

TABLE I

N	N
Bridge	Stroboscope
551 r.p.s.	545 r.p.s.
627	612
870	858
1108	1090
1244	1250
1355	1333
1417	1412
1548	1540
1745	1738
1915	1936
2156	2182

puted from settings on the bridge and from simultaneous stroboscopic determinations made with a rotating slotted disk. It will be observed that they are in good agreement. As a matter of fact, the values obtained stroboscopically were much less precise than those obtained with the bridge. The settings on the bridge were so "sharp" that the precision was limited only by the precision with which the scale on the inductance could be read. With fixed capacities, the scale on the inductance can be calibrated directly in revolutions per second.

The above method therefore possesses the following advantages: (1) The apparatus is inexpensive, simple to operate and easily obtainable or constructed. (2) The rotational speed is read directly, and no special skill is required of the observer, since only one frequency will balance the bridge. (3) Its calibration does not change. That is, the settings are independent of the strength of *M* and the position of the coil. (4) The readings can be made about as accurately and quickly as desired, and this makes it possible to follow rapid fluctuations in the speed of the rotor. (5) The balance of the bridge also may be used indirectly to control the rotational speed when this is desirable.

It is indeed a pleasure to acknowledge a grant from the Rockefeller Foundation for the development of the ultracentrifuge.

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#### INSTRUMENT TENTS

SEVERAL visitors at this laboratory have regarded with interest a simple arrangement which is in use here for protecting a large spectrophotometer from the accumulation of dust or exposure to spilled material or humid atmosphere. At the risk of duplicating any current information, one visitor's suggestion that a brief note be published on the matter has been adopted.

Ordinary cloth sheets, towels or black cloths, placed over colorimeters, microscopes, spectroscopes or other optical instruments afford little more than superficial protection against moisture, and defeat another purpose by actually leaving deposits of dust and lint upon exposed optical surfaces. Yet when an instrument is in frequent use, or must remain for some hours in an

undisturbed position, or is without a wooden case (all three of which contingencies apply to this spectrophotometer) it is desirable to protect it from dust and moisture. To meet such needs, we have had a large tent of specified shape and dimensions constructed out of yellow oiled silk, such as is used in wet surgical dressings, shower-curtains, etc.; some Cellophane derivative might serve as well.

Tents of such material in any specified shape or size can be constructed readily, usually by local companies. The material is transparent enough that the instrument may be seen when covered, tough, pliable, washable, lasting, light enough to be removed and replaced readily without risking accidental disturbances to adjustment of verniers, settings, mirrors, etc., and affords gratifying protection against dust and moisture.

For the covering of large instruments, use may be made of the simple contrivance employed here: a narrow strip of canvas, sewn along the midline at the top of the spectrophotometer-tent, supports a series of small metal rings, by which the whole tent is suspended by strings to a light dowel extending the length of the tent. The dowel is in turn suspended from the ceiling by a pair of small cords running over pulleys. Thus when the instrument is to be used, the light tent is easily drawn up and hung out of the worker's way. When desired, it can be readily relowered over the instrument. It is important that the tent cover the instrument completely, its bottom edges meeting the table surface.

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#### BOOKS RECEIVED

- AKELEY, MARY L. J. *Restless Jungle*. Pp. xiii + 313. Illustrated. McBride. \$3.00.  
BELL, E. T. *Men of Mathematics*. Pp. xxi + 592. 30 plates. Simon and Schuster. \$5.00.  
HAMILTON, LEICESTER F. and STEPHEN G. SIMPSON, Editors. *Talbot's Quantitative Chemical Analysis*. Eighth edition. Pp. xiv + 297. 12 figures. Macmillan. \$2.50.  
HOFFMAN, FREDERICK L. *Cancer and Diet; With Facts and Observations on Related Subjects*. Pp. xx + 767. Williams and Wilkins. \$5.00.  
HORNEY, KAREN. *The Neurotic Personality of Our Time*. Pp. xii + 299. Norton. \$3.00.  
HUMPHREYS, W. J. *Weather Rambles*. Pp. 265. Illustrated. Williams and Wilkins. \$2.50.  
KELLY, HOWARD A., AUDREY W. DAVIS and H. C. ROBERTSON. *Snakes of Maryland*. Pp. 102. 33 figures. 10 plates. Natural History Society of Maryland, Baltimore.  
LOOMIS, FREDERIC B. *Physiography of the United States*. Pp. viii + 350. 212 figures. Doubleday, Doran. \$2.75.  
*New Jersey Pharmacy Laws and Regulations, June 30, 1936*. Pp. 122. Board of Pharmacy of the State of New Jersey. \$1.00.  
PRENTISS, AUGUSTIN M. *Chemicals in War*. Pp. xviii + 739. 139 figures. 2 plates. McGraw-Hill. \$7.50.  
*Report of the Department of Scientific and Industrial Research for the Year 1935-36*. Cmd. 5350. Pp. 195. His Majesty's Stationery Office, London.