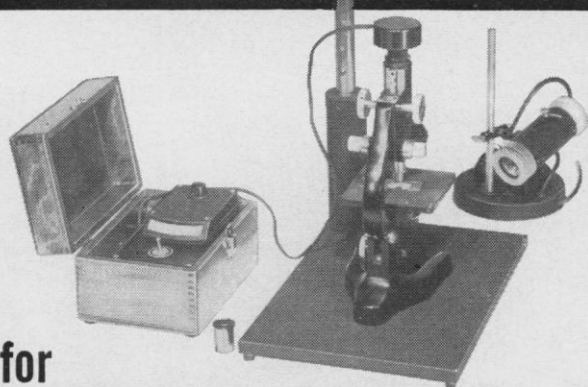


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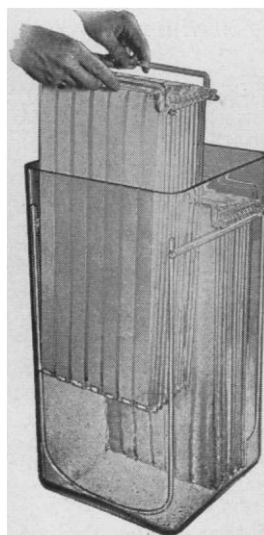
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at one time in a small space.

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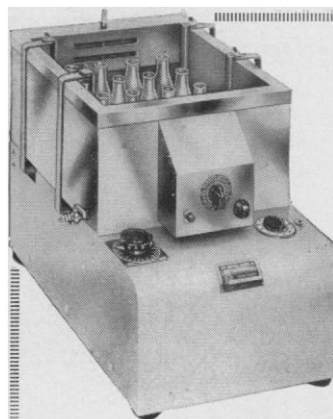
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A variable speed, ro-
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constant temperature
bath . . . precision built
for continuous duty.

- Variable speed control from 85 to 285 rpm.
- Heats rapidly to pre-set temperatures from am-
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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 814.

■ **THICKNESS GAGE** of radiation type is said to measure material thickness to 2 μ in., thickness of coatings to within 0.01 percent of total thickness, and change of basis weight of 0.005 mg/cm². Material to be measured flows past a small radioactive source. Transmitted radiation is compared with that transmitted by a second identical source through a reference sample or through the uncoated base. Time response is continuously variable from 0.25 to 30 sec. (Radiation Counter Labs., Dept. 75)

■ **SLIP-RING ASSEMBLY** has 50 slip rings and their attendant 100 brushes mounted on ball bearings mounted and packaged in a dust-sealed housing 1.25 in. long. Noise level is said to be maintained below 50 μ v. Breakaway friction level is less than 50 g cm. Brushes are tuned to different resonant frequencies for operation under severe vibration conditions. (Slip Ring Company of America, Dept. 77)

■ **OSCILLOSCOPE** uses the sampling principle to display pulses with rise times as short as 2 μ sec. The complete trace is built up of a series of dots each of which corresponds to a sample taken at progressively varying phase from successive repetitions of the input. A charge-storage circuit maintains the position of a dot until the succeeding sample is taken; thus a bright display is obtained. Voltage measurement ranges are 1.5–0–1.5 v and 5–0–5 v. Input impedance is 250 kohm plus 2 pf (approx.). Number of samples taken for the display is 25, 50, 100, or 200. Pulse repetition frequency limits are approximately 50 cy to 10 kcy/sec. (Mullard Equipment, Ltd., Dept. 92)

■ **PREPARATIVE GAS CHROMATOGRAPH** incorporates large column capacity, an automatic sample-collecting system, recorder read-out, recycling pump, and clean-out traps. A thermostatted, heated inlet is adjustable to 450°C for vaporization of large samples. Parallel column construction provides a large total cross-sectional area while utilizing the high-resolution capabilities of small-diameter columns. Separate temperature controls are provided for each column and for the detector. The sample-collection system allows collection of four consecutive components. (Beckman Instruments, Inc., Dept. 102)

■ **MAGNETOSTRICTION DELAY LINE** is a longitudinal-mode line for delays up to 100 μ sec and digit rates up to 1 Mcy/sec. Any number of variable taps can be provided, subject to a minimum spacing of 2 μ sec. Input and output impedance can be made to suit requirements. (Feranti Electric, Inc., Dept. 78)

■ **ELECTROSTATIC VOLTMETER** permits measurement of the free-space electrostatic potential of a small area on an electrostatically charged surface with a probe placed in proximity to the surface. Range is ± 1000 v. Frequency bandwidth is d-c to 50 cy/sec. For probe spacing of $\frac{1}{8}$ in. or less, surface resolution is a circle less than $\frac{1}{4}$ in. in diameter. Inherent error in the instrument is said to be less than 0.2 percent at this spacing. Drift is less than 5 v/day after warm-up. Less than 1-percent error is introduced by increasing spacing to $\frac{1}{2}$ in. (Monroe Electronic Laboratories, Inc., Dept. 90)

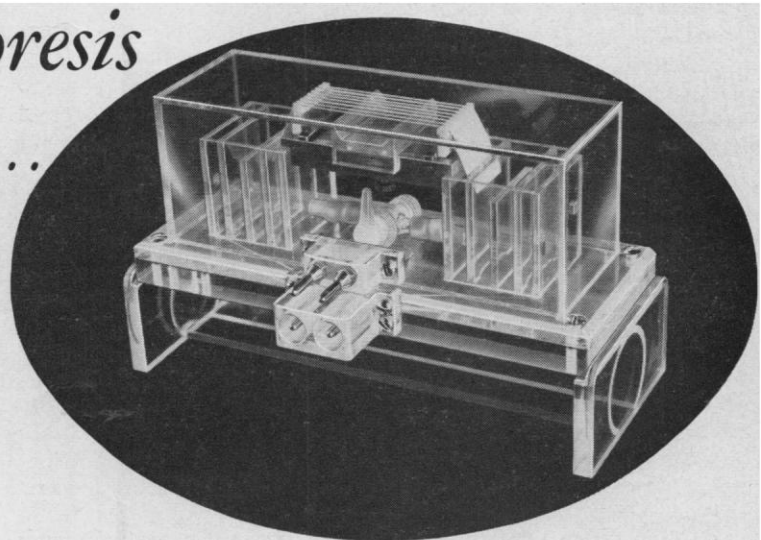
■ **GLOSSMETER** achieves versatility by building elements of the incident and reflected light beams onto aluminum blocks mountable at 75 deg, 60 deg, 45 deg, or 20 deg. Optical and electrical units are in separate housings connected by cable, thus the instrument can be used with specimen on the front or on the top, or with the optical unit mounted

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FASTER... 10 to 20 times quicker than larger units

SMALLER SAMPLE SIZES... Uses only 1/10 to 1/20 of a microliter compared to the old-fashioned apparatus's five microliters

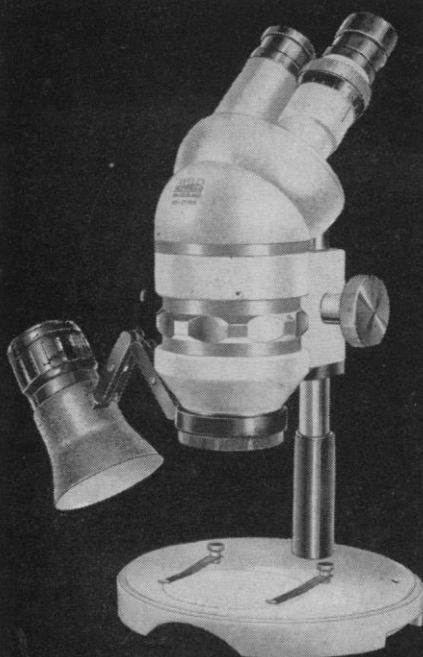
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flush in a table top. A digital dial used in the measurement arm of a null-balance bridge is operated either manually or automatically for measurement. (Hunter Associates Laboratory, Inc., Dept. 91)

■ **MULTIPLIER PHOTOTUBES** for applications where size and weight are important considerations measure $\frac{3}{4}$ in. in diameter. Two types are available. One features maximum stability at high voltage; the other features high gain at low operating voltage. Both types have ten dynode stages and feature potted bases without sockets. (Allen B. DuMont Laboratories, Inc., Dept. 88)

■ **VIBRATION RECORDER** measures vibration accelerations associated with blasting operations. Vibration reaching the pickup of the instrument causes the indicating meter to register peak acceleration. This reading is retained until reset and may be transferred photographically to a film record. Development of the film is effected by heat from coils within the apparatus. (Geotechnical Corp., Dept. 83)

■ **FILM MAGAZINE** for a high-speed, rotating-prism camera carries 1200 ft of film and permits operation for 50 sec at 1000 pictures per second. The camera can be started or stopped at any point in the film roll. (Traid Corp., Dept. 85)

■ **LIMIT DETECTOR** is a digital device in which low and high limits of a counting operation are set by two banks of switches. Up to ten digit limits can be included. Indicating-light output and contact-closure output are provided. Solid-state circuitry is used throughout. (Systron Corp., Dept. 87)

■ **MAGNETIC-TAPE TESTER** automatically locates and indicates tape flaws that may be classified as noise or drop-out. Tape speeds up to 150 in./sec and pulse densities to 550 per inch can be accommodated with tape widths from $\frac{1}{2}$ to 1 in. A complete record and playback system is included, along with the necessary logic circuitry, to detect a flaw in any channel and to stop the tape at a predetermined location for visual examination. (Potter Instrument Co., Dept. 93)

■ **INFRARED RADIATION SOURCE** is designed to emit black-body radiation over the temperature range 500° to 1000°C. A conical cavity of high emissivity simulates a black body, and a power-proportioning electronic servosystem provides temperature control stable within ± 0.5 percent. Temperature is selected by a calibrated control dial. The aperture may be adjusted with a seven-aperture disk. The aperture of the cavity is 0.4 in. in diameter. Warm-up times are 30 min (to 500°C) and 60 min (to 1000°C). (Barnes Engineering Co., Dept. 94)

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"...grinds intestinal tissue, liver, brain, skin and heart 10 to 15 times faster".*

"...grinds skeletal muscle —no conventional grinder does this".*

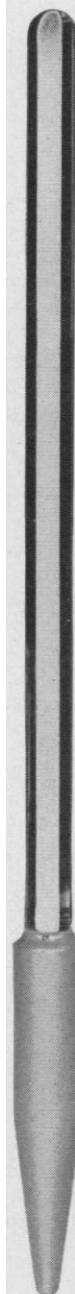
"...grinds large quantities of muscle tissue in half the time".*

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It has two separate grinding areas. Grinding is first done in the conical section. Here, clearance can vary depending on the relative positioning of pestle and tube. This permits adjustment for size and toughness of sample. Final grinding occurs when this clearance is reduced and material is forced past the cylindrical area for fine homogenization. Grinding efficiency is thereby improved, grinding time reduced and versatility achieved. The Dual works when others won't!

Order now for immediate delivery! K-88545 Tissue Grinder, Dual

Size	B	C	D	E
Capacity, ml. (pestle inserted)	5	10	30	50
Each	\$9.05	9.80	11.20	14.15



Pestles and tubes are precise, rugged and interchangeable. Pestle rods are extra large diameter for added strength. Tubes have convenient pouring lips.



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■ **TEMPERATURE TEST CHAMBER** is designed to be mounted in a standard 19-in. rack. The chamber measures 10 by 7 by 7 in. Temperature is controlled within $\pm 2^\circ$ from -100° to $+500^\circ\text{F}$. Low temperature is obtained by injection of liquid CO_2 through a solenoid valve. Interior is stainless steel. (Delta Design Engineers, Inc., Dept. 79)

■ **RADIOACTIVE HYDROCARBONS** now available include: n -pentane-1- C^{14} ; n -pentane-2- C^{14} ; and n -pentane-3- C^{14} . The labeled compounds are analyzed and fractionated by gas chromatography. (Research Specialties Co., Dept. 86)

■ **STRAIN GAGE** of monofilament type has diameter of 0.012 in. with completely insulating coating. Operating temperature ranges from -325° to 2000°F are said to be possible by use of various insulating coatings. The gage is available in 60- and 120-ohm sizes and in standard types of strain-sensitive wire or special alloys. Gages can be calibrated before use. (High Temperature Instrument Corp., Dept. 89)

■ **ROBOT MANIPULATOR** for handling radioactive materials in "hot" areas is a mobile device operated from a remotely located panel board. Television cameras in the wall of the hot room and in the device permit the operator to view the manipulator. A microphone on the robot permits the operator to hear the metal fingers grasp an object. Connections are made by cable or radio link. (Hughes Aircraft Co., Dept. 95)

■ **MICROWAVE ABSORBENTS** permit simulation of free-space conditions indoors for measurement of antenna patterns or radome characteristics. Absorbers are made of fibers or other low-dielectric material coated with conductive rubber. Graduation of impedance to prevent surface reflections is achieved by varying the coating. (B. F. Goodrich, Dept. 96)

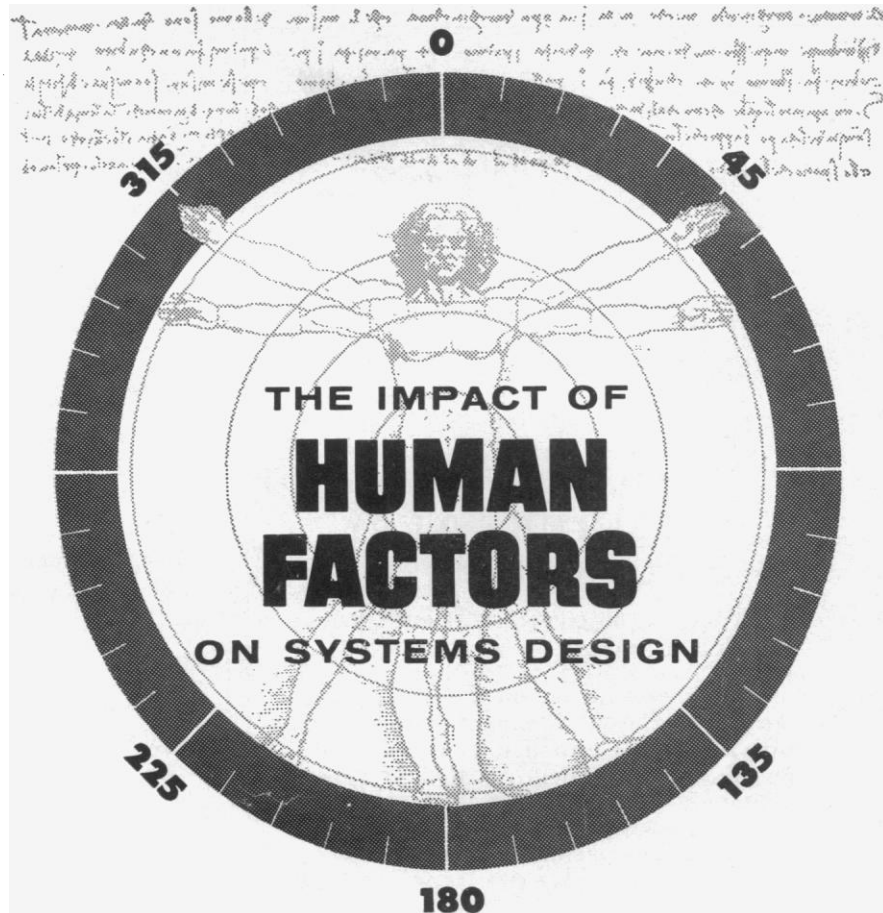
■ **FORCEPS** for electrocautery are insulated to protect the surgeon from accidental burn or shock as well as to prevent accidental cautery. Slight pressure on a fingertip switch in the forceps handle activates the coagulation generator. The forceps are said to be usable with any existing cautery equipment. (Medtronic, Inc., Dept. 97)

■ **METERING PUMPS** include both plunger and diaphragm types. Standard models range in capacity from 1 drop every 13 strokes to 1000 gal/hr at discharge pressures to 10,000 lb/in.² Flow is adjustable from 0 to 100 percent in each model. A variety of construction materials offer selection for the specific material to be pumped. (Clark-Cooper Co., Dept. 98)

JOSHUA STERN

National Bureau of Standards

25 SEPTEMBER 1959



Why the insights of Experimental Psychologists count for so much at General Electric's Heavy Military Electronics Department...

Systems in development at Heavy Military Electronics Department encompass mission parameters of great multiplicity and diversity. A single program may envisage the coordinated functioning of far-flung Data Gathering, Data Processing, and Communications Elements. In systems of such complex character, experience here has repeatedly demonstrated the value of investigating and controlling in depth the interaction of man-machine-environment relationships.

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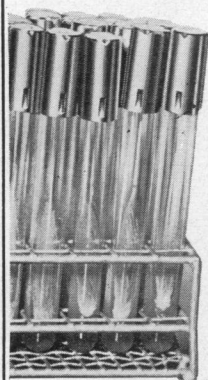
Inquiries are invited from Experimental Psychologists with broad backgrounds in systems development from the standpoint of Human Factors. A PhD degree is preferred. Familiarity with engineering concepts in electronics and/or with military operations problems is highly desirable. Write in confidence to: Mr. George Callender, Dept. 74-WM

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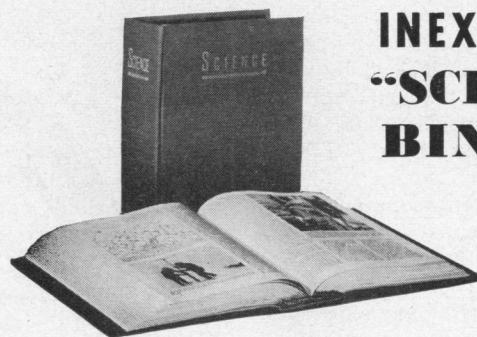
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Biochemist, Ph.D., to actively integrate and expand clinical biochemistry section of outstanding specialized institution in southern California. Research potential. Salary \$12,000–\$14,000. Write to Box 219, **SCIENCE**. 10/2, 9

(a) Biochemist well qualified in enzymology and ultramicrotechnique to conduct research and head clinical tissue department; opportunity academic post at nearby medical school; permanent appointment; \$7,000–\$10,000. (b) Psychopharmacologist, Ph.D., American citizen required; preferably one experienced in area of mental health; Midwest. (c) Director of Clinical Investigations with experience in food and drug administration matters; \$10,000–\$15,000, dependent upon qualifications; East. (d) Internist, Board eligible or certified or general practitioner with 10 years' or more experience in clinical medicine; duties consist of directing new products; small amount of research. (e) Two Young Physicians, preferably internists, for domestic and international divisions, leading pharmaceutical company; would be engaged as assistant or associate directors; duties include evaluation of new products; East. S9-4 Medical Bureau, Burneice Larson, Director, 900 North Michigan Avenue, Chicago. X

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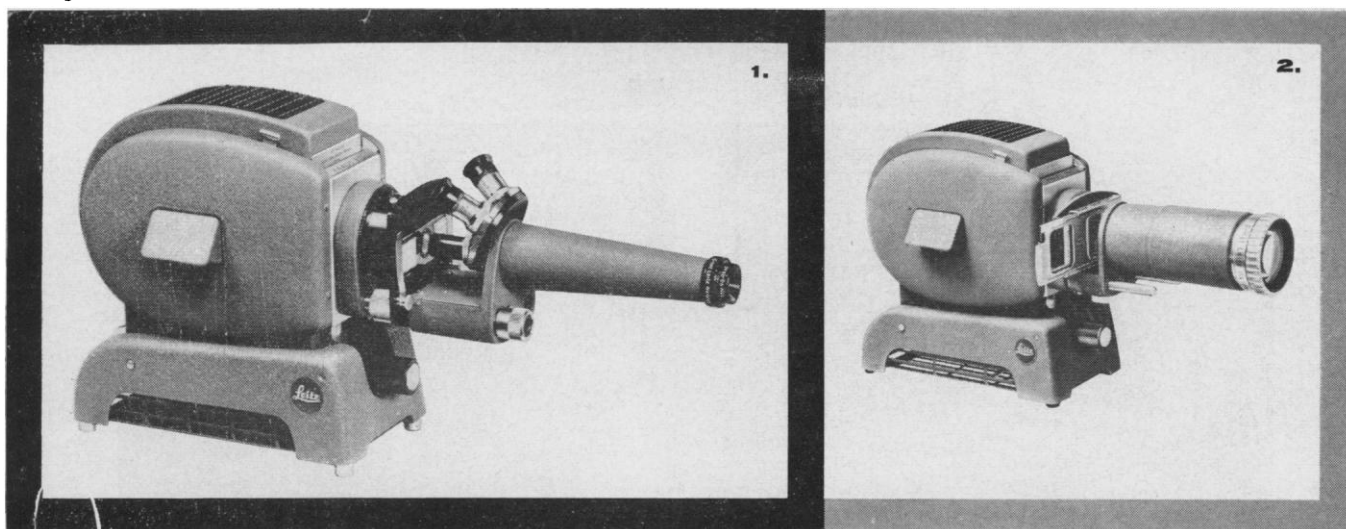
Male or Female, M.S. or Ph.D. Research laboratory electron microscopy of tissues and animal tissue cultures. Background in cytology or related field and experienced in operation of electron microscope. Send detailed résumé to Dr. J. A. Christensen, Saint Barnabas Medical Center, High St., Newark, N.J. 10/2

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The PRADO Micro-Projector is portable, and may be carried easily from room to room and used wherever there is an electrical outlet.

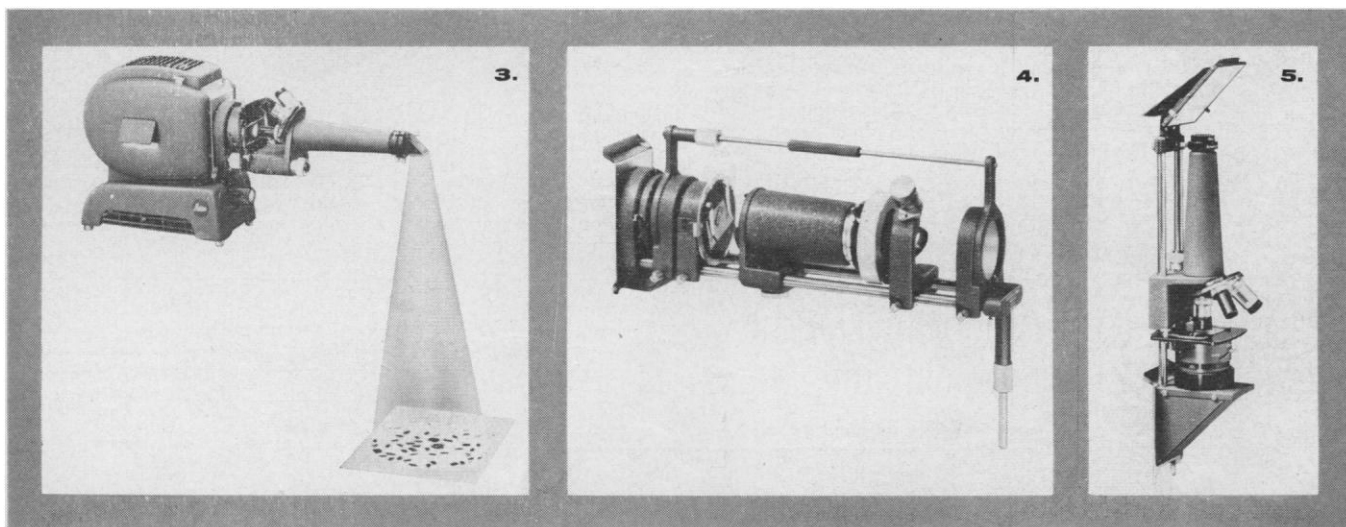
For illustrated PRADO Micro-Projector Brochure, write to Dept. SC-9.

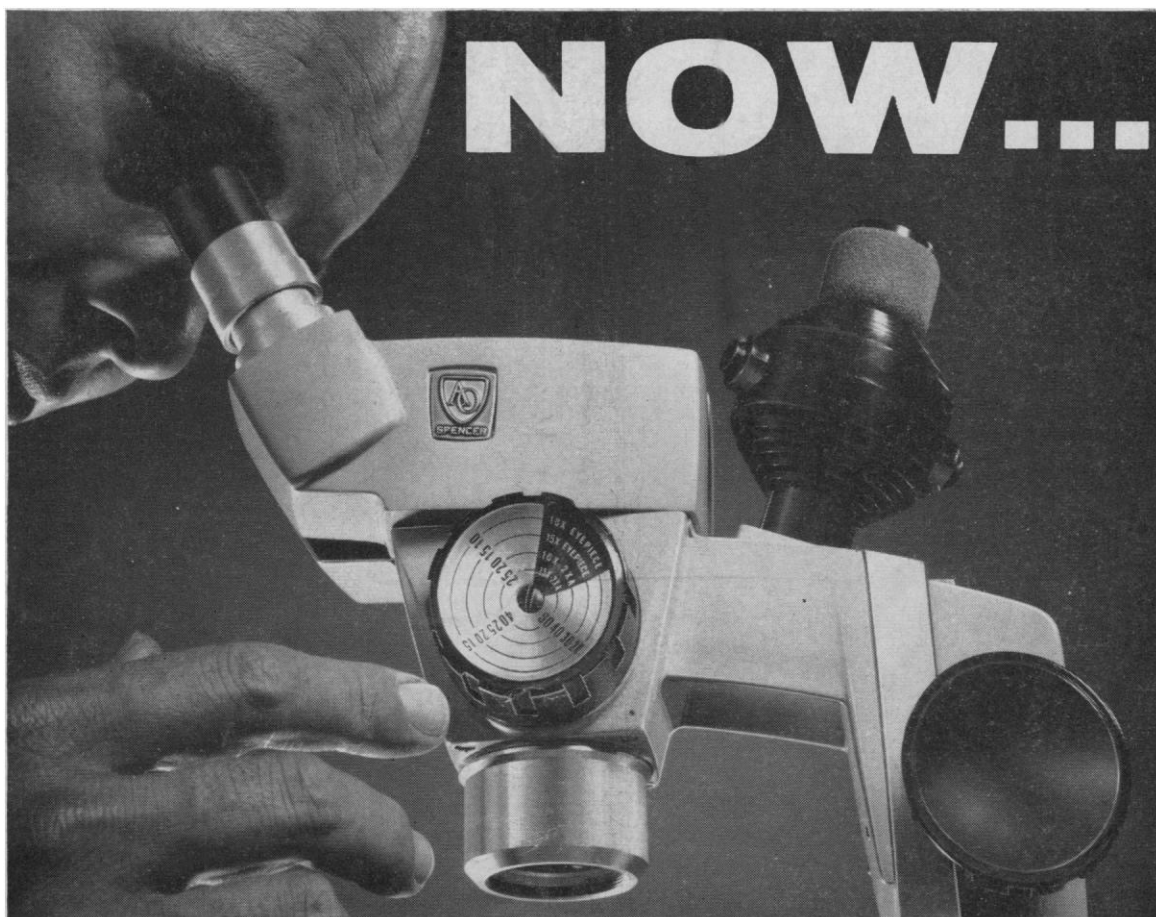
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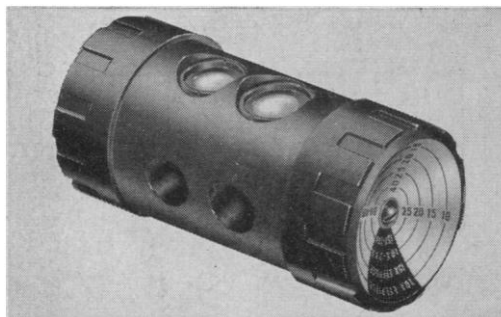
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