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D. F. PINCOCK

2,134,144

HYPODERMIC SYRINGE

Filed Sept. 22, 1936

Fig. 1.

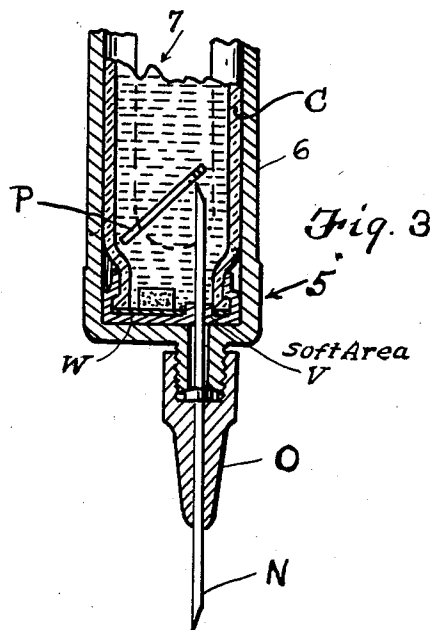
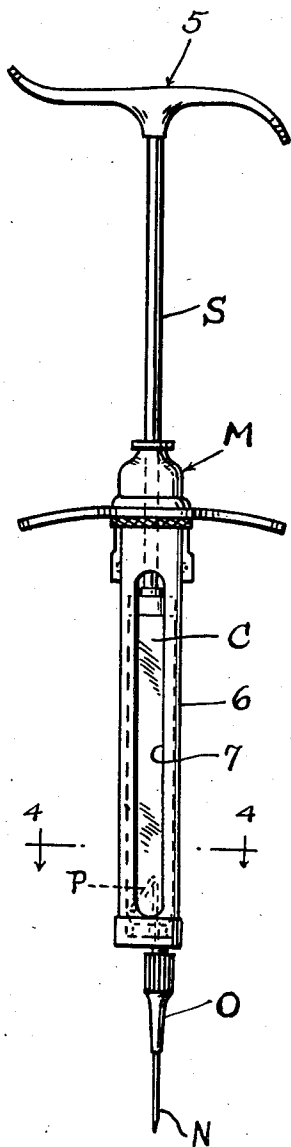
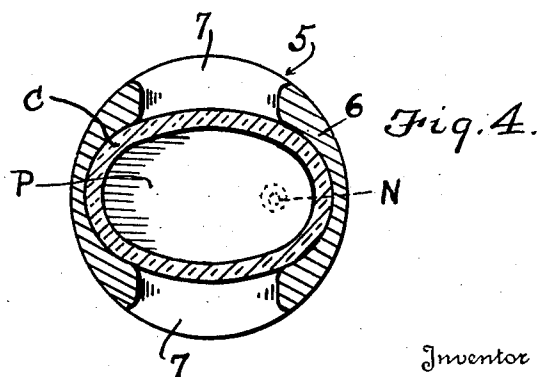
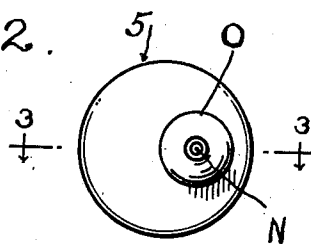


Fig. 2.



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UNITED STATES PATENT OFFICE

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HYPODERMIC SYRINGE

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Application September 22, 1936, Serial No. 101,994

1 Claim. (Cl. 128—218)

This invention relates to surgical instruments and more particularly to hypodermic syringes.

The primary object of this invention resides in the provision of a hypodermic syringe having its needle disposed at a point remote from the longitudinal center thereof so as to project into the ampule adjacent its wall and tilt or dislodge a partition therein from its normal position.

Another object of this invention resides in the provision of a hypodermic syringe having a substantially oval-shaped bore therein, adapted to receive a particularly constructed ampule set forth in my application Ser. No. 101,995 filed September 22, 1936, so as to dispose the needle of the syringe considerably remote from the longitudinal center of the bore for projection into the ampule adjacent its wall and tilt or dislodge a removable partition in the ampule.

With these and other objects in view this invention resides in certain novel features of construction and arrangement of elements to be hereinafter more particularly set forth in the specification and illustrated in the accompanying drawing and, while this disclosure depicts my present conception of the invention, the right is reserved to resort to such changes in arrangement and construction as come within the scope of the claim.

In the accompanying drawing forming a part of this application:

Fig. 1 is a side view of a hypodermic syringe as constructed in accordance with this invention.

Fig. 2 is an enlarged bottom plan view thereof.

Fig. 3 is an enlarged detail vertical sectional view approximately on line 3—3 of Fig. 2.

Fig. 4 is an enlarged detail horizontal sectional view approximately on line 4—4 of Fig. 1 of the syringe.

In the present embodiment of this invention the numeral 5 designates, in general, a hypodermic syringe or other similar surgical instrument wherein an ampule, cartridge or the like, indicated at C and having a cap W provided with a soft or weakened area V for a purpose to be hereinafter set forth, is employed to retain the contents or medicine for use in the syringe.

While the present syringe is primarily of standard construction having its body portion 6 slotted to its bore as indicated at 7 and provided with a swingable head M adapted to support a plunger S of the usual type, its needle-chuck or clamp O is disposed off center to retain a hypodermic needle N in such position relative to the ampule that the inwardly projecting end thereof will puncture the aforesaid soft or weakened area V

of the ampule cap and extend into the ampule adjacent the wall thereof and tilt or dislodge a removable partition P in the ampule to establish communication between adjacent compartments therein whereupon the contents of the compartments become mixed.

Referring to Figs. 3 and 4 it will be seen that the barrel of the syringe is formed with a bore which is oval shaped in cross section and snugly receives the ampule which is also oval shaped in cross section. This ampule has one end reduced to form a neck with which a cap is crimped to firmly hold it in place, the cap being also of oval outline and adjacent one end formed with a weakened portion so located that when the ampule is placed within the barrel of the syringe as shown in Fig. 3, the weakened portion of the cap will be directly opposite the bore of the neck to which the needle-holding chuck is applied. Therefore when assembling the syringe for use it is merely necessary to insert the ampule into the barrel and then apply the head of the barrel to the same in position to dispose its neck opposite the end of the cap having the weakened portion and the bore of the neck and the weakened portion of the cap will be exactly aligned with each other. The chuck and the needle may then be applied to the neck and the inner end of the needle will pass through the weakened portion of the cap without being dulled and engage the partition near one end to tilt and dislodge the partition without puncturing the same. It will thus be seen that the syringe may be very easily assembled with the weakened portion of the cap of the ampule disposed in correct relation to the neck of the head of the syringe barrel for puncturing by the inner end of the needle.

Although this syringe is preferably provided with a substantially oval-shaped bore as clearly shown in Fig. 4, to accommodate my particularly constructed ampule as heretofore referred to, bores of other non-circular configurations may be successfully used to accommodate similarly shaped ampules without departing from the offset needle adapted to tilt or dislodge the aforesaid partition P.

With this invention fully described it is manifest a hypodermic syringe is provided to accommodate a particularly constructed ampule and, through the instrumentality of the offset needle, the partition may be dislodged from its normal position within the ampule without damage to the same or causing the needle to become clogged.

Having thus described my invention what I claim and desire to protect by Letters Patent is:

In a hypodermic syringe, a barrel having a bore substantially oval in transverse cross section, a head for the front end of said barrel having a neck extending forwardly therefrom in eccentric relation to the barrel and formed with a needle-receiving bore-opening into the bore of the barrel adjacent one end of the elongated axis of the transversely oval area thereof, a needle-holding clamp carried by said neck, an ampule snugly received in the bore of said barrel and oval in transverse cross section to conform to the transverse contour thereof, an oval cap for the for-

ward end of said ampule formed adjacent one end with a weakened portion alined with the bore of said neck, and an oval partition extending transversely in said ampule adjacent the front end thereof to provide front and rear chambers, said partition fitting snugly within the ampule and adapted to be dislodged and tilted upwardly when a needle carried by said clamp is passed inwardly through the neck and the weakened portion of said cap and engages one end portion of the partition.

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