possibility of its exit hole "bridging" the subarachnoid and epidural spaces should be minimized. (3) When the stilet has been withdrawn, the likelihood of occlusion by contact with tissue in the spinal canal should likewise be minimal. (4) The diameter of its exit opening should be no smaller than that of its shaft; otherwise the effective working diameter of the needle will have been reduced without reducing the puncture hole. This would combine the disadvantages of both large and small gauge needles and afford the advantages of neither.

The spinal needle to be described here has a point which was produced by clamping the needle in a pin-vise with the stilet driven home and well secured so that it could not shift. The pin-vise was then centered and spun in a lathe chuck while a fine hone was applied to the needle point. This produced a sharp pencil point with the end of the shaft closely beveled and "spun" against the projecting stilet, making a smooth contour. The piercing point consists entirely of stilet which protrudes 2 or 3 mm. beyond the shaft of the needle. Thus, it has the following characteristics: (1) Its sharp pencil point produces a minimal dural puncture. (2) It cannot readily bridge the epidural and subarachnoid spaces because its exit hole is at the end and does not face laterally. (3) Since the stilet protrudes 2 to 3 mm. beyond the shaft of the needle, it follows that, when the stilet is withdrawn, the likelihood of end-contact with tissue within the spinal canal should be much reduced, unless of course the needle-stilet assembly had been driven too far. (4) The exit opening of this needle is at the end of the shaft. Except for the minute amount of constriction from having been beveled and spun about the stilet, its diameter is not appreciably different from that of the shaft itself. (5) Any rehoning or dressing must be done on the needle and stilet securely assembled, never otherwise. If one has facilities for spinning this needle, it is extremely easy to hone the point to a nicety. Otherwise a very light dressing on an ordinary hone should sharpen about as effectively as with ordinary bevel-point needles.

In use, the needle-stilet assembly must be advanced as a single unit. The pressure must be exerted only on the stilet and not on the needle hub; otherwise the point will retract within the shaft because of tissue resistance. It is intended that the stilet of this needle be made up with the Luer-lock hub.* This precaution will then be unnecessary because both the needle and the stilet will be rigidly and correctly interpositioned during the puncture.

Most spinal needles currently in use work perfectly well in the average, usual case. But inadequacies may be revealed in exceptional cases or in inexpert hands, or both. This needle is presented with the hope that it may be helpful in such instances.

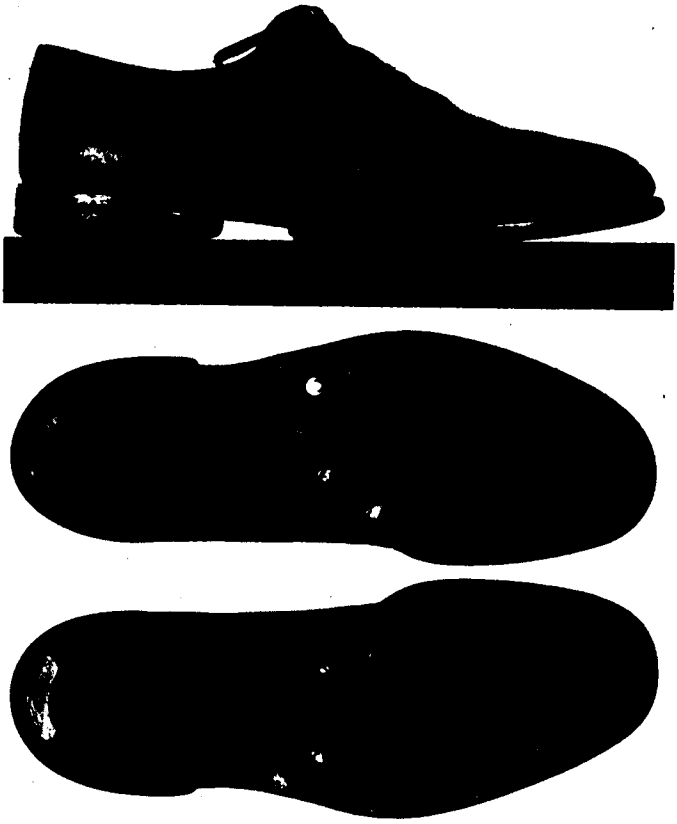
INEXPENSIVE AND COMFORTABLE CONDUCTIVE SHOES

Dr. Charles M. Landmesser of Albany, New York, has the following suggestion for conductive shoes for the operating room.

The National Fire Protection Association, usually regarded as the authority in operating room fire safety, recommends that all operating room personnel be in electrical contact with the conductive floor. Various types of conductive footwear and other personnel-to-floor conductive devices are available; however, the general popularity of most of these items is limited because of one or more of the following factors: (1) high initial expense, (2) lack of wearing comfort, (3) nuisance of application, and (4) impermanence.

Many assume that leather-soled shoes become sufficiently conductive from foot perspiration to satisfy the recommendations of the National Fire Protection Association, and, because of this assumption, many hospitals condone the wearing of such footwear by operating room personnel who, with a false sense of security, enjoy the comfort and economy afforded by using their old leather-soled shoes as part of their operating room garb. By subjecting random doctors and nurses wearing such shoes in the operating room suite during a routine day to testing with an approved resistance measuring device

* The name and address of the manufacturer of the needle as described can be obtained from ANESTHESIOLOGY, 3 Penn Center Plaza, Philadelphia 2, Pennsylvania.



Conductive rubber domes applied to leather-soled shoes for providing electrical contact to the operating room floor.

according to National Fire Protection Association recommendations, it became obviously apparent that with few exceptions the leather-soled shoes being worn did not pass the test for conductivity. Most such shoes could be made adequately conductive to pass the test by soaking the leather soles in saline solution until they became thoroughly dampened throughout, but these same shoes usually proved to be inadequately conductive when tested again the next day after having been left in lockers overnight.

In an effort to devise a method by which these "favorite shoes" might simply and inexpensively be made permanently conductive for operating room safety, one pair was subjected to gratifying alterations which took less than thirty minutes in the hospital brace shop. The alterations were made simply by attaching two conductive rubber domes, cut from conductive rubber tips of one inch diameter used for the legs of operating room stools, to each sole with one countersunk copper rivet for each dome and by cementing a conductive insole, cut from conductive rubber sheeting, in each shoe over the rivet heads. The conductive rubber domes were placed abreast of each other just behind the contact area of the sole so as to be attached in a position similar to that of a metatarsal bar. Functioning like a metatarsal bar, these conductive rubber domes make firm contact with the floor and relieve weight on the metatarsal arch without causing discomfort or annoyance to the wearer.

When subjected to the previously mentioned approved test for shoe conductivity, this pair of "favorite shoes" proved entirely satisfactory subsequent to the alterations described. However, it should be recognized that the safety of the electrical contact with

the floor which these alterations provide is assured only upon conductive floors constructed according to the recommendations of the National Fire Protection Association. Upon grid floors it is possible that the conductive rubber domes might not be in constant contact with the grids themselves and that they thereby might not accomplish their purpose. This is true, however, regarding many other personnel-to-floor connective devices, and it should be recognized as a fault primarily of the floor rather than of the device. It should be recognized also that any conductive footwear and other personel-to-floor connective devices should be tested on the wearer each time they are worn, as recommended by the National Fire Protection Association, for it is possible that dirt or floor wax may form an insulating coating over an otherwise conductive surface.

AN IMPROVED CARBON DIOXIDE ABSORBER

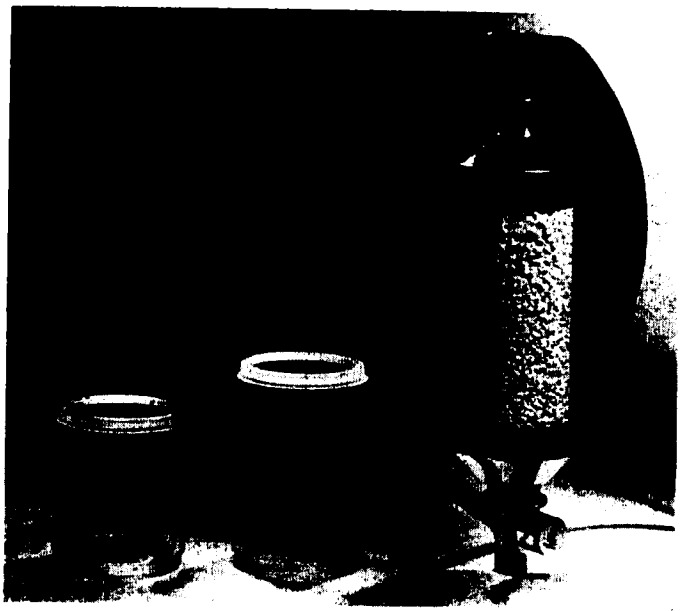
Dr. H. H. Samson of Johannesburg, South Africa, reports that the disadvantages of carbon dioxide absorbers available until now have been:

(1) The canister cannot be completely filled with the absorbent granules. This becomes more evident when the canister is moved from the vertical; and most of the respired gases will naturally take the shorter path of least resistance. This is obviously undesirable as anything less than the maximal absorption may be dangerous.

(2) If complete filling is attempted, it is a laborious and time wasting procedure and is in any event not possible. If the granules are heaped up and the screw-in head tightly sealed, some of the granules are liable to become powdered by compression and this might constitute a barrier to the flow of gases. Again, the powder itself is undesirable, because it may be insufflated. If expelled before use, by blowing air through the canister, the level of granules will drop even further.

(3) Loosely packed granules tend to increase dead space. This is an increased danger when the canister is used especially as a to-and-fro unit.

He has designed an appliance to meet these objections. The main improvement consists of a metal spring attached to the screw-in end, which exerts steady but not excessive pressure on the granules, via a movable metal filter.



The carbon dioxide canister filled with soda lime granules, and two smaller canisters for smaller respiratory requirements.