



Fig. 465.00 Note that the eight triangular faces of the vector equilibrium are disposed about four-sided openings, i.e. square faces. It is possible to arrange 20 triangles in similar fashion around five-sided openings, i.e. pentagons. The shape is the icosadodecahedron. When a model is constructed with 20 spokes, i.e. ten axes, meeting at its center, which pass through the centers of each triangle, an unexpected behavior results. In the vector equilibrium model the triangles will rotate and contract towards its center, however, with the icosadodecahedron the entire structure remains fixed. It is not capable of contraction due to the fact that there is an odd number of triangles surrounding each opening. The diagrams show clearly why this is so. Any odd-numbered array of interlocked gears will not be free to rotate.