

**A TEXT BOOK OF
GEOMETRICAL DRAWING,
FOR THE USE OF
MECHANICS AND SCHOOLS**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649066384

A Text Book of Geometrical Drawing, for the Use of Mechanics and Schools by Wm. Minifie

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

WM. MINIFIE

**A TEXT BOOK OF
GEOMETRICAL DRAWING,
FOR THE USE OF
MECHANICS AND SCHOOLS**

OPINIONS OF THE PRESS.

From the Baltimore American.

"We have examined with pleasure a very useful work, entitled, A TEXT BOOK OF GEOMETRICAL DRAWING, just published by our townsman, Mr. Wm. Minifie, Architect, and Teacher of Drawing, in the Central High School of Baltimore. The work is designed for the use of Mechanics and Schools, and has also been prepared for those who desire to instruct themselves. For this purpose, the author has taken care to employ the most simple terms in his definitions, as well as his problems, and has illustrated his lessons for drawing Buildings, Machinery, &c., with fifty-six Steel Plates, containing over two hundred Diagrams. This work is designed to supply a want which the author experienced in his course of instruction; and is the result of a well-digested plan which he found promotive of great benefit among his scholars. With a judgment that does not always accompany talent, the author has adapted his lessons to their practical application in everyday business, and thus while the scholar learns the art of Mechanical Drawing, he also learns what is equally essential, its adaptation to all useful purposes. We regard Mr. Minifie's work as one likely to confer great benefits on the rising generation, as a knowledge of what it teaches is of consequence to every one—to the mechanic who reduces the art to practice, and to the merchant or the capitalist who tests the mechanic's skill by its application to his work.

From the Baltimore Sun.

"MINIFIE'S DRAWING.—A Baltimore book of the first class. A text book designed unquestionably to take rank among the most valuable acquisitions of the art. The author exhibits in the details of the work the familiarity of a master with his subject; and, while with a dexterous hand simplifying his theme by the avoidance of technicalities as much as possible and the use of plain language, he adds to the attractiveness of the study, and lures the pupil by facilitating the way to the highest attainments in the art. It will command beyond doubt an extensive popularity."

From the Baltimore Western Continent.

"We are gratified to see a book of such sterling merit issued from a Baltimore publication house. All the externals are carefully attended to. The engravings are all on steel, executed with great neatness and precision. The paper is white, the type so clear that it is a real gratification to read it, and the binding solid and substantial. It may be thought strange that we mention such traits as these, but after reading books carelessly printed and so loosely bound that they fall to pieces on the first perusal, such advantages as we have alluded to can be better appreciated.

"To come to the subject matter of the book. The lessons are (as they should be in a text book intended to be used not only by drawing masters, but also by those who wish to teach themselves the art of Mechanical Drawing,) progressive, beginning at the simplest rudiments, and gradually advancing to the higher and more complicated problems. During every stage of his advance, the student is furnished with numerous illustrations. He is required to do nothing of which a model is not supplied; and he is taught to study these models intelligently by a very clear and copious explanation of the necessary processes required, and a full definition of all the technical terms which are applicable to the figures presented to him. Linear Drawing, the division of Angles, the formation of Polygons, the principles of Circles, the use of the various Mathematical Instruments, the construction of the different Curvilinear figures take up the early lessons. The work then passes to the consideration of Solids and their Sections, more particularly those of the Cone and the Cylinder. This, of course, completes the study of the principles of the art. The student, if he have bestowed on his lessons the necessary attention and care, has now mastered the *alphabet of drawing*.

"At this point of the course comes in the practical application of the knowledge already acquired. The rules are first applied to Building, to the laying of boards, the construction of arches, the drawing of plans and elevations of houses and the delineation of the various mouldings used in architecture. Machinery next takes its turn, and then we have a treatise on Isometrical Drawing, preparatory to Perspective. The former is, in most works on this subject, included in the latter.

"The pupil is now fully prepared to enter upon the study of Perspective. The principles of this important branch of drawing are laid down, and several examples given. We were pleased to find that Mr. Minifie has paid attention to the theory of Vanishing Points, and giving rules for determining their position, a matter too often left by writers on Perspective to the blind arbitration of chance. The theory of Shadows, which is properly a corollary to Perspective closes the volume.

"In taking leave of Mr. Minifie's book, we would heartily commend it to all persons who desire to acquire a knowledge of the important art of Mechanical Drawing. This forms a distinct and separate branch of art of the greatest practical importance to the builder, the machinist and indeed

to all artisans, who work by plans laid down on a flat surface. The want of a work on this department of Graphics, thorough and at the same time easily intelligible, has long been felt. This want we believe to be fully supplied by the volume before us, which contains all the rules necessary to make a finished draughtsman of plans and models. *He who, having thoroughly mastered this book, cannot make any of the ordinary drawings of this kind, may well despair of ever being able to accomplish such a result.*"

From the Boston Post.

"The title of this beautiful volume, does not present a sufficiently elevated idea of its character, usefulness, or outward elegance. It is, in the first place, one of the most handsomely printed works that we have ever seen, and in respect to illustrations is far superior to any scientific book which has ever come from the American press. *It is fully equal to the most expensive of the English publications of its class.*

"It is intended both for Schools and individuals without a master, and it includes, therefore, the definitions and rules of Geometry familiarly explained, and very many of the practical problems, beginning with the most simple, and embracing descriptions as void of technicalities as possible. The whole is illustrated by fifty-six Steel Plates, containing more than two hundred Diagrams. Plan Drawing, Sections and elevations of Buildings and Machinery are fully discussed and illustrated; and to these are added an introduction to Isometrical Drawing, and an essay on Linear Perspective and Shadows. The work is very intelligibly and systematically written, and we must repeat, that the illustrations are most beautifully engraved. A strong, substantial binding is a fitting finish to the internal excellence of the volume. We would call the attention of school committees and mechanics of all branches to the book under notice. It is evidently intended to be a standard one, and from what we know of the wants of both juvenile and adult students of Geometrical Drawing, is just the thing for both classes."

From the Boston Journal.

"The plan of this work is a good one—something of the kind is much wanted at this time—and so far as we are able to judge, the want is well supplied by the work before us, which is eminently practical in its character, and will be found useful to the *Mechanic, the Engineer and the Architect.* It is well adapted, not only for private self-instruction, but as a text book of drawing to be used in our High Schools and Academies, where this useful branch of the fine arts has been hitherto too much neglected."

Second Notice.

"This publication is not a new candidate for public favor. No better evidence of its utility is required, than the fact that it has, within less than one year reached its second edition. It is eminently practical in its character, and is admirably calculated to smooth the path of the youthful Engineer and Architect, to the attainment of one of the most important branches of study in his profession. We do not hesitate to pronounce it after a careful examination, a *useful and truly valuable book.*"

From the Boston Chronotype.

"An elementary practical text book on Perspective and Drawing as applied to objects of utility, such as Buildings, Machines, Surveys, &c., has been a great desideratum. All the works we have seen, are either too superficial and elementary, or too scientific and extensive. Here is one adapted to meet the wants of a large class of learners and practical mechanics, which contains all the scientific principles that are ordinarily needed, with a plenty of practical problems. To be able to use mathematical instruments and correctly to delineate any object, in true perspective, or as it actually appears, is a most useful and valuable faculty to any one, and considering the ease with which the art may be acquired with proper teaching, it is wonderful that it is not more taught. It ought to be a part of every common school education.

"A text book like this, which unites beauty, simplicity and science, bringing the most useful applications of the art of drawing within the reach of all, is truly a valuable gift to the cause of education."

From the Boston Atlas.

"*MINIFIE'S MECHANICAL DRAWING BOOK.*—This is the title of a new work issued from the press of Wm. Minifie & Co. of Baltimore. It seems to be eminently well adapted as a text book, for the use of Schools, and students in Engineering, Architecture and Mechanics. When it becomes known, it will without doubt, be extensively used in Schools and Colleges, as well as for private self-instruction."

From the Boston Daily Advertiser.

"The rules for drawing figures of every description on a plain surface, or in Perspective, by the simplest methods, are clearly given, based on mathematical principles. The definitions and descriptions have the merit of being both *precise and intelligible*, and the work appears to be well adapted as a text book for High Schools, or a practical manual for architects."

From the Boston Daily Bee.

"From the excellent manner in which the work is produced, and the high standing of its Author in the scientific world, we can with confidence recommend it to the attention of our Mechanics and Artists. No book of the kind ever went before the public with higher commendations than the one in question; and none ever won higher praise from the American Press."

From the Washington National Intelligencer.

"A TEXT BOOK OF GEOMETRICAL DRAWING.—This is the title of a work recently published in Baltimore, by an architect of established reputation there. The origin of it Mr. Minifie explains in his preface to have been in the necessities of the pupils to whom, as Professor in the High School, he gives instruction and lectures on Mechanical Drawing and the applications of Geometry, and for whom no one existing text book, furnished the solution of problems, which are of daily practical occurrence, and which, for that very reason, are apt to be passed over, as too simple for exposition by those who apply themselves to the more recondite topics of Mathematics. In this respect, Mr. Minifie has gone far to remedy the deficiency; and while he does not assume to have originated any thing new, he has presented in a small and cheap compass, and in a judicious and instructive arrangement, what otherwise had to be searched for in a dozen volumes or more. For the young Mechanic, therefore, in furnishing the rules and proportions of laying out and fitting work, this single book is a library.

"Such completeness is not purchased, either by an undesirable or unintelligible brevity; but by a sedulous restriction on the part of the author to the aim with which he set out. This was the enabling of an ordinarily intelligent Mechanic to represent on paper or on a board, either work that had been, or work that had to be executed in solid materials. Here, mere theory is unnecessary, further than to show the reasonableness of the several processes, and to assist the memory in retaining the sequence of the several steps; but distinct and literal rules, referred throughout to accompanying Diagrams, are copiously given for every thing, from the marking off a mitre-joint to the development of the metal roofing of hemispherical domes, and from the erection of a perpendicular to the Perspective Drawing of extensive buildings.

"The style and order of arrangement seems to have arisen from a practical intimacy with the subject; those difficulties are chiefly dwelt on which are likely to arise in actual working cases, and with actual workmen; and these are so treated, with minute and particular rules, accompanied with abundant and perspicuous drawings, as to render the book quite adapted to the purpose of self-instruction. Indeed, one who patiently and carefully goes through it could not be said, so far as principles and methods are concerned, any longer to want a master, while, as regards neatness of execution, the plates are quite sufficient to serve as models for the learner.

"On the whole, we have good authority for saying that so useful and so cheap a book for all who are concerned in the arts of building and design, has not appeared for a long time."

From the Washington News.

"In every department of business or condition of life drawing is not an accomplishment, but an indispensable necessity. With the inventive genius of our people, the art of drawing would be eminently useful, tending as it would, to advance the Mechanic and manufacturing arts. We esteem what is important for men to know as men, should be learned by children in school. To teachers we commend Minifie's Drawing Book; and to our hardy Mechanics who have not time to devote to the study of long mathematical demonstrations, the book will be found eminently practical and useful."

From the New York Scientific American.

"It is the best work on Drawing that we have ever seen, and is especially a text book of Geometrical Drawing for the use of Mechanics and Schools. No young Mechanic, such as a MACHINIST, ENGINEER, CABINET MAKER, MILLWRIGHT or CARPENTER, should be without it. It is illustrated with fifty-six Steel Plates, and contains more than two hundred Diagrams. The author, Mr. Minifie, shows that he is master of his subject in all its various branches, which he has illustrated with Plans, Sections, Elevations, Perspective and Linear Views of Buildings and Machinery. SUCH BOOKS—ARE BOOKS.

"The price is very moderate, considering the quality, the sterling worth and style of the work."

Second Notice—21st February, 1850.

"The first edition of this great work was disposed of in a short time, the second is now ready. The author has improved its appearance very much, while the matter stands far above any similar work ever published."

From the New York Farmer and Mechanic.

"A VALUABLE SCIENTIFIC WORK.—We cannot forbear noticing more particularly an excellently arranged, highly practical, and exceedingly valuable work recently published by Messrs. William Minifie & Co. at Baltimore, being a TEXT BOOK OF GEOMETRICAL DRAWING, and admirably cal-

culated for the use of *Mechanics, Schools and Academies*. In this work the various rules and definitions of Geometry are familiarly explained with great distinctness, and the practical problems arranged, gradually progressing from the most simple to the more complex, dispensing with the long and tedious detail of technicalities in description, so objectionable in many other works on the subject.

"The volume also contains some of the best illustrations for drawing Plans, Sections and Elevations of Machinery, and Buildings that we have seen; including an introduction to Isometrical Drawing, and an essay on Linear Perspective and shadows; and is beautifully illustrated with nearly sixty Steel Engravings. Mr. Minifie, the author, is an Architect of distinction, and a popular teacher of Drawing in the Central High School of Baltimore, and certainly in this work has given a proof of talents of a high order.

"The usefulness and capabilities of the application of the rules contained in this book, to the usual practical every-day business of life, is one of its best recommendations, and we believe its value will only require to be known, to cause it to be most extensively adopted in Schools and Colleges, as well as for private instruction. We most cheerfully commend it as a valuable acquisition to the libraries of all our mechanical readers."

Second Notice—February 14th, 1856.

"We cannot too highly recommend so useful a work to the favorable notice of those who have not yet availed themselves of an opportunity to procure the best *Mechanical Drawing Book*, which has yet been published."

From the American Rail Road Journal.

"MINIFIE'S TEXT BOOK OF MECHANICAL DRAWING.—We are happy to call the attention of our readers to this work. It is recommended by artists and gentlemen who are best qualified among us to judge correctly of its merits, as being the *most thorough and complete work of the kind ever published in this country*, and as indispensable to those whose business requires a knowledge of the principles of Geometrical Drawing or Sketching, and as a suitable guide and companion to amateurs in this delightful art. It has received universal commendation from the press, and we believe it fully merits all that has been said in its praise."

From the Eureka, New York.

"The author is well known as a teacher of Architectural and Mechanical Drawing in Baltimore, and has in this produced a work treating of the principles of Geometry applicable in drawing, the use of instruments, &c. The book contains also an excellent introduction to the principles of Isometrical drawing, of linear perspective and shadows. All the subjects treated, are copiously illustrated by fine steel engravings, and so described that those seeking this kind of instruction, by their unassisted exertions, will find here a valuable treatise. It is got up in a style highly creditable to the publishers."

From the Philadelphia Public Ledger.

"This will be found a most excellent text book, by an accomplished teacher of Architectural and Mechanical Drawing. The problems are all selected with a view to their practical application in the every-day business of the Engineer, Architect and Artizan.

From the Pennsylvania Inquirer.

"One of the most comprehensive works of the kind ever published, and cannot but possess great value to Builders. The style is at once elegant and substantial."

From the Philadelphia North American.

"The volume before us forms the second edition of the original octavo, which we spoke of in high terms at its first appearance a year ago. We feel very safe in renewing our praise. The work is a valuable one, full and scientific, yet adapted peculiarly to the purposes of practical men."

From McKin's Model Journal, April 7.

"It is, indeed, in all respects, a very excellent and a very timely book."

From the Richmond Daily Whig.

"We regard it as a book evincing great thoroughness in the subject on which it treats; one which must supply a deficiency which has long been felt, and one which must prove an invaluable assistant, either to the theoretical teacher or the practical artizan. It is a book also for self-instruction. The drawings are very numerous, and the plates admirably executed."

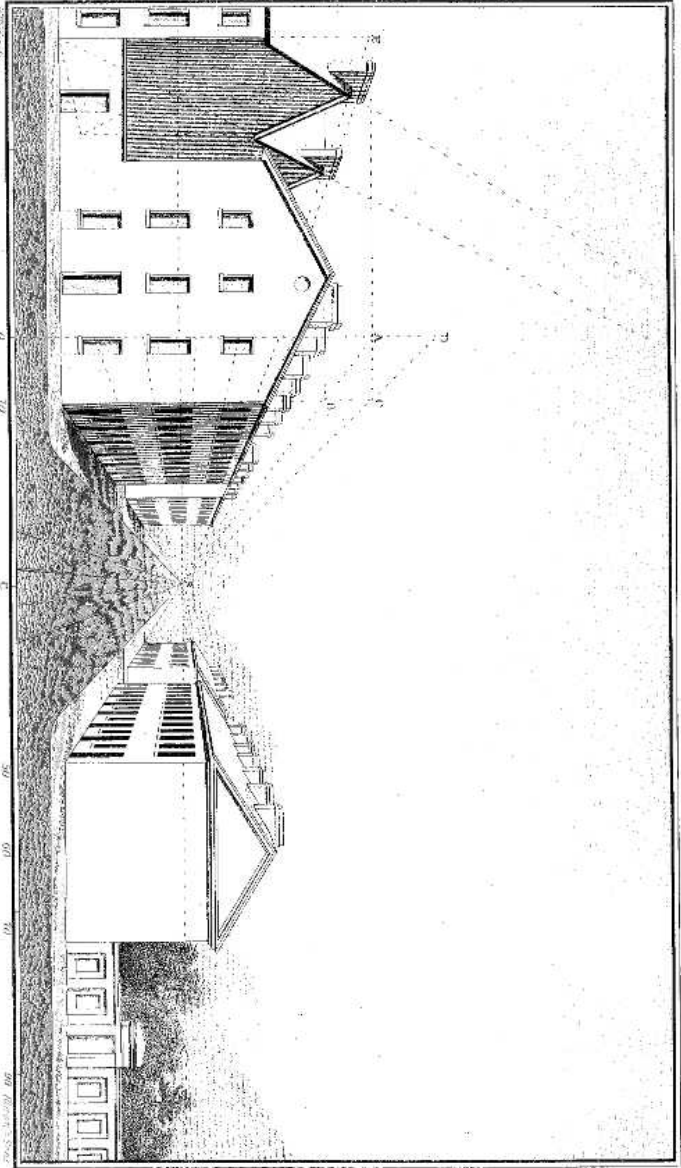


Plate 54
PERSPECTIVE

A
TEXT BOOK
OF
GEOMETRICAL DRAWING,
FOR THE USE OF
Mechanics and Schools,

IN WHICH

THE DEFINITIONS AND RULES OF GEOMETRY ARE FAMILIARLY EXPLAINED, THE PRACTICAL PROBLEMS ARE ARRANGED FROM THE MOST SIMPLE TO THE MORE COMPLEX, AND IN THEIR DESCRIPTION TECHNICALITIES ARE AVOIDED AS MUCH AS POSSIBLE;

WITH ILLUSTRATIONS FOR DRAWING PLANS, SECTIONS AND ELEVATIONS OF

BUILDINGS AND MACHINERY:

AN

INTRODUCTION TO ISOMETRICAL DRAWING,

AND AN

ESSAY ON LINEAR PERSPECTIVE AND SHADOWS:

THE WHOLE ILLUSTRATED WITH
FIFTY-SIX STEEL PLATES,

Containing over Two Hundred Diagrams.

BY

WM. MINIFIE, ARCHITECT,

AND

TEACHER OF DRAWING IN THE CENTRAL HIGH SCHOOL OF BALTIMORE.

THIRD EDITION.

PUBLISHED BY WM. MINIFIE & CO.
NO. 114 BALTIMORE STREET,
BALTIMORE.

1851.