New Instruments and Suggestions

A CLINICAL ELECTRICAL FIXING AND HOT STAINING APPARATUS*

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The need for a clean and neat apparatus for hot staining with carbolfuchsin has long been felt by laboratory workers in tuberculosis. With the advent of electricity and the use of nichrome wire for heating purposes, this want could be realized. Recently a good homemade "makeshift" electric

Clinical electrical fixing and hot staining apparatus.

hot staining apparatus was described by Carl L. A. Schmidt (*THE JOURNAL*, March 6, 1915, p. 823).

Since the opening of the Municipal Tuberculosis Sanitarium of the City of Chicago, there has been in use an electrical apparatus which is worthy of description, since it was found to possess manifold advantages over the older methods. By its use it was possible to fix the smears of sputum, etc., without danger of burning, stain them without danger of boiling the carbolfuchsin solution, and also avoid dropping carbolfuchsin all over the laboratory tables and floors. It was also possible to fix and stain as many as twenty or more without handling the individual slides within a short period of time.

The apparatus (a description of the twenty-slide type used by us is given), which can be made to accommodate any number of slides, multiples of two up to about twenty, consists of a large asbestos wood frame with base which will withstand a red heat without destruction. In the bottom of the boxlike frame is contained a sliding metal shelf to be filled with sand for catching any carbolfuchsin drippings and to aid in reflecting all the heat upward from the heating units, of which there are ten (one for every two slides). These units, which are easily replaceable, are simply made of "lavite" wound with nichrome wire (size 32), which will give the proper heat when connected with a 110-volt lighting circuit. (The nichrome wire used was tested for solubility in boiling carbolfuchsin solution and found to be insoluble.) In order to regulate this current more accurately, however, there is included in the circuit a small suitable rheostat. For the purpose of leveling the apparatus so that it may stand on any laboratory table, the two front legs of the base are made of adjustable leveling screws. The slide carriers are nickel plated brass frames made to fit in the asbestos frame at a suitable height above the electrical units, and with a handle at each end for moving it about, and suitable grooves so that the slides can be removed with

forceps. When large numbers of slides are to be stained, three of these slide carriers are used, being placed in small trays made for the purpose. In this way it is possible to do continuous work as, for instance, fixing and staining one set while decolorizing, etc., the other sets. The trays can also be conveniently used in decolorizing and contrast staining by merely carrying to a nearby sink suitably arranged. A set of fuses is arranged on the apparatus so that there is no danger of accidental short circuit and burning of the operator. The apparatus is fireproof, being made entirely of metal and asbestos wood, as approved by the National Board of Fire Underwriters. This apparatus has been found to be a tremendous time saver by all who have used it in our laboratories.

The apparatus can be obtained complete (sizes two to twenty slides) from A. de Khotinsky, 6026 Drexel Avenue, Chicago.

A UNIVERSAL SURGICAL MOTOR

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The widely increasing work among surgeons in the treatment of bone lesions by direct methods has created a demand for motor-driven instruments, several of which are now on the market. All of these, however, aside from being very expensive, lack several essential qualities which we have tried, in a measure, to develop in the instrument described below.

The instrument consists of a 1/15 horse power motor connected with a driving shaft, 4 inches long, at the end of which is screwed a chuck for securing the surgical bits. Around these parts there is a snug fitting, detachable metal case permitting free and easy access to the motor mechanism. At the posterior end of the case there is fitted a permanent hollow

Fig. 1.—Universal surgical motor.

Fig. 2.—Universal surgical motor.

grip in which are stored the resistance coils and control mechanism. In addition to this grip, there is a detachable handle which can be fastened to the shell around the motor, and which can be adjusted instantly to conform with the position taken by the directing hand.

The instrument here described differs from those already on the market in the following details:

1. The entire motor, including bits and connecting cord, can be sterilized in the autoclave at a pressure of 15 pounds live steam for half an hour or more. There is nothing in the entire motor which can in the least degree be injured by heat.

* From the Laboratories of the Municipal Tuberculosis Sanitarium of the City of Chicago.