

Shown above is the mass spectrometer for respiratory gas analysis, which is being assembled by the shop for Drs. Wirt W. Smith (shown above at left) and Herbert A. Saltzman for use in the hyperbaric project.

Photos by Jim Wallace
University Photographer

Surgical Electronics Shop

It was early recognized that where there was a machine there usually were electronics, and one operated only with the full cooperation of the other.

Thus came the creation of the Surgical Instrument Shop's counterpart—the Surgical Electronics Shop.

This second shop was also created under Dr. Deryl Hart's direction; and this shop, just as the Instrument Shop, was established as a service for all departments and divisions, while financially supported by the Department of Surgery.

The major portion of the work done today by the shop is the assemblage of equipment shipped into the medical center, the repair and routine maintenance of electronic equipment, and electronic design of equipment.

Countless items have been assembled, including electronic timers, electronic Zero Reference Units, and switching panels.

Numerous items have been made or modified to answer the needs of various areas. For Dr. Madison Spach the shop modified tape recorders and an X-ray machine so that both could be remotely controlled. Equipment which would measure patient response was prepared for Dr. Walter D. Obrist, Professor of Medical Psychology. A



Mr. Bill Sims, foreman

body scanner was built for Dr. Felix Pircher, Chief of the Isotope Division, and for Dr. Jack Goodrich, Chief of the Division of Nuclear Medicine, the shop engineered the magnification of portions of X-ray negatives on closed circuit TV.

The more tedious and delicate repairs include those made on: EEG and EKG machines, laboratory ovens, Beckman Instruments and Ampex Tape Recorders.

The future of the Surgical Electronics Shop is bright. Under the direction of Mr. Bill Sims, who became the new shop foreman in January, the shop is being expanded. With expansion, it is hoped that even a greater variety of projects can be undertaken.

Then in 1964 the shop built a heart/lung machine designed by Dr. F. Maxton Mauney and Dr. Ivan W. Brown.

Another machine, a miniature heart/lung machine, was built by the shop for use in the hyperbaric chamber. Designed by Dr. Mauney, Dr. Gordon Moor and Dr. Brown, this machine is now under experimental study in the chamber.

And there have been countless adaptations of commercially available instruments to fit individual needs.

Occasionally patents are obtained on items, but Mr. Barber emphasizes that the shop is "only a development shop, not a manufacturing shop." Royalties from patented items built commercially are paid to Duke University, with the shop and the individual sharing the royalty proceeds.

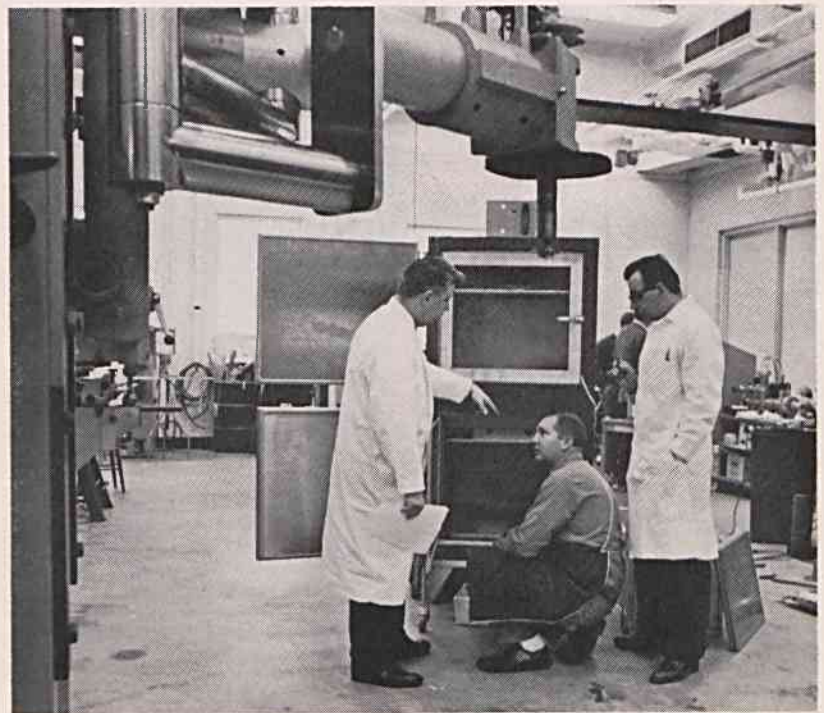
An example of a patented item is the anesthesia inhaler which was built to the specifications outlined by Dr. C. R. Stephen. The inhaler, first used by women in delivery, was designed so that the patient could administer the anesthesia to herself to relieve pain. Later the inhaler was also used by patients having dressings changed and by those undergoing oral surgery. Patented almost 15 years ago, the inhaler is still being produced commercially.

In addition to the items made for research and patient care purposes, there have been items built to answer needs of practicality and serviceability: surgical supply tables, special washbasins for use in the OR, supply carts, operating tables and urology tables.

And the list goes on and on.

The future?

It looks very full.



Discussing Dr. Beard's new incubator—Bill Sims, foreman of the Surgical Electronics Shop, Charles Waddell, instrument maker, and A. J. Langlois, Research Assistant for Dr. Beard.