

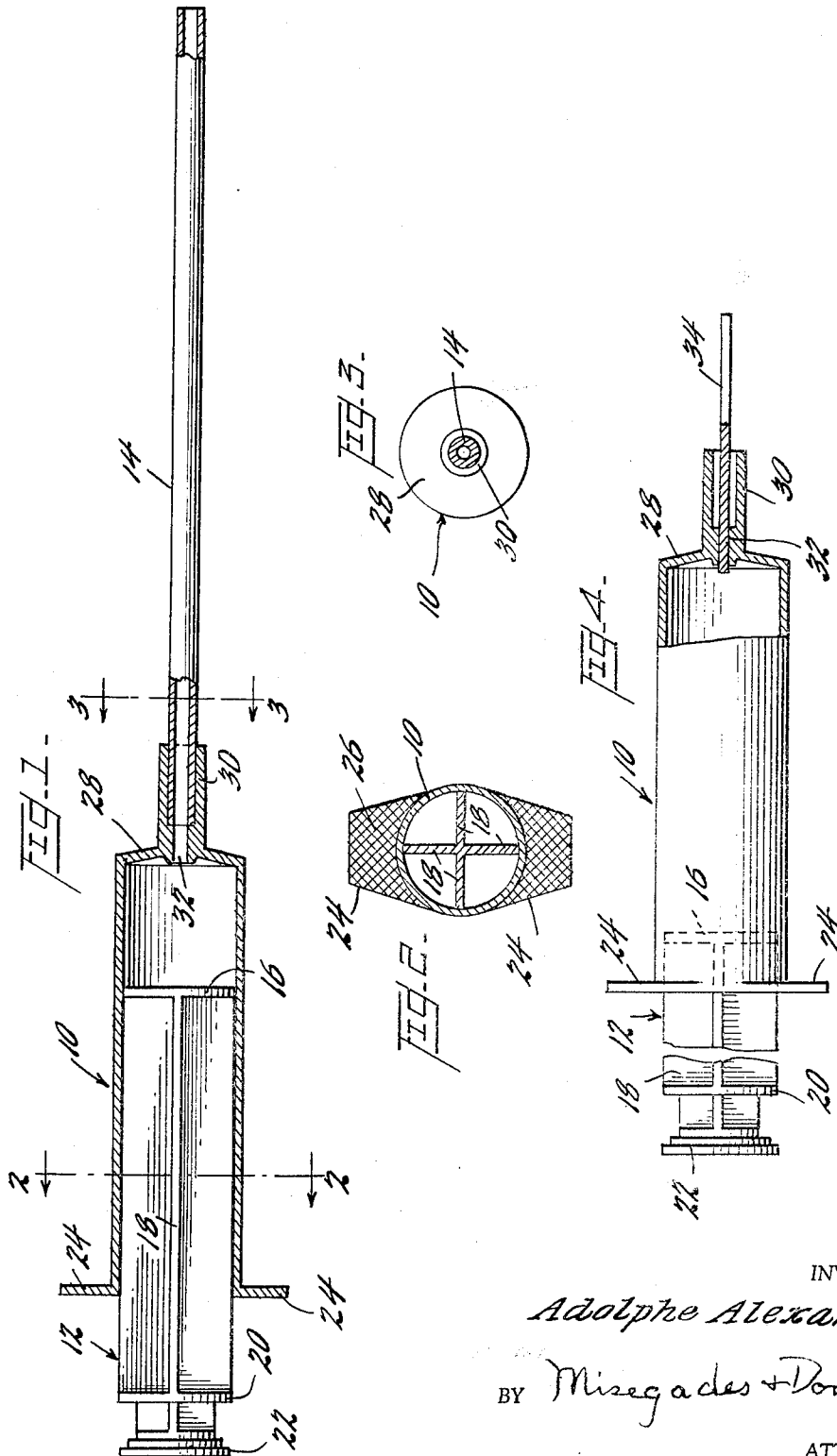
Oct. 11, 1966

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3,277,894

SYRINGE PACKAGE HAVING PARTS OF DIFFERENT HARDNESS

Filed Oct. 11, 1963



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3,277,894

SYRINGE PACKAGE HAVING PARTS OF DIFFERENT HARDNESS

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Filed Oct. 11, 1963, Ser. No. 315,723

2 Claims. (Cl. 128—235)

This invention relates to a syringe package for injectable fluids.

In the packaging of sterile medicines, the trend is to single dosage units. The package of this invention is designed to hold a single dose of fluid in an apparatus convertible to a syringe body. The body may be coupled to any suitable dispensing implement. It is especially designed for use in delivery of fluid at a substantial rate, through a long applicator tube.

Reference should be had to the accompanying drawing for a fuller understanding of the invention. In the drawing,

FIGURE 1 shows the apparatus in a partially dispensed position, connected to the dispensing tube, portions being shown in section;

FIGURES 2 and 3 are sections taken along the lines 2—2 and 3—3 of FIGURE 1; and

FIGURE 4 shows the article in transport condition, portions being broken away for clarity.

The package consists essentially of a barrel 10 and a plunger 12, both preferably made of molded plastic. If desired, a delivery tube 14 may be furnished with the package or it may be sufficient to assume that the user will have a delivery tube available of his own choice or design.

The plunger 12 includes a piston head 16 serving to seal the barrel 10, backed up by a number of ribs 18, which serve to guide the plunger in the barrel. The ribs 18 are united at their outer end in a bed plate 20, which serves to support the thumb rest 22.

At its outer end, the barrel 10 has a pair of ears 24 to be grasped in use by the index and middle fingers of the operator. It is desirable to roughen the underside of these ears at 26 to enable the fingers to take firm hold of the syringe.

The delivery end of the barrel 10 is closed by end wall 28 upon which is formed tubular boss 30. The internal diameter of the boss 30, at its exterior end, is such as to snugly receive the delivery tube 14. By making the boss and the delivery tube of significantly different hardness, the softer of the two will give sufficiently so that even a slightly oversize delivery tube can be made to enter the channel of the boss and remain snugly fast there. I have had good results employing a somewhat harder delivery tube.

Since it is contemplated that the syringe package is to be discarded after a single use, an even more reliable fit may be assured by cutting shallow screw threads in the end of the delivery tube, using these threads to cut their own way into the softer seat provided in the boss.

A passage 32 connects the interior of the barrel with the outer tubular portion of the boss. The filled syringe package is plugged by a short plastic rod 34 inserted in the passage 32. Again, it is desirable for the rod 34 and its seat 32 to be of significantly different hardness. I prefer to use a rod 34 that is softer than the seat 32.

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To use the syringe package shown in filled condition in FIGURE 4, it is only necessary to withdraw the rod 34 and place the delivery tube 14 in position. The syringe is then ready for use in the usual manner, gripping the barrel between the index and middle finger of one hand adjacent the ears 24 and pressing with the thumb upon the rest 22.

When the device of my invention is made in quantity, of molded plastic and loaded under sterile conditions, it affords an inexpensive, convenient and reliable package for injectable fluid drugs. Heretofore, plastic syringe packages have been produced with an elongated, needle-like tip which had to be inserted into the desired delivery tube. This obviously slowed the rate of discharge and was subject to the further disadvantage that it was not easy to firmly connect the discharge tube to the syringe package.

I claim:

1. A syringe package for injectable fluids and for use with an applicator tube comprising: an elongated barrel, having an open end and an opposite delivery end, a plunger working in said barrel and serving to seal the open end of the barrel in fluid-tight relation, the delivery end of said barrel including an end wall provided with an outlet passage, a tubular boss on said endwall communicating with said outlet passage, the bore of said boss being of larger diameter than that of the outlet passage and adapted to snugly engage the exterior surface of the applicator tube and an imperforate, removable plug in said outlet passage, said plug, exteriorly of said outlet passage being substantially unconfined, said plug also being softer than the walls of the outlet passage.
2. The article of claim 1 wherein the barrel, its end wall and the boss are molded in one piece.

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