

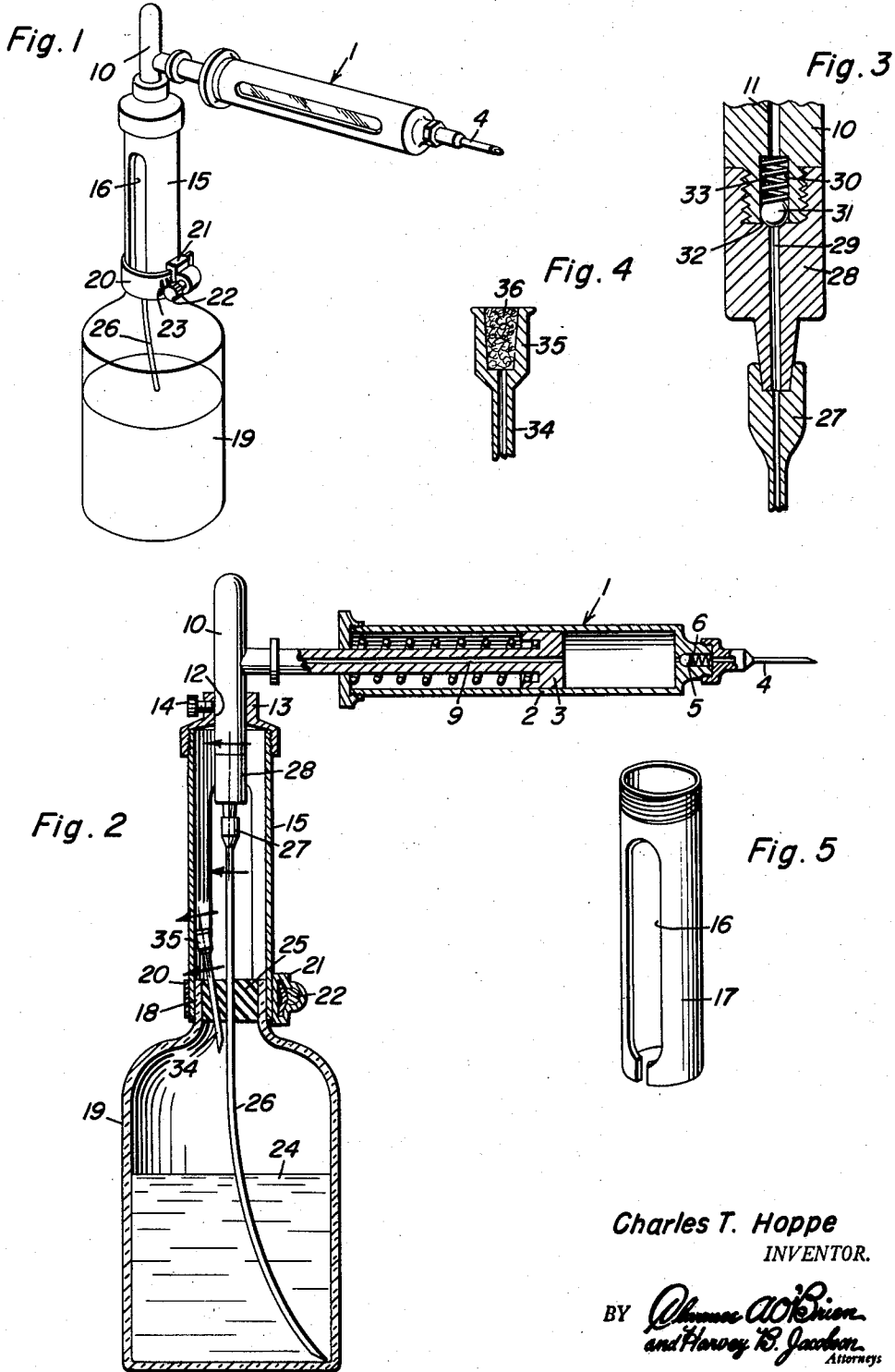
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SYRINGE WITH ATTACHED SERUM BOTTLE

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SYRINGE WITH ATTACHED SERUM BOTTLE

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3 Claims. (Cl. 128—218)

The present invention relates to new and useful improvements in syringes for use by veterinarians or others in vaccinating animals or otherwise treating animals by hypodermic injections.

An important object of the invention is to provide rigid connecting means for a syringe with a bottle or container whereby a portable supply of serum is available for repeated injections and the objectionable use of connecting tubes or hose is eliminated.

Another object of the invention is to provide novel rigid connecting and handle means between the syringe and bottle to hold the syringe while filling the latter and while making the injection.

A further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purpose for which the same is intended.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view;

Figure 2 is an enlarged vertical sectional view;

Figure 3 is an enlarged vertical sectional view of the adapter and check valve for the syringe filling tube;

Figure 4 is an enlarged vertical sectional view of the vent for the bottle; and

Figure 5 is an enlarged perspective view of the handle.

Referring now to the drawing in detail, wherein for the purpose of illustration, I have disclosed a preferred embodiment of my invention, the numeral 1 designates a hypodermic syringe embodying a conventional filling and ejecting mechanism, and which includes a barrel 2 having a plunger 3 working therein and slidable inwardly and outwardly at the rear end of the barrel and with a needle 4 at the front end of the barrel and constructed with a check valve 5 closed by a coil spring 6.

The plunger is hollow to provide a passage 9 extending longitudinally therethrough and the rear end of the plunger is rigidly connected in a laterally projecting position to a vertical palm rest 10 also having a passage 11 therein connected to passage 9. The palm rest 10 is secured in an opening 12 in an adjustable cap 13 by a setscrew 14 with the upper end of the palm rest projecting outwardly at the top of the cap and with the lower end of the same depending below the cap.

Cap 13 is threadedly connected to the upper end of a rigid tube 15 and the lower end of the tube is split longitudinally to form a window 16 therein and with resilient fingers 17 at the lower end of the tube to receive the neck 18 of a bottle 19. A resilient clamping strap 20 embraces the fingers 17 and is adjustable in a guide 21 provided with a worm screw 22 engaging the rack teeth 23 on the strap to tighten and thus clamp the strap on the tube and the latter on the neck.

Bottle 19 contains a serum 24 sealed by a rubber stopper 25 through which a syringe charging needle 26 is inserted. This needle is formed at its upper end with a socketed head 27. An adapter or fitting 28 has a tapered nipple at its lower end friction-fitted into the socket in the head 27 and has a threaded socket at its upper end connected to the screw threaded neck on the lower end of the palm rest 10. Fitting 28 is formed with a ver-

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tical passage 29 communicatively connecting needle 26 to the passage in the palm rest 10.

A chamber 30 is formed in the neck at the lower end of the palm rest in which a ball check valve 31 is positioned for engaging a valve seat 32 at the upper end of passage 29 of the adapter fitting by a coil spring 33 behind the valve.

An air needle 34 is also inserted through the stopper 25 into the bottle and a needle 34 is formed at its upper end with a cup 35 for placing a wad of loose filtering material 36 therein.

In the operation of the device, the barrel 2 of syringe 1 is pulled outwardly and which closes check valve 5 in needle 4 to create suction in the syringe to open ball valve 31 and draw liquid from the bottle into the syringe to fill the latter. The liquid is then ejected in the usual manner by pushing the plunger of the syringe inwardly.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled on the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A syringe of the class described comprising in combination, a serum container, a hollow handle attached at one end to the container, an adapter supported in the other end of the handle and having a passage therein, a syringe attached at its rear end to the adapter, a check valve in the adapter, said container including a resilient seal, and a hollow needle connected to the adapter and adapted to penetrate the seal and extend into the container to supply serum from the container to said syringe, and a vent for said container mounted in said seal.

2. For use in conjunction with a conventional-type syringe equipped with a plunger and a complementary axially bored rigid palm rest, said palm rest having a screw threaded neck with a ball check valve therein, means for connecting said syringe to a common neck-equipped serum bottle comprising, in combination, a rigid tube constituting a handle, a cap carried by one end of said tube and adapted to be detachably and adjustably mounted on a predetermined part of said palm rest, the lower end of said tube being adapted to detachably embrace the neck on a serum bottle, clamping means embracing said lower end and adapted to secure the same to said bottle neck, an adapter having an axial serum passage and constructed and detachably connected with the valved neck on said palm rest, said adapter being provided at its lower end with a reduced tapered nipple, and an elongate needle having a socketed head at its upper end detachably connected with said nipple.

3. The structure defined in claim 2 and the combination therewith of a bottle having a neck with a stopper fitted therein, an intermediate portion of said needle extending through said stopper and into said bottle, and a venting needle piercing said stopper with one end projecting into the bottle, the upper end of said venting needle having a cup charged with removable filtering material.

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