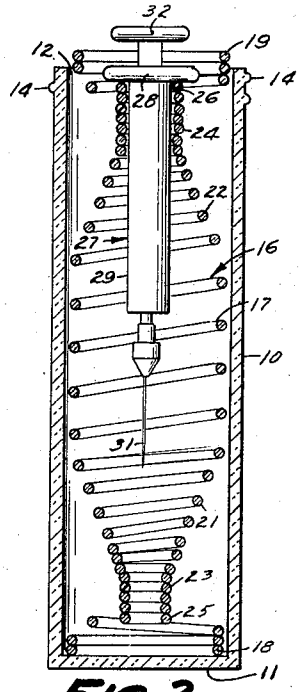


FIG. 2

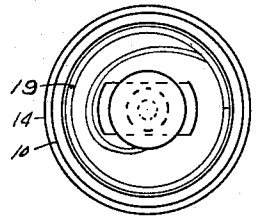


FIG. 3

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HYPODERMIC SYRINGE HOLDER

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2 Claims. (Cl. 206—43)

This invention relates to a hypodermic syringe holder, and more particularly to a hypodermic syringe holder in which the syringe is mounted depending in a helical spring.

An object of this invention is the provision of a hypodermic syringe holder in which the syringe is protected against breakage from dropping, through means of a lateral shock absorbing arrangement.

Another object is to provide a hypodermic syringe holder in which the syringe is mounted depending from resilient spring means.

Still another object of this invention is the provision of a hypodermic syringe holder in which the syringe is substantially completely surrounded and guarded by resilient spring means.

Yet another object is to provide a hypodermic syringe holder in which the mounting spring is reversible, and adapted to receive syringes of different sizes.

A further object of this invention is the provision of a hypodermic syringe holder in which a mounting seat for the syringe is adapted to be disposed in a position, clearly viewable and clearly accessible, for ease of inserting and seating the syringe in the holder, thereby to prevent damage to the hypodermic needle.

Still a further object is the provision of an inexpensive, simple, durable, and efficient hypodermic syringe holder.

Other specific objects and many of the attendant advantages of this invention will be readily appreciated as the same become better understood by reference to the following detailed description when considered in connection with the accompanying drawings in which like reference numerals designate like parts throughout the figures thereof and wherein:

Fig. 1 represents a longitudinal sectional view of the invention illustrating the holder fully assembled, with the cover thereon, showing the spring depressed in the container and the associated syringe lowered or retracted in the container;

Fig. 2 represents a longitudinal sectional view of the invention illustrating the cover removed from the container, showing the spring relaxed or expanded and the associated syringe raised or projected above the mouth of the container for accessibility of the seat; and

Fig. 3 is a plan view of the invention with the cover removed therefrom.

Referring now to the drawings, wherein like reference characters designate like or corresponding parts throughout the several views, there is shown in Fig. 1 an elongated glass container, receptacle or bottle **10** in the form of an upright cylinder having a bottom **11** and an open upper end **12** provided with a closure means or cap **13** threadedly engageable with the bottle as by threads **14**. A disc seal **15** is disposed under the cap to make the container leakproof. It is understood that while a glass receptacle is preferred, the receptacle, cap and seal can be made of any suitable material such as metal, plastic or rubber not affected by the usual sterilizing or antiseptic liquids or solutions or the like. Also, while a cylindrical

container is recited, it is understood that any form or shape of container can be used suitable for the intended purpose, such as oval or rectangular in cross section, or the like.

A compression spring generally indicated at **16** is received in the bottle **10**, resting on the bottom thereof. Said spring **16** is reversible and constructed to receive two sizes of syringes, such as a large diameter syringe and a small diameter syringe, one in each end, respectively.

The cylindrical central portion **17** and the cylindrical end portions **18** and **19** of the spring **16** are of a diameter to be somewhat loosely received in the bottle for easy ingress and egress of the spring to and from the bottle, and yet to substantially stabilize the spring in the bottle against unwanted sidewise displacement, shaking and rattling.

The intervening portions of the spring are of a reduced diameter relative to said central and end portions.

The portions of the spring adjacent the central portion are tapered or conical as at **21** and **22**; while the connecting portions therefrom to the end portions **18** and **19** are solidly wound, cylindrically formed neck portions as at **23** and **24**, respectively.

The neck portions **23** and **24** are of different diameters so as to somewhat loosely accommodate syringes of different sizes, namely, a large diameter syringe and a small diameter syringe, respectively. Obviously, the neck portions can be of the same diameter, if desired.

Syringes are somewhat loosely received in said neck portions **23** and **24** for ease of ingress and egress of the syringes to and from said neck portions, and yet to substantially stabilize the syringes in said neck portions against unwanted sidewise displacement, shaking and rattling. The neck portion receives the syringe and supports it substantially coaxially in the spring even though the holder is lying on its side.

The end portions of the neck sections, such as individual spring coils **25** and **26**, serve as mounting seats for the syringes, such as syringe **27** having flange **28** seated on coil **26**.

Syringe **27** being of conventional construction comprises a barrel **29**, a flange **28** at the top end portion thereof, a hollow needle **31** mounted at the lower end of said barrel and communicating therewith, a piston or plunger in said barrel terminating with a button handle **32**.

The overall length of the compression spring **16**, relaxed or untensioned, is of a length to extend substantially or slightly above the top end of the bottle, thereby disposing the syringe seat **26** substantially at the top end of the bottle.

Operation: When the syringe **27** is seated on the relaxed compression spring in the bottle, the button handle **32** projects above the mouth of the bottle, free and clear, and the button handle can be conveniently grasped with one's fingers for handling the removal of the syringe from the holder.

When the cap **13** is screwed onto said bottle, said cap engages and bears against the top of the button handle **32** thereby pressing the syringe downwardly and tensioning and depressing the compression spring whereby the syringe is retracted into the bottle.

When the cap **13** is unscrewed or removed from the bottle the spring tension is relieved and the syringe is automatically raised by the spring action and projected upwardly above the top of the bottle for convenient grasping of the button handle with one's fingers and removing the syringe from the holder if desired.

With the spring seat **26** disposed substantially at the top end of the bottle, it is obviously clearly viewable and clearly accessible for the insertion of the syringe axially

into the spring and the seating of the syringe flange **28** onto said seat **26**.

The clearly viewable and accessible spring seat **26** affords one the opportunity of aligning the syringe therewith, and inserting the syringe coaxially into the elongated compression spring without harm or injury to the delicate hypodermic needle **31**.

Should the holder be laid on its side the neck portion would maintain the syringe substantially coaxial with the spring, and should the holder be dropped sidewise the neck mounting would prevent the needle or barrel from striking the side of the bottle or spring and thereby save the barrel or needle from possible damage. Furthermore, the impact resulting from an accidental dropping of the holder sidewise would be absorbed by the spring mounting through the means of the neck portion, thus saving the syringe from harmful shock forces.

The characteristic features of this invention are the provision of a hypodermic syringe holder in which the syringe is supported in the neck portion of a spring in a manner to resiliently absorb all impact forces delivered laterally or sidewise of the holder; the arrangement of a syringe depending from a spring seat, and completely and guardably surrounded by the supporting spring; a reversible syringe holder the supporting spring of which being adapted to receive a large diameter size syringe and a small diameter size syringe; and a syringe holder having a mounting seat disposed in a position clearly viewable and clearly accessible at the mouth of the holder for ease of coaxially inserting the syringe into the holder, thereby to prevent harm or damage to the delicate hypodermic needle.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is therefore to be understood, that within the scope of the appended claims, the invention may be practised otherwise than as specifically described.

What is claimed and desired to be protected by Letters Patent of the United States is:

1. A hypodermic syringe holder, comprising: an elongated receptacle closed at one end and open at the other end; a helical compression spring in said receptacle having a reduced diameter cylindrical neck portion comprising a plurality of adjacent coils adjacent said open end for receiving a syringe therein and providing a syringe engaging seat therefor comprising a coil of said neck portion, said cylindrical neck portion operative to support a syringe substantially coaxially of said spring, and said spring operative to project outwardly a syringe seated on said seat; and closure means for said open end for engaging a syringe on said seat and depressing such syringe into the receptacle against the action of said spring.

2. A hypodermic syringe holder, comprising: an elongated receptacle closed at one end and open at the other end; a helical compression spring in said receptacle having a reduced diameter cylindrical neck portion comprising a plurality of adjacent coils at each end respectively for receiving a syringe in each of said neck portions and providing syringe engaging seats therefor comprising a coil of said neck portions, one of said coil seats disposed adjacent said one end, each of said cylindrical neck portions operative to support a syringe substantially coaxially of said spring, and said spring operative to project outwardly a syringe seated on said coil seat adjacent said open end; and closure means for said open end for engaging a syringe on said coil seat adjacent said open end and depressing such syringe into the receptacle against the action of said spring.

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