chloride solution. There is, however, a source of error connected with its use that deserves to be known.

It would seem that solution of drillings should not be accomplished by allowing to stand at rest over night, except a brisk current of air, or brisk stirring by the machine be first used to drive off free chlorine. A current of air, or brisk stirring, will drive off the chlorine before it has time to do any harm to the separated carbon.

LABORATORY OF HENRY DISSTON AND SONS' STEEL WORKS,
PHILA., PA.

NOTES.

Filtration in Determination of Crude Fiber.—All analysts of food products, or feeding-stuffs, are familiar with the difficulty which is often experienced in filtering off the acid and the alkaline extracts in the determination of crude fiber by the official method of the Association of Official Agricultural Chemists. Hence, I wish to suggest the following modification of the usual procedure, which I have found to give very satisfactory results.

Select a funnel of sufficient size to contain the entire bulk of the mixture to be filtered and fit into its point a small platinum filtering cone. Introduce enough ignited asbestos wool to fill the cone a little more than full. Upon moistening, the asbestos wool softens into a fluffy mass which may be drawn down by suction into a close firm filter. The mass to be filtered is now poured into the funnel with the usual care to avoid disturbing the asbestos layer, and suction applied. The filtrate obtained in this manner has always been found to be free of suspended particles of fiber. Filtration is very rapid except when working with finely ground flour, or spices, which tend to clog the filter and impede the flow of the filtrate. In such cases, place the funnel in an ordinary jacket of boiling water or steam, in order to secure hot filtration, transfer the entire mass to be filtered to the funnel and apply suction as usual. The filtration will then proceed at the proper temperature and without further attention from the operator, thus avoiding the two chief objections to the use of the Gooch filter as recommended by the official method. After filtration and washing are completed, transfer the contents of the funnel to a platinum dish,

rinsing the last particles of fiber from the funnel to the dish by means of a fine jet of distilled water. Evaporate off the water thus used, dry to constant weight, and complete the determination as usual.

I prefer this mode of operation to the use of a paper filter, with correction for loss of weight sustained by the paper in a blank determination, as suggested by Winton,[1] for the reason that in addition to the possibility of obtaining additional fiber from the paper used in the acid filtration, I have found that duplicate determinations of the correction to be applied do not always give concordant results, probably because of variations in the weight or composition of individual filters in any given pack of them. Hence, the correction as obtained from a blank determination may not always be a true one and a corresponding error may be introduced in the final computation.

I have used the method outlined above for several years and upon a great variety of samples, with uniformly satisfactory results. In the cases where filtration is slow it proceeds without attention from the analyst, thus relieving the tediousness of the operation very materially. This method of procedure is especially well adapted to the filtration of the glycerol-sulphuric acid mixture used in the König method for determining crude fiber, since in this case hot filtration is imperative.

R. W. THATCHER.

WASHINGTON AGRICULTURAL COLLEGE AND SCHOOL OF SCIENCE,
PULLMAN, WASH., September 18, 1902.

A Rapid Method for Separating Zinc and the Alkaline Metals from Iron.—The separation mentioned by J. W. Rothe[2] has long been used in the determination of aluminum and nickel and I find that it is equally applicable to the separation of zinc, calcium, magnesium, sodium and potassium from large percentages of iron.

Determination of Zinc.

Having the sample (thoroughly oxidized) in solution in the minimum amount of hydrochloric acid (sp. gr. 1.1), transfer to a separatory funnel, add ether and shake well for about eight

[1] Connecticut Agricultural Experiment Station Report, 1893, p. 189; also Bulletin 65, Bureau of Chemistry, U. S. Department of Agriculture, pp. 58, 154, and 155.

[2] Mittheilungen aus den Königlich. Tech. Versuchs-anstalten zu Berlin," 1892, Part III.