PREFACE

This book is the outcome of a smaller one entitled "Mill Building Construction," written in 1896 and given to the publishers in 1900. These books are based on the personal experience of the writer, covering a period of twenty years in designing and estimating buildings, bridges and other structural work, and most of their contents is from his private notes and records.

A separate part on "The Theory of Economic Design" was included in the present work because of the large amount of capital being invested in manufacturing plants. A knowledge of the possibilities and requirements should precede the design, and it is only by the exercise of such knowledge that the best results are obtained. The introduction of Part I has caused some repetition, as subjects discussed generally in this part are treated more fully in Parts III and IV on details. The repetition, however, seems necessary for clearness, as the whole contents of one part would be out of place in the other. This is particularly the case in the chapters on framing of northern light and other roofs.

The table of required wall thickness according to the building laws of different cities, is subject to change, but shows accepted practice. Before designing buildings for any of the cities mentioned, a copy of the latest ordinance should be consulted.

Chapters VI and VII, on the comparative cost of different kinds of manufacturing buildings, contain estimated costs rather than actual ones, for comparisons are then more reliable, as external conditions are considered uniform.

It was at first intended to include chapters on Graphic Statics and Calculations, after those on Loads and Framing, but these were omitted to make room for more important ones. It appears unnecessary, in a book on building construction, to occupy valuable space in reviewing mathematical methods, with which the reader is already familiar and which are fully treated in other books.

Chapters XV and XVI are purposely short, and consist chiefly of illustrations. The arrangement of members for timber framing