

R. S. PORTER.
HYPODERMIC SYRINGE.

APPLICATION FILED MAR. 16, 1911. RENEWED AUG. 22, 1913.

1,093,471.

Patented Apr. 14, 1914.

FIG. 1

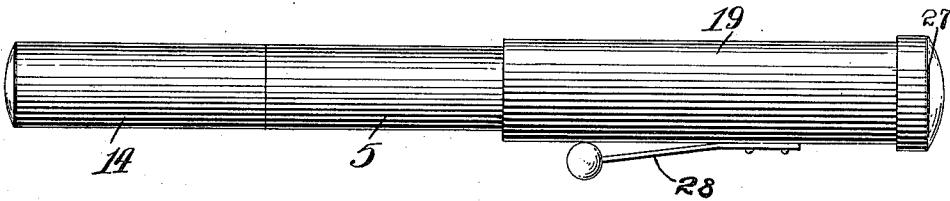


FIG. 2

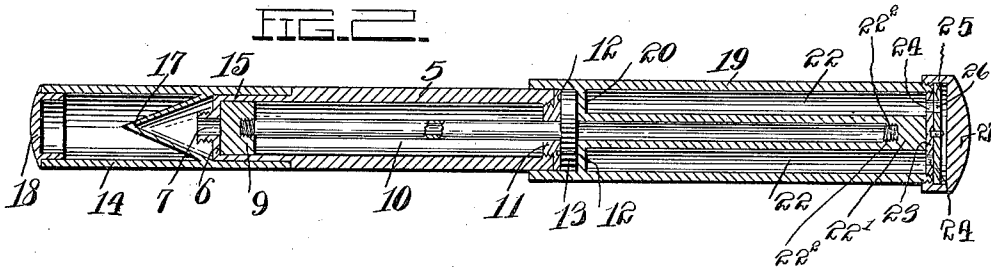


FIG. 3

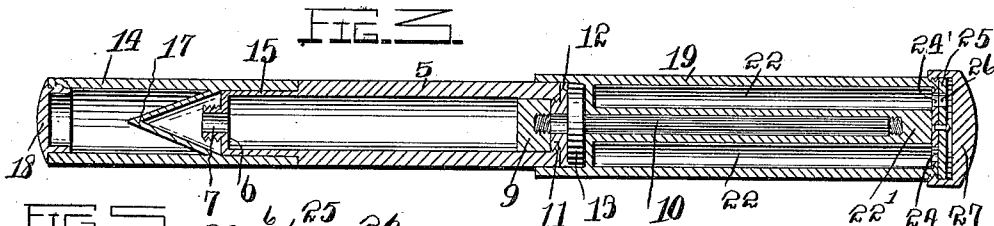


FIG. 5

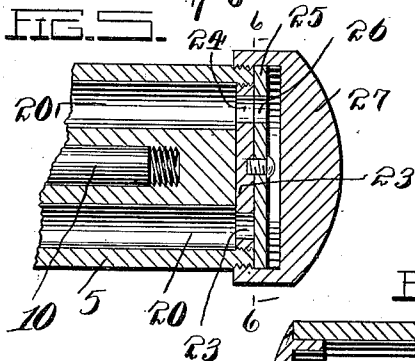


FIG. 6

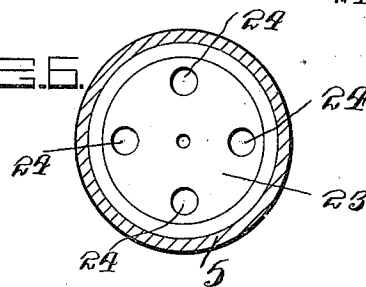
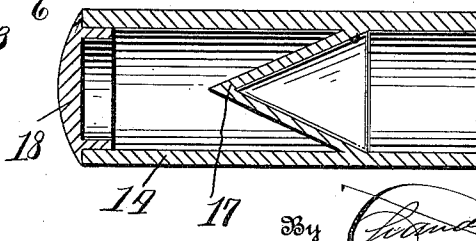


FIG. 4



Witnesses

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HYPODERMIC SYRINGE.

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To all whom it may concern:

Be it known that I, ROBB S. PORTER, a citizen of the United States, residing at Charleston, in the county of Kanawha, State of West Virginia, have invented certain new and useful Improvements in Hypodermic Syringes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to hypodermic syringes and the object in view is the construction of a compact and efficient hypodermic syringe presenting the general appearance of a fountain pen and provided with means for containing various drugs.

Another object of the invention is the construction of a hypodermic syringe of this type having a cap divided by partitions to form drug compartments and a suitable closure for the compartments and a cap formed with a plug closed compartment for holding liquid or powder drugs.

With the above and other objects in view the invention consists in certain constructions, combinations and arrangements of parts, clearly described in the following specification and clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of the improved syringe. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a longitudinal sectional view thereof, the piston being arranged in the removable cap. Fig. 4 is a detail view on an enlarged scale of the cap which goes on the syringe barrel, carrying an extra drug, and serving as a teaspoon in which to dissolve tablets. Fig. 5 is a detail sectional view on an enlarged scale more clearly illustrating the construction of the closure for the partitioned cap of the syringe. Fig. 6 is a section taken on the line 6—6 of Fig. 5.

Referring to the accompanying drawings illustrating the preferred embodiment of the invention, 5 denotes the syringe or barrel one end of which is formed with an apertured end wall 6 through which the contents of the syringe may be discharged and which is provided with a small threaded tubular extension 7 on which the hypodermic needle is threaded, said needle being of any improved type and formed to allow for the

passage of the liquid from the syringe barrel.

A piston 9 reciprocates in the syringe barrel 5 and normally abuts against the end wall 6 and said piston is secured to a hollow piston rod 10 which projects through a bushing 11 secured to the barrel 5. The outer end of the rod 10 carries a small handle 13 which abuts against the edge 12 of the bushing, and said rod is adapted to hold the needle when not in use.

The piston 9 may be unscrewed from the piston rod (after the barrel is full of medicine) and inserted into the liquid from the opposite end of the barrel, thus permitting the patient to carry a syringe full of medicine ready for immediate use.

A cap 14 fits on a reduced cone-shaped portion 15 of the barrel 5 and incloses the discharge end of the barrel 5. The cap 14 is provided with an internal cone-shaped partition 17 in which tablets may be dissolved. The cap 14 is formed hollow at the end to hold liquid or powdered drugs and is closed by a tight fitting plug 18. When the cap 14 is removed from the barrel 5 the inner end thereof may be used as a substitute for dissolving tablets in water.

The outer end of the barrel 5 is engaged by a cap 19 which is formed with an end wall 20 located inwardly of the inner terminal of the body portion of said cap, and which end wall abuts against the handle 13 of the piston rod 10, while the terminal of the body portion of the cap fits over the outer end of the barrel 5. The cap 19 is made hollow and divided by one or more partitions made of cork and inserted into the vacuum to form compartments 22 for containing different kinds of drugs, four partitions and four compartments being shown for convenience. The compartments 22 are partly closed by means of a removable end wall 23 which is formed with openings 24 for the passage of drugs from the compartments 22.

The division plate 22' is formed hollow to receive the piston rod 10 when the chamber 5 is filled with medicine, said division plate being formed with screw threads at 22'' to receive the end portion of said piston. The piston rod is removed from the head 9 and reversed before the same is inserted in the hollow partition 22', the pis-

ton head 9 remaining in the tube 5 and contacting with the handle 13 to form a closure for said tube.

A rotatable closure member 25 is pivoted 5 to the removable end wall 23, and said closure is provided with a single opening 26 adapted to register with either of the openings 24 of the member whereby the contents of either one of the compartments 10 22 may be discharged. A protecting cap 27 is removably secured on the outer end of the cap 19 to protect the drugs in the compartments 22.

By means of the improved hypodermic 15 syringe a physician, nurse, or other person engaged in medical work can carry about them, in a convenient form, a number of drugs to be injected into the veins of a person, without danger to the patient. A 20 liquid drug may be carried in the cap or a powdered drug as desired and tablets or powdered drugs may be arranged in the compartments 22 of the cap 19. The syringe can be manufactured very cheaply and 25 the parts can be connected by lap joints or screw joints as desired.

In general appearance the syringe resembles a standard fountain pen and is provided with a resilient holding clip 28 30 mounted on the cap 19 whereby the device can be secured in a position in a coat pocket or vest pocket.

Various minor changes in the construction of the details of the improved syringe 35 may be made and the parts may be made of

rust protected steel or partly of steel and rubber as may be desired, and a glass lined syringe barrel may be used.

What is claimed is:—

1. A hypodermic syringe comprising a 40 syringe barrel, a piston working therein, a cap mounted on the discharge end of the barrel and provided with a cone shaped partition, a cap closing the opposite end of the barrel and a removable plug for the first 45 named cap.

2. A hypodermic syringe embracing a syringe barrel having a discharge end, a piston working in the barrel, a hollow piston rod detachably connected thereto and 50 having a handle at one end disposed outwardly of the barrel, a cap having a transverse partition removed from one end to contact with the handle when said cap is in position, said cap being divided into 55 longitudinal chambers to contain different drugs and having a central bore adapted for securing said piston rod therein in a reverse position, said chambers being located concentric to the central portion of the cap 60 and communicating with one end thereof, a rotatable closure having a single opening adapted to register with one of the chambers and a closure mounted thereover.

In testimony whereof, I affix my signature, in presence of two witnesses.

ROBB S. PORTER.

Witnesses:

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A. L. ROMNIE.