23-26. Gas Chromatography, 2nd intern. symp., Houston, Tex. (A. Zlatkis, Dept. of Chemistry, Univ. of Houston, Houston)

23-26. American **Physical** Soc., Philadelphia, Pa. (K. K. Darrow, Columbia Univ., New York 27)

24–26. Physics and Dynamics of Clouds. conf., American Meteorological Soc., Chicago, Ill. (Miss D. L. Bradbury, Dept. of Geophysical Sciences, Univ. of Chicago, Chicago)

25–27. Aerospace Bearings, USAF-Southwest Research Inst. conf., unclassified, San Antonio, Tex. (P. M. Ku, SwRI, 8500 Culebra Rd., San Antonio)

25-27. Entomological Soc. of America, Northcentral branch, Omaha, Neb. (G. E. Guyer, Dept. of Entomology, Michigan State Univ., East Lansing)

26-28. Michigan Acad. of Science, Arts and Letters, East Lansing (G. G. Mallinson, Western Michigan Univ., Kalamazoo)

26-28. Southern Soc. for **Philosophy** and **Psychology**, 56th annual, Lexington, Ky. (D. Calvin, Psychology Dept., Univ. of Kentucky, Lexington)

27-28. American Ethnological Soc., Pittsburgh, Pa., (N. F. S. Woodbury, U.S. National Museum, Smithsonian Institution, Washington, D.C.) 27-28. Seismological Soc. of America,

27-28. Seismological Soc. of America, annual, Seattle, Wash. (K. V. Steinbrugge, SSA, 465 California St., San Francisco 4, Calif.)

27–29. Society for the Study of **Evolu**tion, annual, Chapel Hill, N.C. (H. H. Ross, Illinois Natural History Survey, Urbana)

28-30. American Assoc. of Colleges of **Pharmacy**, Detroit, Mich. (C. W. Bliven, 1507 M St., NW, Washington, D.C. 20005)

29-2. Association of American Geographers, annual, Syracuse, N.Y. (AAG 1201 16th St., NW, Washington, D.C.)

30-2. American Assoc. of Junior Colleges, Bal Harbour, Fla. (W. G. Shannon, AAJC, 1777 Massachusetts Ave., NW, Washington, D.C. 20036)

31-3. American Assoc. of Anatomists. Denver. Colo. (L. B. Flexner, Dept. of Anatomy, Univ. of Pennsylvania, Philadelphia 4)

31-3. Calcified Tissues, European symp., Liége, Belgium. (L. J. Richelle, 32, Boulevard de la Constitution, Liége)

#### April

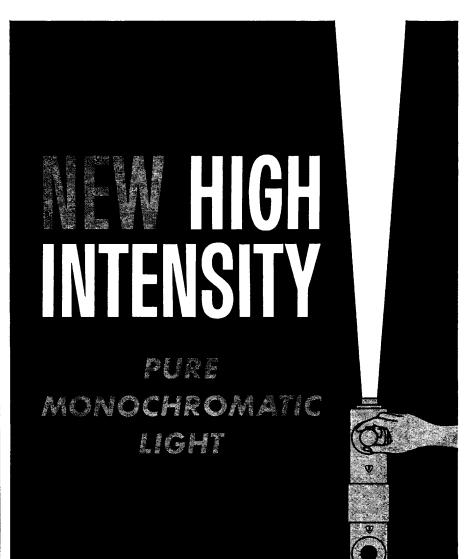
1. Thermoplastic Materials. conf., Soc. of Plastics Engineers. Akron, Ohio. (W. H. Nicol, RETEC, Goodyear Tire and Rubber Co., Akron 16)

1-2. Engineering Aspects of Magnetohydrodynamics. symp., Cambridge, Mass. (G. S. Janes, Avco Everett Research Laboratories. Everett 49, Mass.)

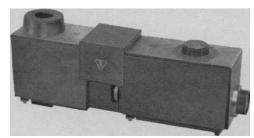
1-2. Methods for Measurement of Weak Beta-Emitters, Karlsruhe-Leopoldshaven, Germany. (Gesellschaft Deutscher Chimiker, Gesellschaftsstelle, Postfach 9075, Frankfurt/Main, Germany)

1-3. Structures and Materials, American Inst. of Aeronautics and Astronautics, 5th annual conf., Palm Springs, Calif. (R. R. Dexter, AIAA, 2 E. 64 St., New York, N.Y.)

28 FEBRUARY 1964



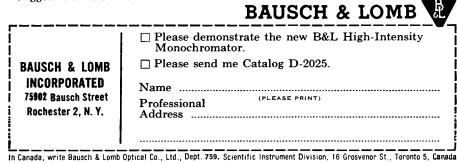
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Thermal bridge gas analyzer utilizes a thermal conductivity cell to measure the presence of a foreign gas or vapor. The analyzer includes flow meters and needle valves for flow control and has four hot wire tungsten filaments mounted in a brass or stainless steel block, electrically connected to form a full bridge circuit. The filaments are heated by a transistor-regulated power supply, and bridge unbalance is indicated in terms of gas composition on a 4-inch scale meter with zero and span controls. Applications include monitoring charges in a single component of air or the presence of added gas to an otherwise constant mixture.

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Neither *Science* nor the writers assume responsibility for the accuracy of the information.

Address inquiries to the manufacturer, men-tioning *Science* and the department number.

Accessories available include pumps, driers, stoppers, recorders, or alarms. -R.L.B. (Industrial Instruments Inc., Dept. S142, 136 Springfield Ave., Springfield, N.J.)

Liquid nitrogen cold traps for highvacuum pumping are self-contained units constructed entirely of stainless steel. The traps are optically tight and are guaranteed by the manufacturer to be free of leaks greater than 10<sup>-10</sup> std cc/min. An integral, vacuum-insulated coolant reservoir in the trap has sufficient liquid nitrogen storage capacity to permit overnight pump operation without refilling. Double-wall construction of the interior walls of the trap prevent the vacuum chamber from "seeing" the effects of changing coolant level. A flexible, stainless-steel bellows allows the coolant reservoir to expand and contract without stressing welded joints. A shielded fill tube prevents condensation from falling into the trap. The traps are bakeable. They are available in 2-inch (5-cm) and 4-inch (10cm) series and with a variety of provisions for connection.-J.s. (Granville-Phillips Co., Dept. S159, Box 1290, Boulder, Colo.)

Infrared spectrophotometer (model ICI 2000) is an automatic, recording, double-beam instrument covering wave numbers in range 4000 to 625 cm<sup>-1</sup> (2.5 to 16  $\mu$ ). The optical system employs two replica gratings in a modified Czerny-Turner mounting with four transmission filters to obtain high resolution for single or double-beam operation. The electronic null system uses solid-state electronics with Nuvistors (miniature low-noise vacuum tubes) in the preamplifier arranged for easy service by substitution of plug-in modules. An automatic gain control system compares reference and measuring beam that is chopped before the sample to permit sample heating or cooling without interference as the detector responds only to the chopped radiation. Slow or fast scans with automatic time constant, fast runback, and slit over-ride controls are provided. The instrument is claimed to provide superior sampling flexibility in that the sample and reference beams are focused at the center of the sample space to provide maximum freedom in the use of sample accessories with special advantages for microsampling. The sample space is accessible from top, front, or back of the instrument and is mounted with the source and beamcombining system on top of the instrument base plate with the monochromator and detectors below the plate. Provision is made for gas purging of the optical path. This instrument will be introduced at the 1964 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, 2-6 March. -R.L.B. (Instruments and Communications, Inc., Dept. S194, 33 Danbury Rd., Wilton, Conn.)

Reaction timer is designed for noncritical measurement of elapsed time between stimulus and response in behavioral and aptitude testing. The unit consists of a control box, a visual reaction device, and a reaction key. The subject watches the visual reaction device which consists of three lamps, red, green, and amber, mounted behind a diffusion panel to conceal their exact location. To eliminate the delay in heating the lamp filaments, stand-by filament current keeps the lamps burning just below the threshold of visibility. A knob on the control unit selects the lamp color, and a master switch turns this lamp on and simultaneously starts the stop clock mounted on the front panel. This clock measures the time between initiation of the stimulus and the pressing of the proper key by the subject. One hand of the clock completes a revolution every second and its scale is divided into 0.01-second divisions. The other hand accumulates up to 60 seconds. Bending posts on the front panel are provided so that other stimuli such as shock or sound may be used.-D.J.P. (C. A. Stoelting Co., Dept. S177, 424 N. Homan Ave., Chicago 24, Ill.)

Reference magnet designed for use as a standard magnet contains a heavy Alnico magnet with pole pieces carefully ground flat. It establishes a magnetic field of approximately 3000 gauss in its gap, which is 4 inches (10.2 cm) in diameter and more than 0.5 inch (1.28 cm) wide. Uniformity of the field is said to be excellent over more than 1 in.<sup>3</sup> (16 cm<sup>3</sup>) at the center. Two

The material in this section is prepared by

the following contributing writers: Robert L. Bowman (R.L.B.), with the assistance of Denis J. Prager (D.J.P.), Laboratory of Tech-

of Denis J. Prager (b.J.P.), Laboratory of Tech-nical Development, National Heart Institute, Bethesda 14, Md. (medical electronics and bio-medical laboratory equipment). Joshua Stern (J.S.), Basic Instrumentation Sec-tion, National Bureau of Standards, Washing-ton 25, D.C. (physics, computing, electronics, and eveloper equipment). tion, Nation ton 25, D.C. and nuclear equipment).





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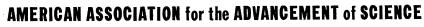
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Fluorescence micro-source uses a high-pressure mercury arc to provide source illumination for fluorescence microscopy. The basis for this fluoresence technique is the fact that certain substances absorb light energy at one wavelength and emit light of another wavelength. Excitation light, high in ultraviolet energy, is beamed at the sample under study. The sample then fluoresces, facilitating its examination under the microscope. Thus, this technique can be used to determine the presence of a particular type of cell or bacteria in a tissue sample or fluid smear. By selective staining with fluorescent dyes, specific organisms can be made to fluoresce with a predicted color upon excitation, and thus can be differentiated from other similar organisms. The Bausch and Lomb fluorescence micro-source, consisting of the mercury arc lamp, lamp-housing, and 1000-watt power supply, when used in conjunction with a variety of filters. permits the use of all current fluorescence techniques. External focusing knobs permit vertical and horizontal lamp alignment as well as arc focusing. Other equipment includes: exciter filters for use between the source and the specimen and barrier filters for use between the specimen and observer; and a baseboard for mounting the illuminator with a microscope. Available also are green density filters for regular darkfield work, allowing easy interchange between regular and ultraviolet illumination.-D.J.P. (Bausch & Lomb, Dept. S178, Rochester, New York 14602)

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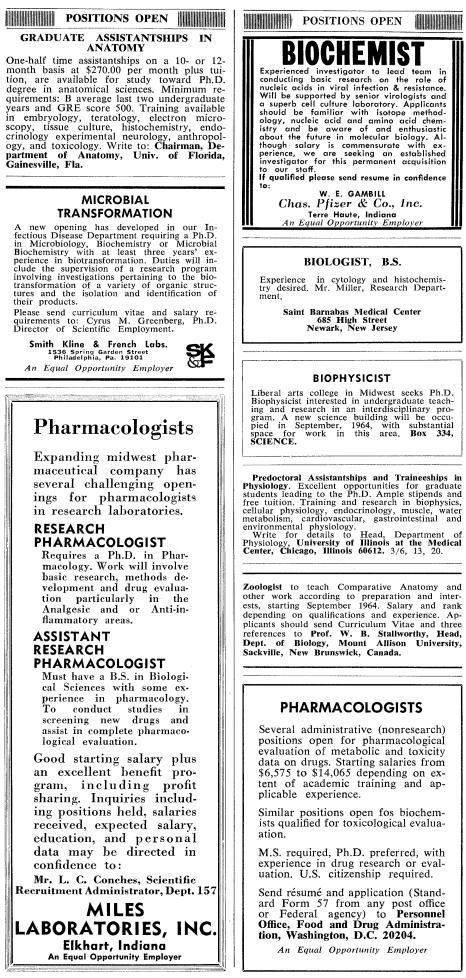
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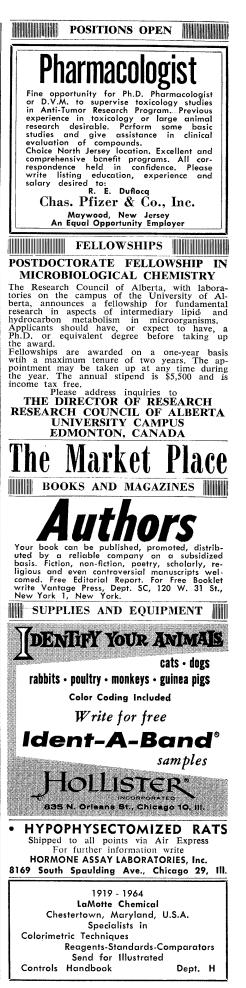
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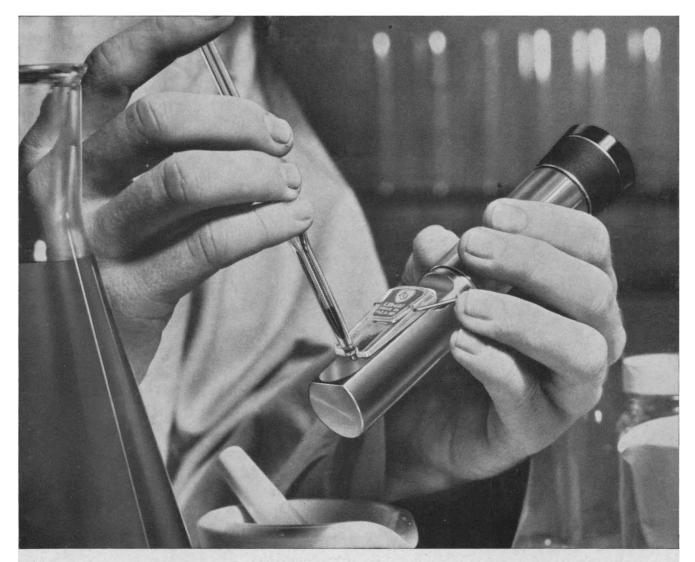
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