

*Nature-Study Review*, for October; *Ithaca, N. Y.*; \$1.00 per year, 15 cents a copy: "Principles Underlying Organization of Course in Nature-Study," Gilbert H. Trafton; "Humane Treatment of Animals in Zoological Gardens," R. W. Shufeldt; "Nature-Study in the Kindergarten—The Beech Tree," Cleora M. De Coster; "An Indoor Garden," Elizabeth D. Wuist.

*Photo-Era*, for October; *Boston, Mass.*; \$1.50 per year, 15 cents a copy: "The Magic Masks (Concluded)," Milton M. Bitter; "Trees in Composition," H. L. Gleason; "Mistakes in Tank-Development and their Avoidance," "A Measure for Depth of Focus," George S. Pfeiffer.

*Physical Review*, for October; *Ithaca, N. Y.*, \$6.00 per year, 60 cents a copy: "The Absorption Coefficients of Soft X-Rays," C. D. Miller; "Direct Current Corona from Different Surfaces and Metals," Sylvan J. Crooker; "The Fluorescence and Absorption of Certain Pleochroic Crystals of the Uranyl Salts," Edward L. Nichols and H. L. Howes; "The Mean Free Path of an Electron in a Gas and its Minimum Ionizing Potential," Karl T. Compton; "The Reflection Coefficients of Metals for the Polarized Components of Light," R. B. Wilsey; "The Carbino Effect in Various Conductors, Measured by the Electromagnetic Torque Produced," Keith K. Smith; "Application of the Electron Theory of Gaseous Dielectrics to the Calculation of Minimum Ionizing Potentials," Karl T. Compton; "Resistance and Reactance of Massed Rectangular Conductors," A. Press.

*Popular Astronomy*, for November; *Northfield, Minn.*; \$3.50 per year, 35 cents a copy: "The Semi-Centennial of the Dearborn Observatory (Concluded)," "Dark Nebulae," Russell Sullivan; "The History of the Discovery of the Solar Spots (Concluded)," Walter M. Mitchell; "A New Determination of the Nature of the Rotation of Venus (with Plate XXXVII)," David H. Wilson; "The Aristillus Test for the Quality of the Seeing," William H. Pickering.

*School World*, for October; *Macmillan & Company, London, Eng.*; 7S. 6d per year: "The Value of a Training in Science in Industrial Work," E. F. Armstrong; "The Government Committee on Science in Secondary Education," E. H. Tripp.

*Scientific Monthly*, for November; *Garrison, N. Y.*; \$3.00 per year, 30 cents a copy: "Explosion Craters," N. H. Darton; "The Relation of Malaria to Crop Production," D. L. Van Dine; "Stephen Hales, the Pioneer in the Hygiene of Ventilation," Dr. D. Fraser Harris; "The Place of Description, Definition, and Classification in Philosophical Biology," Prof. William E. Ritter; "The Origin and Evolution of Life upon the Earth," Dr. Henry Fairfield Osborn.

*Zeitschrift für Mathematischen und Naturwissenschaftlichen Unterricht Aller Schulgattungen*, 4 Heft.; *B. G. Teubner, Leipzig, Germany*; 12 nos., M. 12 per year: "Gedanken und Erfahrungen zur praktischen Ausbildung der Lehramtskandidaten für Physik," Kgl. Landesschulinspektor Dr. Karl Rosenberg; "Zur Einführung des Logarithmus im Kleinschen Sinne," Dr. K. Rieder; "Ein Beitrag zur Erklärung der Mondphasen," Prof. Dr. W. Brunner; "Der bewegliche rechte Winkel bei der Lösung von Kubischen Gleichungen.—Eine einfache Konstruktion des regulären Siebenecks," Färber; "Pythagoreische Zahlen und ein Satz über Kubische Zahlen," H. Schotten.

## A SIMPLE APPARATUS FOR PHOTOSYNTHESIS.

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In those texts or manuals which describe an experiment on photosynthesis, we are directed to invert a test tube and funnel over some green leaves in a beaker, the entire apparatus being filled with water

saturated with carbon dioxide. Upon being placed in the sunlight, "several cubic centimeters of oxygen will soon be collected."

In my hands, this simple apparatus usually refuses to work. I have never seen anyone else obtain uniformly satisfactory results. In a recent manual, this difficulty is recognized, and we are instructed to "use no funnel smaller than six inches," but this is inconveniently large, and is but little more efficient.

A slight modification of the apparatus, as illustrated herewith, is advantageous in two ways: (1) The entire apparatus is easily filled with the carbonated water by mouth suction; and (2) the bubbles of oxygen rise rapidly to the top of the tube, their movement being unhindered by the downward current of displaced water, as this returns to the beaker by the small tube.

The illustration shows two positions—filling and collecting.

