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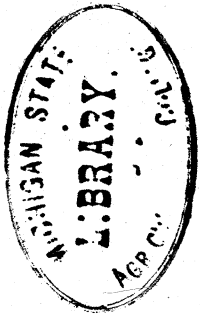
FREIGHT LOCOMOTIVE.

MODERN

MACHINE-SHOP PRACTICE

BY

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ILLUSTRATED WITH MORE THAN 3000 ENGRAVINGS

VOLUME I.

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PREFACE.

MODERN MACHINE-SHOP PRACTICE is presented to American mechanics as a complete guide to the operations of the best equipped and best managed workshops, and to the care and management of engines and boilers.

The materials have been gathered in part from the author's experience of thirty-one years as a practical mechanic; and in part from the many skilled workmen and eminent mechanics and engineers who have generously aided in its preparation. Grateful acknowledgment is here made to all who have contributed information about improved machines and details of new methods.

The object of the work is practical instruction, and it has been written throughout from the point of view, not of theory, but of approved practice. The language is that of the workshop. The mathematical problems and tables are in simple arithmetical terms, and involve no algebra or higher mathematics. The method of treatment is strictly progressive, following the successive steps necessary to becoming an intelligent and skilled mechanic.

The work is designed to form a complete manual of reference for all who handle tools or operate machinery of any kind, and treats exhaustively of the following general topics: I. The construction and use of machinery for making machines and tools; II. The construction and use of work-holding appliances and tools used in machines for working metal or wood; III. The construction and use of hand tools for working metal or wood; IV. The construction and management of steam engines and boilers. The reader is referred to the TABLE OF CONTENTS for a view of the multitude of special topics considered.

The work will also be found to give numerous details of practice never before in print, and known hitherto only to their originators, and aims to be useful as well to master-workmen as to apprentices, and to owners and managers of manufacturing establishments equally with their employees, whether machinists, draughtsmen, wood-workers, engineers, or operators of special machines.

The illustrations, over three thousand in number, are taken from modern practice; they represent the machines, tools, appliances and methods now used in the leading manufactories of the world, and the typical steam engines and boilers of American manufacture.

The new PRONOUNCING AND DEFINING DICTIONARY at the end of the work, aims to include all the technical words and phrases of the machine shop, both those of recent origin and many old terms that have never before appeared in a vocabulary of this kind.

The wide range of subjects treated, their convenient arrangement and thorough illustration, with the exhaustive TABLE OF CONTENTS of each volume and the full ANALYTICAL INDEX to both, will, the author hopes, make the work serve as a fairly complete ready reference library and manual of self-instruction for all practical mechanics, and will lighten, while making more profitable, the labor of his fellow-workmen.

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