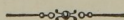


P R E F A C E .



THE production of this volume was first contemplated many years ago, and was suggested not so much by any deficiency in published information on the subject of which it treats, as by the entire absence of any English treatise on Water-Supply of extent and comprehensiveness adequate to the importance of this branch of Sanitary Engineering. It was my original intention to render the work as complete in every branch and detail as possible within the limit of forty double plates and two hundred and fifty pages of text; but the kind offers of my professional brethren to supply me with additional information resulted in the increase of the number of plates to fifty, and of the text to nearly four hundred pages, and compelled me ultimately to omit some portions I had intended to include. This, coupled with unanticipated and imperative calls to other and absorbing professional engagements, has tended to lengthen in a most unusual degree the time occupied in passing the work through the press; but it is hoped that the delay has not interfered, to any serious extent, with its completeness, nor affected its usefulness to those interested in the subjects which it comprises.

The plan of the work may thus be indicated:—Following the Introductory Historical Sketch are three chapters—embracing the Chemical, Meteorological, and Geological elements—which, together with the principles and formulæ given in the Fifth Chapter, form, as it were, the *Theoretical Division*.

The *Practical, or Constructive, Division* includes Chapters VI. to XIV., treating first of Waterworks generally, and then of their parts taken separately, namely, Wells, Reservoirs, Filter-beds, Engines and Pumps, Conduits, Mains, and the apparatus controlling the ultimate outlet of the water. A distinct chapter on Reservoirs and Filter-bed Appendages formed part of the original scheme, but in the progress of the work it was deemed advisable to embody all such information in Chapters VIII. and IX. Chapters XV. and XVI. treat of the Cost and Method of Working. Chapter XVII. is simply descriptive of the Plates.

The Waterworks most fully illustrated by the lithographic plates are those of Aberdeen, Bideford, Bombay, Canterbury, Dundee, Glasgow, Manchester, Port Glasgow, Rotherham, and Sunderland.

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An effort has been made to acknowledge in the text all previous publications whence information has been gathered, and it will not, therefore, be necessary to repeat here the names of those works or of their respective authors. I take this opportunity, however, of expressing my obligation to them.

W. H.