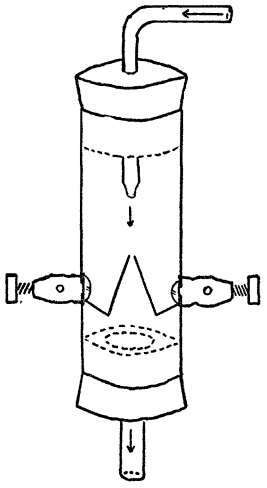

centimeters and about eight centimeters long was used. Two holes were blown opposite each other about six centimeters from one end of the tube. Through these holes were placed brass binding posts held in place by a screw from the inside. Small rubber washers were used to prevent breaking the tube on tightening these binding posts. Each screw head carries a length of platinum or non-corroding wire shaped as shown. These contact points are about one millimeter apart.

The top of the tube is stoppered with a rubber stopper carrying the inlet tube of glass, the tip of which is shaped to deliver drops on the contact points. The rubber stopper in the bottom of the tube carries a large bore glass tube funnelled to catch and drain the liquid.

In use the two binding posts are connected across one lead wire of a signal magnet. The writing point of this magnet inscribes a record on a slowly moving surface. If one desires to use this apparatus on such weak electrolytes as urine or tap water it is best to obtain small coil magnets from radio receivers and make special magnets for recording purposes. A voltage supply suitable for such an assembly is a twenty-two and a half volt radio dry cell, although we have found line voltages of ten and twelve as used in our laboratories of sufficient strength.

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PAPER APRON TO PREVENT CURLING OF MICROTOME SECTIONS

A VERY simple process, far more difficult to describe than to perform, of using a small wet paper on a paraffine or celloidin block will prevent curling.

A piece of wet tissue paper narrower than the knifeward edge of the block and longer, so it will overlap the side away from the blade, is placed on the paraffine or celloidin block. Capillarity will hold the paper in place. The paper should not overlap the knifeward edge or the blade will slide over all. The cut section with the paper will rest flat on the knife with the overlapped edge in such position that the paper, with section adhering, can be easily removed with forceps or scalpel and placed on a wet slide, where the section can be oriented, and the paper, with a backward bend of the overlapped edge, removed, leaving the section in place. With a little practice this will become easy. Though unruly sections are very infrequent it is desirable to leave a wider margin of paraffine on sections by not trimming block as close as usual. This gives an area where a needle or scalpel point can be inserted to wedge off the few unruly sections that do occur. I find it desirable on a Thoma Jung to flip the paper and section into my hand with the edge of a scalpel or pair of forceps, as the edge of section adheres to edge of knife.

This process works more easily with a sliding microtome than with a rotary, though it will work with either. Obviously, ribbons can not be cut in this manner, and the process is much slower, but sections, either paraffine or celloidin, are obtained uncurled. A sharp blade is just as necessary with this method. Using woody apple buds I have obtained excellent five micron sections and good three micron sections on a Thoma Jung.

I am indebted to Dr. E. J. Schreiner, research forester of the Oxford Paper Co., who told me that for unembedded wood he used wet slips of paper, one to each section, to prevent curling, and later floated off the paper. Because paraffine sections will not spread properly with the paper adhering, I find it necessary to remove paper before heating slide. Whether the process is new or not we do not know. Lee, "Vade Mecum," does not mention it, and we have never heard of its being used elsewhere.

Let me add that for sections that tear readily, not being well embedded, I can not recommend too highly the "collodionisation" method suggested in Lee, "Vade Mecum." Merely paint surface of block with very thin celloidin, allow a second or two to dry, place on wet paper and cut. Spread with heat as usual. After drying, before placing slide in xylol, I find it desirable to remove celloidin surface by first immersing a minute in ether-alcohol.

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