certain medicines, but the references to the literature still show how large is the world's indebtedness to Germany, and German chemists may still hold important secrets in all the departments of the utilization of tar.

The book is an excellent piece of work, shows the high mechanical execution of the publishing house that issued it, and the labor that the author and his collaborators have given to its production.

HENRY LEFFMANN.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Report No. 125. General Classification of Instruments and Problems including Bibliography, by Mayo D. Hersey. 22 pages, quarto. Washington, Government Printing Office, 1922.

This report is intended as a technical introduction to the series of reports on aeronautic instruments. It presents a discussion of those subjects which are common to all instruments. In the first place, a general classification is given, embracing all types of instruments used in aeronautics. The arrangement of information dealing with these various instruments throughout the reports is then briefly indicated as a guide to the reader. Finally, a classification is given of the various problems confronted by the instrument expert and investigator. In this way the following groups of problems are brought up for consideration: First, those of mechanical design; second, human factor; third, manufacturing problems; fourth, supply and selection of instruments; fifth, problems concerning the technic of testing; sixth, problems of installation; seventh, problems concerning the use of instruments; eighth, problems of maintenance; ninth, physical research problems. This enumeration of problems which are common to instruments in general serves to indicate the different points of view which should be kept freshly in mind in approaching the study of any particular instrument.

Report No. 130. Oxygen Instruments, by F. L. Hunt. 23 pages, illustrations, diagrams, quarto. Washington, Government Printing Office, 1922.

This pamphlet contains an account of the physiological effects of the lack of oxygen at high altitudes and the amounts required to be supplied artificially to aviators under normal conditions of flight. It describes in detail the various types of aircraft oxygen apparatus which have been designed and used not only in this country, but also in England, France, and Germany. Instruments of both the compressed oxygen and liquid oxygen type are considered.

Methods of testing oxygen apparatus used at the Bureau of Standards are also fully described and the quantitative results of tests of sample instruments of different types are given.

Report No. 144. The Decay of a Simple Eddy, by H. Bateman. 7 pages, quarto. Washington, Government Printing Office, 1922.

The principal result obtained in this paper is a generalization of Taylor's formula for a simple eddy. The discussion of the properties of the eddy indicates that there is a slight analogy between the theory of eddies in a viscous fluid and the quantum theory of radiation. Another exact solution of the equations of motion of a viscous fluid yields a result which reminds one of the well-known condition for instability in the case of a horizontally stratified atmosphere.