Aug. 7, 1956 R. W. OGLE 2,757,672

SYRINGE

Filed May 7, 1953

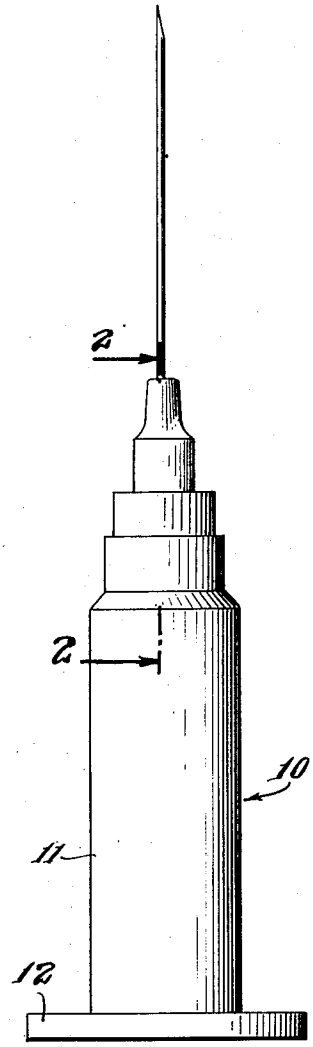


FIG. 1

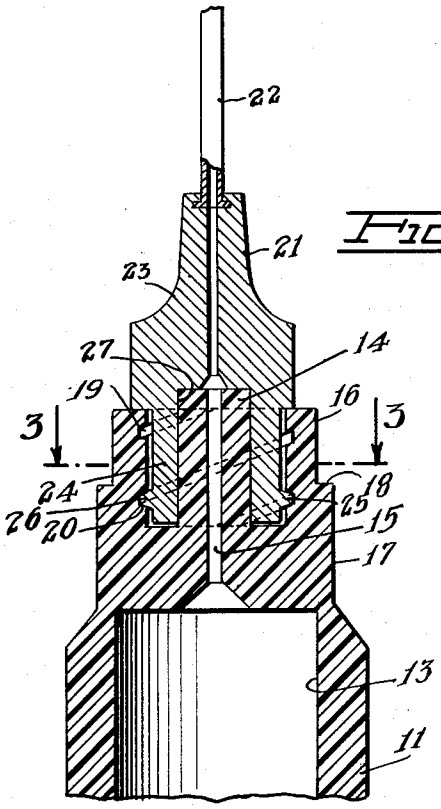


FIG. 2

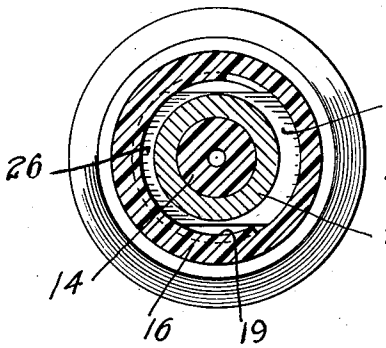


FIG. 3

INVENTOR.
ROBERT W. OGLE
BY
Lyon & Lyon
ATTORNEYS

United States Patent Office 2,757,672 Patented Aug. 7, 1956

2,757,672

SYRINGE

Robert W. Ogle, Pasadena, Calif.

Application May 7, 1953, Serial No. 353,572

3 Claims. (Cl. 128—218)

This invention relates to a syringe and more particularly to a syringe having a polyethylene plastic body provided with means for removably receiving a metallic needle.

Many medicaments such as procaine penicillin are at present dispensed in plastic syringes of the type shown in my copending application, Serial No. 235,807, filed July 9, 1951, now Patent No. 2,693,803 of November 9, 1954, wherein a metallic needle is permanently affixed in the end of the barrel of the syringe, and the whole mechanism, including the needle, is designed to be thrown away after the medicament has been used. This, of course, results in the loss not only of the plastic body but of the needle itself.

It is a primary object of this invention to provide a disposable syringe having a removable needle so that the needle part of the syringe may be removed after use, sterilized and reused.

Various attempts have been made in an effort to provide a polyethylene plastic syringe barrel to which there can be attached a removable metallic needle, and I have now discovered that certain relationships must be maintained between the attaching mechanisms in order to provide a serviceable mechanism.

These and other objects, features and advantages of the invention will be apparent from the annexed specification in which:

Figure 1 is an enlarged side view of a syringe embodying the present invention showing the needle attached.

Figure 2 is an enlarged fragmentary section taken along the line 2—2 of Figure 1.

Figure 3 is a section taken along the line 3—3 of Figure 2.

Referring now more particularly to the drawings, there is shown a syringe indicated generally by the numeral 10 having a tubular barrel 11 provided with a flange 12. The barrel 11 is provided with a cylindrical bore 13 and a post 14 extending therefrom having an axially extending bore 15 communicating with the interior of the bore 13. Surrounding the post 14 is a skirt 16 which is enlarged as at 17 providing a shoulder 18. The annular skirt 16 surrounds the post 14 substantially throughout its length. A female thread 19 is molded or otherwise formed on the interior of the skirt 16, which thread extends, as shown at 20, into the region of the enlarged portion 17.

A conventional Luer lock type needle 21 is adapted to be used with the above described mechanism, said needle comprising a cannula 22 affixed to an attaching member 23, which attaching member 23 is provided with a skirt 24 on which there is formed a pair of tapered extensions 25 and 26 adapted to ride in the threads 19 when the needle is attached to the body of the syringe as shown

in Figure 2. When the needle is fully tightened in the threads, the extensions 25 and 26 will lie in the portions 20 of the threads 19 in the region of the thickened portion 17 of the skirt 16.

It has been found in practice that in the absence of said thickened portion 17, an insecure and unsatisfactory mounting of the needle upon the syringe is obtained but that when the skirt 16 is reinforced, as shown at 17, and the needle is threaded upon the post 14 until the extensions 25 and 26 lie in the region of the thickened portion 17, this difficulty is overcome.

The post 14 is preferably of a diameter slightly in excess of the internal diameter of the bore 27 of the skirt 24, but as the post 14 is formed of polyethylene plastic, it is sufficiently resilient to receive the skirt 24 with a press fit, thus making a firm and sterile seal thereon.

The open end of the barrel 11 is adapted to receive medicament and any suitable form of piston or plunger for ejecting the medicament through the needle 22.

While there has been described what is at present considered a preferred embodiment of the present invention, it will be appreciated by those skilled in the art that various changes and modifications can be made therein without departing from the essence of the invention and it is intended to cover herein all such changes and modifications as come within the true spirit and scope of the appended claims.

I claim:

1. A syringe comprising: a barrel having an open end and a closed end; an axially extending post on said closed end having a bore communicating with said barrel; an annular skirt formed on said barrel spaced from but surrounding said post substantially throughout its length; a female thread in said skirt; said skirt having an enlarged reinforcing portion adjacent said barrel; and said thread extending into the region of said enlarged portion.

2. A syringe comprising: a barrel having an open end and a closed end; an axially extending post on said closed end having a bore communicating with said barrel; an annular skirt formed on said barrel spaced from but surrounding said post substantially throughout its length; a female thread in said skirt; said skirt having an enlarged reinforcing portion adjacent said barrel; said thread extending into the region of said enlarged portion; and said syringe being composed entirely of polyethylene plastic material.

3. A syringe comprising: a barrel having an open end and a closed end; an axially extending post on said closed end having a bore communicating with said barrel; an annular skirt formed on said barrel spaced from but surrounding said post substantially throughout its length; a female thread in said skirt; said skirt having an enlarged reinforcing portion adjacent said barrel; said thread extending into the region of said enlarged portion; said syringe being composed entirely of polyethylene plastic material; and said post and said skirt being adapted to removably receive a metalic needle having an attaching skirt having a pair of male thread-forming extensions thereon.

References Cited in the file of this patent

UNITED STATES PATENTS

1,742,497	Dickson	Jan. 7, 1930
2,616,420	Hart	Nov. 4, 1952
2,677,374	Burnside	May 4, 1954