

TRANSACTIONS  
OF THE  
**Canadian Society of Civil Engineers**  
JANUARY TO JUNE, 1899.

## CONTENTS

Portrait, W. T. JENNINGS, President, 1899, Frontispiece.	
No. of Paper	PAGE
147 Sand Filtration of Public Water Supplies. By Mr. R. S. LINS, B.A.Sc., A. M. Can. Soc. C. E. ....	33
Discussion on Paper 147. By Messrs. E. MARCHAL, G. H. KEEPER, H. HERING, F. C. COFFIN, J. W. HILL, ANDREW MACPHERSON, L. SKAIFE and R. S. LINS....	78
148 Pavements in Vancouver, B.C. By Mr. A. K. STUART, A. M. Can. Soc. C. E. ....	100
Discussion on Paper 148. By Messrs. J. G. KEEPER, L. SKAIFE, J. S. VIVIAN, R. S. LINS, C. H. MCLEOD, C. LYTHORON, T. W. LEADBEAT, W. J. SPORKE, E. MARCHAL, H. IRWIN, A. K. STUART, M. J. BUTLER and W. T. JENNINGS....	113
149 The Compressive Strength of Concrete. By Ms. W. B. ANDERSON, B.Sc., Inst. Can. Soc. C. E. ....	120
Discussion on Paper 149. By Messrs. H. IRWIN and W. B. ANDERSON....	121
150 The Construction of the Main Intercepting Sewer of the City of London, Ont. By Mr. W. T. ASHBRIDGE, A. M. Can. Soc. C. E. ....	126
151 Bonding Power of Wood Screws. By Mr. W. M. MACPHAIL, B.A.Sc., Inst. Can. Soc. C. E., and Mr. T. T. IRVING, B.A.Sc., Inst. Can. Soc. C. E. ....	141
152 The Land Waterways of North-Western Canada. By Mr. GEO. H. WEBSTER, M. Can. Soc. C. E. ....	151
Discussion on Paper 152. By Mr. W. T. THOMPSON....	157

## ILLUSTRATIONS.

Plate showing Covered Filter Bed at Ashland, Wis. ....	Facing page 53
Plate showing Covered Filter Beds at Ashland, Wis., Sand in Place. ....	57
Plate showing Filter Beds and Clear Water Basin at Elton, N. Y. ....	65
Plate showing Model of Controlling the Storm-Water, London Sewage System. ....	133
Plate showing construction of steel piling and floor beams, London Sewage System. ....	134
Plate showing Flush Gates etc., London Sewage System. ....	135
Plate showing Sectional Types of London Sewerage System. ....	136
Plate showing General Plan of London Sewerage System. ....	140
Plate showing Profiles of London Sewerage System. ....	140
Plate showing Winnipegosis Superior Division, Inland Waterways of North-Western Canada. ....	186
Plate showing Manitoba Division, Inland Waterways of North-Western Canada. ....	196
Plate showing Western Division, Inland Waterways of North-Western Canada. ....	195
Plate showing Profile from Winnipeg to Fort William. ....	196
Plate showing Profile of the Assiniboin and Qu'Appelle Rivers. ....	196

## PROCEEDINGS.

Special general meeting. ....	117
Election of Members. ....	118
Memoirs of Deceased Members: Sir Casimir Stanislaus Gzowski, B.M. ....	124
Wm. Kingford. ....	124

## Montreal:

Printed for the Society by JOHN LOVELL & SON  
1899.