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HYPODERMIC AMPOULE FOR DIRECT INJECTION

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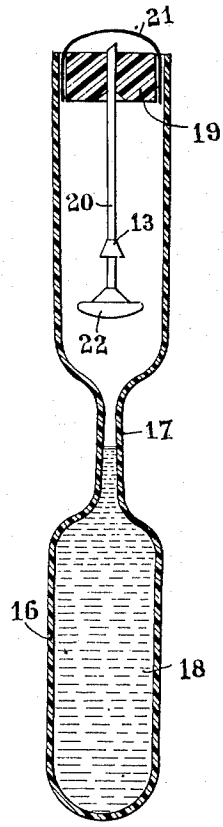

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HYPODERMIC AMPOULE FOR DIRECT INJECTION

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4 Claims. (Cl. 128—216)

The present invention is concerned with an ampoule for direct injection which allows to practice intramuscular and intravenous hypodermic injections without the use of a separate syringe and without sterilization other than the one made when manufactured.

This device is then most useful in every circumstances where solitude or absence of usual supply do not allow to obtain a syringe, or even having the syringe, there is an impossibility of sterilization. It shall be too most useful in case of emergency, in long voyages, far away residence or explorations, in case of great widespread of epidemic diseases, in case of war, etc.

The ampoule according to the invention is distinguished by the fact that the needle and the medicine (drug or solution) to be injected are enclosed in the sealed ampoule, a disc made of plastic material used as needle-holder is set in the front part of the ampoule, and for warehousing and transport, the point of the needle only hardly emerges from the frontward surface of the disc, a special design permits after that the forward part of the ampoule has been cut-off (or removed) in its usual way, to push the needle towards the forepart through the disc and emerge completely, thus permitting the injection and allowing the evacuation of the medicine to be injected from the ampoule through the needle.

The ampoule may be made of plastic material; in this case it is divided in two parts separated by a bottleneck; by an outward action the needle may first be brought forth in its position of use, then the medicine to be injected in the part of the ampoule before the bottleneck which must then be obturated and finally expel the medicine from the ampoule through the needle.

The drawing in annex gives an idea of a possible manufacture of the actual invention.

The ampoule **16** made of plastic material of polyethylene as example, has the appearance of a test tube with a bottleneck **17** at its third of its length.

After having placed in the ampoule thus manufactured the medicine **18** to be injected, the needle-carrier disc **19** is introduced at the top of the tube made, as for the glass ampoule, of a thick disc of plastic material with a

canal in which is set with a soft friction a needle **20** made of stainless steel having a large flat head **22**.

The needle-carrier disc **19** is much thicker than the glass ampoule because it forms for the operator the reliable point of support to be held between the fingers when the injection is made.

The disc having been set in its place, it is hot soldered to the side of the tube **16**. It is then recovered by a cap **21** made of polyethylene which is soldered to the tube. The ampoule thus manufactured may be sterilized at 100° C.

To make the injection, the medicine is squeezed through the bottleneck in the part opposite the needle, the ampoule is bent at the necessary angle so as to place the forefinger on the flat head **22** of the needle **20**, the needle-carrier disc **19** of the ampoule is firmly held between the thumb and middlefinger, the needle is completely pushed out with the forefinger through the polyethylene cap **21**, the stopper **13** avoids any untimely recoil of the needle after that it has been pushed through the disc **19**.

The skin or the muscle is pricked, the ampoule is straightened to allow the medicine to flow towards the needle, the rear part of the ampoule emptying itself completely, the bottleneck is then grasped with the hand or better with a pair of pliers and twisted completely to expel the medicine.

What I claim is:

1. An ampoule for direct injection allowing intramuscular and intravenous hypodermic injections without the use of a syringe and without sterilization other than the one made when manufactured, comprising an envelope made of plastic material divided into two parts, a front part and a rear part, separated by a bottleneck, a needle and the medicine to be injected enclosed inside the envelope, a disc of plastic material used as needle-carrier set in the front part of the ampoule near its forward end, the point of the needle hardly emerging from the forward surface of the disc, for warehousing and transport, a special design permitting for its use to push out the needle through the disc so that it emerges completely to make the injection and allow the medicine to be injected out of the ampoule through the needle.

2. An ampoule according to claim 1, comprising a cap made of plastic material enclosing the forward end of its front part.

3. An ampoule according to claim 1, the needle of which bears on its rear part a large flat head capable of being used as a pusher.

4. An ampoule according to claim 1, the needle of which has a stopper avoiding any untimely recoil when the needle is ready for use.

References Cited in the file of this patent

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