

# SCIENCE

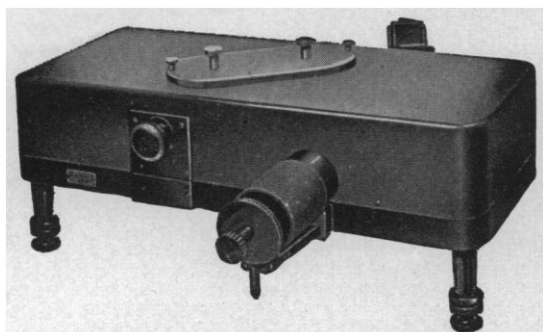
19 October 1956

Volume 124, Number 3225

<b>Editorial</b>	Faith in Educational Exchanges .....	703
<b>Articles</b>	Enzymatic Oxidation of Urate: <i>H. R. Mahler, H. M. Baum, G. Hübscher</i> ...	705
	Amedeo Avogadro: <i>C. N. Hinshelwood; L. Pauling</i> .....	708
	A. J. Carlson: <i>V. Johnson</i> .....	713
	T. Dantzig, Historian and Interpreter of Mathematics: <i>M. H. Martin</i> .....	714
<b>News of Science</b>	Yerkes Laboratories; Paper Permanency; Labeled Sulfur Tests; National Library of Medicine; U.S.S.R. Opens New Research Center; India Makes Penicillin; New Zealand Oil Search; Molecular Chemistry of Mental Disease; Suicide in Denmark; AEC Assistance for Foreign Reactors; Another International Conference on Atomic Energy; Latin American Agricultural Information; News Briefs; Scientists in the News; Education; Grants, Fellowships, and Awards; Miscellaneous .....	715
<b>Reports</b>	Isolation of the Infectious Bovine Rhinotracheitis Virus: <i>S. H. Madin, C. J. York, D. G. McKercher</i> .....	721
	Identification of Protein Disulfide Reductase as a Cellular Division Enzyme in Yeasts: <i>W. J. Nickerson and G. Falcone</i> .....	722
	"Permanent" Alteration of Behavior in Mice by Chemical and Psychological Means: <i>D. L. Keller and W. W. Umbreit</i> .....	723
	Distinction between Effects on Metabolic Transport and Passive Transfer of Ions: <i>A. M. Shanes</i> .....	724
	Conversion of 2-Amino-4-Hydroxypteridine to Isoxanthopterin in <i>D. Melanogaster</i> : <i>H. S. Forrest, E. Glassman, H. K. Mitchell</i> .....	725
	Modification of the Menstrual Cycle in Rhesus Monkeys by Reserpine: <i>V. J. De Feo and S. R. M. Reynolds</i> .....	726
<b>Book Reviews</b>	<i>The International Dictionary of Physics and Electronics</i> ; <i>E. A. Birge, a Memoir</i> ; <i>Weather Analysis and Forecasting</i> ; <i>Polysaccharides in Biology</i> ; <i>Bibliography of Solid Adsorbents, 1943-1953</i> ; <i>Creatures of the Deep Sea</i> ; <i>Advances in Enzymology and Related Subjects of Biochemistry</i> ; <i>Anatomy of the Honey Bee</i> ; New Books; Miscellaneous Publications .....	728
<b>Meetings and Societies</b>	Plant Protection; Pacific Division Meets; Aging; Forthcoming Events .....	732

# LEISS

## Single and Double MIRROR-MONOCHROMATORS



with exchangeable prisms for the  
visible, ultraviolet, infrared from  
200 millimicrons to 20 microns

Write for Bulletin #980 to

**PHOTOVOLT CORP.**  
95 Madison Ave. New York 16, N. Y.

Things don't stick to a

**SILICLAD**

coated surface

Water . . . dirt . . . blood . . . stains . . . or any liquid  
are repelled by a SILICLAD coated surface.

SILICLAD is a water soluble silicone concentrate that  
can be used on glass, ceramics, metal, rubber and  
plastic materials.

A quick dip in a 1% water solution leaves a tough,  
liquid-repellent coating of silicone on the glass or  
ceramic surface. A water rinse completes the job . . . no  
baking necessary.

SILICLAD-treated objects are easier to clean . . . and  
scratch and abrasion-resistant. Breakage and chipping  
of expensive glassware pieces are reduced.

Surfaces drain completely when SILICLAD coated . . .  
no more clinging drops of liquid.

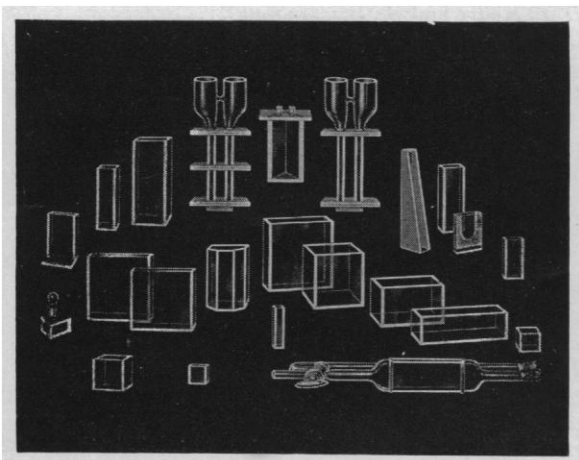
Try SILICLAD yourself on flasks, beakers, graduates,  
stoppers, burettes, pipettes, bottles, catheters, tubing,  
blood apparatus . . . and be convinced. SILICLAD is  
non-toxic, non-irritating, long-lasting.

4 ounces of SILICLAD concentrate (makes up to 25  
pints of working solution) \$3.50  
1 dozen 4-ounce bottles \$36

Available at your local supply dealer

**CLAY-ADAMS, INC.,** New York 10

## GLASS ABSORPTION CELLS made by **KLETT**



Makers of Complete Electrophoresis Apparatus

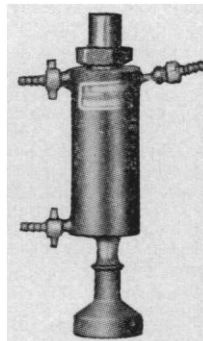
**SCIENTIFIC APPARATUS**  
Klett-Summerson Photoelectric Colorimeters—  
Colorimeters — Nephelometers — Fluorimeters—  
Bio-Colorimeters — Comparators — Glass Stand-  
ards—Klett Reagents.

**Klett Manufacturing Co.**  
179 East 87 Street, New York, New York

## LEYBOLD MERCURY EJECTORS and DIFFUSION PUMPS

The Model Hg 3 mercury diffusion pump  
reaches its full pumping speed at pressures  
below  $10^{-2}$  mm. Hg and remains constant  
down to  $10^{-5}$  mm. Hg.

The mercury ejectors  
models Hg 12 and Hg 45  
reach maximum pumping  
speed at pressures between  
 $10^{-1}$  and  $10^{-2}$  mm. Hg. Spe-  
cially designed jets permit  
constant pumping speed at  
pressures between  $10^{-3}$  and  
 $10^{-5}$  mm. Hg.



The pumps begin to oper-  
ate at considerably higher pressures. The  
ultimate vacuum is better than  $10^{-6}$  mm. Hg.

We welcome your inquiries on this equip-  
ment and the accessories for it.

0618R

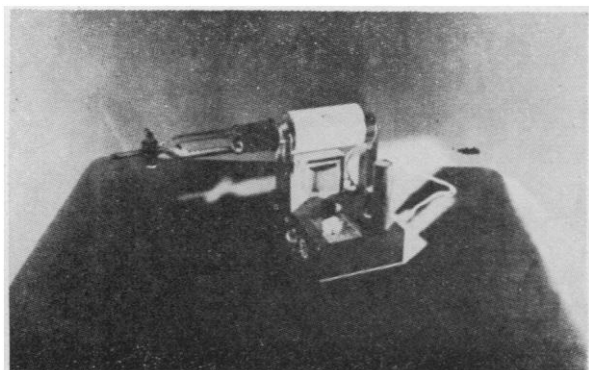
Write for **BULLETIN-44-S**

**JAMES G. BIDDLE CO.**

Electrical & Scientific Instruments  
1316 ARCH STREET PHILADELPHIA 7, PA.

## MA-SCHENCK ELECTRICAL DRYING APPARATUS

An indispensable Tool for the Modern Analytical  
Organic and Biochemical Laboratory

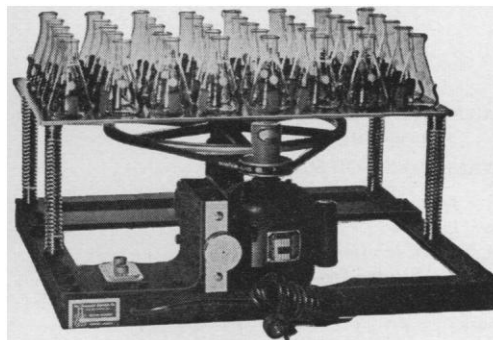


A compact, quick and convenient apparatus for the drying of samples and preparations. It consists of a glass pistol (in which a dessicant may be placed) fitted into an electrically heated chamber with an automatic temperature control range of 25°-150°C.

Send for Catalogue listing other instruments and microapparatus

**THE SYNTHETICAL LABORATORIES**  
5558 W. Ardmore Avenue Chicago 30, Illinois

## Rotary Action FLASK SHAKER



- Smooth operating, non-creeping and vibration free.
- Variable speed control . . . 160 to 400 oscillations per minute.
- Precision built for continuous operation.
- Versatile for experimentation, research or production.

PRICE \$400.00 . . . F. O. B. NEW BRUNSWICK, N. J.

Detailed information available upon request.



**NEW BRUNSWICK SCIENTIFIC CO.**

PRECISION LABORATORY APPARATUS

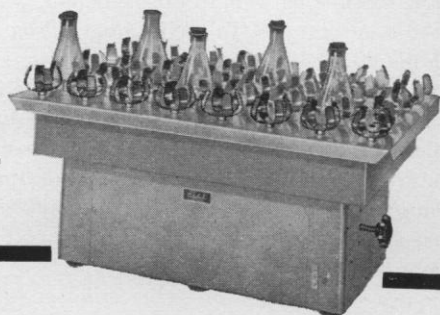
P. O. BOX 606 • NEW BRUNSWICK, N. J.

## New ROTATING SHAKER

gives you C-O-N-T-I-N-U-O-U-S

VARIABLE SPEED SHAKING-50 to 350 r.p.m.

for  
**BIOLOGICAL  
CULTURES**



This new shaker will rotate as many as 40 250 ml flasks or 28 500 ml flasks at one time. Gives you continuous shaking at speeds of 50 to 350 r.p.m. Platform rotates thru a 1½" circle in the horizontal plane.

Flask Carrier Measures 32 inches by 20 inches.

Write for bulletin 560Z

**Eberbach CORPORATION**  
ANN ARBOR, MICH. ESTABLISHED 1940  
SCIENTIFIC INSTRUMENTS & APPARATUS

## AAAS SYMPOSIUM VOLUMES

6 x 9 inches, illustrated, clothbound

	*AAAS	Retail
Psychopharmacology, 1956, 175 pp.	\$3.00	\$3.50
The Luminescence of Biological Systems, 1955, 466 pp.	6.00	7.00
Advances in Experimental Caries Research, 1955, 246 pp.	5.75	6.75
Antimetabolites and Cancer, 1955, 318 pp.	5.00	5.75
Fluoridation as a Public Health Measure, 1954, 240 pp., second printing	4.00	4.50
Sex in Microorganisms, 1954, 362 pp.	5.00	5.75
Astronomical Photoelectric Photometry, 1953, 147 pp.	3.25	3.75
The Present State of Physics, 1954, 271 pp.	5.75	6.75
Monomolecular Layers, 1954, 215 pp.	3.75	4.25
Soviet Science, 1952, 128 pp., second printing	1.50	1.75
Industrial Science (paperbound), 1952, 160 pp.	2.00	2.00

7½ x 10½ inches, double column, illustrated, clothbound

Centennial, 1950, 319 pp.	4.50	5.00
The Rickettsial Diseases of Man, 1948, 255 pp.	5.25	6.25
Approaches to Tumor Chemotherapy, 1947, 442 pp.	6.50	7.75
Mammary Tumors in Mice, 1945, 231 pp.	3.00	3.50

\*AAAS members' prices for prepaid orders

### AAAS PUBLICATIONS

1515 Massachusetts Avenue, NW, Washington 5, D.C.

English Agents: Bailey Bros. & Swinfen, Ltd.  
46, St. Giles High Street, London, W.C.2