



THOMAS B. ORR and Bill Barber are seen here working at two of their machines in the Surgical Instrument Shop in the Research Building.

Thomas Orr and Bill Barber Invent, Repair, Remodel in Instrument Shop

"If they can dream them up, we can make them!"

That's the way Thomas B. Orr describes his work in the Surgical Instrument Shop in the basement of the Research Building.

Mr. Orr and his assistant, Bill Barber, estimate that some 10,000 items have been made for the Departments of Surgery and Medicine since the shop was opened in 1947.

"What kinds of things do you make?" is the hardest question Mr. Orr has to answer. The best answer is "anything" to aid the doctors in their work and studies, whether that "anything" be a new design badly needed by the profession, a modification or improvement of an established item, or the repair of fragile instruments already in use.

Any day may find Mr. Orr and Mr. Barber working on one particularly difficult problem or in various stages of 50 or 100 items. With their complicated drill presses, lathes, milling machines, surface grinder and similar mechanical devices, they turn all sorts of metals and plastics into instruments and machines to facilitate doctors' work.

The variety is as all-inclusive as the jobs the surgeons and doctors do themselves. On the work table may be a little diaphragm pump designed to use in breathing apparatus or a monometer calibrator for blood pressure equipment.

Pioneered by Dr. Hart, the shop has worked closely with doctors in developing many things which are now in use in hospitals all over the country.

The Trilene mask which Dr. Stephen developed is a good example. "Masks of a similar type were made in England," said Mr. Orr, "but a new one had to be developed for patient here."

Recent developments have included a Suture Ring, which enables the surgeon to carry suture on his finger for easy use.

"Dr. Carver was trying to think up a new way of handling suture, and the answer evolved in a chrome plated brass ring, into which the suture bobbin fits," Mr. Barber explained.

Another recent innovation developed by Dr. Hart and the shop is an operating table which takes up one-

six of the space usually needed. The design is a nest of adjustable tables which the surgeon touches by foot to bring into a level position. Dr. Hart has estimated a savings of \$4,000 in building space for the new wing to store eight conventional type tables.

Also in the category of new developments was Dr. Beard's automatic microslide project; a device to determine the amount of oxygen in the blood stream, developed of precision glass with platinum wire only $\frac{3}{10000}$ th of an inch in diameter; and a modification of a stationary eye camera to one that was adjustable to the patient's position.

Mr. Orr came to Duke three years ago to make life-saving equipment after many years of making instruments, as he says, "for killing people."

He spent seven years with the Naval Gun Factory in Washington, D. C. and the Naval Torpedo Unit at Alexandria, working in this country and abroad. He served with the Department of Education and also taught at N. C. State College for a year, leaving to be director of mechanical training at the Memphis Vocational School. Later, he worked with machine gun and aircraft parts and then opened his own tool and dye shop in Memphis, expanding his shop to include Colorado and Louisiana. In 1945, he retired to Florida, but returned to North Carolina to work with diesel engines for Southern Railway in North Carolina, leaving the company to join the Duke shop. Mr. Orr is married and has three daughters and a son.

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