

Copy of a printed diagram referenced as "Glide plane and screw axis"

Contributors

Fuller, Watson, 1935-

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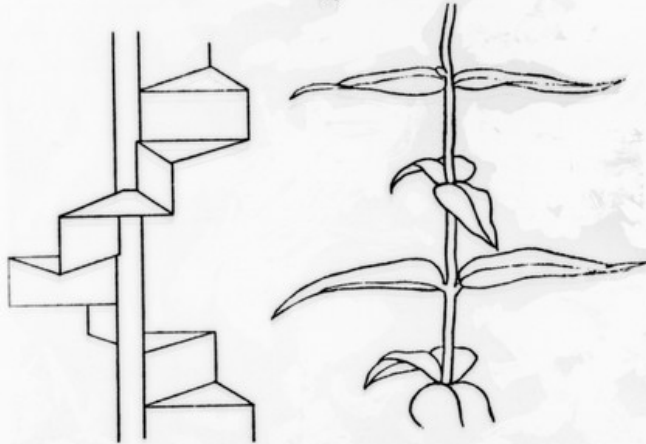
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a small asymmetrical collection of glass beads and other objects, and so convert it into a symmetrical pattern.

New symmetry operations are possible in a space-group which have no place in the operations of a point-group. There



6₁ Screw Axis (Spiral Staircase)

4₂ Screw Axis (Penstemon)
(b)

Examples of glide planes and screw axes. (a) Pattern based upon glide plane. (From *Line and Form*, Walter Crane.) (b) Examples of screw axes

may be *glide planes* as well as reflection planes, and *screw axes* as well as rotation axes. A glide plane is such that the structure is brought into coincidence by reflection across the plane, and a simultaneous movement of translation parallel to the plane. Many designs are arranged on this principle, such as the pattern

in fig. 57 (a). The translation is half that of neighbouring P reflections and translation space-lattice. The operation through an angle $2\pi/n$, and to the axis. A common or the steps of a spiral staircase symmetry (fig. 57 (b)). equivalent to a translation operations are possible, be

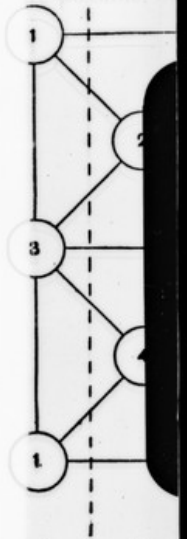


FIG. 58.—Structure of

not be finally brought back of a point-group operation another cell of the lattice.

If the space-group contains planes or glide planes, a single reflection plane parallel to the glide plane is of atomic symmetry of the crystal. rotation axes or screw axes a rotation axis in the point