The data also permit of the proper choice of substitutes for woods which have become scarce or unobtainable. Here again the airplane may be cited, since the supplies of some woods ordinarily used in airplane construction are insufficient to meet the present building program of the United States and its allies.

Among the relations between mechanical and physical properties of wood for which laws have been obtained are static bending-specific gravity, impact bending-specific gravity, compression parellel to grain-specific gravity, compression perpendicular to grain-specific gravity, static bending-moisture content; impact bending-moisture content, compression parallel to grain-moisture content, compression perpendicular to grain-moisture content, shrinkage-moisture content.

The bulletin, the authors of which are J. A. Newlin and Thomas R. C. Wilson, is entitled "Mechanical Properties of Woods Grown in the United States," and is No. 556 in the Department of Agriculture series.

SPECIAL ARTICLES

A CONVENIENT NERVE HOLDER

FOR several years past in this laboratory experiments on chemical stimulation have formed a part of the routine students' work on the physiology of muscle and nerve. In these experiments we have used a nerve holder

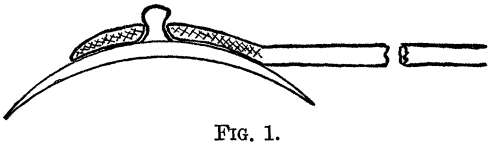

FIG. 1.

which has proved so simple and convenient that it seems desirable to suggest it to others. In its first form it consisted merely of a thin watch-glass 45 to 50 mm. in diameter, cemented by sealing-wax to the flattened end of a piece of ¼ inch lead wire 12 inches long.

If the muscle of a gastrocnemius-sciatic preparation is mounted on a muscle lever, the edge of the watch-glass may be brought very near to the muscle and the whole nerve may be allowed to lie in the liquid to be applied, as for example, a solution of sodium citrate or barium chloride.

The construction is so simple, requiring no special skill and only a few minutes of time, that it was used in this way for two or three years. Later, Mr. L. A. Ray, technician, devised the following more permanent construction. A small bit of glass rod is fused to the bottom of the watch-glass. The rod is then melted and pulled in two at a point about ⅛ to ¼ inch from the bottom of the glass, and is held in the flame till a small knob forms on the end. A hole is punched in the flattened end of the lead rod, the glass rod is inserted and the joint made fast with cement. The knob on the end of the glass is held firmly in place by the cement. The accompanying figure of a section of watch-glass and rod will make the whole arrangement perfectly obvious.

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THE URINE OF THE HORNED LIZARD

VAUQUELIN,[1] in reporting the first analysis of reptilian urine, in 1822, stated that it was composed almost entirely of uric acid, and since that time this fact has been interpreted by various observers as an adaptation to the conditions of life in arid regions, where animals obtain their only external water supply in very limited quantities in the food substances, as this type of nitrogenous excretion involves practically no water loss. The reptiles of arid regions have been known for some time to excrete practically all of their waste nitrogen in the form of uric acid and its salts, while, on the other hand, birds and aquatic and semi-aquatic reptiles may excrete considerable amounts of urea.

[1] Vauquelin, Louis Nicolas, "Examen des excrémens des serpens que l'on fait voir en ce moment à Paris, Rue Saint-Nicaise," *Annales de Chimie et de Phisique. 2me Serie,* Tome 21, p. 440, 1822. Two boas, species not stated, were the source of the urine examined in this case. Uric acid had also been associated with reptiles as early as 1793, when a "pasty deposit" found in the bladder of a tortoise by Vicq-d'Azyr was found to contain this substance.