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INJECTION SYRINGE AND AN INJECTION NEEDLE FOR USE THEREWITH

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FIG. 1

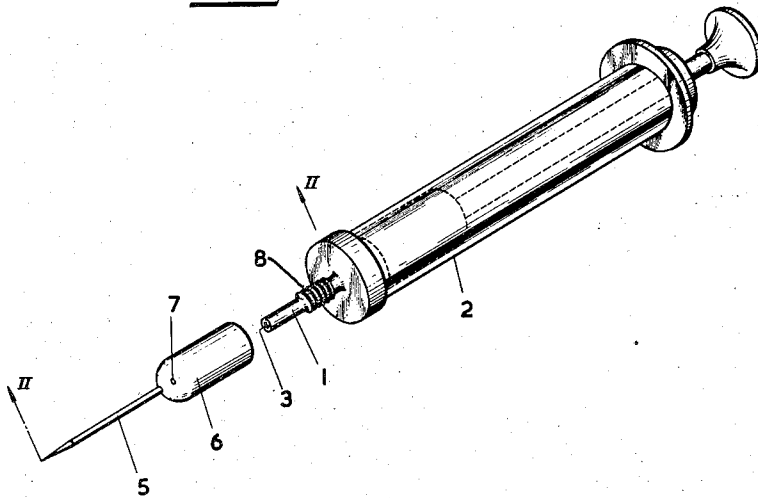
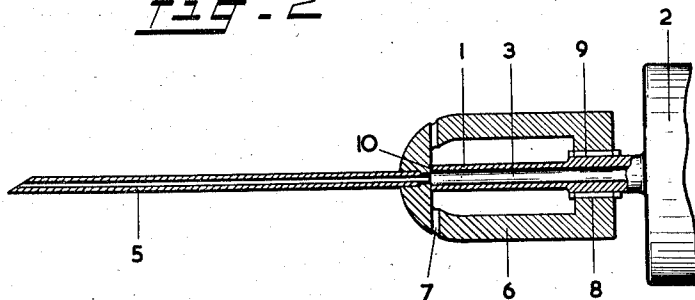


FIG. 2



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INJECTION SYRINGE AND AN INJECTION NEEDLE FOR USE THEREWITH

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Application February 15, 1954, Serial No. 410,409

1 Claim. (Cl. 128—221)

The present invention relates to an injection syringe and an injection needle for use therewith.

In the past there has been a serious problem in the use of injection syringes having a removable injection needle attached thereto, resulting from the flow of contaminated fluid back into the injection syringe because of the negative pressure created in the injection syringe upon the removal of the needle.

It is an object of the present invention to provide an injection syringe having a detachable needle whereby the positive pressure is maintained in the injection syringe which prevents the backflow of contaminated fluid into the injection syringe from the injection needle.

The type of syringe and injection needle contemplated by the present invention is of the type as described in U. S. Patent application Serial No. 285,620, now Patent Number 2,699,777 issued January 18, 1955.

In accordance with the present invention the above and other objects are accomplished by a construction whereby an externally threaded syringe nipple has its end provided with a fitting strip which is adapted to be brought into sealing engagement with another fitting strip on a counter-nipple having internal threads, said counter nipple having a fitting strip which surrounds the entrance to the hollow needle, and at least the syringe nipple or the counter-nipple being provided with an air passage communicating with the atmosphere, one end of said air passage ending between the screw and the fitting strip of the counter-nipple.

In illustration of the invention an embodiment of the injection syringe will be described with reference to the accompanying drawing, in which:

Fig. 1 is a perspective showing of the injection syringe and

Fig. 2 is a longitudinal section on the line II—II in Fig. 1 on a larger scale.

According to the drawing the nipple 1 of the injection syringe 2 which may be of a conventional construction, is provided with an axial fluid passage 3 and with an externally threaded portion 8. The injection needle 5 is provided with a counter nipple 6 which is internally

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provided with a threaded portion 9 which fits on the screw-threaded portion 8 of the syringe nipple 1.

The needle counter-nipple 6 which comprises a transverse bore 7 functioning as an air passage is—just as the syringe nipple 1—so dimensioned that upon screwing the needle nipple 6 on the syringe nipple 1 the end of the latter, which end is constructed as a fitting strip, will come into sealing engagement with the internal fitting strip 10 of the needle nipple 6, which fitting strip 10 surrounds the entrance to the hollow needle 5.

If after the administration of an injection the needle nipple 6 is unscrewed from the syringe nipple 1 for the purpose of replacing the injection needle by a fresh needle the needle nipple and the syringe nipple will be axially and relatively displaced, so that at the same time the sealing engagement between the end of the syringe nipple 1 and the internal fitting strip 10 of the needle nipple 6 will be interrupted and via the air passage 7 in the needle nipple 6 air will be admitted to the axial fluid passage 3 in the syringe nipple 1. Thus injection fluid which has remained behind in the injection needle 5 and which may be contaminated will be prevented from being sucked back and from contacting the syringe nipple 1 or the interior of the injection syringe when the needle nipple 6 is taken off the syringe nipple 1.

Though a preferred embodiment of my invention has been illustrated and described herein, it is to be understood that certain changes may be made as improvement to the features herein disclosed, which do not in any way depart from the true spirit and scope of the appended claim. These may include alteration of the disposition of the air passage in the needle nipple and the like to form a slot, not shown.

I claim:

35 An injection syringe in which the injection needle is detachably connected to the syringe reservoir by means of an externally threaded syringe nipple and a threaded portion of the injection needle counter-nipple, said externally threaded syringe nipple having its end provided with a fitting strip coming into sealing engagement with a fitting strip on said counter-nipple, said syringe nipple being threadably engaged with said counter-nipple, said fitting strip on said counter-nipple surrounding the entrance to the said injection needle, at least one of said 40 nipples being provided with an air passage communicating with the atmosphere and ending in a hollow portion in said counter-nipple between a screw thread and a fitting strip.

References Cited in the file of this patent

UNITED STATES PATENTS

1,547,557	Brody	July 28, 1925
1,596,004	De Bengoa	Aug. 17, 1926

FOREIGN PATENTS

902,925	France	Jan. 3, 1945
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