

## NOTES.

*Notes upon the Constants of Some Little Known Oils.—*

Specific gravity at 22°.

Oil of nigella .....	0.9093
Oil of boldo leaves .....	0.9189
Oil of matico .....	1.1205
Oil of cascarilla .....	0.9116
Oil of milfoil .....	0.9217
Oil of wildmint .....	0.9942 at 20°.

Refractive index at 24° (sodium flame).

Oil of nigella .....	1.494
Oil of boldo leaves .....	1.471
Oil of matico .....	1.513
Oil of cascarilla.....	1.485
Oil of galanga .....	1.472
Oil of wildmint .....	1.487
Oil of milfoil .....	1.486

Taken with a Bertrand refractometer.

*Solubility of the Oils in 80 Per Cent. Alcohol at 22°.*

Oil of nigella not perfectly clear in 23 parts of alcohol by volume.

Oil of boldo leaves soluble in 1 or even less volumes.

Oil of matico soluble in 3½ to 4 parts by volume.

Oil of cascarilla, solution not perfect in 20 volumes.

Oil of wildmint soluble in about 1½ volumes.

The oil of wildmint rotates the plane of polarized light to the right 12.59° at 21.7°.

The quantity of these oils was very slight so that no chemical examination could be made. They were distilled by Schimmel & Co., and obtained from Fritsche Brothers, their representatives in the United States.

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## NEW BOOKS.

WATER SUPPLY (Considered principally from a sanitary standpoint). By WILLIAM P. MASON. Third edition. Rewritten. 448 pp. New York: John Wiley & Sons. Cloth. Price, \$4.00.

The first edition of this extremely useful book appeared in 1896 and was noticed at length in this Journal. The chapters relating

to methods of chemical and bacterial examination of water which were a part of the earlier edition are now omitted, as they have since been expanded and published as a separate work. Much new matter has been added, however, to this third edition, and all important recent discussions seem to have received attention. At the present time few topics are of greater public interest than are those connected with questions of water purification on the large scale. The chapter dealing with this subject is full of timely information and is quite sufficient to give the general scientific reader a good idea of various practical methods and appliances.

J. H. LONG.

NOTES ON LEAD ORES. BY JAMES FAIRIE, F.G.S. London: Scott, Greenwood & Co. 62 pp. 16mo. Price, \$1.00.

The book consists of a collection of information concerning all the lead minerals, including occurrence, hardness, specific gravity, blowpipe tests, and composition—just what is to be found in **any** standard work on mineralogy. It is well printed in large type.

E. H. M.

GAS AND FUEL ANALYSIS FOR ENGINEERS. A compend for those interested in the economical applications of fuel. BY AUGUSTUS H. GILL, S.B., Ph.D. Third edition. New York: John Wiley & Sons. 1902. iv + 104 pp. Price, \$1.25.

According to the preface the substance of this book was given in the form of lectures to students in the courses of chemical, mechanical and electrical engineering at the Massachusetts Institute of Technology, Boston.

The author discusses in an exceedingly brief and yet clear and satisfactory manner the common forms of apparatus for technical gas analysis, their manipulation and uses. The methods of taking gas samples, their analysis, the measurement of the temperature of chimney gases, the preparation of reagents, the arrangement of the gas laboratory, and the calorimetric determination of fuel values are treated in separate chapters. Useful calculations in relation to the combustion of fuels together with some valuable tables add to the merits of the book. The illustrations serve fully for the elucidation of the text. The treatment of the subject is excellent and the book can be recommended as a useful aid to students of gas analysis.

F. C. P.