

With this apparatus and method of analysis sulphur in illuminating gas can be rapidly and accurately determined in a small sample of gas.

GAS INSPECTION OFFICE,  
32 HAWLEY ST., BOSTON, MASS.

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## A SYSTEM OF RECORDS FOR ANALYTICAL LABORATORIES.

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A SATISFACTORY system of records for an analytical laboratory requires that all the data concerning each sample which is analyzed shall be in one place, that this information may be easily found when needed, and that the records shall be in some compact form which can be conveniently preserved in some indestructible and fire-proof place. A further convenience is attained if the record of the sample and the results of its analysis appear together in some complete and concise form. A great saving of time and labor is insured if the records are so arranged that the terms used in recording and reporting results of analyses are in printed form, thus requiring only the filling in of the analytical numbers in their proper places. A system which embodies all these advantages was devised by the writer and has been in use in the chemical laboratory of the Washington Agricultural Experiment Station for the past two years, and has given such excellent satisfaction that a brief description of it is offered below with the idea that its use may be of very general application and advantage.

The general plan of these records is a modification of the card index system which is so universally used. A set of cards, five by eight inches in size, was obtained. On one face of each card was printed a blank form for recording the origin of the sample, its description, the date of its receipt, the date of analysis, and the signature of the analyst; and beneath this the statement of the results of the analysis. The set of cards in use in this laboratory is printed in five different forms as shown in the accompanying illustration. These forms are appropriately printed for recording analyses of "Soils," "Fertilizers," "Feeding Stuffs," "Foods" and "Miscellaneous" samples. Each form is printed on cards of a different color, a great convenience in

carrying the proper cards with their respective samples in the laboratory. The reverse side of the cards is left blank and is used for recording analytical data.

When a sample is received at the office, its description, and the laboratory number assigned to it are recorded on a card of the proper form. This card is then carried into the laboratory



and all analytical data in the form of weights, burette readings, etc., are recorded on the back of the card, together with all calculations of percentages, etc. A small box fastened to the wall near the balance case and another on the burette table serve to hold the cards when not in use and prevent their becoming soiled or injured by chemicals, etc. When the analysis is completed, the results are entered on the face of the card and the card is then filed away in a suitable filing cabinet. The filing cabinet is provided with a set of guide cards, one of which is inserted before each fifty of the record cards. The guide cards are ruled into fifty spaces, each of which contains a laboratory number and a brief description of the sample to which it is assigned. They thus serve the double purpose of regulating the assignment of laboratory numbers to samples as received and of indexing the fifty record cards which follow. This makes it easy to locate any given card for reference at any future time.

For cards printed in the form shown in the illustration a vertical filing case with vertical guide cards would be slightly more convenient than the form of cabinet in which the cards lie horizontally, although the latter form is now in use in this laboratory without any serious inconvenience. The vertical filing cases are not usually kept in stock by dealers in these supplies, and if made to order are somewhat more expensive.

For analytical laboratories other than those in agricultural chemistry, the cards should, of course, be printed in other forms than those described above. In some agricultural chemical laboratories further blank forms for "Insecticides and Fungicides," "Waters," etc., might be added with advantage. The writer would be pleased to send a sample set of his own cards to any one who is interested in the matter, or who contemplates making use of this system.

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### NEW BOOKS.

PROGRESS IN ALKALOIDAL CHEMISTRY DURING THE YEAR 1904. By H. M. GORDIN. Milwaukee, Wis.: Pharmaceutical Review Pub. Co. 1905. 94 pp. Price, \$0.70.

This is Monograph No. 10, of the Pharmaceutical Science Series edited by Edward Kremers.

Many important contributions to the chemistry of the alkaloids were reported in 1904. The constitution of ricinine was definitely established. The researches of Knorr and others resulted in throwing additional light upon the probable structure of morphine and of certain of the other opium alkaloids. Investigations of conhydrine and the coniceines brought the problem of their constitution much nearer to its final solution. The identity of lupinidine and sparteine was shown by Willstätter and his co-workers. Papaverine and cotarnine received considerable attention, and many interesting new derivatives of these bases were prepared. New characteristic color reactions for various alkaloids were reported by Reichard and others. Additional data were secured of the distribution of the various alkaloids in the plant kingdom. The only alkaloid discovered in 1904 was skimmianine, which was isolated by Honda from the leaves