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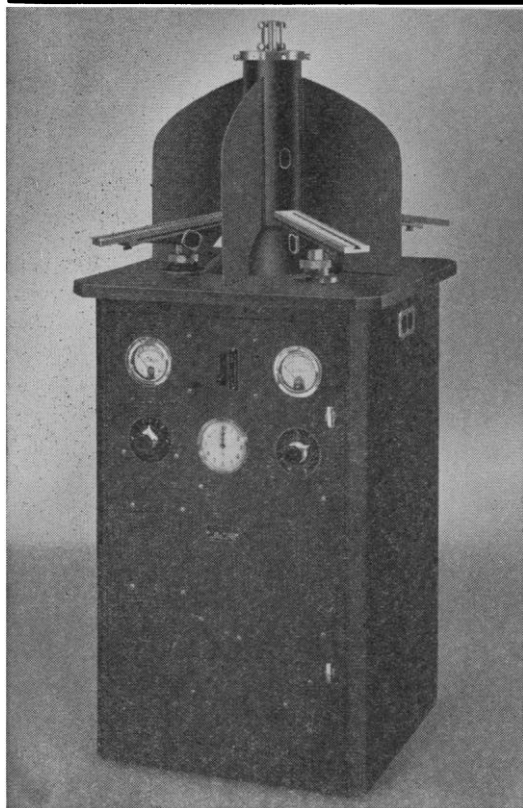
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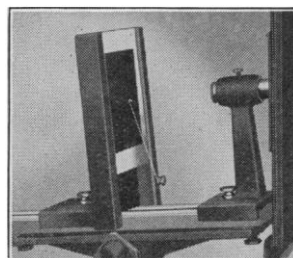
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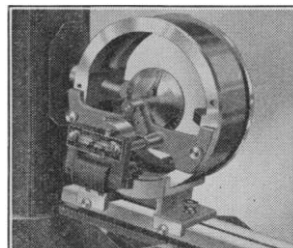
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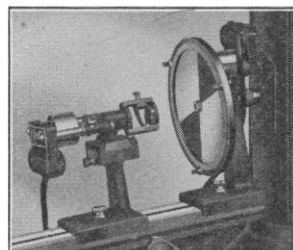
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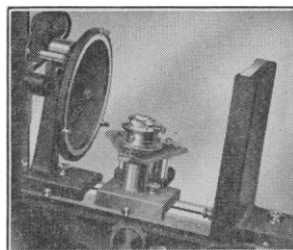
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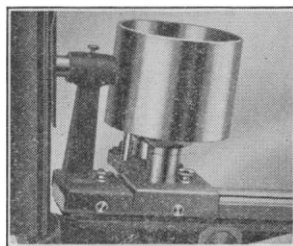
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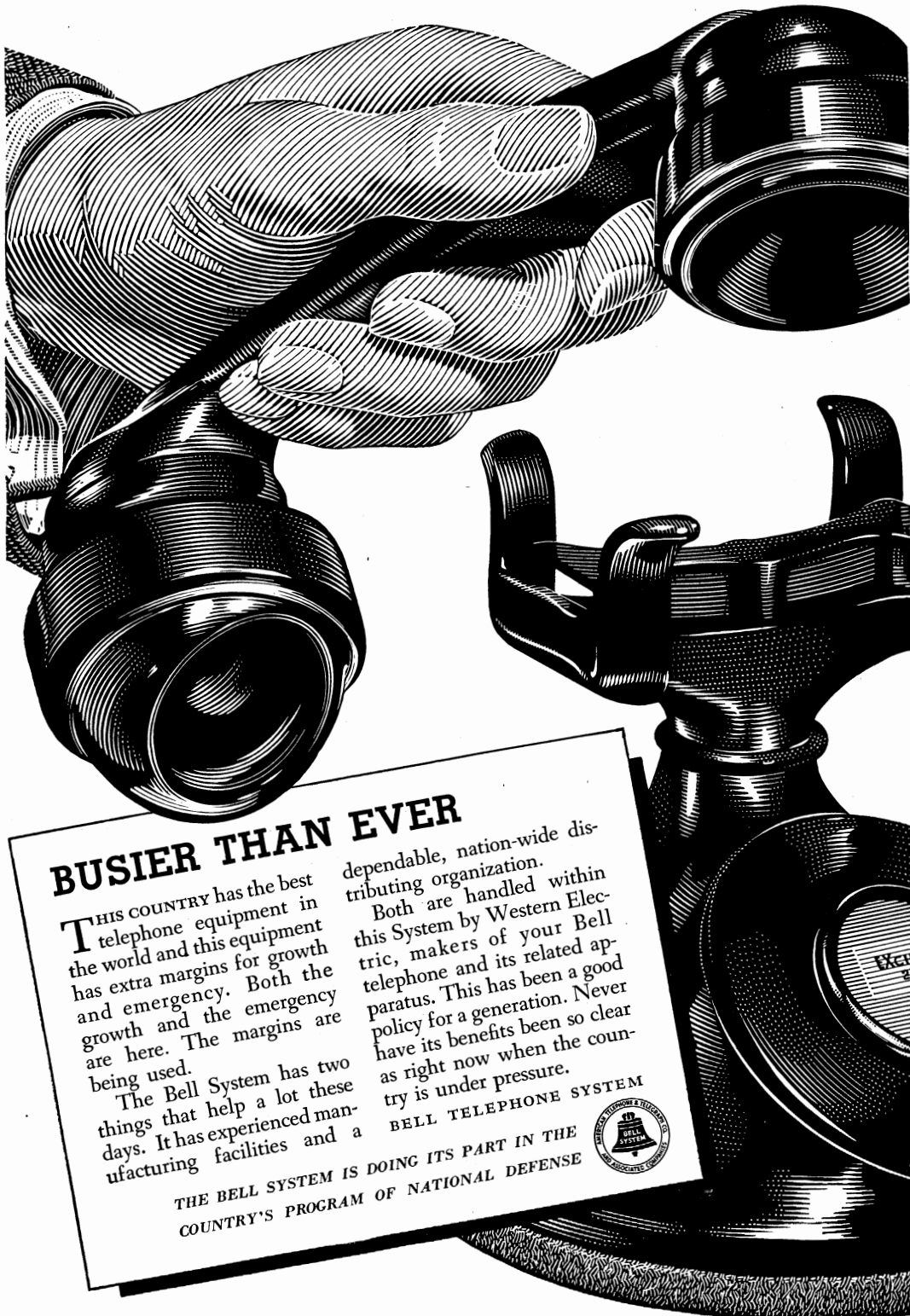
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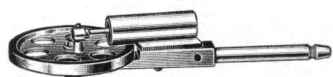
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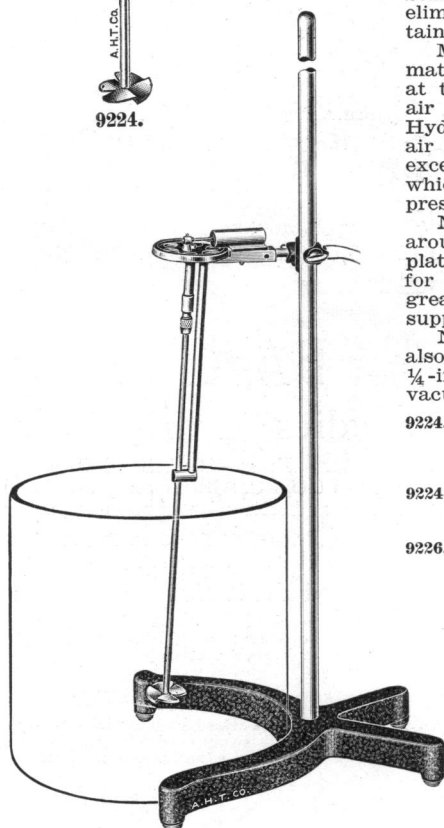
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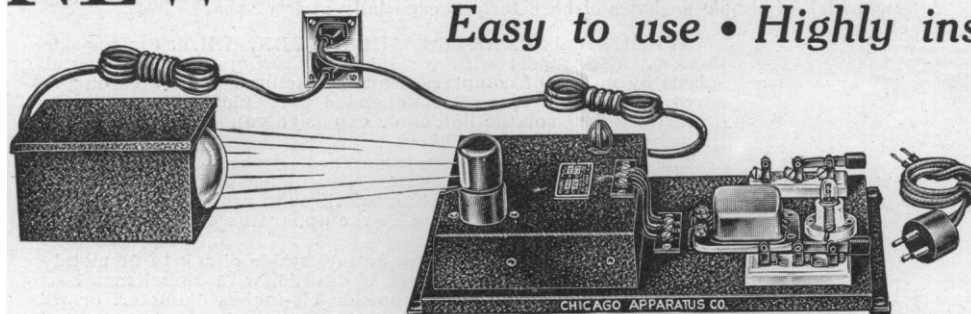
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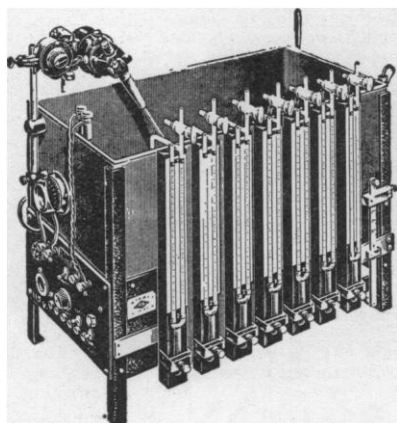
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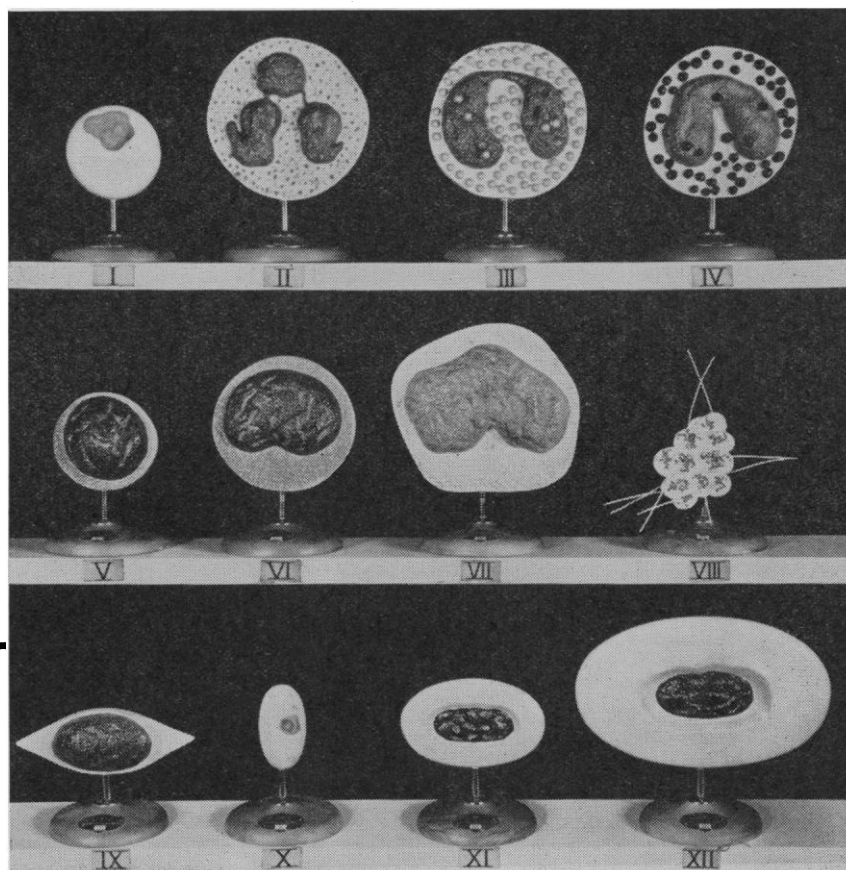


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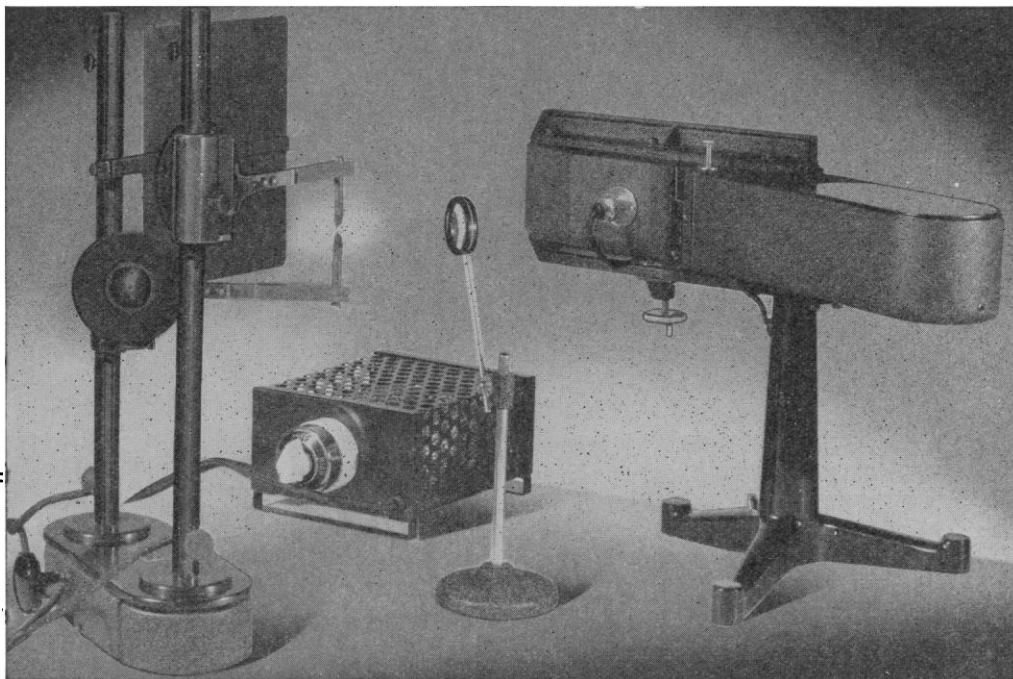
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# SCIENCE

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## MEDALLISTS OF THE ROYAL SOCIETY<sup>1</sup>

By Sir WILLIAM BRAGG

THE Copley Medal has been awarded to Professor Paul Langevin.

Professor Langevin was one of the band of young pioneers who, in the closing years of the last century, were engaged in exploring the field which had been opened up by J. J. Thomson's discovery of the electron. He spent a year (1897-1898) at the Cavendish Laboratory, and his Paris Dr ès Sc. thesis (1902) is dedicated to J. J. Thomson. The thesis, a notable one, was entitled "Recherches sur les Gaz Ionisés." It dealt mainly with the recombination and mobilities of ions, their coefficients and the relations between them. It is a standard work on this subject. In it he also devised and applied new and elegant methods of measuring these quantities, which were an advance on all their predecessors and have not since been im-

proved upon to any appreciable extent. Related to this, and coming later, were important contributions to the theory of the diffusion of gaseous ions and its relation to ionic mobilities.

Langevin's greatest achievement is the foundation of the electron theory of magnetism. The theories of paramagnetism and of diamagnetism are still very much as he made them and left them over thirty years ago.

There are few branches of contemporary physics which he has not illuminated and improved by his writings, and his work generally has the qualities of breadth, clearness, elegance and completeness which stamp the master.

He has had a great international influence. He has been a prominent figure at all the meetings of the conferences arranged by the Institut International de Physique Solvay since they started in 1911. On the

<sup>1</sup> From the address of the president at the anniversary meeting, November 30, 1940.

The agar, tryptone and yeast extract are dissolved in approximately 900 ml of distilled water by autoclaving for several minutes. After complete solution of these components, the cottonseed oil emulsion and the previously filtered alcoholic spirit blue solution are added. The mixture is made up to one liter with distilled water and mixed thoroughly. The medium is sterilized by autoclaving for 15 minutes at 15 pounds (121° C.). Either pour-plates or streak-plates may be used. The completed medium should be stored in a refrigerator to minimize oxidative deterioration; refrigerated sterile plates of spirit blue agar will keep for more than two months.

When prepared from fresh cottonseed oil of a low acid number, sterile plates of spirit blue agar are pale lavender in color and of firm consistency. Colonies of lipolytic organisms are recognized by the development of a permanent deep-blue color beneath and surrounding the colony. No comparable change in color has been detected around colonies of any non-lipolytic organism examined.

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### AN IMPROVED METHOD OF APPLYING COLORED PENCILS

THE procedure described below is so simple and useful that it is difficult to believe that it is not already in widespread use, yet in the course of a varied experience in America and Europe the writer has not previously encountered it. Locally, at least, it is the invention of our Spanish draftsman:

To secure a uniform and smooth distribution of the color applied by any good grade of colored pencil, it is only necessary to rub the surface to which the pencil coloring has been roughly applied, with a bit of cloth soaked in gasoline. The cloth may be wrapped over the end of a toothpick or the blunt end of a penholder for finer work, and simply bunched into a soft mass for larger areas. The procedure is thus identical with the dry rubbing usually employed to obtain a smooth distribution of crayon coloring. The results obtained

by using gasoline compare favorably with a good grade of water-coloring. Much less skill is required to obtain good results, and the work can be done much more rapidly than with paints. Pencil colors so treated are completely fixed, and will not rub off or smudge.

Through the use of gasoline any two pencil colorings may be mixed to obtain a third. Thus, to make a yellow-green, apply first a rough base of yellow, and over it an equally rough surface of green. Upon rubbing with a bit of gasoline-soaked cloth, the two will blend smoothly to produce a yellow-green. Where the colors are of equal value in such mixtures, the color applied uppermost will predominate.

The above technique should be particularly useful to cartographers and others who wish to apply rapid crayon coloring over relatively large surfaces. In the absence of gasoline, turpentine will serve the same purpose, but the oily components of this substance have an adverse effect on lighter grades of paper.

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- Bicentennial Conference of the University of Pennsylvania: A Challenge to Scholarship*. \$0.50. *Problems and Trends in Virus Research*. \$0.75. *Therapeutic Advances in Psychiatry*. \$0.50. *Medical Problems of Old Age*. \$0.50. *Nutrition*. \$0.50. *Female Sex Hormones*. \$0.50. *The Relation of Diseases in Lower Animals to Human Welfare*. \$0.50. *Modern Aspects of the Antituberculosis Program*. \$0.50. *Chemotherapy*. \$0.50. University of Pennsylvania Press.
- CATTELL, RAYMOND B. *General Psychology*. Pp. 624. 182 figures. Sci-Art Publishers. \$3.50.
- CLECKLEY, HERVEY. *The Mask of Sanity; An Attempt to Reinterpret the So-called Psychopathic Personality*. Pp. 298. Mosby.
- Columbian Carbon Company. *Red Oxide of Iron: Part I, The Story of Iron Oxide Pigments; Part II, Mapico 297, a New Iron Oxide for Rubber*. Pp. 115. 33 figures. Binney and Smith, New York.
- EDDY, WALTER H. and GILBERT DALLDORF. *The Avitaminoses; The Chemical, Clinical and Pathological Aspects of the Vitamin Deficiency Diseases*. Second edition. Pp. xiii + 519. 28 figures. Williams and Wilkins. \$4.50.
- FORBES, JAMES. *A Laboratory Manual for Histology*. Pp. v + 74. 3 figures. Fordham University Press. \$1.25.
- HITCHCOCK, DAVID I. *Physical Chemistry for Students of Biology and Medicine*. Third edition, revised. Pp. xiii + 264. 22 figures. Charles C Thomas. \$3.50.
- LIGHT, RICHARD U. *Focus on Africa*. Pp. xv + 228. 323 figures. American Geographical Society, New York.
- MCDUGALL, W. B. *Plant Ecology*. Third edition, revised. Pp. 285. 118 figures. Lea & Febiger. \$3.00.
- SKINNER, CHARLES E. and PHILIP L. HARRIMAN, Editors. *Child Psychology; Child Development and Modern Education*. Pp. xii + 522. 13 figures. Macmillan. \$3.00.
- SMART, JOHN. *Instructions for Collectors; No. 4A, Insects*. Pp. vi + 164. 42 figures. British Museum (Natural History), London. 1/6.

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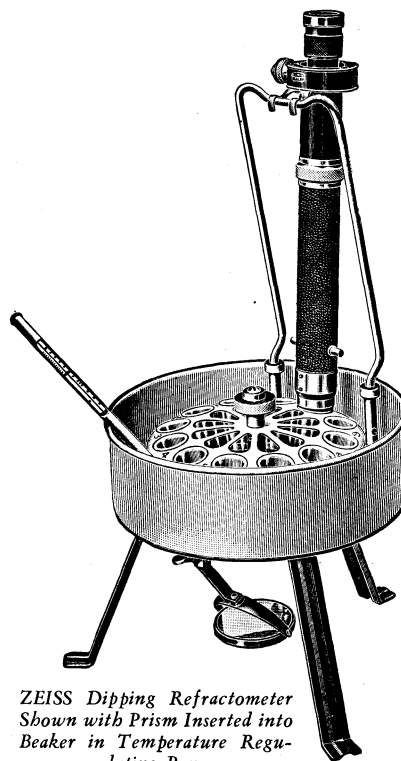
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