

# DIAMOND KNIVES

We offer for sale  
a limited number of  
Diamond knives having  
unusually fine edge-quality.

For information  
contact R. E. Sugg,  
Research Associate,  
Mechanical Research Laboratory E,  
E. I. du Pont de Nemours & Co. (Inc.),  
101 Beech Street,  
Wilmington 4, Del.  
Phone PProspect 4-7666.

## PHILLIPS & BIRD Perimeter

For measuring the peripheral field of vision. Consists of a broad metal arc, revolving chart, holder and slight hole through the center of rotation. The object carrier contains five colors, each having 1.5 mm, 3 mm, 5 mm, 7 mm, and 10 mm apertures, and since each passes through the point of fixation, it is possible to take a central field. Complete with 50 charts for each eye.

71-181

71-182 Perimeter Charts (For right eyes, pkg. 50)

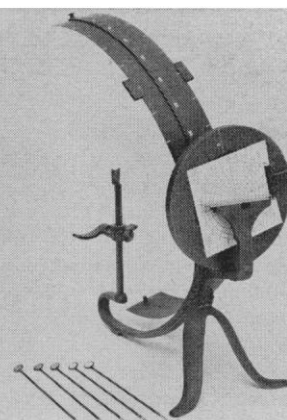
71-183 Perimeter Charts (For left eyes, Pkg. 50)

**PHIPPS & BIRD, INC.**

Manufacturers & Distributors of Scientific Equipment



6th & Byrd Streets - Richmond, Va.



## **BIOSONIK<sup>®</sup>** *for ultrasonic disruption of biological cells*

For biochemists, bacteriologists, cytologists... an efficient application of ultrasonic energy to the disruption of cellular material. The BIOSONIK operates without excessive noise or heating. Features stable tuning, more efficient energy input and wide capacity range.

Also useful in sonic research on liquids, living organisms chemical mixtures and solutions.

CONTINUOUS FLOW MODEL ALSO AVAILABLE

Will No. 7799N—

Biosonik 20 KC . . . \$1855



- Semi Automatic Tuning
- Quiet 20 Kc Operation
- Improved Chamber Design
- Efficient Cooling
- Maximum Energy Input 600 Watts
- Compact Design
- Sterilizable Chamber



**WILL CORPORATION**  
and subsidiaries

• Rochester 3, N.Y. • New York 52, N.Y. • Buffalo 5, N.Y.  
• Atlanta 25, Ga. • Baltimore 24, Md. • So. Charleston 3, W. Va.

*Specialists in Scientific Supply*

## INDEX OF ADVERTISERS—18 August 1961

Aloe Scientific	499	Greiner, Emil, Co.	414	Packard Instrument Co., Inc.	440
American-Edelstaal, Inc.	502	Hacker, William J., & Co., Inc.	485	Perkin-Elmer Corp.	415
American Optical Co.	516	Hamilton Co., Inc.	486	Philbrick, George A., Researchers, Inc.	478
American Sterilizer Co.	417	Harvey-Wells Corp.	425	Philips Electronic Instruments	432, 483
Annual Reviews, Inc.	486	Heller, Gerald K., Co.	481	Phipps & Bird, Inc.	511
Applied Physics Corp.	496	High Voltage Engineering Corp.	438	Phoenix Precision Instrument Co.	502
Atomic Energy of Canada Limited	481	Hitachi, Ltd.	429	Photovolt Corp.	491
Baird-Atomic, Inc.	420	Hoeltge Bros., Inc.	514	Picker X-Ray Corp.	435
Beckman Instruments, Inc.	505	Hormone Assay Laboratories, Inc.	514	Precision Scientific Co.	427
Belco Glass, Inc.	491	Hospital Supply Co.	514	Raytheon Co.	498
Bio-Rad Laboratories	514	Hyland Laboratories	482	Ridgefield Instrument Group	484
Blickman, S., Inc.	507	Industrial Instruments, Inc.	508	Sanborn Co.	410
Brinkmann Instruments, Inc.	422	Institute for Scientific Information	504	Sargent, E. H., & Co., Inc.	421
Bronwill Scientific, Div. of Will Corp.	493, 507	Instruments for Research and Industry	503	Schwarz BioResearch, Inc.	411
Buchler Instruments, Inc.	486	JKM Instrument Co.	431	Scientific Glass Apparatus Co., Inc.	500
Canner's, Inc.	514	Kimble Glass Co.	515	Sigma Chemical Co.	485
Central Scientific Co.	501	Klett Manufacturing Co.	507	Sorvall, Ivan, Inc.	479
Charles River Breeding Laboratories	514	Kontes Glass Co.	506	Standard Scientific Supply Corp.	480
Clay-Adams	413	LaPine Scientific Co.	424	Stokes, F. J., Corp.	503
Coleman Instruments, Inc.	428	Lauda Instruments, Inc.	483, 494	Taconic Farms	514
Colorado Serum Co.	514	Leitz, E., Inc.	406	Technicon Chromatography Corp.	494
Corning Glass Works	426	Lionel Electronic Laboratories	418	Texas Inbred Mice Co.	514
Curtiss-Wright Corp.	510	Matheson Co., Inc.	419	Thermal American Fused Quartz Co., Inc.	504
Custom Scientific Instruments, Inc.	497	Mayo Clinic	512	Thermolyne Corp.	492
Difco Laboratories	493	Millipore Filter Corp.	502	Unitron Instrument Co.	408
Du Pont, E. I. de Nemours & Co., Inc.	490, 511	Minneapolis-Honeywell, Heiland Div.	430	VirTis Co., Inc.	501
Edmund Scientific Co.	434	Nalge Co., Inc.	488, 489	Waring Products Corp.	433
Ercona Corp.	412	National Chemical Exposition	508	Wild Heerbrugg Instruments, Inc.	509
Esterline Angus Instrument Co., Inc.	437	National Instrument Co., Inc.	493	Wilkens Instrument & Research Inc.	514
F & M Scientific Corp.	416	NRC Equipment Corp.	481	Will Corp.	511
		Nutritional Biochemicals Corp.	407	Worthington Biochemical Corp.	510

### MEETING ON SMOKING AND LUNG CANCER AND ASSOCIATED QUESTIONS

33rd Sessions International Statistical Institute  
Paris, August 29-September 7, 1961

Program Organizer—Joseph Berkson, M.D., D.Sc.

E. Cuyler Hammond, Sc.D., Director Statistical  
Research Section, American Cancer Society

*Review of findings in the chief prospective studies  
on smoking in relation to health*

Geoffrey Dean, M.D., M.R.C.P., Port Elizabeth,  
Union of South Africa

*Comparative mortality from cancer and other  
diseases among immigrant and native born whites,  
in relation to prevalence of smoking*

Joseph Berkson, M.D., D.Sc., Chief, Division of  
Biometry, Mayo Clinic, Rochester, Minnesota

*Difficulty of interpretation of the "association" of  
death rates and physical factors*

Harold L. Stewart, M.D., National Cancer  
Institute, Washington, D.C.

*Experimental investigations of tobacco and cancer*

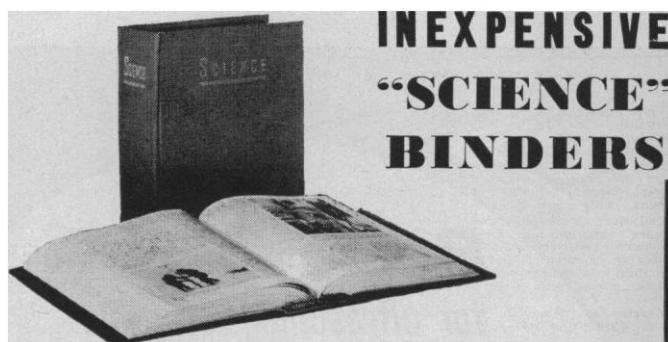
Diego de Castro, Professor, Istituto di Statistica,  
Universita di Torino, Turin, Italy

*Contributed paper—discussion*

Siegfried Koller, Ph.D., Dr. Med., Statistisches  
Bundesamt, Wiesbaden, Germany

*Contributed paper—discussion*

Nonmembers of the I.S.I. wishing to present dis-  
cussions should communicate with the program  
organizer, Mayo Clinic, Rochester, Minnesota.



Keep your copies of **SCIENCE** always available  
for quick, easy reference in this attractive, prac-  
tical binder. Simply snap the magazine in or out  
in a few seconds—no punching or mutilating.  
It opens **FLAT**—for easy reference and read-  
ability. Sturdily constructed—holds 26 issues.

Now made of stronger materials and with a 4-inch  
spine to accommodate heavier volumes.

This beautiful maroon buckram binder stamped  
in gold leaf will make a fine addition to your  
library. Only \$3.25 postpaid; add 50¢ for or-  
ders outside the U.S. (Personal check or money  
order, please.) Name of owner, 75¢ extra; year  
of issues, 50¢ extra.

**SCIENCE** • 1515 Massachusetts Ave., NW,  
Washington 5, D.C.

# PERSONNEL PLACEMENT

**CLASSIFIED:** Positions Wanted 25¢ per word, minimum charge \$4. Use of Box Number counts as 10 additional words. Payment in advance is required.

**COPY** for ads must reach **SCIENCE** 2 weeks before date of issue (Friday of every week).

**DISPLAY:** Positions Open. Rates listed below—no charge for Box Number. Rates net. No agency commission. No cash discount. **Minimum ad:** 1 inch. Ads over 1 inch will be billed to the nearest quarter inch. Frequency rate will apply to only repeat of same ad. No copy changes. Payment in advance is required except where satisfactory credit has been established.

Single insertion \$40.00 per inch  
4 times in 1 year 38.00 per inch

For **PROOFS** on display ads, copy must reach **SCIENCE** 4 weeks before date of issue (Friday of every week).

Replies to blind ads should be addressed as follows:

Box (give number)  
Science  
1515 Massachusetts Ave., NW  
Washington 5, D.C.

## POSITIONS OPEN

### BACTERIOLOGISTS BIOLOGISTS MEDICAL TECHNOLOGISTS

Parke, Davis & Company has a number of openings in the Detroit area for female bacteriologists, biologists, and medical technologists at the B.S. and M.S. level to do laboratory work in vaccine development and production. A knowledge of tissue culture techniques is helpful. Excellent salaries, fringe benefits, and opportunities for advancement. Send complete résumé to

**Personnel Department  
Parke, Davis & Company  
Detroit 32, Michigan**

#### PHARMACEUTICAL RESEARCH CHEMIST and CHIEF CONTROL CHEMIST

Challenging position for trained pharmaceutical or organic chemist in our Pharmaceutical Research Division. Need man to take charge of new drug synthesis, screening and development program. M.S. degree minimum requirement. We also have an opening for trained Pharmaceutical Control Chemist to take charge of Quality Control and Product Development. This man should be familiar with current analytical techniques. B.S. in chemistry plus 5 years' experience a minimum. Our organization has modern facilities and is rapidly expanding. We can offer an excellent future, security and fringe benefits, including a profit sharing program. For further details, please send resume in confidence to:

Director of Research, Diamond Laboratories, 2538 S.E. 43rd, Des Moines, Iowa

### Senior Biochemist— Pharmacologist

- ✓ **Ph.D. in Pharmacology or Biochemistry** to conduct basic research in comparative enzymology and intermediary metabolism of biogenic amines in the Chemical Pharmacology Section of the Mead Johnson Research Center. Specific experience not required.
- ✓ **Challenging assignments** involving the application of biochemical principles to the solution of pharmacological problems.
- ✓ **Individual expression and growth** opportunity in a leading pharmaceutical research center. Liberal benefits and relocation allowance.

Replies strictly confidential. Please send resume and salary requirements to Manager, Technical Employment, **MEAD, JOHNSON & COMPANY, Evansville 21, Indiana.**

All qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

## POSITIONS OPEN

### PHARMACEUTICAL RESEARCH

Excellent opportunities in the Chemical Therapeutics Research Laboratory of an expanding pharmaceutical firm. Immediate openings for persons with the following qualifications:

#### ASSISTANT RESEARCH PHARMACOLOGIST:

B.S. in pre-med., preferably with graduate study, or experience, in physiology or pharmacology. To conduct studies in the screening of new drugs.

#### RESEARCH TOXICOLOGIST:

Ph.D. in pharmacology, or toxicology, preferably with experience in toxicology. To supervise pharmacological studies on new drugs and carry out toxicological studies on new compounds of interest.

#### SENIOR RESEARCH PHARMACOLOGIST:

Ph.D. in pharmacology with 5 years' research experience or Ph.D. and M.D. with pharmacological research experience.

Good salary and growth potential with a superior benefit program including profit sharing. Send in confidence a complete résumé to include work experience, salaries received, expected salary and personal data to:

**Dr. R. R. McCracken  
Industrial Relations Dept.  
MILES LABORATORIES, INC.  
1127 Myrtle Street  
Elkhart, Indiana**

An equal opportunity employer

#### ANATOMISTS

Two positions open; gross and neuro. The Ph.D. required in anatomy; or biology with practical experience. Research field optional. Salary and working conditions excellent. Write to

**Box 173, SCIENCE**

#### BIOCHEMIST

Midwestern medical school department of medicine. Research and teaching in connective tissue. Ph.D. Salary and position commensurate with qualifications.

**Box 161, SCIENCE**

The University of Saskatchewan invites applications for the position of Assistant Professor of Biology, effective 1 July 1962, at a minimum salary of \$7000.00. Duties include undergraduate teaching in general biology and a program of research and graduate teaching in Limnology. Facilities in this field are excellent. Applications, including curriculum vitae, names of references, and a recent photograph, should be addressed to Dr. M. Shaw, Head, Department of Biology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

#### LABORATORY TECHNICIANS

For expanding slide department of biological supply company. Training in botanical technique and/or whole mount preparation required. Will consider short-term employment (2 years) as well as permanent employment. Salary commensurate with education, training, and experience. Excellent working conditions, suburban area, employee benefits, paid holidays and vacation, opportunities for advancement.

**Box 162, SCIENCE**

#### PHARMACOLOGIST

Ph.D. with special training in neuropharmacology either academically or industrially, for expanding research department of upstate New York pharmaceutical company.

**Box 170, SCIENCE**

## POSITIONS OPEN

#### PHYSIOLOGY STAFFMAN

Salary and rank open. Prefer man interested in applying mathematics and physics to problems regarding motility and pressures in the digestive tract.

**Box 169, SCIENCE**

Recent Ph.D. in pharmaceutical chemistry for product development. Must be well versed in analytical methods, (vitamins, antihistamines, etc.) and have a fair knowledge of cosmetics. Send résumé stating age, qualifications and salary desired to Dr. Leon J. DeMerre, Head, Food and Drug Laboratories, Joseph E. Seagram & Sons, Inc., Scientific Department, Cranbury, N.J. Interested parties attending the ACS meetings in Chicago (4 to 7 September) may arrange for an interview.

#### REGISTRAR

A.S.C.P. approved school of medical technology, large general teaching hospital affiliated with Western Reserve University, and Research Technician position—divide time. School duties include supervision of students, some teaching and recruitment. College graduate, major fields chemistry and biology, good salary, many benefits. Send résumé to Personnel Office,

**Cleveland Metropolitan General Hospital  
3395 Scranton Road, Cleveland 9, Ohio**

#### PHARMACOLOGIST

### SR. PHARMACOLOGIST

Ph.D. in pharmacology or physiology. Prefer individual with industrial experience in neuropharmacology, cardiovascular pharmacology, or anti-inflammatory research. Excellent opportunity for energetic individual in supervising small pharmacology group. All replies will be held in strict confidence. Send résumé and salary requirements to C. J. Coleman, Assistant Personnel Manager.

#### The National Drug Co.

Div. of Richardson—Merrell Inc.  
4663 Stenton Ave.  
Philadelphia 44, Pa.

An Equal Opportunity Employer

## POSITIONS OPEN

### PROGRAMMING

#### MATHEMATICAL PROGRAMMER

Our recently established EDP Center offers opportunity for person with one year or more programming experience (Burroughs 220 preferred but not necessary). Masters degree in Math desired. Interesting, challenging work atmosphere provides chance for applying creative abilities in connection with implementation of ALGOL. Progressive salary policies, broad company benefits; modern facilities. Send complete résumé including salary needs to:

MR. SCOTT M. FUESS  
**Smith Kline & French Laboratories**

1526 Spring Garden Street  
Philadelphia 1, Pa.

An Equal Opportunity Employer

### Ph.D. PARASITOLOGIST

Large midwestern pharmaceutical firm needs young man to assume responsible role in tropical disease research group. New drug agents currently being sought in fields of amebiasis, shistosomiasis, oxyuriasis, intestinal worms, etc. Experience desirable but not necessary. Applicant must be willing and able ultimately to assume both technical and administrative duties of project leadership. Write, sending complete résumé and bibliography to:

P.O. Box 1047  
Ann Arbor, Michigan

## RESEARCH MICROSCOPIST

Opportunity for a scientist qualified to conduct optical microscopical investigations in a well-equipped laboratory, to assist in the solution of food technology problems. The position calls for an ability to develop new techniques, adapt old ones; and, importantly, to interpret the data to scientists in other disciplines.

Send complete résumé in confidence, including current salary, to Supervisor of Employment



**Research Center  
GENERAL FOODS**

555 S. Broadway  
Tarrytown, N.Y.

An equal opportunity employer.

## POSITIONS OPEN

### BIOLOGICAL SCIENTIST

#### EXPLORATORY R&D

#### CREATIVE, ENERGETIC Ph.D.

—with broad biological background; able to work effectively with both top scientific and managerial personnel. Must possess strong facility in oral and written communication. Experience in pharmaceutical industry highly desirable. Ability to speak foreign language very helpful but not essential.

#### THE JOB

—to seek out potentially useful therapeutic compounds from sources outside our own laboratories and to preliminarily evaluate these agents with laboratory scientists representing all biological disciplines. Good opportunity for domestic and foreign travel and attendance at appropriate scientific meetings. Send complete résumé including salary requirements to:

W. R. HALL  
**SMITH KLINE & FRENCH LABORATORIES**

1514 Spring Garden Street  
Philadelphia 1, Pa.

An Equal Opportunity Employer

### FELLOWSHIPS

**Predoctoral Fellows in Physiology:** Support is available for study leading to the M.S. and Ph.D. degrees in physiology. Stipends vary with training between \$2400 and \$3600 per annum. Opportunities are available to do graduate work in endocrinology, cardiovascular or respiratory physiology, radiobiology and various other areas. Write to Dr. H. E. Bredeck, Department of Physiology, Colorado State University, Fort Collins, Colorado.

## The Market Place

### SUPPLIES AND EQUIPMENT

#### • HYPOPHYSECTOMIZED RATS

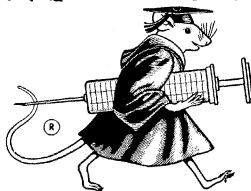
Shipped to all points via Air Express  
For further information write  
**HORMONE ASSAY LABORATORIES, Inc.**  
8169 South Spaulding Ave., Chicago 29, Ill.

### GAS CHROMATOGRAPHY Supplies

#### and FATTY ACID STANDARDS

**APPLIED SCIENCE LABORATORIES, INC.**  
Dept. 5, Box 140  
State College, Penna.

## SWISS MICE



Send for booklet

**TACONIC FARMS**

GERMANTOWN NEW YORK

## SUPPLIES AND EQUIPMENT

### YOU NEED THIS FREE CATALOG FOR YOUR FILES

Serums, antisera and bloods of all kinds for technicians and tissue culture laboratories. No salesman will call.

**COLORADO SERUM CO.**  
4950 York St. • MAIN 3-5373 • Denver 16, Colo.

## ANIMAL CAGES

BUY DIRECT FROM MANUFACTURER  
SHIPMENT OF STANDARD ITEMS  
FROM STOCK

**HOELTGE BROS., Inc.**

1919 Gest St. Cincinnati 4, Ohio

Write for Illustrated Catalog  
SERVICE SINCE 1856

Now taking orders for:

**C<sub>3</sub>H • AKR • STRONG A • C<sub>57</sub>BL**  
(C<sub>3</sub>H x 101) F1

**TEXAS INBRED MICE CO.**  
305 Alameda-Genoa Rd.; R.F.D. 7, Box 1232-C  
Houston 21, Texas

Do You Need:

### Silicic Acid?

(Specially prepared for lipid chromatography)

ASK FOR PRICE LIST SSA

**BIO-RAD Laboratories**

32nd & GRIFFIN AVE. • RICHMOND, CALIFORNIA

HIGH

CHARLES RIVER \*CD-1  
(Caesarean-derived)

ALBINO  
**Mice**  
SWISS ICR

Hypophysectomies available  
**THE CHARLES RIVER  
MOUSE FARMS**

\* Trade-mark  
1018 Beacon St., Brookline 46, Mass., RE 4-2000

STRESS

## CLIMAX AUTOCLAVES

RECTANGULAR & CYLINDRICAL  
ALL SIZES — ALL HEATS — 45 YEARS MFRS.  
WRITE FOR LITERATURE  
THE HOSPITAL SUPPLY CO., 304 E. 23 ST., N. Y. 10

### BOOKS AND MAGAZINES

#### Your sets and files of scientific journals

are needed by our library and institutional customers. Please send us lists and description of periodical files you are willing to sell at high market prices. Write Dept. A35, CANNER'S, Inc., Boston 20, Massachusetts

FOR UP-TO-DATE INFORMATION ON

**GAS CHROMATOGRAPHY**

READ AEROGRAF RESEARCH NOTES

write for your  
free  
subscription

**WILKENS INSTRUMENT & RESEARCH INC.**  
Box 313-A • Walnut Creek, Calif.





Kimble offers—at no extra cost...

# the world's most complete line of



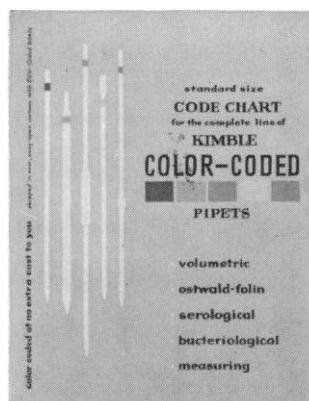
# pipets.

Including Volumetric, Ostwald-Folin, Measuring, Serological and Bacteriological pipets.

Your laboratory dealer now has stocks of at least 20 varieties of Kimble pipets, color-coded to provide these advantages for your laboratory:

- ◆ INSTANT SIZE IDENTIFICATION
- ◆ REDUCED SORTING TIME
- ◆ LESS CHANCE OF ERROR
- ◆ SIMPLIFIED CODING SYSTEM
- ◆ LONG-LASTING COLOR BANDS
- ◆ CODED, EASY-OPEN CARTONS

There's no extra charge for color-coding. And, Kimble dealers offer new discounts of 28% when your order for assorted Kimble ware totals 150 cases.



Send for this handy Kimble color/size code chart. Drop a card to Kimble Glass Company, Dept. CC-2, (SC-8) Toledo 1, Ohio.

**KIMBLE LABORATORY GLASSWARE**  
AN **Ⓢ** PRODUCT

**OWENS-ILLINOIS**  
GENERAL OFFICES • TOLEDO 1, OHIO



**Now you can meet the rapidly growing requirements  
of fluorescence microscopy with  
AO's New FLUORESTAR Microscope and Accessories**

A complete FLUORESTAR outfit consists, essentially, of an AO Spencer Microstar equipped with a special dark field stop in the condenser and a barrier filter over the compensating lens in the body; plus an AO Merc-Arc, Osram HBO-200, Illuminator with exciter filter for selective transmission of light rich in ultra-violet. This new AO FLUORESTAR outfit meets the most exacting requirements for dark field fluorescent antibody tests for pathogenic and non-pathogenic organisms.

There are many FLUORESTAR models you can choose from . . . each will give you unequalled convenience and versatility. FLUORESTAR Series 12 and 14 can be used for dark field fluorescence and ordinary bright field microscopy; Series 16 and L16 can be used for dark field fluorescence, phase and ordinary bright field microscopy.

In addition to complete FLUORESTAR outfits, AO offers fluorescence accessories to equip your present AO Spencer bright field or phase microscope for dark field fluorescence.

You can use your present microscope for rapid scanning of exfoliative cytology and related techniques by the simple addition of proper filters and the AO Spencer 390B Illuminator (with AH4 Mercury Arc Lamp).

For complete information on the new FLUORESTAR and complete accessories for fluorescence microscopy write for our new Brochure SB12, or contact your AO Sales Representative. He is thoroughly trained in the techniques of fluorescence microscopy. Help with your specific problems is yours for the asking.

**American  Optical**  
COMPANY

INSTRUMENT DIVISION, BUFFALO 15, NEW YORK

Dept. V-3

Please forward the new FLUORESTAR Microscope  
Brochure SB12

Name

Address

City  Zone  State

IN CANADA write—American Optical Company Canada Ltd., Box 40, Terminal A, Toronto, Ontario