

TRIANGULATION

Applied to Sheet Metal Pattern Cutting

A Comprehensive Treatise for Cutters, Draftsmen, Foremen and Students; Progressing from the simplest phases of the subject to the most complex problems employed in the development of Sheet Metal Patterns; With practical solutions of numerous problems of frequent occurrence in sheet metal shops.

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Illustrated by means of 124 engravings in line and half-tone, including many reproductions of photographs of sheet metal models, made expressly for this work.

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Preface

The great and increasing demand for irregular forms to be made from sheet metal has made Triangulation an important factor in Sheet Metal Pattern Development. This has induced the writer to lay before the sheet metal worker, a work designed for the purpose of enabling him to acquire a thorough understanding of this branch of Pattern Cutting.

Triangulation has in many instances been a subject of more or less mystery. However, from a study of Geometrical works, we conclude that its secrets have long been known.

Few, if any writers upon Sheet Metal Pattern Development have seen fit to interpret it in a manner which affords the average worker an opportunity of grasping its underlying principles. The universal practise of most writers upon this subject has been to lay before the student worked out examples to be copied, little or no attempt being made to convey an understanding of the principles employed, which is of the utmost importance.

No amount of time devoted to copying Chinese characters would enable one to understand them, nor will any amount of time consumed in copying pattern demonstrations enable one to understand the use and purpose of lines there found.

In all examples of pattern development lines are presumed to be upon the surface of the object. Upon determining the lengths of said lines, and the distances

they are from each other, we are enabled to place them upon the plane of development in their proper lengths and relative positions, thereby securing points through which lines are traced which represent the boundaries of the required pattern.

There is a great sameness in the principles and methods which may be applied to many examples. In other words, if we grasp the reason for, and the use of each and every line in one problem, we are prepared to use those same principles and methods for all.

Forms which must be treated by Triangulation are such that the rectilinear elements of their surfaces are neither parallel or convergent lines. Therefore to determine their lengths we must assume a supplementary plane for each, or employ the right angled triangle. To secure their relative positions, we must presume that the surface of the object is divided into triangles.

Some idea of Orthographic Projection will be of service to the one who aspires to become proficient in this branch of pattern development, although the solving of a great number of the more common problems is but a simple operation.

This work is submitted with every confidence that if attention is devoted to the subject matter enclosed, one will be enabled to more clearly understand the principles involved in Triangulation as Applied to Sheet Metal Pattern Development.

F. S. K.