

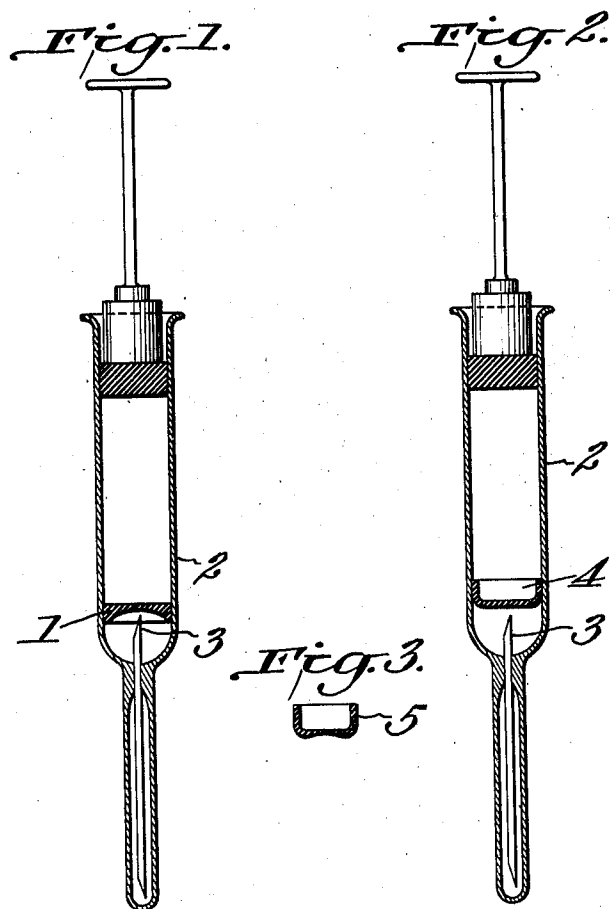
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F. MEYER

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INJECTION AMPUL

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Inventor:

Felix Meyer,

By *Samuel H. Bruckenstein,*
Attorneys.

UNITED STATES PATENT OFFICE

FELIX MEYER, OF AACHEN, GERMANY, ASSIGNOR TO WINTHROP CHEMICAL COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

INJECTION AMPUL

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The present invention relates to injection ampuls, more particularly it relates to injection ampuls in which the injection needle is firmly fixed in the ampul and is separated from that part of the ampul carrying the liquid to be injected by an elastic partition wall which is arranged within the tube of the ampul, and which wall on exerting a pressure on the contents of the ampul is pressed against the sharpened end of the hollow needle, projecting within the ampul and is thereby punctured. The invention consists in constructing the partition wall in form of a movable body, which can slide in a piston-like manner in the ampul tube before filling up to the inner point of the hollow needle, the cross-section of the partition wall favourably being tapered towards the centre to form a membrane in the centre with advantage in such a manner that that side of the partition wall turned towards the needle is concavely shaped while the other side forms a plane.

The injection ampul in accordance with the invention is intended to serve for one single use, it carries the liquid to be used and contains the hollow needle, which is fused therein in the known manner and which is with advantage sharpened at both ends.

In order to more fully describe the invention one particular construction will hereafter be described by way of example:—

In the drawings:

Fig. 1 is a cross-sectional view of the ampul.

Fig. 2 is similar to Fig. 1 but showing a modified partition wall.

Fig. 3 shows a further modified partition wall.

A partition wall (1) of rubber or similar material is situated inside the ampul (2) at some distance behind the needle point (3) which projects within the ampul. A particular characteristic of the wall is that it can be pushed forward in the simplest manner in a piston-like fashion prior to the filling of the ampul up to the needle point (3) and that it then produces a tight seal for the purpose of separating the needle from the injection liquid without necessitating any particular device and without thereby losing elasticity. Based on this elasticity the wall

is pressed, on operating the injection ampul, by the pressure exerted on the liquid against the needle and is punctured by the same with the result that the injection liquid can be discharged thereby through the needle. Appropriate modes of constructing the wall are shown in the diagram in (1), (4) and (5). (1) for example, is a rubber plate, which in order to produce the desired elasticity is tapered towards the centre in the fashion of a membrane. (4) and (5) are hollow plugs; (5) shows in contradistinction to (4) likewise a membrane like tapering towards the centre opposite the needle. The space between the needle and the wall serves as an indication of the penetration of the needle point into the vein or artery, since in this case blood is discharged into this space.

Similar devices are known in which, however, the attached membrane requires special fixing devices, while in the present invention the membrane is movable and the sealing off takes place automatically on account of the pressure exerted by the liquid.

I claim:—

1. In an injection ampul in which the injection needle is completely enclosed by a covering which protects the needle from outside contamination and in which the injection needle is firmly fixed in the ampul a movable elastic partition wall separating the needle from that part of the ampul carrying the liquid to be injected, which elastic partition wall can slide in a piston-like manner in the ampul tube.

2. In an injection ampul in which the injection needle is firmly fixed in the ampul, a slidable elastic partition wall as claimed in claim 1 the cross-section of which is tapered towards the centre.

3. In an injection ampul in which the injection needle is firmly fixed in the ampul, a slidable elastic partition wall as claimed in claim 1 the cross-section of which is tapered towards the centre to form a membrane.

4. In an injection ampul in which the injection needle is firmly fixed in the ampul, a slidable elastic partition wall as claimed in claim 1 the cross-section of which is

tapered towards the centre to form a membrane in such a manner that that side of the wall turned towards the needle is concavely shaped while the other side forms a plane.

- 5 5. In an injection ampul in which the injection needle is completely enclosed by a glass covering which protects the needle from outside contamination and in which the injection needle is firmly fixed in the ampul,
10 a movable elastic partition wall separating the needle from that part of the ampul carrying the liquid to be injected, which elastic partition wall can slide in a piston-like manner in the ampul tube.

15 In testimony whereof, I affix my signature.
FELIX MEYER. [L. s.]

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