

Arrangement for Preventing Frothing in Crude Fiber Determinations.
—Substances in which crude fiber is to be determined are boiled for thirty minutes each, with dilute acid and dilute alkali; a reflux condenser must be used to prevent concentration of the acid or alkali. Nearly all substances when boiled with alkali froth more or less and this is almost always troublesome.

The writer uses an arrangement like that shown in Fig. 2. By means of three condenser clamps and three rings with wire gauzes a set of three reflux condensers is mounted on one ring stand (not shown), the conden-

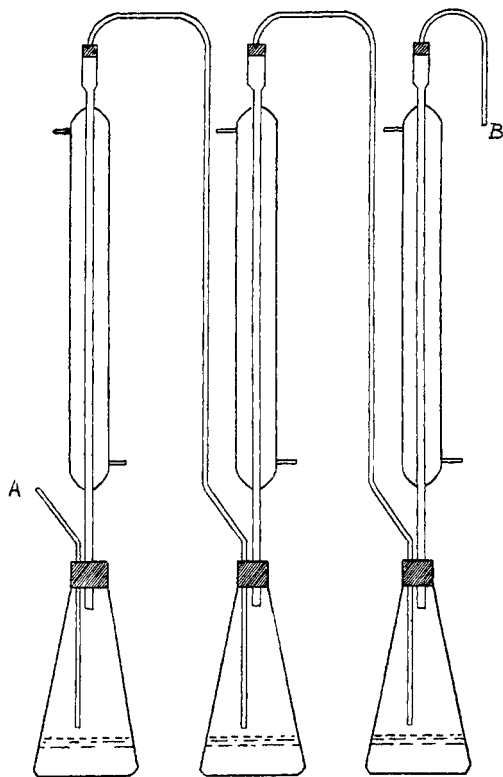


Fig. 2.

sers being connected in series with cold water for condensing. Suction is applied at B, or if more convenient, blast at A, which throws a jet of air on top of the boiling solution in each flask. This effectively prevents all frothing. Any number of flasks may of course be connected in this manner and the apparatus once set up can be used for other determinations or processes where it is desirable to prevent frothing; also for boiling with constant volume of solution. By modifying the apparatus suitably, this principle of the jet of air on the surface of the boiling liquid

may be used for distillations where frothing or foaming is liable to give trouble. The jet of air being colder than the vapors in the froth or bubbles causes a condensation of the vapors and a breaking of the bubbles, preventing frothing.

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NEW BOOKS.

The Metallurgy of Iron and Steel. By BRADLEY STOUGHTON, Adjunct Professor, School of Mines, Columbia University. New York: Hill Publishing Co. 1908. vi + 509 pp. Price, \$3.00.

In the preface the reader is informed that "the purpose of this book is to serve as a text book, not only for college work, but for civil, mechanical, electrical, metallurgical and mining engineers and architects, and for those engaged in work allied to engineering or metallurgy." The scheme is thus seen to be comprehensive. It is questionable whether a book satisfactory as a text can also be entirely satisfactory to those engaged in pursuits allied to engineering and metallurgy. The one would demand an exact logical treatment of the science; the other a more popular, lucid statement of facts. The author has endeavored to combine these two styles and it is doubtful whether or not he has succeeded.

As a text for students the treatment is superficial, the description of some processes inadequate, and lacking in clearness and conciseness; it is in no sense authoritative and shows no originality of treatment. For those interested in the sciences allied to metallurgy one may obtain a very good picture of the various metallurgical processes. The style is easy, and one would find it an interesting book to use as a source for broadening his knowledge of metallurgical methods. For those not looking for accurate detailed information, the book may be called successful. It is comprehensive in its scope and treats of all of the various processes from the extraction of the ore to the production of the many forms of iron and steel products, with a chapter on elementary chemistry and physics for the benefit of those without training in these subjects. The illustrations are many and in most cases excellent. Exception must be made, however, to the introduction of plates without descriptive text such as those of the coke ovens on pages 12 and 13; also to the careless manner in which many of the microphotographs have been trimmed.

The book is not authoritative or convincing and this is shown in many places. This deficiency is more in evidence in those portions of the book dealing with theory rather than practice. In the chapter on the elementary principles of chemistry and physics are found many loose and some inaccurate statements which may be due more to carelessness than lack of knowledge. This same statement is also true in regard to Chapter X. on