nected to the chimney, and can be lifted when the infector flask is removed from the orifice entrance. Simple baffles distribute the air evenly through the bell jar.

The incinerating chimney provides a flow of 3 cubic feet per minute of air through the system. The top of a Fisher burner, supplied by a special gas jet, supports vigorous combustion within the central 2-inch asbestos tube of the chimney. A central mushroom above the burner produces high turbulence in the combustion section of the chimney. The hot gases rise into an inverted galvanized tube, reversing the flow before entering the outer asbestos chimney. A simple air seal to prevent breakage of the draft is provided by inverting a pail over the top of the chimney. The air centrifuge is also exhausted into the incinerating chimney to avoid contamination of the room air. Ultra-violet lights irradiate the space around the apparatus so as to insure further the safety of operators. The greatest care must be exercised in design and operation to prevent any possibility of a back draft, but a year of experimental work has demonstrated the safety of the apparatus.

Operation

A routine run would be conducted as follows: The burner is removed, lighted and reset in the chimney. Animal cages are placed on the platform by lifting the bell jar. The flask containing the culture is weighed and set in position with the nozzle venturi above the pool of liquid. Compressed air under five pounds pressure is admitted to the nozzle, and the flask turned until the culture flows into the stopper well and begins to atomize into the flask. The pressure on the nozzle is now raised to 20 pounds. The degree of air infection is determined by samples taken with the air centrifuge at appropriate intervals. To close a run, the nozzle is lifted out of the liquid by turning the flask, without cutting down the pressure. After 15 minutes, the air is cut off. Another 15 minutes is permitted to flush out the bell jar.

The precautions used in handling animals depends entirely upon the nature of the infection and the animals. They may be dipped in disinfectant; they may be jacketed. Sometimes no precautions are deemed necessary beyond handling the animals with gloves.

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HALOWAX-PARAFFINE FOR INFILTRATING HISTOLOGIC TISSUES

Halowax No. 2020 is a hard, tough synthetic patented wax manufactured at the Wyandotte, Michigan, plant of the Halowax Division of the Bakelite Corporation. In reply to my request the manufacturer kindly furnished me the following information: Color, light yellow; flow point, 99–104° C.; viscosity, 34–38 at 150° C. (Saybolt); acid no., less than 0.1; penetration, 15–17; recommended using temperature, 130° C.; price 35¢ per pound F. O. B. Wyandotte, Michigan.

This wax is superior to bayberry wax for hardening paraffine, for the mixture supports the tissue as well as paraffine containing bayberry wax and the sections stick together better, thus forming a much stronger ribbon. My students and I find that difficult tissues, such as thyroid gland and adnexa, small intestine, rabbit appendix and kidney section readily at 4–6 micra after being infiltrated and imbedded in paraffine containing 12 to 15 per cent. Halowax. Refined household paraffine served as well as imbedding paraffine of 50–52° m. p. for this purpose. The tissues were infiltrated in tumblers under desk lights. No difficulties that could be attributed to the use of Halowax were encountered in ordinary microtechnique in which several stains and various methods of staining were used.

The chief technical disadvantages of Halowax-paraffine concerns the difficulty of getting the two waxes to mix without precipitation during cooling and the marked tendency of the mixture to lose its toughness after being used several times so that the tissue fails to ribbon. If the waxes are heated well above the flowing point of Halowax, removed from the burner and stirred frequently until the temperature has fallen to near the melting point, then poured into a tumbler and placed in cold tap water, the mixture usually cools without precipitation. Since xylene appears to be detrimental to this mixture, tissues are subjected to two or more changes of good paraffine before being infiltrated and imbedded in Halowax-paraffine.

Ed. D. Crabb

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