

The Triassic Cephalopod Genera of America. By Alpheus Hyatt and James Perrin Smith. Pages, 214; with 85 excellent plates illustrating hundreds of specimens.

The Copper Deposits of the Clifton-Morenci District, Arizona. By Waldemar Lindgren. Pages, 364; illustrated by diagrams, maps, and 25 plates.

The Southern Appalachian Forests. By H. B. Ayres and W. W. Ashe. Pages, 282; illustrated by 36 well-executed half-tones and map.

Status of Mesozoic Floras of the United States. Monograph, Vol. XLVIII.) Second paper by Lester F. Ward, with the collaboration of William M. Fontaine, Arthur Bibbins and G. R. Wieland. Part I., Text, pages 599; Part II., Plates, pages 572. This work is profusely illustrated, having 130 figures and plates. The first paper appeared in the *Twentieth Annual Report of U. S. Geological Survey*, Part II., 1900.

The Configuration of Rock Floor of Greater New York. By William Herbert Hobbs. Pages, 96; illustrated by maps and diagrams.

Geology of the Boulder District, Colorado. By N. M. Fenneman. Pages, 98; illustrated by half-tones and maps.

The Drumlins of Southeastern Wisconsin. (Preliminary Paper.) By Wm. C. Alden. Pages, 43; illustrated by half-tones and maps.

Development of Underground Waters of Southern California. By Walter C. Mendenhall. Irrigation Papers Nos. 137, 138 and 139; illustrated by maps and half-tones.

Destructive Floods in the United States in 1904. By Edward Charles Murphy and others. Pages 193; illustrated by half-tones and maps.

The Hydrology of San Bernardino Valley, California. By Walter C. Mendenhall. Pages 117; illustrated by half-tones and maps.

BOOKS REVIEWED.

The Economics of Mining.—By T. A. Rickard, W. R. Ingalls, H. C. Hoover, R. Gilman Brown, and other specialists. Edited by T. A. Rickard. Published by *The Engineering and Mining Journal*, New York, U.S.A., and London, England. Pages, 413. Octavo Cloth. Price \$2, post paid.

In presenting in compact form the contents of this book the publishers have made them readily accessible and consequently far more useful than they were when scattered through the pages of four or five volumes of *The Engineering and Mining Journal*. The work is described as the natural outcome of a discussion on an important phase in practical mining by eminent international experts which appeared in the columns of the journal above mentioned. The material embodied in the book is useful and suggestive. The various contributions and opinions have been minutely revised and greatly augmented in numerous instances from their original sources by competent authorities, and the records of their working experiments cover in detail the entire range of mining operations. Among the many subjects authoritatively treated are mining investments, finance, accounting, valuation, equipment, operation, ore reserves, ore treatment, mining in various parts of the world, gold dredging, etc., etc., the volume abounding in illustrative examples reproduced from actual conditions and containing much accurate and important data, the whole comprising quite a cyclopedia of information invaluable to all greatly interested in the mining industry.

The Mineral Industry During 1904.—Prepared by the Editorial staff of *The Engineering and Mining Journal* under the particular supervision of Edward K. Judd. Published by *The Engineering and Mining Journal*, New York, U.S.A., and London, England. Pages, 546. Price \$5 (£1:0:10).

This is Volume XIII of the well known annual publica-

tion, *The Mineral Industry*, its Statistics, Technology and Trade in the United States and other countries. It is claimed by the publishers that this is a technical encyclopedia, incorporating the most recent developments and advances evolved in the mining and metallurgical world; embracing the latest statistics relating to the production and prices of the various minerals and metals throughout the Globe; and including, in addition, exhaustive reviews compiled by authoritative international experts on the technical progress made in the metallurgical field, together with detailed accounts of new processes. That these claims are amply supported by its varied contents is evidenced by the long-continued popularity and widely acknowledged usefulness of this standard work among all classes concerned in the important developments and steadily increasing expansion of the mining, milling and smelting industries. It is invaluable alike to the prospector and miner in the mining camp, the metallurgist in the reduction works, the merchant and manufacturer in the store or factory, the investor and banker in the office, and the legislator in Congress or Parliament. Its named contributors number forty, and its subjects cover a wide range, including all minerals of known commercial value, the progress and condition of mining in different countries, and tables giving much information relative to mining companies and stocks and to imports and exports of minerals.

Mineral Resources of the United States. Calendar Year 1904.—By David T. Day, Chief of Division of Mining and Mineral Resources, United States Geological Survey (Charles D. Walcott, Director.) Pages, 1234.

The United States Geological Survey has issued the 21st volume of this series of official reports, each of which records the development of the mineral industries of the United States since the time covered by the immediately preceding number of the series. Each chapter is a census of the productive features of the industry under discussion. The statistics of the imports and exports of minerals, which form an essential part of the volume, have been obtained from the U. S. Bureau of Statistics, Department of Commerce and Labour. All other available sources of information known to those contributing have been drawn upon in order that facts and figures might be accurately stated. From the technical press much matter relating to new mining enterprises, new technical processes, prices, market reports, etc., has been taken. While much of the information contained in this volume had previously been published in advance in pamphlets its issue in book form makes it more valuable for reference purposes. The contents of the volume generally, making as they do a comprehensive official record, are of particular service to those actively connected with the mining industry, and prominent among the useful features is the Summary showing the mineral products of the United States for each calendar year over a period of 25 years—from 1880 to 1904, both inclusive.

The gold yield of Australia for 1905 amounted to 4,127,991 oz., valued at £17,544,000, as compared with 4,215,239 oz., valued at £17,915,000 in 1904. The value of the year's export of gold was £5,000,000 below that of 1904.

A new invention for gold sluicing has been made by Mr. G. T. Heinecke, manager and one of the shareholders of the Union Jack Hydraulic Sluicing claim, Tumberumba creek, New South Wales, Australia. The *Sydney Mail* states that the invention is in the shape of an improved hydraulic jet for ground sluicing purposes, which, it is stated, carries a larger amount of wash and water than anything yet invented. It is driven with a head or jet of water, with 170 ft. pressure, the ground being broken down by a nozzle, and other water overflowing the working face, which is carried to the jet and lifted 36 ft. into large sluice boxes, the dimensions of which are 5 ft. by 18 in., with a fall of 1 ft. in 12 ft., where the gold is saved. Mr. Heinecke states that this jet treated over 16,000 yards in one week at the Union Jack, where it has been at work on a trial. He has applied for a patent.