# SCIENCE

Vol. LIX MAY 23, 1924 No. 1534

### CONTENTS

The Scientific Background of the Forest Policy of the United States: W. B. GREELEY	110
Luther Emmett Holt: THE LATE T. MITCHELL PRUD-	110
DEN	452
The American Association for the Advancement of Science:	
The Spring Meeting of the Executive Committee: PROFESSOR B. E. LIVINGSTON	453
Scientific Events:	
Memorial Meeting for the Late Dr. Biggs; The In-	
ternational Mathematical Congress; Chemistry at	
the Toronto Meeting of the British Association;	
Testimonial Banquet to Dr. George H. Simmons;	
Prize of the American Association	
Scientific Notes and News	456
University and Educational Notes	460
Discussion and Correspondence:	
Dalton as a Name for the Unit of Atomic	
Weight: H. G. TANNER. The Cardio-inhibitory	
Center: DR. FREDERICK R. MILLER. Self-fertiliza-	
tion in Nicotiana: FANNY FERN SMITH. The In-	
	100
fuence on Fisheries of the War: N. BORODIN	400
Scientific Books:	
Britton's The Hemiptera, or Sucking Insects: PRO-	
FESSOR Z. P. METCALF	462
Special Articles:	
The Oriented Wedge Theory of Emulsions and the	
Inversion of Emulsions: PROFESSOR WILLIAM D.	
HARKINS	463
The Michigan Academy of Science, Arts and Letters:	
	467
The Ohio Academy of Science: WILLIAM H. ALEX-	101
	470
The Utah Academy of Sciences: C. ARTHUR SMITH	472
Science News	x

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. McKeen Cattell and published every Friday by

### THE SCIENCE PRESS

Lancaster, Pa. Garrison, N. Y.

New York City: Grand Central Terminal.

Annual Subscription, \$6.00. Single Copies, 15 Cts. SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

Entered as second-class matter July 18, 1923, at the Post Office at Lancaster, Pa., under the Act of March 3, 1879.

### THE SCIENTIFIC BACKGROUND OF THE FOREST POLICY OF THE UNITED STATES<sup>1</sup>

THE National Academy of Sciences has played an important part in the annals of American forestry. On February 15, 1896, the secretary of the interior requested this body to investigate and report upon "a national forest policy for the forested lands of the United States." After an extended field investigation in the western states, a report was submitted to the secretary by the academy on May 1, 1897. It bore the names of Charles S. Sargent, Henry L. Abbott, Alexander Agassiz, William H. Brewer, Arnold Hague, Gifford Pinchot and Walcott Gibbs. This report constituted probably the most illuminating summary of the forestry situation in the United States which had been made up to that time, with reference particularly to the conditions on the public domain. It set forth the public value of forest conservation for the flow of streams, the protection of soil and a sustained supply of timber. It summarized the forest administration of leading foreign countries. It described vividly the cumulative depletion of our public forest resources from fire, uncontrolled grazing and timber depredations, with its disastrous local and national effects. It recommended the creation of 13 additional forest reserves, aggregating 21,000,000 acres, together with the Mt. Rainier and Grand Canyon National Parks. And it outlined a complete system of administration for the forest lands in public ownership.

The major recommendations of the academy were almost immediately put into effect. The forest reserves indicated were created by presidential proclamation in 1897. In the same year an act of Congress embodied many of the administrative recommendations of the academy, constituting the first forest code of the United States.

While the investigation conducted by the academy in 1896 dealt particularly with forested portions of the public domain, it is noteworthy that the report visualized clearly the broad outlines of the forestry problem of the entire country. It emphasized the essential relationship between forest cover and regularity of stream flow. It brought out the need for "systematic and intelligent forest reproduction" to supply the demand for lumber and other forest products which is "continuous in civilized nations."

<sup>1</sup> Address before National Academy of Sciences, April 30, 1924.

### Johns Hopkins University Medical School

The Medical School is an Integral Part of the Uni-versity and is in the Closest Affiliation with the Johns Hopkins Hospital.

### ADMISSION

ADMISSION Candidates for admission must be graduates of ap-proved colleges or scientific schools with at least two years' instruction, including laboratory work in chemistry, and one year each in physics and biology, together with evidence of a reading knowledge of French and German. Each class is limited to 75 students, men and women being admitted on the same terms. Except In unusual circumstances, applications for admis-sion will not be considered after July 1st. If vacancies occur, students from other institu-tions desiring advanced standing may be admitted to the second or third year provided they fulfill our requirements and present exceptional qualifications. INSTRUCTION

INSTRUCTION

The academic year begins the Tuesday nearest Oc-tober 1, and closes the second Tuesday in June. The course of instruction occupies four years and es-pecial emphasis is laid upon practical work in the laboratories, in the wards of the Hospital and in the dispense.

TUITION

dispensary.

The charge for tuition is \$300 per annum, payable in three installments. There are no extra fees ex-cept for rental of microscope, certain expensive sup-plies, and laboratory breakage. The annual announcement and application blanks may be obtained by addressing the

may be obtained by addressing the
Dean of the Johns Hopkins Medical School,
Washington and Monument Sts., Baltimore, Md.
Summer Work for Graduates in Medicine
Beginning Monday, June 2d, and ending Saturday,
July 12th, a course in medical diagnosis, including
laboratory exercises in clinical pathology and demonstrations in pathological anatomy, will be offered.
The course will be limited to thirty students, fee
\$100. Applications should be made to the Dean's Office.

# School of Medicine Western Reserve University

of Cleveland, Ohio

HIGH STANDARD OF ADMISSION\* **RESTRICTED CLASSES** THOROUGH INSTRUCTION LARGE CLINICAL FACILITIES HIGH STANDARD OF SCHOLARSHIP

The 1924-25 session will open in the new medical building.

\* Admission confined to students having academic degrees and to Seniors in Absentia.

For information address:

THE REGISTRAR

1353 E. 9TH ST.

CLEVELAND, OHIO

# YALE UNIVERSITY School of Medicine

Affiliated with the New Haven Hospital and New Haven Dispensary

112TH SESSION

Reorganized on a full-time basis

Entrance Requirements: A minimum of three years (or its equivalent) of college including general biology, physics, general and organic chemistry, qualitative analysis, physical chemistry or laboratory physics, and either French or German.

ALL THE GENERAL FACILITIES OF THE UNIVERSITY ARE AVAIL-ABLE TO MEDICAL STUDENTS

As the number admitted to each class is limited, applications must be made before July I.

Dean, Yale University School of Medicine

NEW HAVEN, CONN.

# BOSTON UNIVERSITY SCHOOL OF MEDICINE

SK R

ORGANIZED IN 1873

### ANNOUNCEMENT

may be obtained by application to

WESLEY T. LEE, M.D., Registrar

80 East Concord Street,

Boston,

Massachusetts.

# Stanford University California

Summer Quarter, 1924

Tuesday, 24 June, to Saturday, 30 August Second half begins 28 July

Opportunities to work for the A. B. and for higher degrees, or to do special work, in the oceanic climate of the San Francisco peninsula.

Courses in the regular academic and scientific branches, and in law.

Information from Office 53,

### STANFORD UNIVERSITY **CALIFORNIA**

### Scientific Instrument Repairing

Microscopes, Balances, Galvanometers, Spectrometers, Sextants, Stereoscopic Instruments, Projectors.

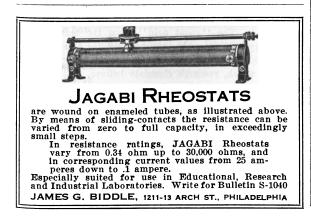
Optical Instruments and Machines.

Special Instruments made to order. Three years in this location. References furnished upon request. My prices are reasonable.

### JAY C. RHODES

4263 8th Avenue, N.E.

Seattle, Wash.



# Marine Biological Laboratory

### Woods Hole, Mass.

INVESTIGATIONFacilities for research in Zoology,<br/>Embryology, Physiology, and Bot-<br/>any. Eighty-four private labora-<br/>tories \$100 each for not over three<br/>months. Thirty tables are avail-<br/>able for beginners in research who<br/>staff. The fee for such a table is \$50.00.

INSTRUCTION July 2 to August 12, 1924

SUPPLY DEPARTMENT **Open the Entire** 

Year



Courses of laboratory instruction with lectures are offered in In-vertebrate Zoology, Protozoology, Embryology, Physiology and Mor-phology and Taxonomy of the Algae. Each course requires the full time of the student. Fee, \$75.00.

full time of the student. Fee, \$13.00. Animals and plants, preserved, liv-ing, and in embryonic stages. Pre-served material of all types of ani-mais and of Algae, Fungi, Liver-worts and Mosses furnished for classwork, or for the museum. Living material furnished in sea-son as ordered. Microscopic slides in Zoology, Botany, Histology, Bacteriology, Catalogues of Zoolog-ical and Botanical material and Microscopic Slides sent on appli-cation. State which is desired. For catalogues and all information regarding material, address:

GEO. M. GRAY,

Curator, Woods Hole, Mass,

The annual announcement will be sent on application to The Director, Marine Biological Labora-tory, Woods Hole, Mass.

# The Carnegie Institute of Technology

announces the establishment of four fellowships in Metallurgy under a co-operative agreement with the United States Bureau of Mines. Pittsburgh station.

The fellowships are open to graduates of universities, colleges, and technical schools whose training in physics, chemistry, or metallurgy qualifies them to undertake scientific research.

The holders of fellowships register as graduate students at the Carnegie Institute of Technology and become candidates for the degree of Master of Science.

The fellowship appointment is for a period of ten months. It carries a stipend of seven hundred and fifty dollars (\$750.00).

Candidates should address

### W. E. MOTT.

Director, College of Engineering, Carnegie Institute of Technology, Pittsburgh, Pa.

# "BECBRO"

### LABORATORY SLIDE RHEOSTATS

We carry a large stock of the Sliding Contact Rheostats—wound upon Enameled covered tubes (lengths of 8", 16" & 20") and also wound upon rectangular stone pieces (lengths of 9" & 16").

Also rheostats of the Carbon Compression Type for use in the very fine and uniform regulation of current. Four (4) sizes carried in stock with ratings of 250, 1000, 1500 & 3000 Watts.

Rheostats of Special size and construction made according to specifications submitted to us.

Write for Catalog C-10

# **BECK BROS.**

### 3640-42 N. 2nd St.

**Balances and Weights** 

Stock include

Analytical, Assay, Ordinary, Prescription and Specific Gravity Balances

Write for more complete details and prices

## EIMER & AMEND

Third Avenue, 18th to 19th Street New York, N.Y.

WASHINGTON, D. C. PITTSBURGH, PA. DISPLAY ROOM, Evening Star Bldg. Branch Office, 8085 Jenkins Arcade

### **REACTIONS OF SOILS**

May be quickly and accurately determined through the use of the "LAMOTTE" INDICATOR FIELD SET Complete with instructions. \$4.25 (delivered) H-Ion concentration of water and solutions quickly and easily determined by the "LAMOTTE" H-ION COMPARATOR SET Complete and ready for use. \$9.10 (delivered) SEND FOR LITERATURE LaMotte Chemical Products Co. Baltimore, Md. U. S. A.

# FURFURAL

Philadelphia, Pa.

AS A BIOLOGICAL REAGENT

FURFURAL is an excellent preservative for Biological Specimens.

FURFURAL can be more conveniently used as an injection fluid than the usual preparations.

FURFURAL has many other uses of importance to the Biologist. See "Furfural as a Biological Reagent", by Prof. C. E. Tharaldsen, Science, Vol. LVII, page 305, March 9, 1923.

A pamphlet on Furfural will be sent on request.

THE MINER LABORATORIES

SOUTH CLINTON ST.

CHICAGO

### AMERICAN HONEY PLANTS

by FRANK C. PELLETT

Unusual Botanical Facts in Accessible Form The author is the most prominent authority in this subject and has created a book that fills an important blank in botanical records.

"A remarkable book in several particularswith a wonderful series of illustrations."-Director Scientific Research, U. S. D. A.

The new 1924 edition contains 400 pages with 194 illustrations. Cloth bound, \$3.00.

Published by THE AMERICAN BEE JOURNAL-BOX E. HAMILTON, ILLINOIS.