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New Products

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 406.*

■ ENVIRONMENT CHAMBER simulates conditions up to 100 mi altitude. The chamber is 8 ft in diameter and 15 ft long. Pumping system includes line-of-sight cold trapping, a 16-in. diffusion pump, backing pump, and mechanical pump of displacement 48 ft^3/min. (Scientific Engineering Labs, Dept. 956)

■ PRESCALER features resolving time of 10^{-8} sec for pulse pairs with 15/1 amplitude ratio between successive pulses. Input amplitude required is ±0.2 w minimum into 50 ohm. Discriminator range is ±0.2 to ±6 v and can be set within ±3 percent. An output pulse of 2 v minimum into 50 ohm is furnished for every ten input pulses. Transistor and diode circuitry is used. (Brooks Research Inc., Dept. 965)

■ TEMPERATURE PROBE, for use at flight speeds of Mach 2 and higher, permits measurements to be made while deicing heat is continuously applied. Because the boundary-layer air is continuously removed from the internal flow through the probe, the temperature of the central core of the flow is almost completely independent of the temperature of the housing. Accuracy is said to be within 0.25°C + 0.5 percent of the measured temperature. (Rosemount Engineering, Dept. 968)

■ NEUTRON SURVEY METER uses a detector consisting of a uniform dispersion of zinc sulfide molded into Lucite, the latter serving the dual purpose of supplying proton recoils to produce scintillations in the phosphor and of conducting the light produced to the multiplier phototube. Three linear ranges are 0 to 5, 0 to 50, and 0 to 500 neutrons/cm^2 sec. The meter is not sensitive to slow neutrons, and operation is not affected by Co^{60} gamma rays up to 4 r/hr. (Nucleonic Corporation of America, Dept. 970)

■ AUDIOMETER is designed for high-speed screening for hearing loss. The device uses a mixed tone said to combine the frequencies characteristic of human speech in proportions relative to their importance. In operation, the lowest point at which the signal can be heard is recorded. Hearing loss detected by this device is further tested with a pure-tone or other audiometer. (Auralfone Corp., and Tonemaster Manufacturing Co., Dept. 974)

■ FREQUENCY STANDARD is said to be stable to 5 parts in 10^{10} per day. The device is transistorized and uses a double proportional-control oven. The unit operates on 24 to 32 v unregulated d-c. Output is 1 v into 5 ohm at 1 Mcy and 100 kcy/sec. A power supply available for operation from 115-v lines has built-in batteries and provides automatic switchover, standby operation for more than 12 hr. The instrument and power supply weigh 9 lb. (James Knight Co., Dept. 971)

■ TEMPERATURE CONTROLLER combines a thermistor sensing element with a transistor amplifier. Range is 0° to 600°F. Setting accuracy is ±2°F within the ambient range 0° to 125°F. Load current capacity is 5 amp for 115 v ac. Operating differential can be as low as 0.4°F. (Fenwal, Dept. 972)

■ CAPACITANCE BRIDGE for measuring small values of direct or grounded capacitance covers the range 0.0002 to 11,000 pf with accuracy said to be ±0.25 percent plus a range factor. Differential capacitance measurements can be read within ±1 part per million on nominal values above 200 pf and conductance 0.01 to 1000 μmho with a test frequency of 100 kcy/sec. A d-c voltage bias is available with adjustment range −5 to +100 v. (Boonton Electronics Corp., Dept. 973)

■ FLOW CALIBRATION STAND for small flow-measuring devices is a volumetric displacement system in which a volume of liquid is measured and timed as it passes through the unit being calibrated and into a collecting chamber. The calibrator employs a free piston operating in a precision-bore glass tube. A groove around the piston is filled with mercury to form a low-friction seal. Flow range is 50 to 5000 cm^3/min; accuracy of ±0.2 percent is claimed. (Brooks Rotameter Co., Dept. 976)

■ CLAMP FASTENER UNIT for constructing supporting framework for apparatus and components is made with hole sizes in increments to grip rod, pipe, or armored cable. The unit consists of the clamp and a mounting angle fitted with interlocking teeth spaced to allow angular adjustment in 10-degree steps. The angle and clamp are joined by a bolt that also provides clamping force. (Versa-Lac Corp., Dept. 978)

■ INVERTER CHOPPER, for conversion of direct to alternating current, measures 5/16 by ½ by ⅝ in. Contact closures are hermetically sealed and devoid of organic materials; they operate over the temperature range −65° to +125°C. The driver operates on 6.3-v, 400-cy/sec current. Contacts are rated up to 10 v,

1 ma resistive. Vibration causes less than 10 electrical degrees of contact derangement up to 15 *g* from 10 to 2500 cy/sec. Noise is less than 100 μv r.m.s. (Rawco Instruments, Dept. 983)

■ BTU METER measures quantity of heat transferred to or from chilled or hot water. The instrument operates with a separate water meter and is coupled to the latter by a flexible shaft. Flow is multiplied by temperature differential to determine the amount of heat transferred. Accumulated flow and temperature differential as well as heat transferred are indicated. (American Meter Co., Dept. 982)

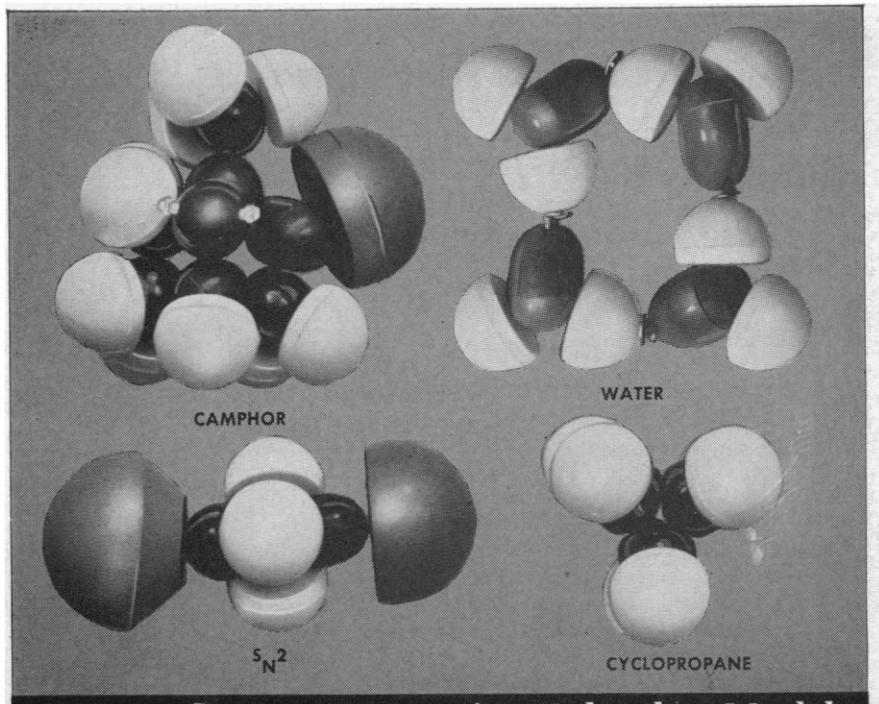
■ PRESSURE TRANSDUCER is a bourdon-tube type with electrical output and without mechanical linkages, bearings, or multiplication. Ranges are 0-to-400 to 0-to-5000 lb/in.^{2} absolute. Output resistance is 1 to 10 kohm. Static error band is ±0.9 percent. Operating temperature is −65° to +200°F. (Bourns Laboratories, Dept. 981)

■ INFRARED DETECTOR utilizes a zinc-doped germanium photoconductor as the sensitive element. The detector, developed at the Naval Research Laboratory, is sensitive from 2 to 40 μ; peak sensitivity occurs at about 37 μ. The detector is cooled by liquid helium shielded by liquid nitrogen. The cryostat consists of a double Dewar flask; holding time is 24 hr. The time constant of the detector is less than 0.01 μsec. (Perkin-Elmer, Dept. 984)

■ METER-TYPE-RELAY for a-c voltages can be set to make contact at any voltage between 100 and 130 v. Two contacts can be individually set to yield a control differential from 0.5 to 6 v. A built-in power relay handles up to 20 amp. The meter movement uses an aluminum disk suspended in a quadrature field and restrained by hair springs. Temperature effects are compensated to provide less than ± 1 percent calibration drift at temperatures between −20° and +150°F. (Technique Associates, Dept. 995)

■ DIGITAL CLOCK has direct visual read-out display as well as output suitable for actuation of printers, electric typewriters, card punches, and other devices. Time measurement is based on line frequency, but provision is made to slave the clock to an external frequency source or time base. Units that operate at any frequency from 25 to 128 cy/sec can be provided. (Electro Instruments, Dept. 985)

■ STEREOMICROSCOPE provides continuously variable magnification within each of four ranges covering magnifications from 3.5 to 120. Working distance is



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The pliable PVC atoms are brought together using special polyethylene connectors, easily inserted to give positive connection. Large molecules do not fall apart. No special tools required.

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Separate Atoms of above ..... 50¢ ea.

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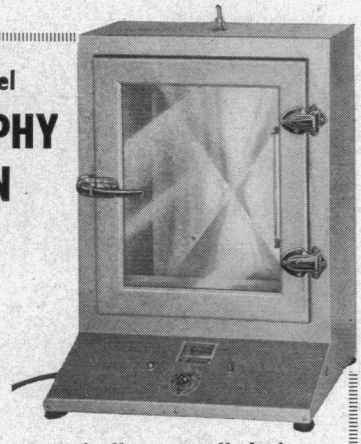

Model CO-4 is a thermostatically controlled, insulated oven which quickly reaches temperatures up to 110° C. Achieves evacuation of solvent vapors with water or motor aspirator. Heating elements concealed in base are protected from combustible, solvent droplets. Heavy metal-reinforced safety glass door readily permits temperature readings and observation without repeated opening of door. Stainless steel oven chamber is corrosion-resistant.

Overall Dimensions: 27" wide; 35¾" high; 14½" deep

UNCONDITIONAL 1 YEAR WARRANTY

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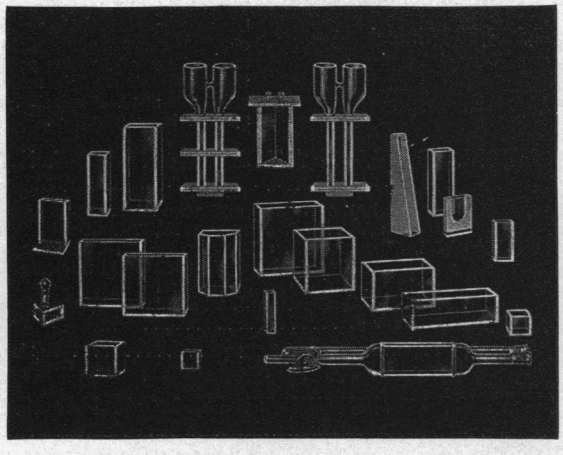

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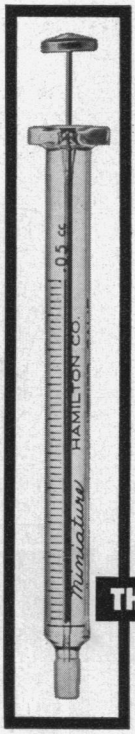

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constant at 4 in. Eyepieces of 10, 15, and 20 magnification and attachment lenses of 0.5 and 2.0 magnification are accommodated. (Bausch and Lomb Optical Co., Dept. 975)

■ GRAPHITE TEXTILE is produced by electrically heating of fabric such as rayon to a temperature approaching 5400°F at which the crystalline structure of the material is changed to that of graphite. The resulting textile is highly refractory, resistant to attacks by acids, alkalies, and organic compounds, except those of highly oxidizing nature, and unreactive with many molten metals. Thermal conductivity at room temperature is approximately 0.3 cal-cm/sec-cm °K. Electrical resistance is 0.5 ohm per square. Tensile strength varies with the type of fiber and fabric. Tensile strengths as high as 15,000 lb/in.^{2} are reported for individual yarns. (National Carbon Co., Dept. 993)

■ ELECTROMETER of vibrating-condenser type detects currents as small as 10^{-15} amp and, with an accessory, measures resistance up to 10^{15} ohm. Input ranges are 10, 30, 100, 300, and 1000 mv. Accuracy ranges from ± 0.3 percent on the 1000-mv range to ± 2 percent on the 10-mv range. Output is 1 ma full scale. Zero is stable within ± 100 μv over a 12-hr period. (Electronic Instruments, Dept. 979)

■ ANALOG COMPUTER contains 120 amplifiers, 48 of which are interchangeably summers or integrators, and 16 servomultipliers, each with five ten-turn potentiometers and a slip clutch. Amplifier drift is 25 μv, grid current is less than 30 pa, and noise is 0.25 mv. Automatic time-scale change accelerates solution by two factors of five (Dian Laboratories, Dept. 986)

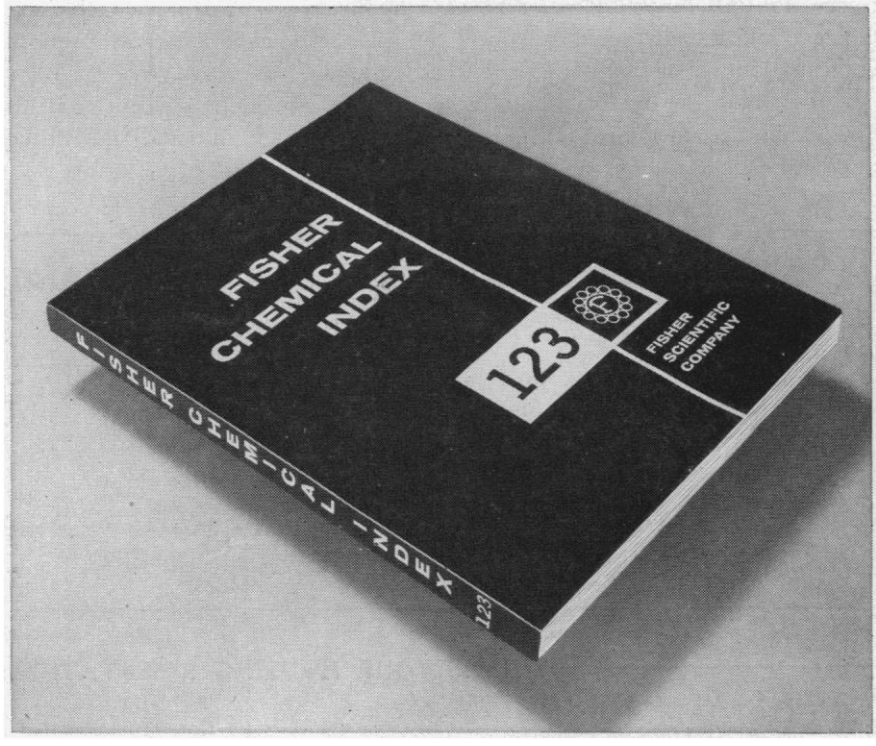
■ SOLAR FURNACE, made for teaching principles of solar energy, can produce temperatures in the vicinity of 2000°F under favorable conditions. The radiation collector is a 14-in. parabolic mirror. A bracket permits the axis of the mirror to be set parallel to the sun's rays. Focusing adjustments are provided. (Strong Electric Corp., Dept. 991)

■ MILLIWATTMETER is a resistive film bolometer measuring power from 1 to 100 mw over the frequency band 8.4 to 10.2 kMcy/sec. Accuracy is ± 3 percent. A micrometer adjustment permits a short-circuiting termination to be set for a voltage-standing-wave-ratio near unity at any frequency within the specified range. The temperature change caused by the absorption of incident microwave power by the bolometer film is detected by a thermocouple. (Wayne Kerr, Dept. 994)

■ DRYING TIME INSTRUMENT measures drying time of coatings by drawing a hemispheric needle along a metal specimen strip to which a film of the material to be tested has been applied. Total travel of the needle can be set to occur in 8, 16, or 24 hr. Up to six tests can be run simultaneously. (Eastern Precision Tool and Gage Co., Dept. 992)

■ VIBRATING REED ELECTROMETER detects 10^{-17} amp, 6×10^{-16} coul, and 0.02 mv from low-impedance sources. Ranges are 10, 100, and 1000 mv and 10 v. Time constant is 0.1 sec with 10^{-10} ohm resistor input and proportional to resistance above 10^{-9} ohm. The instrument is said to be capable of measuring C^{14} activity to 5×10^{-15} c/mg of $BaCO_3$ and tritium activity as low as 10^{-10} c/mg. (Applied Physics Corp., Dept. 998)

■ RESONANT REED RELAY is a five-channel device weighing 0.5 oz and measuring ¾ by 1⅜ in. Reed frequencies range from 200 to 500 cy/sec. Minimum driving power is 1.5 mw with stability of ± 0.25 percent from 0° to 25°C and ± 1 percent from − 20° to + 80°C. Standard frequency tolerance is 1 percent. Re-



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APPLICATION FOR HOTEL RESERVATIONS

126th AAAS MEETING

Chicago, 26-31 December 1959

The four hotels for the AAAS Chicago meeting have established special low rates and have reserved large blocks of rooms at each level within the price ranges quoted. Thus everyone making room reservations for the AAAS meeting is assured substantial savings. Further, all confirmations will state the room rate assigned.

The list of hotels and their rates and the reservation coupon below are for your convenience in making your hotel reservation in Chicago. Please send your application, *not* to any hotel directly, but to the AAAS Housing Bureau in Chicago and thereby avoid delay and confusion. The experienced Housing Bureau will make assignments promptly; a confirmation will be sent you in two weeks or less.

If desired, the hotels will add a cot at $3.00 per night—except that all children under 12 are free. Mail your application *now* to secure your first choice of desired accommodations. All requests for reservations must give a definite date and estimated hour of arrival, and also probable date of departure.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

For a list of the headquarters of each participating society and section, see page 228, *Science*, 24 July.

Rates for Rooms with Bath

Hotel	Single	Double Bed	Twin Bed	Suite
Morrison	$6.50– 9.00	$9.00–13.00	$11.00–15.00	$30.00 and up
Hamilton	6.50– 9.50	9.00–13.00	11.00–15.00	25.00 and up
La Salle	8.00–10.00	10.50–13.00	12.50–15.50	35.50 and up
Sherman	7.45–12.45	11.45–16.45	14.45–19.50	28.50 and up

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TYPE OF ACCOMMODATION DESIRED

Single Room ..... Desired Rate ..... Maximum Rate .....

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(Attach list if this space is insufficient. The name and address of each person, including yourself, must be listed.)

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First Choice Hotel ..... Second Choice Hotel ..... Third Choice Hotel .....

DATE OF ARRIVAL ..... DEPARTURE DATE .....
(These must be indicated—add approximate hour, a.m. or p.m.)

NAME .....
(Individual requesting reservation) (Please print or type)

ADDRESS .....
(Street) (City and Zone) (State)

Mail this now to the Housing Bureau. **Rooms will be assigned and confirmed in order of receipt of reservation.**

sponse time is approximately 50 msec, dwell time approximately 8 percent, and standard impedance 16,200 ohm. Units are open or hermetically sealed. (Gulton Industries, Dept. 997)

■ PREAMPLIFIER amplifies signals for display on standard cardioscopes and electrocardiographs. Noise level is 1 μv, and 60-cy rejection is 10^6. The unit operates from a battery and is designed for mounting directly under the edge of the operating table. (Levinthal Electronic Products, Dept. 977)

■ VARIABLE-FREQUENCY POWER SUPPLY furnishes 250 v-amp at frequencies adjustable from 45 to 2000 cy/sec and output voltages adjustable from 0 to 140 v r.m.s. Operation is on 105- to 130-v, 50- to 60-cy/sec power (Itek, Dept. 980)

■ THERMISTOR THERMOMETERS cover the range −328° to +845°F. Accuracy is ± 1 percent of scale range and better than 1 percent for short temperature spans. Response time constant is 0.72 sec in liquids and 2.2 sec on surfaces. More than 100 interchangeable probe designs are available. (Will Inc., Dept. 987)

■ CURRENT METER has nine full-scale ranges from 0.1 to 1000 μa d-c. Voltage drop for 0.1 μa full-scale is less than 10 μv across the input. Response time is 5 msec. Basic accuracy of ± 0.5 percent is claimed. (Measurements Research Co., Dept. 988)

■ PULSE GENERATOR produces a prepulse and a main pulse with delay variable from 90 mμ sec to 105 msec. The width of the main pulse can be varied over the same range. Repetition rate is variable from 1 cy to 3 Mcy/sec. Rise time of the main pulse is 10 mμsec. (Marconi Instruments, Dept. 990)

■ MULTIPLEXER samples ten separate channels at a rate of 2000 samples/sec per channel. The number of channels, frame rate, and sample rate are crystal-controlled and can be selected with rotary switches on the front panel. The unit can be driven internally or externally. Transistors are used in the plug-in units. (Digital Instrument Laboratories, Dept. 996)

■ CURVE TRACER for transistor characteristics features supply peak sweep currents up to 25 amp, sweep voltages up to 200 v, and bias currents up to 5.6 amp. A family of 8 curves is produced that may be manually or automatically stepped. Internal calibration for both X- and Y-axes is available. (American Electronic Laboratories, Dept. 999)

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National Bureau of Standards, Washington, D.C.

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Write for detailed information, literature references and prices.

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Microbiologist; master's degree; would like position involving some teaching with time for research; since 1954, research assistant, large university. Medical Bureau, Burneice Larson, Director, 900 North Michigan, Chicago. X

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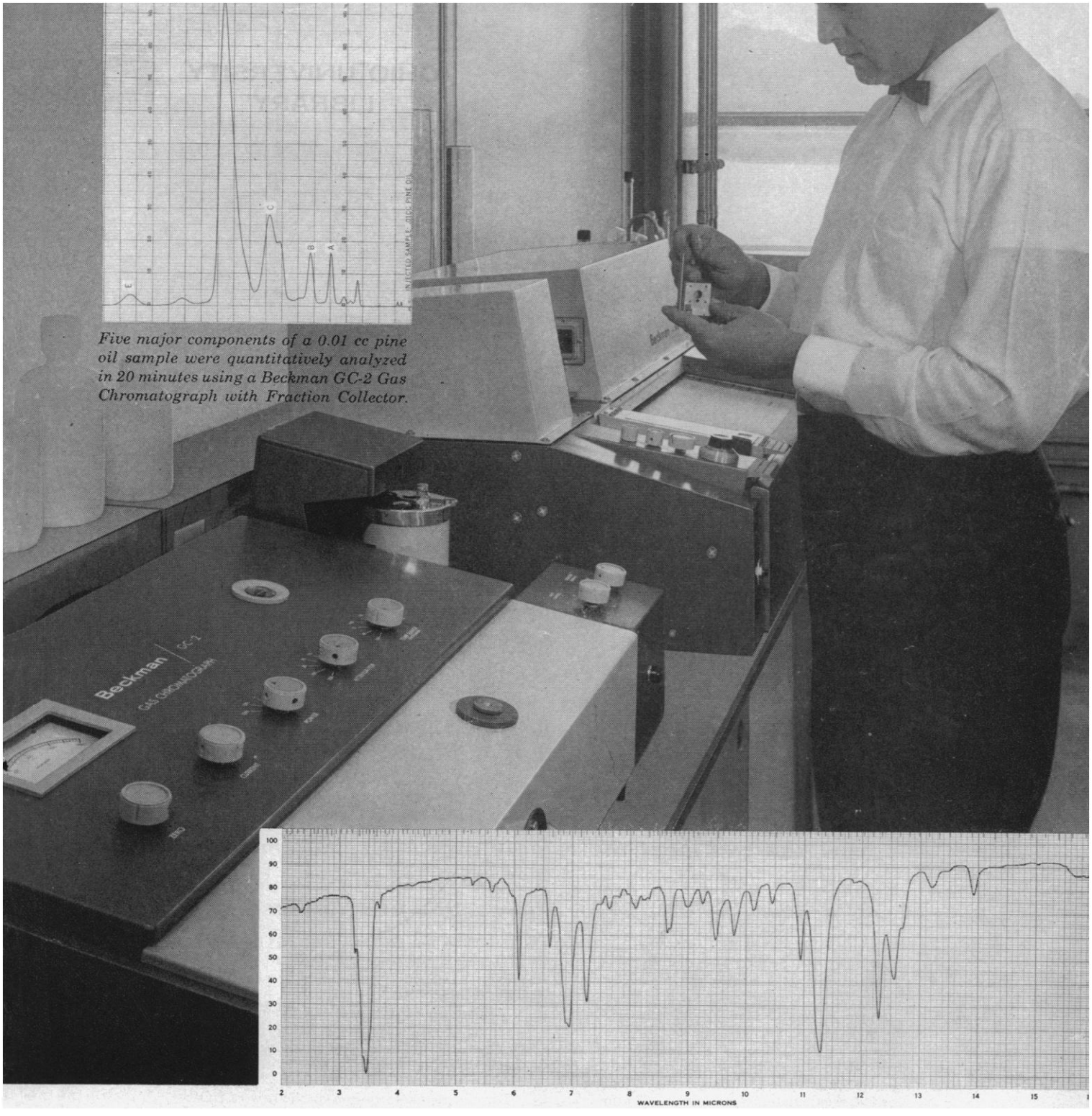

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