C. F. DEWITT.

SYRINGE.

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1,084,257. Patented Jan. 13, 1914.

Fig. 1.

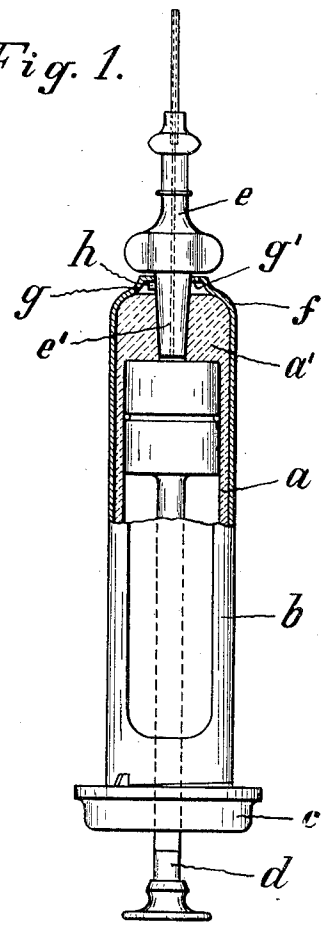
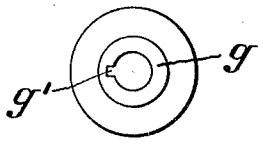


Fig. 2.



WITNESSES

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SYRINGE.

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To all whom it may concern:

Be it known that I, CARL FRIEDRICH DEWITT, of 24 Georgenkirchstrasse, Berlin, Germany, a subject of the German Emperor, have invented certain new and useful Improvements in or Relating to Syringes, of which the following is a specification.

In syringes for medical use with exchangeable nozzle the latter is connected to the barrel in various manners. The usual manner is to pack the glass barrel at its end in its guard shell which as a rule has a conical seat to receive the shank of the nozzle. This method is unsuitable, because it will be necessary to provide a packing between barrel and guard. In order to avoid this it has been tried to unite the nozzle and barrel by fusing the shank of the nozzle into a correspondingly thicker bottom of the barrel. But in this case the nozzle is rigidly secured to the barrel and cannot be removed therefrom and be exchanged as it may become necessary. If the opening in the bottom of the barrel were to be drawn out so far, that the nozzle might be inserted into the tube thus produced on the barrel, the trouble is encountered, that this tube will easily break off, as a certain amount of force will be necessary to fit the nozzle tightly, when it has a ground conical shank.

The present invention relates to a syringe for medical purposes in which the advantages of the usual method of uniting the nozzle and barrel are combined and the disadvantages avoided, by a solid bottom with ground conical seat for the nozzle being employed. The bottom, the thickness of which corresponds approximately to the length of the shank of the nozzle affords a sufficient resistance for the nozzle to be tightly fitted into it, so that the barrel will not break here. On the other hand it is easy to detach the nozzle again and clean the several parts of the syringe without any packing being necessary.

In case it is necessary to secure the nozzle in the barrel against its being unintentionally forced out while the syringe is being used, this may be obtained according to a further feature of the present invention by a bayonet lock being provided between the nozzle and the barrel guard, for instance by the nozzle or its shank having a pin projecting on one side and the barrel guard being provided with a corresponding slot in which the said pin engages and locks. Of course the arrangement may also be made the other way, so that the pin is attached to the barrel guard and the slot in a flange of the nozzle.

In the accompanying drawing Figure 1 is a view wherein the present invention is exemplified in elevation and partly in section. Fig. 2 is a top view of the barrel guard.

The syringe consists as usual of a glass barrel a with a guard b, which has a lid c provided with a bayonet lock, to guide the plunger rod d. The glass barrel a is provided with a bottom a', the thickness of which corresponds approximately with the length of the shank e' of the nozzle e. Shank e' and bottom a' are ground to a tight fit. It will generally be sufficient to press the nozzle tightly into the ground taper bore in the bottom a', in order to prevent it from slipping from the barrel while the syringe is being used. It is, however, desirable to have a more reliable connection between the glass barrel and the nozzle, the guard mantle, which in the constructional form shown rests with a small contraction only at f on the glass bottom a' is provided with a special neck g, in which at g' a radial slot is provided. Correspondingly the nozzle shank e' has a pin h projecting at one side, with which it engages in the slot g' of the neck g when the nozzle is inserted into the glass bottom, and is then turned under it, so that the pin h engages under the neck. This will afford a safe lock between the nozzle and the barrel bottom, which is proof against any unintentional release.

What I claim as my invention and desire to secure by United States Letters Patent is:

1. A syringe comprising a glass barrel having a thickened end portion provided with a tapered bore, a guard surrounding the barrel having a flanged opening at one end, and a nozzle having a tapered shank adapted to fit in the bore of the barrel and having means for detachably interlocking with said guard.

2. A syringe comprising a glass barrel having a thickened end portion provided with a tapered bore, a guard surrounding the barrel having an opening at one end registering with the bore in the barrel, and closed at the other end by a removable cap, a plunger operable in said barrel, a removable noz-

zle having a tapered shank adapted to fit in the tapered bore of the barrel, and means for locking the nozzle in the barrel.

3. A syringe comprising a glass barrel having a thickened end portion provided with a tapered bore, a guard surrounding the barrel, a neck extension formed at one end of the barrel, having an opening and a radial slot, said opening in the neck registering with the bore in the barrel, a plunger operable in said barrel, a removable nozzle having a tapered shank provided with a laterally projecting pin adapted to enter the slot in the neck extension when the shank is fitted in the bore of the barrel, and interlocking with the said neck upon being rotated.

In witness whereof I have hereunto set my hand in presence of two witnesses.

CARL FRIEDRICH DEWITT.

Witnesses:
HENRY HASPER,
EMORY L. GROFF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."