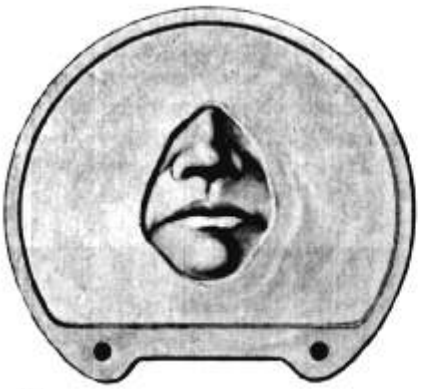
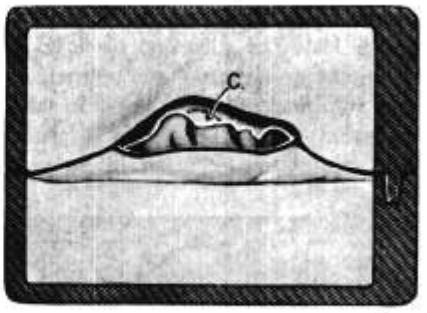


3.



4.

plaster of Paris in the bottom section of a dental ejector flask (fig. 3). The top section of the flask is applied and filled with plaster of Paris (fig. 4).

After the plaster has set, the entire ejector flask is placed in boiling water until the wax has melted away. The flask is removed, the two halves are separated and allowed to dry and cool.

These constitute a mould for a mask which can be made of acrylic or silicone rubber. A small chamber (not more than ½–1 ml. volume) is excavated in the finished mask at the region of the nares (*C* in fig. 4). An orifice 3–4 mm. in diameter which is large enough to accept a nonrebreathing valve described by Golinko and Rudolph (*Pediatrics 27: 645, 1961*) is drilled into that chamber. The entire process takes from one and a half to two hours. These masks can be reused and easily sterilized.

We have found that four sizes of masks are sufficient for infants weighing from 1,000 to 2,500 Gm.

The process can be easily adapted to construct masks suitable for the administration of anesthetics.

Intermittent-Anesthesia Administration Set

Dr. Seymour Schotz of the Presbyterian Hospital in Philadelphia has devised an apparatus that solves many of the problems dealing with the intermittent administration of anesthetic solutions. In continuous epidural anesthesia for example, he believes that having to disconnect a syringe for purpose of loading it with fresh solution introduces the hazard of contamination.

The obvious answer is a three-way stockcock by means of which the syringe for injection could be connected once and left in place, the second arm of the stockcock going to the source of solution, and the third arm, to the patient. However, stopcocks notoriously leak or stick and in general are a source of mischief.

The illustration (fig. 1) shows an apparatus made of plastic material which is efficient and is inexpensive enough to be disposable. It consists of three tubes and two one-way valves. The valves are small plastic balls that are spring loaded so they stay closed in a positive fashion. Valve *1* is arranged so that solution may be made to flow from the source when suction is made on the "administration" syringe. At the same time, valve *2* closes. When injection from the "administration" syringe is made, valve *2* opens while valve *1* closes. Thus, there is no possibility of contamination of the source solution; and since the entire system is closed, it remains sterile throughout the procedure. To protect the sterility of the "administration" syringe, increments of no

more than one-half of the volume of the "administration" syringe should be used. The arrows indicate the direction of flow. These tubes are of minimum volume so there is little waste of solution in filling the system (2.4 ml.).

The nylon tip that connects to the needle entering the source solution in figure 1 can be separated easily, and a large filled syringe can be connected for a source. This is shown in figure 2 and is handy for those local anesthetic solutions that are supplied in ampules.

Several applications, other than in continuous epidural anesthesia, are possible. A stock solution of 2½ per cent thiopental may be

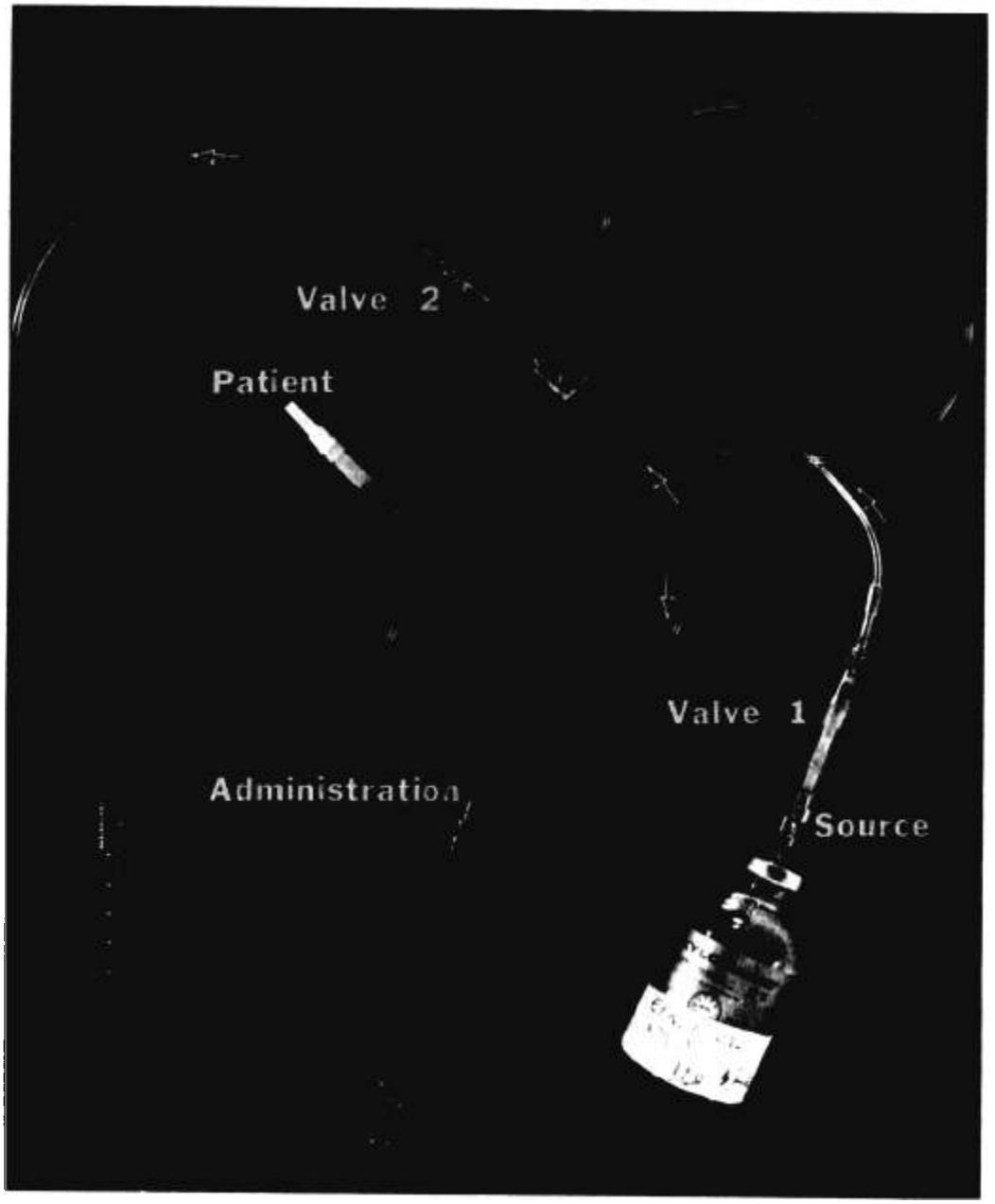


FIGURE 1.

connected to the "source" tube by a standard intravenous-drip tubing. The stock solution is protected positively against back flow contamination. When using a diluted heparin solution for flushing an arterial or venous cannula during a strain-gauge recording of pressures, the "patient" end may be attached to a three-way stopcock fixed to the strain gage. The heparin solution is attached by intravenous tubing to the "source" end. There results

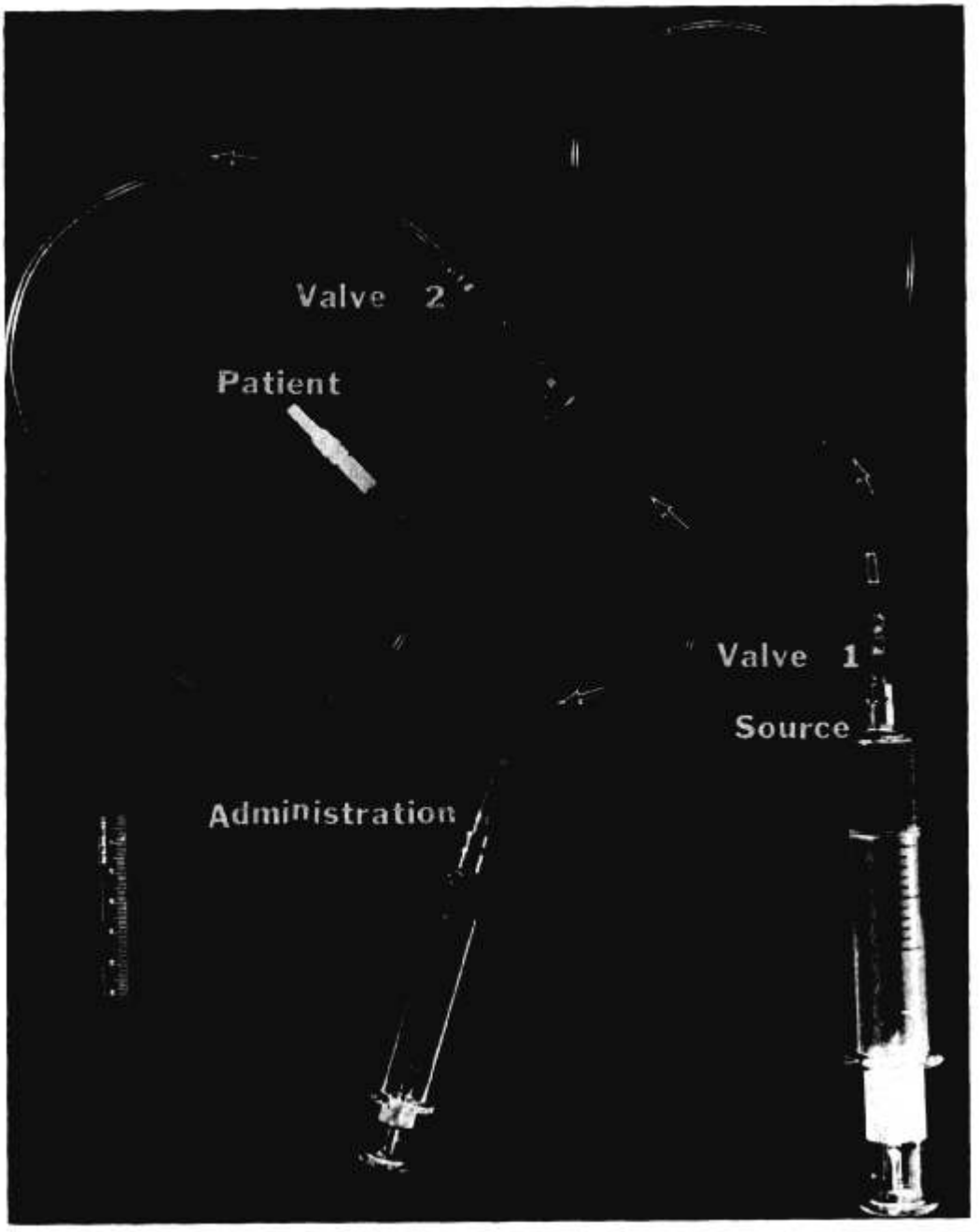


FIGURE 2.

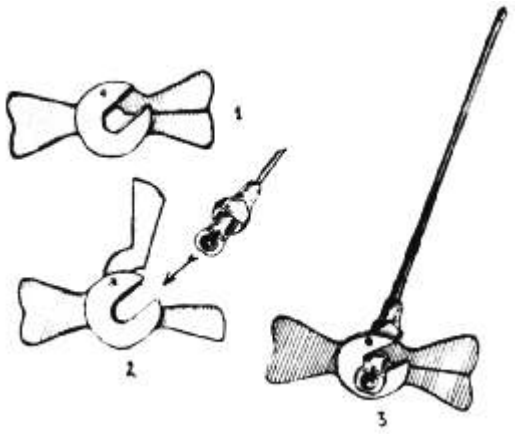
a completely closed and sterile setup for flushing, either the cannula or the strain gage, by a proper turn of the stopcock and a flush from the "administration" syringe.

When using a source of solution as illustrated in figure 1, it is necessary that the needle entering the stock solution be *at least a 17 gage* in order not to increase the resistance to flow from the stock solution when fluid is being aspirated into the "administration" syringe. When using a large syringe on the "source" end, the "administration" syringe can be filled by pressure from the "source" syringe without fear of sending solution to the patient, as long as *the plunger of the "administration" syringe is free.*

Manufacturers of equipment mentioned in this column may be obtained from ANESTHESIOLOGY, J. B. Lippincott Co., East Washington Sq., Philadelphia 5, Pa.

Holder for Epidural Needle

Dr. Osvaldo Bolpe of the Hospital Municipal de Azul in Argentina designed a universal clamp which is applicable to any model of epidural needle. This clamp permits a firm grip with the thumb and index finger of both hands and makes possible a gradual penetration of the needle through the interspinal and yellow ligaments. In addition, it allows a careful observation of the drop in aspiration which is transmitted from the epidural space to the end of the needle.



The illustration (*1*) shows the clamp which is a metallic disc with a perforation in the center of the approximate size of the hub of the epidural needle. The thumb and index finger grip the two wings on the disc. One half of one wing is movable and permits the entrance of the hub of the needle (2). The apparatus fixed and enclosing a needle is shown in (3). The advantages of this needle are: it permits the use of any commercial needle for the localization of the epidural space and facilities the use of the hanging-drop method. The needle is low in cost and light in weight.