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AMPOULE ATTACHMENT

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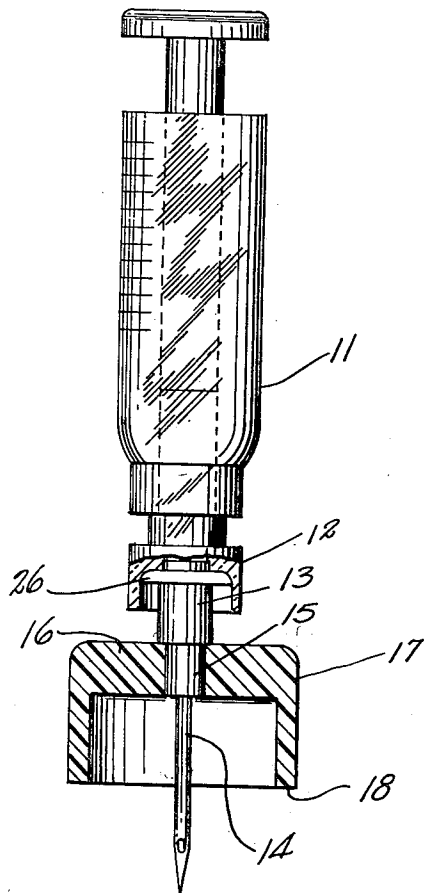


Fig. 1

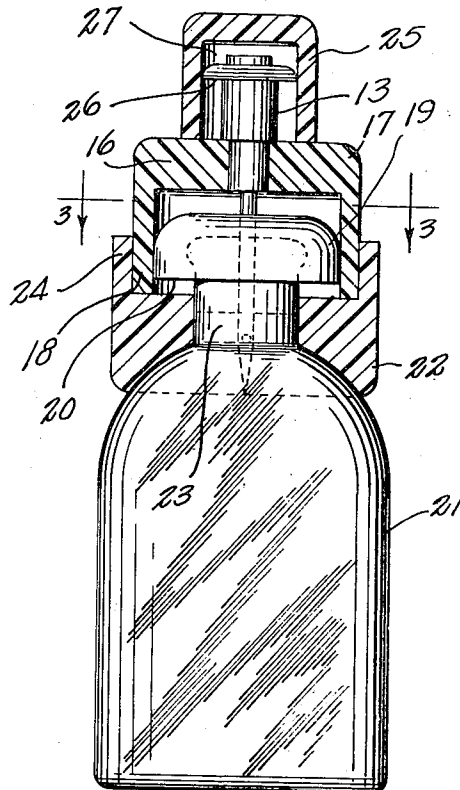


Fig. 2

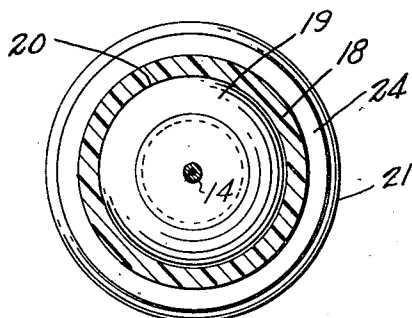


Fig. 3

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AMPOULE ATTACHMENT

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2 Claims. (Cl. 128—276)

This invention relates to closure devices, and more particularly to an improved closure for an ampoule or similar container whose contents are to be withdrawn by means of a hypodermic syringe device.

A main object of the invention is to provide a novel and improved closure attachment for an ampoule which includes the shank and hub portion of a hypodermic syringe, the ampoule attachment being arranged to protectively support the needle portion of a device in the ampoule and to prevent contamination thereof, as well as to prevent contamination of the contents of the ampoule.

A further object of the invention is to provide an improved closure device for an ampoule containing medicine or the like, said closure attachment including the shank portion and hub portion of a hypodermic syringe and being arranged to support the shank portion of the needle in the ampoule when the closure attachment is in sealing position on said ampoule but being arranged so that the hub and needle portions may be engaged with a hypodermic syringe when the attachment is removed from the ampoule, the attachment being simple in construction, being compact in size, and providing effective protection of the hypodermic needle shank portion thereof as well as the contents of the ampoule with which the attachment is employed against contamination.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawing, wherein:

Figure 1 is a vertical cross sectional view taken through an improved ampoule closure attachment according to the present invention, the attachment shown with the main portion of a hypodermic needle.

Figure 2 is a vertical cross sectional view taken through the attachment, arranged as a closure for a conventional ampoule.

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

Referring to the drawings, 11 generally designates a conventional hypodermic syringe having a bottom annular skirt member 12 in which is removably fastened a hub 13 secured on the ends of the hypodermic needle shank 14.

The hub 13 is formed with a reduced cylindrical portion 15 which is centrally secured in the top wall 16 of an annular cap member 17 of suitable resilient deformable material, such as deformable plastic material. The cap member 17 has the depending cylindrical skirt portion 18 which is sealingly engageable over the circular top flange 19 of a conventional rubber stopper 20 employed as a closure for an ampoule 21, as shown in Figure 2.

Since the hub 13 is detachable from the main body of the hypodermic syringe 11, the needle shank 14 may be engaged centrally through the yieldable rubber ampoule closure 20 in the manner illustrated in Figure 2, with the rubber flange 19 sealingly received inside the skirt 18 of cap 17.

Designated at 22 is a further protective member comprising an annular body of resilient deformable plastic material, or the like, which is engaged around the top neck 23 of the ampoule 21, said annular member 22 being formed with the upstanding peripheral flange 24 which

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sealingly receives the lower portion of the depending skirt 18 of cap member 17, in the manner illustrated in Figure 2, whereby the skirt 18 is clamped against the periphery of the circular flange 19 on rubber stopper 20.

Designated at 25 is a further protective cap member of resilient deformable material, such as plastic or the like, which is engaged over the flange portion 26 of the hub 13, making relatively close frictional contact therewith, whereby the cap member 25 is retained in the position thereof shown in Figure 2 until manually removed. As shown in Figure 2, the cap member 25 is formed with an internal cavity 27 shaped to receive the top portion of hub 13 and to substantially seal the top portion of the hub 13 by the engagement of the bottom rim of cap member 25 with the top surface of the top wall 16 of the cap member 17.

As will be readily apparent, when it is desired to use the hypodermic needle, the top protective cap 25 is removed and the top portion of the hub 13 is engaged in the recessed annular member 12 of the hypodermic syringe, after which the reservoir of the hypodermic syringe 11 is filled from the ampoule 21 in the usual manner. The needle shank portion 14 is then withdrawn from the rubber stopper 19, whereby the required injection may be made.

After the injection has been made, the needle shank 14 may be reinserted in the rubber stopper 19, returning the elements 13 and 14 to their position of Figure 2. The main body of the hypodermic syringe 11 is then detached from the hub 13 and the protective cap 25 is again placed over the hub.

While a specific embodiment of an ampoule closure attachment has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. In combination, an ampoule having a reduced top neck and a closure of penetrable material engaged in said top neck, a hypodermic needle having a shank, a hub secured on one end of said shank, and a reduced portion on said hub, said shank being engaged through said closure, an annular cap member having a depending skirt portion, said cap member being centrally secured on said reduced portion and defining a protective further closure and being sealingly engaged over said first-named closure, and a further cap member removably secured over said hub and sealingly engaging the top surface of said first-named cap member.

2. In combination, an ampoule having a reduced top neck and a closure of penetrable material engaged in said top neck, a hypodermic needle having a shank, a hub secured on one end of said shank, and a reduced portion on said hub, said shank being engaged through said closure, an annular cap member having a depending skirt portion, said cap member being centrally secured on said reduced portion and defining a protective further closure and being sealingly engaged over said first-named closure, a further cap member removably engaged over said hub and sealingly engaging the top surface of said first-named cap member, and an annular further protective member engaged around said top neck and sealingly receiving said depending skirt portion.

References Cited in the file of this patent

UNITED STATES PATENTS

2,289,677	Perelson	July 14, 1942
2,326,490	Perelson	Aug. 10, 1943
2,342,215	Perelson	Feb. 22, 1944