

**THE MATERIALS USED IN SIZING:
THEIR CHEMICAL AND PHYSICAL
PROPERTIES, AND SIMPLE
METHODS FOR THEIR TECHNICAL
ANALYSIS AND VALUATION**

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The Materials Used in Sizing: Their Chemical and Physical Properties, and Simple Methods for Their Technical Analysis and Valuation by W. F. A. Ermen

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W. F. A. ERMEN

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THE MATERIALS USED IN SIZING

THEIR CHEMICAL AND PHYSICAL PRO-
PERTIES, AND SIMPLE METHODS FOR
THEIR TECHNICAL ANALYSIS AND
VALUATION

*A Course of Lectures delivered at the Manchester
School of Technology*

BY

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PREFACE

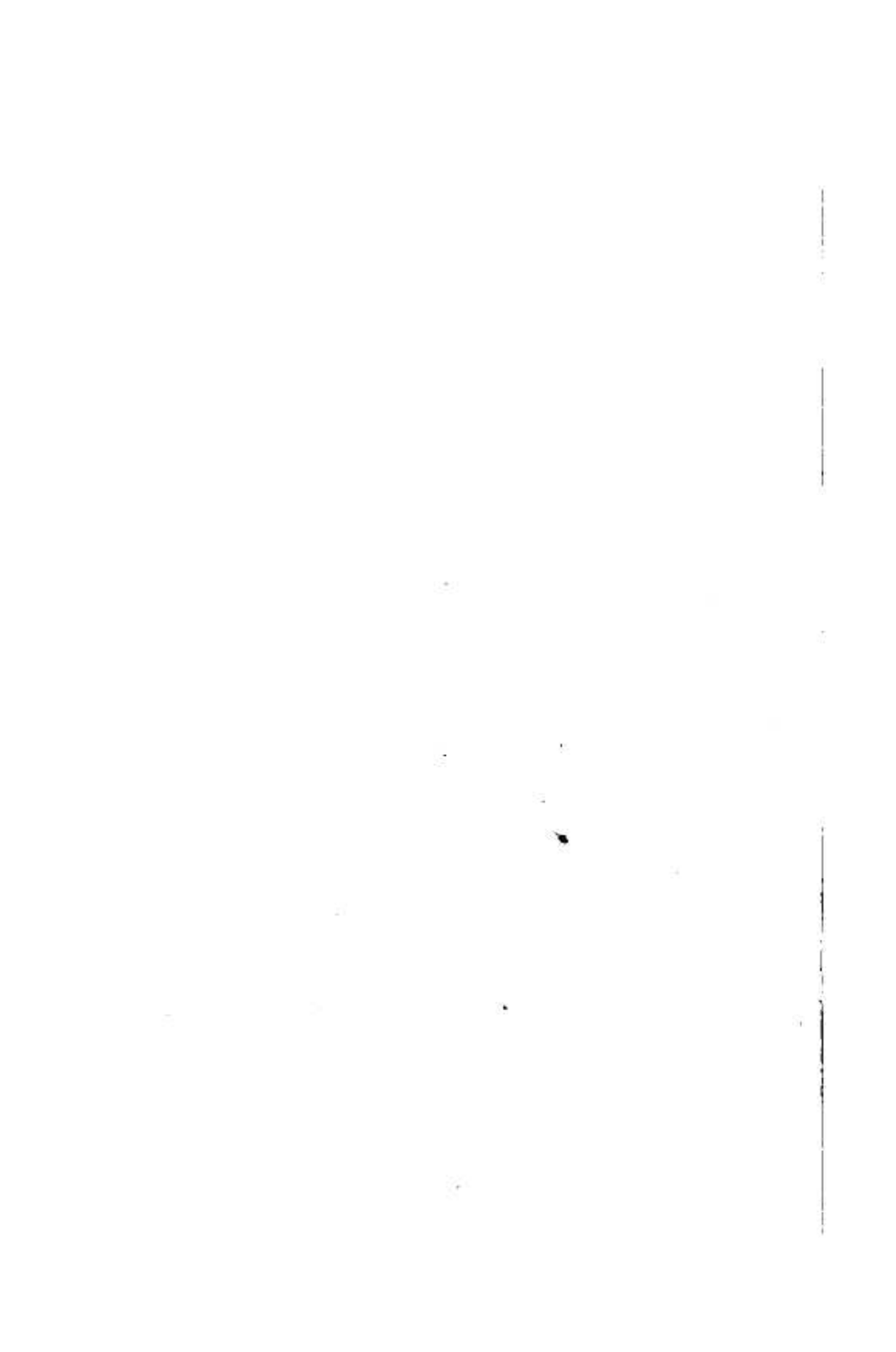
In the early part of 1911 I was asked to deliver a course of lectures during the Summer Session of the Manchester School of Technology on "The Materials used in Sizing." In these lectures I confined myself to an outline of the chemical and physical properties of the commoner sizing materials employed in the textile industry, and to such methods of analysis and valuation as could readily be carried out by the Works chemist. Many requests have since been made to me for a book covering the subjects dealt with in my lectures, and this little work has been written to meet the desire so kindly expressed.

I have to tender my sincere thanks to Mr. Charles W. Gamble for assistance in the revision of the proofs, and to Mr. G. A. E. Schwabe for the trouble he has taken in preparing the illustrations which accompany the text.

W. F. A. E.

10, MARSDEN STREET,
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THE
MATERIALS USED IN SIZING

INTRODUCTION

BEFORE entering upon a description of the materials used in sizing, and of the methods used for their analysis, it will be advisable to consider shortly the mode of construction of a piece of cloth, and the reasons for the use of sizing. If a piece of cloth be pulled to pieces, it will be found to consist of a number of threads crossing each other at right angles. The threads running the long way of the cloth form the "warp," those running across the cloth are called the "weft." In order to weave a piece of cloth, the warp threads are placed in the loom evenly wrapped upon the "beam." The thread which is to form the weft is wound into what is known as a "cop," and this is placed inside the shuttle. The warp threads are led side by side from the beam through the "healds" to the roller at the front of the loom, to which they are fastened. When the loom is set in motion, alternate warp threads are respectively pulled up and down by the healds in such a way that the shuttle with its weft thread can be shot by the picker through the space between the upper and lower threads of the warp. A comb-like structure called the "reed" now pushes the weft thread, which the shuttle has left behind it, up to the point where the warp threads