

**ELEMENTS OF DESCRIPTIVE GEOMETRY:  
WITH APPLICATIONS TO ISOMETRIC  
PROJECTION AND  
OTHER FORMS OF ONE-PLANE  
PROJECTION; A TEXT-BOOK FOR  
COLLEGES AND ENGINEERING SCHOOLS**

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Elements of Descriptive Geometry: With Applications to Isometric Projection and Other Forms of One-Plane Projection; A Text-Book for Colleges and Engineering Schools by O. E. Randall

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**O. E. RANDALL**

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# ELEMENTS OF DESCRIPTIVE GEOMETRY

WITH APPLICATIONS TO  
ISOMETRIC PROJECTION AND OTHER FORMS OF  
ONE-PLANE PROJECTION

*A TEXT-BOOK FOR COLLEGES AND  
ENGINEERING SCHOOLS*

BY

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## PREFACE

The aim of this treatise is to make a clear presentation of the theory of projection, to show the application of this theory as a medium of expression, and by the discussion and proof of a great variety of problems to enable the student to make a ready and intelligent use of this medium in the representation of all forms of magnitudes.

As by far the greater part of practical drafting is done from the standpoint of the third quadrant, there seems to be no good reason why the principles of descriptive geometry, which are so directly and extensively applied in practice, should not also be presented from the standpoint of the same quadrant.

Therefore, while the student is called upon to work freely in all the four quadrants, the subject-matter is presented primarily from the third quadrant.

In the establishment of principles great effort is made to be explicit; but in the application of these principles, for which purpose a great many unsolved problems are assigned, the student is left largely to his own resources.

As the principles of projection are fundamental in all branches of drafting, it follows that no attempt at extensive application of these principles in such subjects as machine drawing, gearing, architectural drawing, etc., should be made until the principles themselves have been thoroughly established. For this reason the attention of this work is largely confined to theoretical considerations, although a number of simple practical applications such as the student can safely and intelligently make are introduced.



Free use is made of profile and other supplementary planes of projection.

Isometric projection and other forms of one-plane projection are treated as applications of descriptive geometry.

It is hoped that the system of notation which is introduced will be found both simple and expressive; and that the method of locating given parts which may be employed in the assignment of work in the recitation room and in the drafting room will be found useful.

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