

# SCIENCE

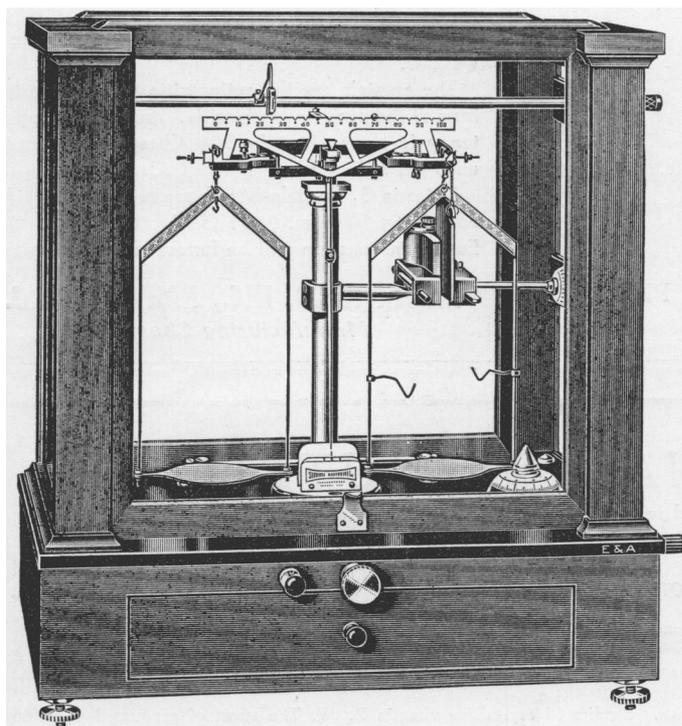
Massachusetts  
State College

NEW SERIES  
VOL. 81, No. 2113

FRIDAY, JUNE 28, 1935

SUBSCRIPTION, \$6.00  
SINGLE COPIES, .15

## ANALYTICAL BALANCES



Cut shows the "Seko" Magnetically Damped Dead Beat Balance, Semi-micro, after the design of Dr. E. P. Clark, Department of Agriculture, Bureau of Chemistry & Soils, Washington, D. C.

Capacity: 100 grams on each pan.

Sensitiveness: 1/50 mg.

Length of Beam: 6½ in.

The Beam of Aluminum is of the Notched Channel Type with 50 mg. rider, weighing to 100 mgs. by 10 mg. There is a second series of notches, with a 5 mg. rider, weighing to 10 mgs. by 1 mg. Therefore, no loose weights are required from 1 mg. to 110 mgs. All weighings below 1 mg. are made accurately on the disc index, without interpolation.

The Balance has a selective Magnetic Damper, which brings the pointer to absolute rest point in 10 to 15 seconds.

It is selective, so that any degree of damping to suit the operator can be obtained within the damping range, 245.00.

Balances similar to the above, but for capacity of 50 grams on each pan and sensitiveness of 1/100 mg. can be supplied, if desired, at an additional charge of 5.00.

Special weights are supplied for each of the above balances, per set 17.75.

## EIMER & AMEND

Established 1851

Incorporated 1897

Headquarters for Laboratory Apparatus and Chemical Reagents

Third Avenue, 18th to 19th Street  
NEW YORK, N. Y.

UNIVERSITY OF CALIFORNIA  
PUBLICATIONS

ESSAYS IN  
SOCIAL ECONOMICS

*In Honor of*

**Jessica Blanche Peixotto**

*with a brief biographical sketch by Henry  
Rand Hatfield, Professor of Account-  
ing on the Flood Foundation,  
University of California*

*and a*

**FOREWORD**

BY WESLEY C. MITCHELL,  
Professor of Economics, Columbia University

**Cloth. \$2.00**

*Published and sold by*

UNIVERSITY OF CALIFORNIA PRESS  
BERKELEY, CALIFORNIA

ANNOUNCING

**CRYSTALLINE  
VITAMIN B<sub>1</sub>**

**T**HE interesting researches by R. R. Williams and co-workers on the isolation of Vitamin B<sub>1</sub> have brought about an increasing interest in the study of the antineuritic vitamin.

The preparation, in our laboratories, of Vitamin B<sub>1</sub> in practical quantities enables us to supply the antineuritic vitamin in crystalline form, making it generally available to investigators and research-workers.

The crystals are the antineuritic principle in the form of the pure hydrochloride. Their biologic potency is approximately 500 Chase and Sherman units per milligram.

Vitamin B<sub>1</sub> Crystals-Merck are marketed in vials containing 10 mgm. (0.01 Gm.). Further information will be furnished upon request.

**MERCK & CO. INC., RAHWAY, N. J.**  
*Manufacturing Chemists*

**THE JOURNAL OF NUTRITION**

Published monthly by The Wistar Institute  
John R. Murlin, Managing Editor, University of Rochester

**Vol. 10.**

*Contents for July 1935*

**No. 1.**

- K. E. MASON and E. T. ELLISON. The demonstration of oestrus in the vitamin A-deficient rat by supravital study of the vaginal smears. Two charts.
- MARION AMMERMAN and ROBERT E. WATERMAN. Studies of crystalline vitamin B. IV. Injection method of assay. One figure.
- ROBERT E. WATERMAN and MARION AMMERMAN. Studies of crystalline vitamin B. V. The effect of graduated doses on growing rats. Seven figures.
- C. M. McCAY, M. F. CROWELL and L. A. MAYNARD. The effect of retarded growth upon the length of life span and upon the ultimate body size. One figure.
- S. A. ASDELL and MARY F. CROWELL. The effect of retarded growth upon the sexual development of rats.
- E. P. LAUC and T. P. NASH, JR., with the technical assistance of L. A. GARAVELLI. Variations in urinary reducing substances of two normal dogs maintained on bread diets. Two figures.
- H. R. GUILBERT. Factors affecting the carotene content of alfalfa hay and meal. One figure.
- P. H. PHILLIPS, J. G. HALPIN and E. B. HART. The influence of chronic fluorine toxicosis in laying hens upon the fluorine content of the egg and its relation to the lipid content of the egg yolk.
- HOWARD B. LEWIS. Editorial Review. The chief sulfur compounds in nutrition.

**Price, \$5.00 per volume, Domestic; \$5.50 per volume, Foreign**

**Two volumes issued annually**

**Back volumes from 1 to 9, inclusive, may be had for \$45.00**

*Address subscriptions to*

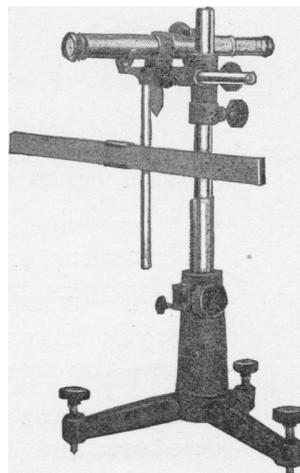
**The Wistar Institute of Anatomy and Biology**  
Philadelphia, Pa., U. S. A.

# READING TELESCOPES

This instrument with telescope and scale, is especially designed for many uses in the laboratory. As illustrated, it is used for reading galvanometers and electrometers. The scale can also be placed vertically for use with optical levers.

The smoothly operating rack and pinion of the support provides delicate vertical motion of 10cm range for reading thermometers, manometers, burettes, etc., at a distance. Any of our regular telescopes or microscopes can be held in the support to widen the range of application.

Without the telescope and accessories, the elevating stand makes a stable and convenient support for table tops or apparatus.

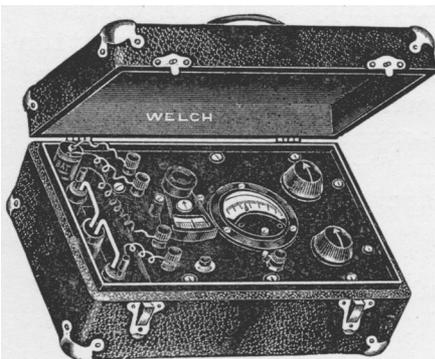


*Full details on request*

**THE GAERTNER**  
1203 WRIGHTWOOD AVE.



**SCIENTIFIC CORP.**  
CHICAGO, U. S. A.



## more than 400 universities and colleges are using **WELCH** HYDROGEN ION APPARATUS

No Standard Cell Required.

Low Cost and High Precision.

Simple and Rapid Manipulation.

No. 5275 Portable type of YOUDEN Hydrogen Ion Concentration Apparatus.  
*Write for Special Literature.*

**Reversing Polarity Not Usually Necessary.** The great bulk of measurements is on solutions whose pH is greater than 4. Hence terminals do not often need reversing because of too great acidity.

**Rapid Manipulation—30 to 40 observations per hour.** Only one electrode tube need have the solution changed in checking different solutions.

**Low Cost.** A 300 millivoltmeter is adequate because of the use of quinhydrone, thus avoiding expensive potentiometers.

**Sensitivity equivalent to .03 pH.** As high as is necessary in all practical work as millivoltmeter readings are not accurate to a greater percentage than this equivalent.

**Portability.** Laboratory sets are light in weight. Field sets supplied in a carrying case to be used "on location." Our No. 5270 outfits are perfectly portable, while sets using standard cells will not stand rough handling.

**Simplicity.** Component parts are simplest types of instruments contributing to low cost, ease of manipulation, and durability.

**W. M. WELCH SCIENTIFIC COMPANY**  
1517 Sedgwick St., Chicago, Ill., U. S. A.

Cable Address: WELMANCO

---

## THE INSTRUMENTS PUBLISHING COMPANY

1117 WOLFENDALE STREET  
PITTSBURGH, PA.

June 28, 1935

Dear A.A.A.S. Member :

IF you want the names of all the manufacturers of instruments and devices for measurement, inspection, testing and automatic control---

IF you have the trade name of such device but do not know the maker's name----

IF you want to write to a manufacturer of instruments, meters and other measuring and control devices, but do not know his address----

YOU can find the information in The Instruments Index.

You need this Index, and as it will be distributed only to subscribers, send your subscriptions\* to reach us before July 31st. The Index supplement will not be issued separately.

Although this June issue with its reference supplement is worth many times the subscription price, I am going to make my subscription offer even more attractive. We are publishing a book by C. H. Gibbons entitled "MATERIALS TESTING MACHINES, An Account of their Development, with Special reference to the Tension-compression-transverse Group." This is a handsome 96-page cloth-bound volume. We will send it to every subscriber (new or renewal) who sends us his subscription with payment attached.

This book, too, is distributed only to subscribers whose subscription is received before July 31.

*Richard Rimback*

MANAGING EDITOR

\* On two or more new or renewal subscriptions sent together on one order the rates are as follows:

1 separate one-year subscription \$2.00  
2 separate one-year subscriptions \$2.40  
3 separate one-year subscriptions \$3.30

4 separate one-year subscriptions \$4.20  
5 separate one-year subscriptions \$5.00  
For additional subscriptions add \$1.00