April 13, 1937. C. R. JEFFORDS 2,077,240

HYPODERMIC OUTFIT CASE

Filed Nov. 14, 1935

Fig. 1.

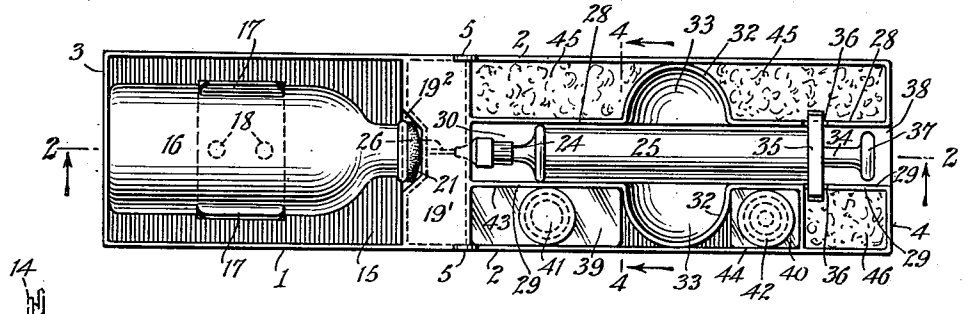


Fig. 2.

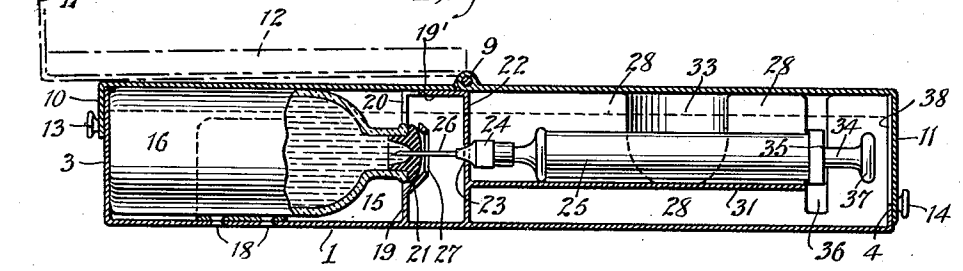


Fig. 3.

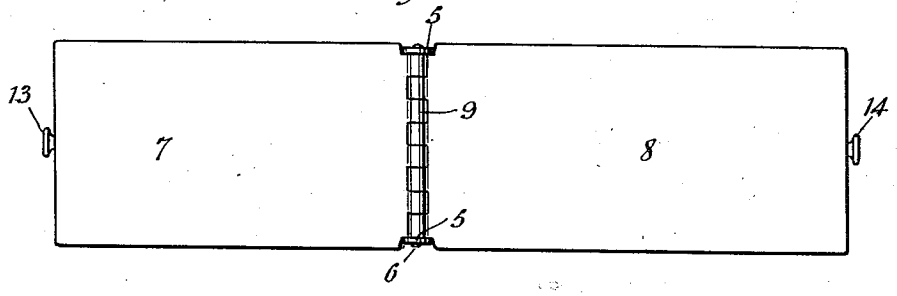


Fig. 4.

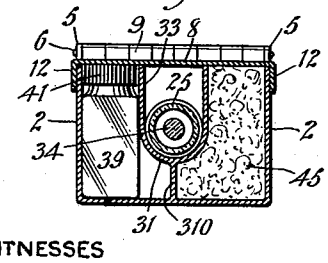
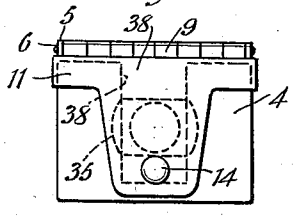


Fig. 5.



WITNESSES

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HYPODERMIC OUTFIT CASE

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6 Claims. (Cl. 206—43)

The present invention relates to a case having a compartment in which may be packed the usual bottle or container for a liquid medicament to be injected into the body of the patient by a hypodermic syringe, the case having also a compartment for receiving the syringe, all arranged compactly so that when the bottle and syringe have been placed in the case they will be held firmly therein in axial alignment, with the needle of the syringe passed into the bottle through the stopper thereof and firmly held without liability of any accidental disarrangement or breakage of the connection between the bottle and the syringe.

Many persons suffering from diabetes are required to take several hypodermic injections of insulin daily and therefore must carry with them when away from home a supply of insulin and a hypodermic syringe. The object of the present invention is to supply a small compact, strong but light, case which will receive and safely hold not only a bottle of insulin but a hypodermic syringe with the needle inserted through the stopper of the bottle ready to remove from the bottle the required dose of insulin, the case being constructed so that the piston of the syringe may be drawn out without removal of the syringe from the case, thus drawing from the bottle the required amount, after which the syringe may be removed for use, and after using and receiving proper antiseptic cleansing returned to its position in the case.

To the above ends the present invention consists of the improved hypodermic outfit case which will be hereinafter described and claimed.

The invention is illustrated in the accompanying drawing in which—

Fig. 1 shows a top plan view of the case with the bottle and syringe in position therein and with the cover removed;

Fig. 2 shows a longitudinal sectional view on the line 2—2 in Fig. 1, looking in the direction of the arrow, and showing in dotted lines that portion of the cover which covers the hypodermic syringe compartment turned backward permitting the charging and removal of the syringe when desired;

Fig. 3 is a top plan view of the case with both members of the cover closed;

Fig. 4 is a cross section taken on the line 4—4 in Fig. 1, looking in the direction of the arrows;

Fig. 5 is an end view showing the righthand end of the case, as shown in Figs. 1, 2, and 3, and in dotted lines the end construction which permits the withdrawal of the piston of the syringe without removing it from the case.

Similar reference characters will be employed to designate corresponding parts.

In the drawing 1 indicates the case having side walls 2 and end walls 3 and 4 preferably made of some suitable light but strong metal such as aluminum. The side walls 2 have upwardly extending ears 5 receiving a pintle 6 on which covers 7 and 8 are pivotally mounted as shown at 9. At their free ends each of the covers will be provided with downwardly extending flanges 10 and 11, and along their sides will be provided with the flanges 12 which embrace the upper edges of the walls 2, 3 and 4. When closed the frictional engagement of the flanges with the walls will hold the covers in closed position but if desired a suitable latch may be provided at each end for this purpose. Also at the ends the cover sections will be provided with knobs 13 and 14 respectively, to facilitate the manual operation of the covers.

At one end the casing is provided with a compartment 15 of a length and depth to receive, for instance, the insulin bottle 16. A spring clip 17 will be employed and held in place by rivets 18 or by other suitable means so that the spring jaws of the clip 17 will readily expand to receive and release the bottle 16 and hold it firmly in position against lateral rolling movement in the compartment 15, as shown clearly in Figs. 1 and 2. The compartment 15 is closed at one end by the end wall 3 and at its opposite end by a partition wall 19 which will be provided with an opening 20 cutting through the top plate 19' forming a notch 19^2 therein; the wall 19 will carry a socket 21 arranged to receive the neck of the bottle 16 with the usual elastic perforated stopper which will be seated in the socket 21. By this arrangement the bottle is firmly held in a horizontal position with the neck and stopper positioned in line with the needle of the hypodermic syringe, as will be hereinafter set forth.

A centrally disposed partition 22 is provided with a central opening 23 which receives the nipple 24 of the hypodermic syringe 25 and permits the needle 26 to be passed through an opening 27 in the socket 21 and through the rubber stopper into the bottle when the syringe is in the case, as shown in Figs. 2 and 3.

Longitudinally extending partitions 28 and 29 form a compartment 30 to receive the syringe, the partitions 28 and 29 extending from the wall 22 to the end wall 4 of the right-hand end of the case. A horizontal curved wall 31 connecting the partitions 28 and 29 is positioned above a longitudinally extending partition 310 and is also connected at each side to the side walls 28 and 29, the position of the bottom wall 31 being at such a point with relation to the bottom of the case that when the syringe 26 is placed therein the needle and plunger of the syringe will be in axial alignment with the opening 23 in the wall 22 and the center of the stopper of the bottle, all as shown in Figs. 1 and 2. At an intermediate point the side walls 28 and 29 will be provided with out-

wardly projecting curved portions 32 forming cupped recesses 33 positioned substantially opposite each other at or about the center of the barrel of the syringe 25 whereby a finger and thumb may be inserted into the recesses 33 to turn the barrel of the syringe when required and to remove it from the chamber 30 and to restore it thereto.

The syringe 25, as usual in such devices, is provided with a headed plunger or piston rod 34 and at the end of the barrel with a guard 35, the guard being usually of that shape shown in dotted lines in Fig. 5, it being relatively longer than it is wide with two curved edges at the ends of its longer diameter and two flat edges at the edges of its shorter diameter. This guard 35 performs two functions; in the device considered as a syringe it will provide an abutment to be held by the fingers to resist the thrust of the piston 34 in ejecting the contents therefrom, and also it will prevent the syringe from rolling off of a flat surface. In the present invention this guard also performs the function of maintaining the coupled arrangement of the syringe and bottle with the needle inserted in the bottle through the stopper thereof. For this purpose the partition walls 28 and 29 at diametrically opposite points will be provided with vertical slots 36 at a point with relation to the length of the barrel of the syringe where the guard 35 will engage the slots 36 when the nipple 24 is seated in the opening 23 in the partition 22, so that when the syringe is in position in its compartment with the nipple 24 seated in the opening 23, the guard 35 may be turned to extend transversely with its opposite rounded ends seated in the slots 36, thus the syringe will be held in position without any liability of movement unless and until manually removed. While in this position it may be filled by withdrawing the piston 34 which is provided with the usual head 37, and to facilitate this operation the end wall 4 is provided with a cut-out or opening 38 centrally disposed and in line with the longitudinal central axis of the case and of a depth as indicated in Fig. 2 and in dotted lines in Fig. 5, which will permit the withdrawal of the piston while the guard 35 is held by the slots 36 in order to withdraw a charge of insulin from the bottle 16. When properly charged the syringe may then be lifted out and its contents injected in the leg or arm of the patient.

After use the needle is immersed in alcohol for the purpose of disinfecting it, and for this purpose there are provided two bottles or containers 39 and 40 which may be formed of glass or other suitable material and provided with screw caps 41 and 42. These bottles or containers are held in place by, and made to fit in, suitable compartments 43 and 44 between one of the partition walls and a side wall. Other compartments 45 on the opposite side and a compartment 46 adjacent the compartment 44 may be filled with absorbent cotton and may carry extra needles or other materials required.

It is thought that the operation of my improved case has been sufficiently described in connection with the foregoing description of its construction, and that a further description of the operation is not necessary.

It will be observed that I have provided a relatively small compact case or container which not only holds the required bottle of insulin and the hypodermic syringe but holds them in coupled relation, and that the plunger of the syringe may be withdrawn from the barrel thereof so as to charge the syringe with the required dose of insulin without removing it from the case; that while the parts are in the case there is no possible chance of any rattling or disarrangement thereof yet the bottle and syringe may be removed readily when required.

I claim:

1. A case for a hypodermic outfit comprising a compartment for a stoppered bottle and a compartment for a hypodermic syringe, said compartments being in longitudinal alignment and having at adjacent ends transversely extending partitions and aligned seats or rests carried by said partitions respectively for engaging and supporting the stoppered end of the bottle and the nipple of the syringe.

2. A case for a hypodermic outfit comprising a compartment for a stoppered bottle and a compartment for a hypodermic syringe, said compartments being in longitudinal alignment and having at adjacent ends transversely extending partitions and aligned seats or rests carried by said partitions respectively for engaging and supporting the stoppered end of the bottle and the nipple of the syringe, respectively, with the needle passed through the stopper of the bottle.

3. A case for a hypodermic outfit comprising a compartment for a stoppered bottle and a compartment for a hypodermic syringe, said compartments being in longitudinal alignment and having at adjacent ends aligned seats or rests for engaging and supporting the stoppered end of the bottle and the nipple of the syringe, respectively, with the needle passed through the stopper of the bottle, and means for holding the bottle and syringe against longitudinal displacement.

4. A case for a hypodermic outfit comprising a compartment for a stoppered bottle and a compartment for a hypodermic syringe, said compartments being in longitudinal alignment and having at adjacent ends aligned seats or rests for engaging and supporting the stoppered end of the bottle and the nipple of the syringe, respectively, means for holding the syringe against lateral and longitudinal displacement, and means permitting the extension of the piston of the syringe while held in fixed position in its compartment.

5. A case for a hypodermic outfit comprising a compartment for a stoppered bottle and a compartment for a hypodermic syringe, said compartments being in longitudinal alignment, means to permit the needle of the syringe to pass through the stopper of the bottle when the bottle and the syringe are in their respective compartments, means permitting the turning of the syringe about its longitudinal axis while in the compartment, and means carried by the syringe and movable therewith and operated by the turning thereof to hold the syringe from longitudinal movement and to permit its withdrawal from the compartment when desired.

6. A case for a hypodermic outfit comprising a compartment for a stoppered bottle and a compartment for a hypodermic syringe, said compartments being in longitudinal alignment and arranged to hold the bottle and syringe in coupled arrangement, the compartment for the syringe provided with opposed recesses permitting the syringe to be grasped by the thumb and finger of the operator for the purpose of turning, inserting and removing it.

CLYDE R. JEFFORDS.