

than some of the more complicated still heads. Distillations from this apparatus are also accompanied by little loss, because the surface of condensation is small, and the liquid retained by the U-tube may be reduced to a very slight amount by constricting its diameter. But the most important object of the apparatus, as already stated, is the exact determination of the boiling point of the actual distillate.

CAMBRIDGE, MASS.

---

### NEW BOOKS.

**Laboratory Experiments in General Chemistry.** Designed especially for use with Stoddard's Introduction to General Chemistry. 22 pp. Northampton, Mass.: Gazette Printing Co., 1913. Price, 30 cents.

This collection includes 159 experiments, about two-thirds being devoted to the nonmetallic elements. These are followed by a brief treatment of the metals, including simple directions for their identification. The last eight experiments are quantitative. All of the experiments are well selected and the directions to the student are brief, even meagre. Some modification of the order is desirable, but this is easily accomplished since the loose-leaf plan is employed. The collection is well suited for use in the smaller laboratories.

B. S. HOPKINS.

**Handbuch der Mineralchemie, Vol. II, No. 5 (Bogen 41-53) with Titelbogen.** DOELTER, *et al.* Dresden and Leipzig: Theodor Steinkopff. Price, M. 9.10.

Mineralochemie in the modern sense is only just emerging from mineralogy, and that only at certain points. The mass of our knowledge pertaining to minerals is still practically unchanged in form since a much earlier day. The present volume is peculiarly arid in that it deals with matter which has been practically untouched by modern ideas. There are a few hydrous silicates, the role of water in which has been experimentally studied, and there are some synthetic data on the silicates of copper, lead, and zinc, but they are mostly of a fragmentary sort, made without much regard for physical conditions or chemical relations. A great many pages are devoted to jade and nephrite; there are long tables of analyses and many physical constants, the latter probably determined not infrequently, as was the habit of the earlier physicists, on material of unknown composition; but of mineral chemistry there is practically none. However, the editors should not be blamed for omitting what does not as yet exist.

E. T. ALLEN.

**Praktikum der Wasseruntersuchung.** By PROF. DR. O. EMMERLING. Gebrüder Borntraeger, Berlin, 1914. Price, 7 mk., 20 pfg.

This little book of approximately 200 pages covers the entire field of chemical, biological, microscopical, and bacteriological water examination, in a very clear and concise manner. The "chemical examination" in-

cludes also determinations of electric conductivity, gas analysis and biological oxygen consumption. One chapter is devoted to the examination of mineral water and the determination of the radioactivity. The chapter on the examination of sewages deals with the determinations of oxygen, hydrogen sulfide and iron sulfide, putrescibility, phosphoric acid, organic carbon, the nitrogenous constituents, etc. The most important impurities in trade wastes are thoroughly discussed, and methods for the determination of some of the impurities given. The biological-microscopical part of the book is excellently treated, and represents the latest views of the German school. The Germans have developed this field in a manner hardly appreciated by the majority of the American water and sewage chemists. This part of the book in particular is profusely illustrated. The illustrations are of a high order and are present in sufficient numbers to fulfill the needs of the routine water and sewage chemist. The organisms are divided into three classes, representing the different stages of self-purification. The organisms characteristic of each stage are enumerated. The German method of collection and enumeration of plankton is likewise given. The last chapter deals with the routine bacterial examination of waters and the preparation of media. A short interpretation of the results obtained by the chemical analysis and a discussion of the German laws dealing with the sanitary qualities of the water and the prevention of stream pollution are appended.

ARTHUR LEDERER.