THE

MATHEMATICAL GAZETTE

EDITED BY
W. J. GREENSTREET, M.A.

WITH THE CO-OPERATION OF F. S. MACAULAY, M.A., D.Sc.

AND

PROF. E. T. WHITTAKER, M.A., F R.S.

LONDON

G. BELL & SONS, LTD., PORTUGAL STREET, KINGSWAY
AND BOMBAY

Vol. VIII., No. 116.

MARCH, 1915.

1s. 6d. Net.

The Mathematical Gazette is issued in January, March, May, July, October, and December.

All correspondence concerning the *contents* of the **Gazette** should be addressed to W. J. Greenstreet, The Woodlands, Burghfield Common, nr. Mortimer, Berks.

Correspondence relative to the Mathematical Association or the distribution of the Gazette should be addressed to one of the Hon. Secretaries:—C. Pendlebury, 39 Brandenburgh Road, Gunnersbury, W; H. D. Ellis, 12 Gloucester Terrace, Hyde Park. W; Miss M. Punnett, B.A., London Day Training College, Southampton Row, W.C.

Change of address should be notified to a Secretary.

If Copies of the Gazette fail to reach a member in consequence of a change of address, of which the Secretaries have not been informed, duplicate copies cannot be supplied, except on payment of 1s. per copy

CONTENTS.

THE ANNUAL MEETING, 9TH JANUARY, 1915,	25
PRESIDENTIAL ADDRESS: MATHEMATICS IN ARTILLERY SCIENCE. By SIR GEORGE GREENHILL,	25
Addresses:	
The Teaching of Modern Analysis in Secondary Schools. By William P. Milne, D.Sc.,	30
LABORATORY WORK IN CONNECTION WITH MATHEMATICS. BY R. C. FAWDRY, M.A.,	36
AN ELEMENTARY METHOD OF FINDING CIRCLES OF CURVATURE. BY A. LODGE, M.A.,	39
Geographical Distribution of Members of the Association,	41
THE LONDON BRANCH. BY H. D. ELLIS, M.A.,	42
AUGUSTUS DE MORGAN. BY W W ROUSE BALL, M.A.,	42
MATHEMATICAL NOTES. By R. C. ARCHIBALD, M.A.; F. C. BOON, M.A.; R. F. DAVIS, M.A.; C. H. HARDINGHAM, M.A.; G. H. HARDY, F.R.S.; PERCY J. HEAWOOD, M.A.; C. S. JACKSON, M.A.; H. P.	
Rouse, M.A.,	45
The Pillory,	53
Correspondence. By D. M. Y Sommerville, D.Sc.,	53
REVIEWS. BY J. M. CHILD, M.A.; C. S. J.,	54
THE LIBRARY,	60
Books, etc., Received,	60

NOTICE.

The following Reports have been issued by the Association:—(i) "Reports on the Teaching of Elementary Mathematics," 1902-1908 (Geometry, Arithmetic and Algebra, Elementary Mechanics, Advanced School Mathematics, the Course required for Entrance Schoolarships at the Universities, Mathematics in Preparatory Schools), price 6d. net; (ii) "Revised Report on the Teaching of Elementary Algebra and Numerical Trigonometry" (1911), price 3d. net; (iii) "Report on the Teaching of Mathematics in Preparatory Schools," price 3d. net; and (iv) "Report on the Correlation of Mathematical and Science Teaching," by a Joint Committee of the Mathematical Association and the Association of Public School Science Masters, price 6d. net; (v) A General Mathematical Syllabus for Non-Specialists in Public Schools, price 2d. net. These reports may be obtained from the Publishers of the Gazette.

NOW READY. CATALOGUE of current Mathematical Journals, with the names of the Libraries where they may be found. Pp. 40. Price, 2s. 6d.