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SYRINGE WITH GLASS PISTON

Filed May 14, 1926

Fig 1

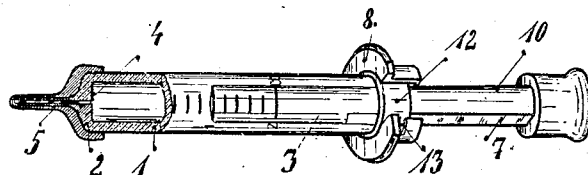
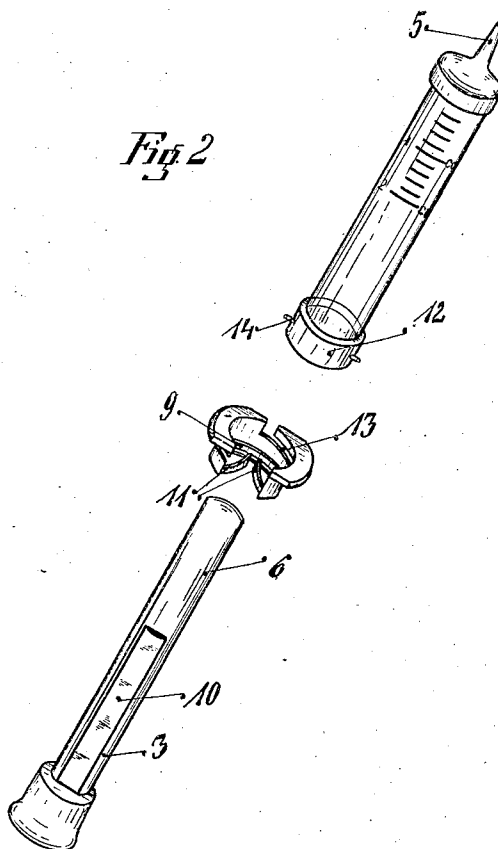


Fig 2



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SYRINGE WITH GLASS PISTON.

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This invention relates to a syringe with glass piston which, in preserving the character of a syringe made entirely of glass is more resistant than a glass syringe and in which the glass piston is secured so that it cannot drop out if the syringe is used, and which comprises means for the fixation of the glass piston so that it is not operated by gravity and ejects the liquid accidentally.

With these objects in view a metal cap is placed over the conical point and a metal cap on the open end of the glass cylinder serves to brake the glass piston.

An embodiment of the invention is shown, by way of example, in the accompanying drawing in which:—

Fig. 1 shows in elevation, partly in section, the improved syringe in the position for use.

Fig. 2 shows the different elements of which the syringe is composed.

The improved syringe which may be of any shape is composed, in order to be aseptic, of a glass cylinder 1, having a conical perforated point 2 and of a piston 3 of glass. The cylindrical piston may be of solid cross section or hollow.

To increase the durability of the syringe the conical point 2 of the glass cylinder 1 and the bottom of said cylinder are covered by a metal cap 5 so that the syringe combines the properties of a glass syringe with regard to asepsis with the durability of the syringes having a metal mounting.

The axis of the conical point 2 and of the metal cap 5 may be in alignment with the axis of the glass cylinder 1 for intramuscular injections and serum injections and the like, or stand at an angle to said axis of the glass cylinder as improvement of the eccentric cone, for intra-venous, subcutaneous and similar injections.

The stopping and fixation of the piston 3 might be effected in any convenient manner.

The cylindrical piston of solid cross section might, for instance, have a narrowed top portion 7 on which the closing cap 8 exerts a braking action by an elastic element 9 which bears onto the narrowed portion 7 of the piston.

Instead of the narrowed portion 7, a flattening 10 on one side or two parallel plane faces 7 and 10 on opposite sides might

be provided on the piston 3 against which bear the ends 11 of the spring 9 in the closing element 8. The closing element 8 is fixed on the metal ring 12 of cylinder 1 by bayonet joint 13, 14.

The piston is perfectly guided in the cylinder 1 by the two flattenings 7 and 10 and the braking means described and it is well stopped and fixed.

I claim:—

1. A syringe, comprising, in combination, a glass cylinder having a hollow pointed injection end, a plunger located in said cylinder and being formed by a cylindrical rod having at a side a plane face terminating remote from the operating end of the plunger, a braking device bearing on said plane face so as to be adapted to serve as stop for the said plunger on its outward movement, and means for connecting said spring with said cylinder.

2. A syringe, comprising, in combination, a glass cylinder having a hollow pointed injection end, a plunger located in said cylinder and being formed by a cylindrical rod having diametrically oppositely located plane faces terminating remote from the operating end of the plunger, a closing cap attached to said cylinder counter to the injection end of the same, and a braking device attached to said cap and bearing on said plane plunger rod faces so as to be adapted to serve as stop for the said plunger on its outward movement.

3. A syringe, comprising, in combination, a glass cylinder having a hollow pointed injection end, a plunger located in said cylinder and being formed by a cylindrical rod having diametrically oppositely located plane faces terminating remote from the operating end of the plunger, a closing cap attached to said cylinder counter to the injection end of the same, and a practically annular band spring having its ends bent back into its annular body portion so as to render them able to bear on said plane plunger rod faces so as to be adapted to serve as stop for the said plunger on its outward movement, substantially as set forth.

In testimony whereof I affix my signature.

KONRAD STIEGLITZ.