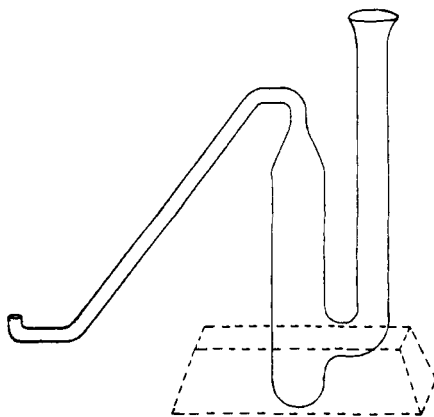


or solvent. It seems probable that views along the line of those of Thiele, Werner, Flürscheim and Michael will show themselves more and more vital and productive in the near future.

NOTE.

Student's Apparatus for Determining the Hydrogen Equivalent of Metals.—The figure shows a simple apparatus for the determination of the hydrogen equivalent of metals. I have tested it with a large first-year class and found it very convenient and satisfactory. It is used in connection with a common laboratory dish, a 50 cc. graduated gas tube and a balance which weighs to centigrams or milligrams.

The gas tube, filled with water, is inverted over the dish and held in a support. The generator is supported in a little block of wood shown in outline in the figure. A strip of sheet zinc, best chemically pure, is cut to weigh 0.12 or 0.13 gram and carefully weighed. The generator is placed with the delivery tube in the dish, and water is poured in until the air is expelled. The



zinc is dropped in and the exit is placed under the mouth of the gas tube. Sulphuric acid of specific gravity 1.18 is added until the water is displaced and action begins. The mouth of the generator is closed with a cork to prevent oscillation, which might carry some hydrogen out at the side tube. When action

ceases, the cork is removed and water added in order to carry all of the gas over. The tube is transferred to a cylinder of water, and when it has assumed the temperature of the water it is raised until the water level is the same without and within and the volume of gas is read. The temperature of the water is taken and also the reading of the barometer, corrected for aqueous vapor pressure. The gas volume is corrected for temperature and pressure to 0° and 760 mm., and its weight is computed. From this result the amount of zinc corresponding to 1 gram (or more accurately, 1.0076) of hydrogen is calculated. This is the hydrogen equivalent, and twice this is the atomic weight, of zinc.

The apparatus was made for me by Eimer & Amend of New York.

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NEW BOOKS.

DIE CHEMIE UND TECHNOLOGIE DER NATÜRLICHEN UND KÜNSTLICHEN ASPHALTE. EIN HANDBUCH DER GESAMTEN ASPHALT-INDUSTRIE FÜR FABRIKANTEN, CHEMIKER, TECHNIKER, ARCHITEKTEN, UND INGENIEURE. VON D. HYPOLYT KÖHLER, dirigierendem Chemiker mit Cyanidwerke der Roessler and Hasslacher Chemical Company, Perth Amboy, N. J., U. S. A., früherem technischen Director der Asphaltfabriken der FIRMIA C. F. WEBER, Leipsic-Plagwitz. Mit 191 in den text Eingedruckten Abbildungen. Braunschweig, 1904. Price, 15 marks.

This is the latest and most comprehensive work that has yet appeared on this subject. Without a full reading of the text, for lack of time, we have given the 400 closely and elegantly printed pages, of which the work consists, a very careful examination and have concluded that the work is a masterpiece of compilation. While it is of most value to the technologist, it is of much value to the chemist. The artistic excellence of the illustrations to the technology leaves nothing to be desired. While the references to the work of French, English and American chemists and technologists are very appreciative, the work of Germans is given most prominence, as, perhaps, might be expected. It is to be regretted, however, that in many instances reference is not made to the original papers of Americans, but to abstracts of those papers as they appear in German periodicals.