

SERVING

DURING THE past thirty years of surgery, high frequency current has been widely used for the destruction of diseased tissue, and also for inducing coagulation, which is the clotting or sealing of a wound. But it is only comparatively recently that electro-surgical instruments have been available for the incision and division of tissue.

Marconi Instruments were one of the pioneers of this development. Shortly after the second world war, a valve-operated surgical diathermy apparatus, the MME 11, was introduced by M.I. to take the place of the earlier spark energised model, MME 10. The first really powerful valve energised apparatus to be made in this country, the MME 11 is to be found in operating theatres all over the United Kingdom and in many hospitals overseas. The knowledge and experience gained in its use over a number of years have now been embodied in the design of its successor, Surgical Diathermy TF 972. The new equipment consists of the diathermy unit, which is a high frequency generator, used in conjunction with any one of a series of special surgical or ophthalmic (eye) electrodes in the cutting or coagulation pro-

Ron Thompson, M.I. Paint Shop, sprays the control panel of Surgical Diathermy TF 972. In the heavyweight class, Ron is a member of the St. Albans Amateur Boxing Club

John Richardson of M.I. Machine Shop is fitting the control panel to the cabinet

Jack Carter and Dick Knight, both M.I. Assembly, are working on the oscillator

These visitors from Chelmsford take a lively interest in the intricate Cautery-Light Unit. Their guide is Michael Townley, third from left, who has since joined the Royal Air Force for a short term commission in the signals branch

THE SURGEON

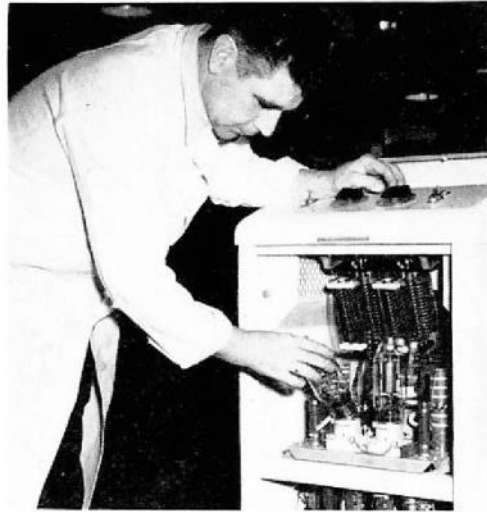
cedures, for which two entirely independent output circuits are provided. Among the latest innovations are a smoothed high-tension supply and an optional cautery/light unit, while the size of the apparatus has been greatly reduced, the floor area occupied now being only 18 in. x 20 in.

It is a fundamental requirement that any apparatus to be used in the operating theatre must be safe. It must provide protection for the surgeon, his staff and, of course, the patient. An inherent risk in the use of diathermy is the possibility that the cutting current might ignite an explosive anaesthetic. This is an extremely rare occurrence, however, and with the new TF 972 the risks are reduced to a minimum by the use of a relay-operated, mercury type h.t. switch, a low-voltage footswitch circuit and a coagulation cutting switch operated only with the oscillator "dead". In addition, the working temperature of all components is kept below the "cool flame" ignition temperature of ether.

Electro-surgery is particularly valuable in cerebral operations, both for the control, by electro-coagulation, of serious hæmorrhage, and in the use of the cutting current to excavate deep-seated meningeal tumours. We must not forget, either, the destructive effect of h.f. current on malignant cells, which although not a new development is still of great importance.

These are just a few examples of the many uses of diathermy equipment. And now the TF 972 is joining our other equipment in the hospitals of the world, playing its part in the fight to save life and relieve pain.

And now the equipment reaches Final Test. Ray Gould checks the output by means of a Robertson lamp and an ammeter



Lawrence Hobkirk, Calibration, inserts one of the two R.F. valves. Working in push-pull, they provide an output of up to 300W

