

INDEX

	PAGE.
Additional Lines, Introduction of.....	180
Advice to Obtain a Clear Understanding.....	33
Answer to Interesting Question.....	124
Appearance of Diagrams, Variation In.....	81, 83
Application of the So-Called Rule of Thumb.....	158
Application of Triangulation to Sheet Metal Pattern Cutting.....	3
Avoiding Error in Transferring Circumferences.....	66
Breaks and Bends.....	168
Capacity of a Fitting, to Preserve.....	56
Capacity of Fitting Decreased.....	56
Characters to Designate Points in a Pattern Problem.....	60
Circumference of a Circle and Its Diameter, Ratio Between.....	66
Circumference of Any Circle Whose Diameter is Given, to Determine	66
Circle and Its Diameter, Ratio Between the Circumference Of.....	66
Circle, Divided Into Parts, Compared With a Polygon.....	12
Circle, Dividing Into a Number of Parts.....	12, 103
Circles, Division Of.....	132
Common Error.....	241
Comparing the Cone and Pyramid.....	234, 244
Complete Plan; When It Is Required.....	137
Complex Problem, Reducing to Its Simplest Form.....	126
Conception of Object.....	61
Conception of Object Secured From Its Specification.....	25
Cone, Projection of a.....	235
Cone, True Form of the Section Of.....	238
Cone and Pyramid, Comparison Of.....	234, 244
Cone in Plan and Elevation, to Represent Point Upon Surface Of..	235
Confusion of the Novice.....	73
Conic Sections.....	234
Conical Surface Which Has a Slight Taper, Developing.....	243
Construction of a Problem, Lines Used in the.....	73
Cutting Planes.....	176
Cutting Planes, Positions Of.....	176
Cylindrical Surface, Elements of The.....	117
Definition of a Plan.....	19, 259
Definition of Triangulation.....	3

Developing the Conical Surface Which Has a Slight Taper.....	243
Development of a Pattern; What It Rests Upon.....	44
Difference in Thickness of Material.....	254
Difficulty Experienced by a Novice.....	25
Distance Through a Cone From a Given Point.....	238
Distortion; When It May Be Introduced.....	123
Dividing Diagrams Which Represent the Ends of the Object.....	38
Division of Circles.....	132
Drawing a Plan, Principles Which Govern the Work Of.....	34
Drawing an Ellipse.....	104
Drawing an Ellipse by Projection.....	102
Drawing Outfit Required.....	77
Elements of a Surface.....	42
Elements of the Cylindrical Surface.....	117
Elevation of a Point.....	71
Ellipse.....	235
Ellipse, Method of Drawing.....	104
Ellipse, When to Draw.....	153
Example for Practice, An Excellent.....	33
Experiment, An Interesting.....	146
Experiment Suggested.....	119
Factor Important in Pattern Development.....	106
Finding True Lengths as the Work Progresses.....	121
First Angle Projection.....	72
Fitting; When It Is to Be Made in Two Equal Halves.....	118
Fitting; When It Is to Be Made in Unequal Halves.....	118
Fittings, Forms Of.....	57
Form Frequently Demanded.....	50
Form of the Oblique Section of a Cylinder.....	103
Form of the Two-Pronged Fittings at the Junction of Its Prongs..	201
Forms Secured From the Right Cone.....	234
He Who Is Best Prepared to Simplify a Pattern Problem.....	253
Helicoid.....	146
Horizontal Plane of Projection.....	69
Hyperbola.....	235
Identical Patterns Developed From Two Sets of Diagrams.....	83, 90
Instances Where the Operator Was Unable to Solve His Problem..	241
Instructive Example.....	58
Intermediate Section of a Fitting, To Provide the Form For.....	151
Intersecting Line.....	69

INDEX.

265

	PAGE.
Intersecting Surfaces.....	174
Intersecting Surfaces, Positions Of.....	176
Introducing Intersecting Surfaces.....	174
Isosceles Triangles.....	234
Lengths of Fittings.....	56
Line in Plan or Elevation; What It May Represent.....	76
Line of Penetration.....	174
Lines Demanded in Orthographic Projection.....	8
Lines Used in the Construction of a Problem.....	73
Locating Lines Which Divide the Surface of the Object Into Triangles	86, 196
Locating Point in Space From Its Plan and Elevation.....	209
Locating Points in Plan.....	19
Location of Triangles Upon the Surface of an Oblique Cone.....	22
Logical Deductions.....	28
Mechanical Method of Securing Patterns.....	129
Minimizing Distortion in a Two-Pronged Fitting.....	200
Miter Line, Looked Upon as the Edge View of a Plane.....	117
Miter Lines and Fittings, Positions Of.....	107
Numbering Points and Lines.....	32
Oblique Cone Employed in a Two-Pronged Fitting.....	201, 208
Oblique Plane, Supplementary Use of The.....	104
Oblique Planes Illustrated.....	78
Oblique Planes, Supplementary.....	78
Oblique Section of a Cylinder, Form of The.....	103
One Line in Elevation: When It Becomes the Elevation of Two Lines Upon the Surface of the Object.....	140, 205, 239
One Line in Elevation; When It Represents Two Upon the Surface of the Object.....	123
Order of Numbering Points and Lines.....	32
Orthographic Projection, Lines Demanded In.....	8
Orthographic Projection, Principles Of.....	67
Orthographic and Scenographic Projection Compared.....	43
Parallel Form Introduced.....	195
Parallelogram, To Draw a.....	5
Path of Lines Drawn Upon a Pattern.....	47
Pattern Cutting, Obtaining Proficiency In.....	253
Pattern Development, Necessity for Lines In.....	49
Pattern Problem Simplified.....	49
Pattern, Simple, Secured by the Use of Paper.....	6

	PAGE.
Pattern, Securing by a Mechanical Method.....	129
Patterns, Identical, Developed From Two Sets of Diagrams.....	83, 90
Perspective, The Value Of.....	28
Plain Triangle, To Draw a.....	4
Plan and Elevation Curtailed.....	190
Plan and Elevation, Relative Position of The.....	72
Plan and Elevation: Where They May Be Dispensed With.....	144
Plan Defined.....	19
Plan Drawn From a Conception of the Object.....	25
Plan Drawn to Given Dimensions.....	13
Plan of a Point.....	71
Plan, Where It Becomes Unnecessary.....	149
Planes of Projection, Reference to The.....	82
Planes of Projection, Relative Positions of The.....	178
Planes of Projection, Vertical and Horizontal.....	69
Points in a Pattern Problem, Characters to Designate.....	60
Points in Plan, Locating.....	19
Point in Plan or Elevation: What It May Represent.....	75
Points, Increasing Number of to Promote Accuracy.....	132
Point Upon Surface of a Cone in Plan and Elevation, To Represent..	235
Point Which Is Often Overlooked.....	125
Popular Demand, Endeavor, Made to Satisfy.....	113
Positions of the Object.....	83
Position of the Object in Space.....	70
Position of the Object in Space as Regards the Planes of Projection..	71
Positions of Cutting Planes.....	176
Positions of Intersecting Surfaces.....	176
Positions of Miter Lines in Fittings.....	107
Positions Taken for Plans, Elevations and Sections.....	72
Proficiency in Pattern Cutting, Obtaining.....	253
Profile	98
Profile Plane.....	77, 117
Profile Plane, Use Of.....	78
Principles Involved, Necessity of a Clear Conception.....	18
Principles of Orthographic Projection.....	67
Problem; Simplifying or Complicating.....	176
Projecting Lines of a Point.....	71
Projection Compared, Scenographic and Orthographic.....	43
Projection of a Cone.....	235
Projection of a Point.....	68

	PAGE.
Proof in the Form of the Developed Triangles.....	101
Properties of the Right Cone.....	233
Proving Our Work.....	185
Qualifications to Make a Successful Pattern Cutter.....	252
Ratio Between the Circumference of a Circle and Its Diameter.....	66
Reducing a Complex Problem to Its Simplest Form.....	126
Relative Position of the Plan and Elevation.....	72
Relative Positions of the Planes of Projection.....	178
Representation of a Point Upon the Vertical and Horizontal Planes..	71
Representation of the Object Upon the Vertical and Horizontal Planes	74
Representations of Objects; What They Are Composed Of.....	70
Revolution of the Planes.....	72
Right Angled Triangles; When They Are Shown in Plan.....	101
Right Cone, Forms Secured From.....	234
Right Cone, Properties Of.....	233
Rule of Thumb, Application Of.....	158
Scale Drawings, Use Of.....	253
Scenographic and Orthographic Projection Compared.....	43
Section of Cone, True Form Of.....	238
Section of Fitting; When It Approximates a Semi-Ellipse.....	215
Securing Patterns by a Mechanical Method.....	129
Simplifying the Work.....	176
Study Required to Conceive the Forms Whose Patterns May Be Developed	33
Suggestions Upon Tapering Elbows.....	134
Supplementary Oblique Plane, Use Of.....	104
Supplementary Oblique Planes.....	78
Surface Upon Which a Plan Is Drawn.....	19
Surface Upon Which the Object Is Represented.....	68
Tapering Elbows, Suggestions Upon.....	134
Templet: Where It May Be Utilized.....	154
Thickness of Material, Difference In.....	254
Things to Be Remembered.....	178
Transferring the Exact Circumference of a Circle to the Pattern....	66
Triangles Involved in Triangulation.....	3
Triangles Upon the Surface of an Oblique Cone, Location Of.....	22
Triangulation, Definition Of.....	3
Triangulation Applied to Sheet-Metal Pattern Cutting.....	3
Trouble Experienced by Many Pattern Cutters.....	252
True Form of the Section of a Cone.....	238

	PAGE.
True Length of a Right Line in Space.....	3
Two Equal Halves of the Pattern; When They Must Be Formed in Opposite Directions	206
Two-Pronged Fitting, Form of At the Junction of Its Prongs.....	201
Two-Pronged Fitting, Suitable Proportions For.....	200
Undevelopable Surface, An.....	147, 160
Variation in Appearance of Diagrams.....	81, 83
Variation in Our Line of Reasoning.....	210
Vertical and Horizontal Planes of Projection.....	69
Warped Surface.....	146
Whole Object; When It Must Be Represented.....	61