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P. S. PITTENGER

MEDICINAL PACKAGE

Filed Sept. 29, 1922

Fig. 1.

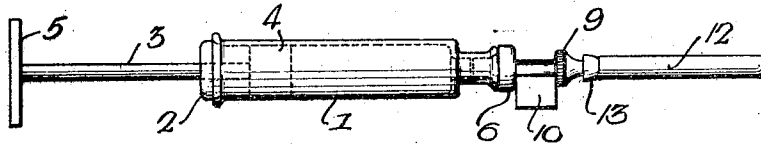


Fig. 2.

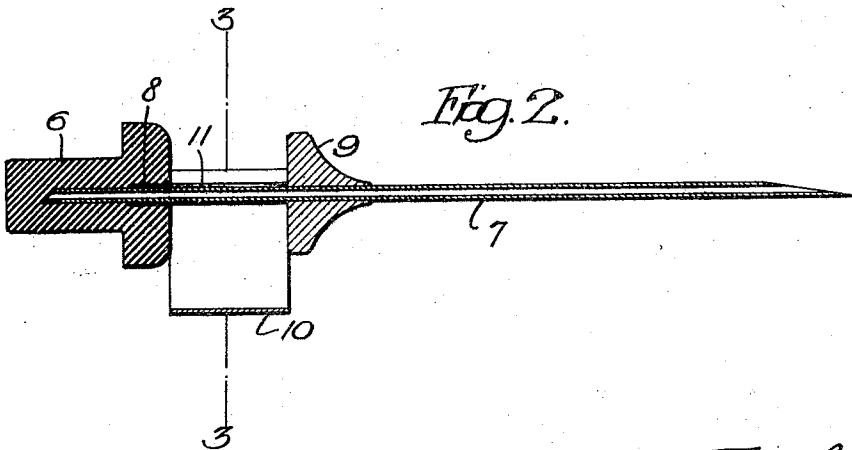


Fig. 4.

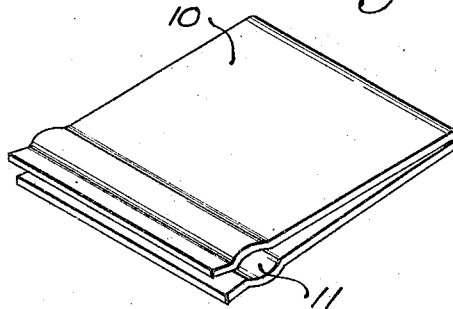
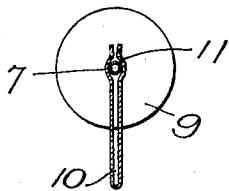


Fig. 3.



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UNITED STATES PATENT OFFICE.

PAUL S. PITTENGER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO H. K. MULFORD COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

MEDICINAL PACKAGE.

Application filed September 29, 1922. Serial No. 591,344.

To all whom it may concern:

Be it known that I, PAUL S. PITTENGER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented a Medicinal Package, of which the following is a specification.

One object of this invention is to provide a novel form of gauge for use on a member such as a needle or puncturing connection, designed to limit or determine the distance to which such member is inserted in a puncturable element, such as a closure or stopper.

Another object of the invention is to provide a medicinal package including a container having a puncturable closure and a needle or the like inserted in said closure, with a gauge member mounted on the needle in such position as to normally prevent its further penetration of the closure, the gauge being of such construction as to be conveniently removed when it is desired to fully insert the needle prior to putting apparatus in service.

Another object of my invention is to provide novel means for preventing the accidental or unintentional passage of a hypodermic needle through the stopper or closure of a serum- or vaccine-container in which it is mounted, in order to permit of the safe handling and transportation of said package, the various parts being so constructed and arranged as to insure the package as well as its contents and the needle remaining sterile until they are required for use.

These objects and other advantageous ends I attain as hereinafter set forth, reference being had to the accompanying drawings, in which,

Fig. 1 is a side elevation illustrating a medicinal package constructed in accordance with my invention;

Fig. 2 is an enlarged longitudinal section of a hypodermic needle and the closure with which it is associated, showing my invention as applied thereto;

Fig. 3 is a cross section on the line 3—3, Fig. 2; and

Fig. 4 is a perspective view of my preferred form of gauge.

In the above drawings, 1 represents a glass or other elongated container constituting in the present instance the barrel of a hypodermic syringe, having a closure 2 in one end centrally perforated for the passage of

a rod 3 whereby a piston 4 within the barrel may be moved longitudinally thereof, said rod having an operating handle 5. The opposite end of the barrel 1 is of reduced diameter and has tightly fitting into it a flanged rubber closure or stopper 6. One end of a hypodermic needle 7 is inserted into and extends part way through this closure, and in order to insure that such needle shall be centrally positioned I provide a guiding cavity 8 centrally of the outer or flanged end of said closure. The needle has rigidly fixed to its body a knurled collar 9 to facilitate its handling and to provide a substantial gripping structure when it is to be utilized.

When the various parts of the package are assembled the barrel 1 is filled with a suitable liquid, such as serum, vaccine, or the like, one end of the needle is inserted part way through the closure 6 as shown in Fig. 2, and in order to insure that by no possibility shall it completely penetrate said closure, I mount a gauge 10 of definite width between the outer face of the closure 6 and the collar 9 on the needle.

In the preferred embodiment of my invention, this gauge consists of a length of springy sheet metal folded at its middle upon itself and having a width sufficient to prevent the needle passing completely through the closure when said gauge has been applied as shown. The two parts of the folded strip or gauge plate are preferably slightly divergent and adjacent their free ends are transversely formed to provide a channel 11 for the reception of the needle.

In order to maintain the outer end of the needle 7 in a perfectly sterile condition until it is desired for use, I preferably enclose it within an elongated glass tube 12 closed at one end and at the opposite end having a rubber stopper 13 through which said needle passes into it. It is to be understood that after all of the various parts have been assembled as shown in Fig. 1, they are treated in any desired manner to sterilize them. Obviously the material within the barrel 1 is thereafter maintained in a sterile condition and there is no possibility of the needle being forced through the closure 6 so as to permit contamination of said liquid or allow of its escape.

When desired for use, the gauge 10 is removed by being drawn laterally off of the needle, after which its collar 9 is grasped by the fingers and its sharpened inner end is forced completely through the closure 6 so as to communicate with the interior of the barrel or container 1. The cover tube 12 on the opposite or outer end of the needle may now be removed, after which the instrument may be used in the usual manner.

From the above description it will be appreciated that the device may be prepared for service without danger of contamination, so that the needle, internally as well as externally, will be in a sterile condition when used. Moreover there is no danger of the introduction of micro organisms into the container when the needle is inserted, since its point enclosed in the rubber stopper 6 is maintained sterile up to the time when it is caused to puncture said stopper and pass into the cavity of the container 1.

I claim:

1. The combination of a closure; a member having an abutment and inserted part way through said closure; and a gauge on said member normally preventing it passing completely through the closure.
2. The combination of a closure; a member having an abutment and inserted part way through said closure; and a gauge on said member normally preventing it passing completely through the closure, the latter having a centering recess for guiding

the member when it is inserted in the closure.

3. The combination of a puncturable closure; a needle having an abutment and inserted part way through said closure; with a gauge on said needle between the closure and the abutment normally preventing passage of the needle through the closure.

4. The combination of a container; a puncturable closure therefor; a needle having one end extended into the closure; an abutment on the needle; and a gauge between the abutment and the closure normally preventing passage of the needle through the closure into the container.

5. The combination of a container; a puncturable closure therefor; a needle having one end extended into the closure; an abutment on the needle; and a removable spring clip between the abutment and the closure normally preventing passage of the needle through the closure into the container.

6. The combination of a closure; a needle extending into said closure; an abutment on the needle; and a folded length of spring material removably engaging said needle between the abutment and the closure.

7. The combination of a puncturable closure; a needle having a collar thereon, and extending part way through the closure; with a folded body of sheet material removably engaging the needle between the collar and said closure.

PAUL S. PITTENGER.