10–14. American Soc. of Maxillofacial Surgeons, Chicago, Ill. (O. H. Stuteville, 700 N. Michigan, Chicago 11.)

11–12. Practical Problems of Coordinating and Integrating All Services Related to the Treatment, Training and Management of the Mentally Retarded, conf., Vineland, N.J. (J. D. Eadline, Training School, Vineland, N.J.)

11–13. Instrumentation and Computation in Process Development and Plant Design, symp., London, England. (Institute of Chemical Engineers, 16, Belgrave Sq., London, S.W.1.)

11–13. Microwave Theory and Techniques, natl. symp., Boston, Mass. (H. Pratt, Inst. of Radio Engineers, 1 E. 79 St., New York 21.)

11–13. Power Instrumentation, natl. symp., Kansas City, Mo. (H. H. Johnson, Consolidated Edison Co. of New York, Room 1515-S, 4 Irving Pl., New York 3.)

13–16. Human Biochemical Genetics, Ciba Foundation symp., London England. (G. E. W. Wolstenholme, Ciba Foundation, 41 Portland Pl., London, W.1.)

14–15. Operations Research Soc. of America, Washington, D.C. (H. J. Miser, Rt. 2, Box 211, Vienna, Va.)

14–16. Acoustical Soc. of America, Ottawa, Canada. (W. Waterfall, 335 E. 45 St., New York 17.)

14–17. American Acad. of Dental Medicine, 13th annual, Atlantic City, N.J. (H. A. Lentz, 619 Main Ave., Passaic, N.J.)

14–16. American Assoc. of Physical Anthropologists, Madison, Wis. (E. E. Hunt, Jr., Peabody Museum, Harvard Univ., Cambridge 38, Mass.)

17–20. American Inst. of Chemical Engineers, 40th natl., Kansas City, Mo. (F. J. Van Antwerpen, AICE, 25 W. 45 St., New York 36.)

17–21. American Ceramic Soc., 61st annual, Chicago, Ill. (C. S. Pearce, ACS, 4055 N. High St., Columbus 14, Ohio.)

17–21. Institute of Food Technologists, 19th annual, Philadelphia, Pa. (C. S. Lawrence, IFT, 176 W. Adams St., Chicago 3, Ill.)

17–23. Antibiotics, intern. symp., Prague, Czechoslovakia. (M. Heřmanský, Antibiotics Research Inst., Roztoky near Prague, Czechoslovakia.)

17–23. Mass Spectrometry, 7th, Los Angeles, Calif. (A. G. Sharkey, Jr., U.S. Bureau of Mines, 4800 Forbes Ave., Pittsburgh 13, Pa.)

18–20. Instrumental Methods of Analysis, 5th natl. symp., Houston, Tex. (H. S. Kindler, Director of Technical and Educational Services, ISA, 313 Sixth Ave., Pittsburgh 22, Pa.)

19–23. American Assoc. of Mental Deficiency, Milwaukee, Wis. (N. A. Dayton, Mansfield State Training School & Hospital, Mansfield, Depot, Conn.)

20–22. Education of the Scientist in a Free Society, conf., Milwaukee, Wis. (A. B. Drought, College of Engineering, Marquette Univ., 1515 W. Wisconsin Ave., Milwaukee 3.)

21–23. American Assoc. for the History of Medicine, 32nd annual, Cleveland, Ohio. (Miss E. H. Thomson, Yale Univ. School of Medicine, New Haven, Conn.)

(See issue of 20 March for comprehensive list)

Equipment

The information reported here is obtained from manufacturers and from other sources considered to be reliable, and it reflects the claims of the manufacturer or other source. Neither Science *nor the writer assumes responsibility for the accuracy of the information. A coupon for use in making inquiries concerning the items listed appears on page 918.*

■ TUNING-FORK OSCILLATOR provides any frequency from 400 to 10,000 cy/sec without dividers or multipliers. The transistorized device has a frequency tolerance ± 0.005 percent over the range −55° to +125°C. Output is 5 v r.m.s. across a 10,000-ohm load with essentially sinusoidal waveform. Supply power requirement is 6 or 30 v. Dimensions are 1½ by 1½ by 2¼ in. (Delta-f Inc., Dept. 652)

■ INFRARED ANALYZER is designed to measure water content in liquid or gas process streams. The ratio of transmission at two wavelengths is measured. Interference filters are used to isolate the two wavelengths, and a photoconductor is used to detect infrared radiation. (Analytic Systems Co., Dept. 711)

■ RECORDER provides analog recording with frequency response 0 to 100 cy/sec and 10 channels of event recording. Eight chart speeds are remotely or locally selectable. Sequence response is up to 500 signal changes per second. Operation is on 120-v, 60-cy/sec power. (Brush Instruments, Dept. 712)

■ VOLTAGE REFERENCE has a dual output of ± 50 v in one model and ± 36 v in a second. Total adjustment range is ± 120 mv around the nominal output voltage. Stability is ± 20 parts per million for 8 hr and ± 50 ppm long-term over the load range 0 to 100 ma and input voltage range 105 to 125 v. Temperature response is less than 2 ppm/°C at 25°C. The reference element is a Zener diode. Diode and preamplifier are contained in an isothermal oven. Calibration against an internal reference cell is provided. (Julie Research Laboratories, Inc., Dept. 713)

■ OSCILLOSCOPE with 17-in. screen features 1 percent linearity on both *x*- and *y*-axes. Amplifier sensitivity is 10 mv up to 500 kcy/sec. Magnetic deflection is used. (Eastern Precision Resistor Corp., Dept. 714)

■ VACUUM-TUBE VOLTMETER measures over the frequency range 10 cy to 4 Mcy/sec. Voltages from 0.001 to 300 v are measured in 12 ranges. Accuracy is stated to be ± 2 percent. Indication is r.m.s. value of sine wave. (Republic Electronic Industries Corp., Dept. 716)

■ THROMBELASTOGRAPH makes simultaneous visual and photokymographic observations of three different samples of blood or plasma, giving a permanent record of the coagulation process. The instrument automatically records changes in viscosity and elastic properties of the clot during all phases of the coagulation process. The tracings give a picture of the formation or reduction of fibrin as continuously obtained from a single blood sample. After specimens have been introduced, procedure is completely automatic. (American Hospital Supply Corp., Dept. 721)

■ CURRENT INTEGRATOR is designed for use with high-voltage particle accelerators. Current ranges from 3 na to 1 ma are covered by 12 switch settings. A presetting feature permits the device to provide a warning signal when a specific amount of charge has been collected. An internal current source provides calibration. (Elcor, Inc., Dept. 715)

■ VACUUM SLIDE RULE provides scales for calculations relating pump speed, volume of system, pressure achieved, conductance of tubing, and evacuation time. Tables of unit-conversion factors and barometric-pressure-versus-altitude data are also included. (Central Scientific Co., Dept. 730)

■ GAUSSMETER is a nuclear-magnetic-resonance instrument for measurement of strength and homogeneity of stable or slowly changing magnetic fields. The instrument consists of a probe, an oscillator, and an indicator. A standard probe covers the range 300 to 20,000 gauss. Probes for other ranges are available. The standard probe contains Li^7 and H^1 nuclei in a volume of 0.14 cm^3, so that two distinct frequencies in separate frequency ranges are available. (Harvey-Wells Electronics, Dept. 726)

■ X-Y RECORDER uses two orthogonal mirror galvanometers to attain writing speeds greater than 2500 m/sec and frequency response flat to 100 cy/sec. Traces are recorded on ultraviolet-sensitive charts with recording area 8 by 8 in. The light source is a high-pressure mercury arc. The traces are visible almost immediately; exposure in normal room light completes the developing process. Standard photographic fixing processes may be used to make the record permanent. Inputs for each axis are supplied by interchangeable preamplifiers. Basic sensitivities are 0.625 v/in. and 31.25 mv/in. with d-c coupling preamplifiers. (Sanborn Company, Dept. 719)

JOSHUA STERN
National Bureau of Standards, Washington, D.C.

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Specialists are invited to make confidential inquiries by contacting the Personnel Director of The MITRE Corporation, 244 Wood Street, Lexington 73, Massachusetts.

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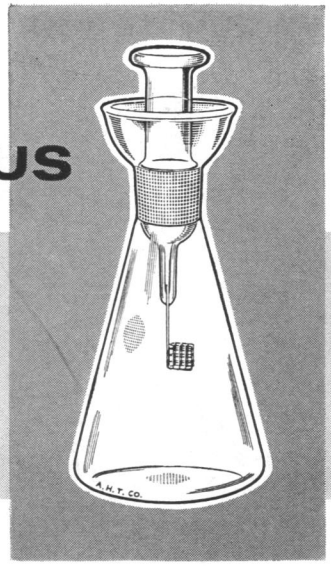


- *For determination of halogens, sulfur, phosphorus, traces of metals, etc., in organic materials*
- *End products free from metal contaminants*
- *Rapid, simple and inexpensive*

. . . a simplified technique for catalytic combustion of organic materials in oxygen

For the rapid determination of halogens, sulfur, phosphorus, traces of metals, etc., in organic substances by simple combustion in oxygen. No elaborate equipment is required, negligible pressure is produced and the combustion products are free from metallic contaminants.

The procedure simply converts organic materials into soluble combustion products, which are then analyzed for chlorine, bromine, iodine, fluorine and sulfur by usual inorganic gravimetric or volumetric methods.

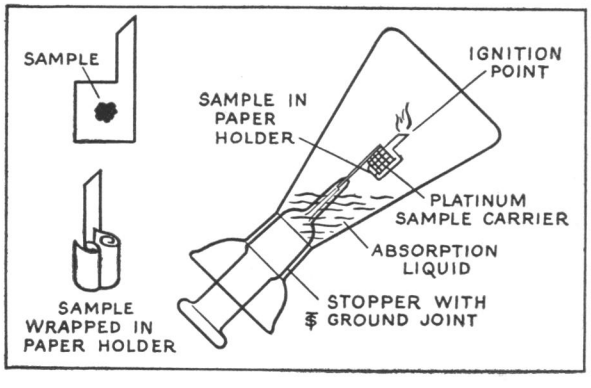
Consisting of a heavy wall, conical flask of borosilicate glass, with deep, bell-shape flaring lip and elongated interchangeable ground glass stopper with attached U-shape platinum wire gauze sample carrier, and small, specially cut, unsized low ash paper sheets which serve as holders for the sample.

In use, the sample is wrapped and folded in the paper with the narrow tail extending for ignition. Sample is then placed in the platinum carrier and the flask is charged with a small amount of absorbing liquid as required for the specific reaction and with free-flowing oxygen. The paper tail is then ignited; the stopper with flaming sample is seated in the flask and flask then inverted at an angle. The catalytic combustion proceeds at high temperatures and the combustion products are absorbed in the liquid, which forms a seal around the stopper. After cooling, the inside surfaces of the flask and stopper are thoroughly rinsed. *Titrations can then be made directly in the flask.*

Due to the inherent fragility of glass in the presence of reduced pressure, general safety regulations should be followed, such as the use of shield, goggles, etc.

Results compare favorably, i.e., within $\pm 0.3\%$, with conventional combustion or decomposition methods. The method has been used extensively for analysis of the above elements but, because of the low cost, time and space saving features, is finding wide use for other substances which undergo complete combustion.

See Wolfgang Schöniger, *Mikrochimica Acta, 1955, Heft 1, pp. 123-129;* and ibid. *1956, Heft 1-6, pp. 869-876.* See also Kenneth D. Fleischer et al, *Analytical Chemistry, Vol. 30, No. 1 (Jan., 1958), pp. 152-153,* and Ihor Lysyj and John E. Zarembo, *Analytical Chemistry, Vol. 30, No. 3 (Mar., 1958), pp. 428-430.*



6470-E. Combustion Apparatus, Thomas-Schöniger (Schöniger Flask), as above described, 300 ml capacity, for samples up to 10 mg. With No. 34/28 standard taper stopper and platinum wire gauze sample carrier weighing approximately 1.5 grams, 100 Paper Sample Holders and directions for use..... **28.35**

6470-G. Ditto, similar to 6470-E but with 500 ml flask, for samples up to 100 mg..... **29.00**

6471-F. Paper Sample Holder, only, an unsized, low ash paper, die-cut to facilitate wrapping, folding and igniting samples.
Per 100..... **.75**

Thorin Indicator, for use with above in determination of sulfates.
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