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(54) Title: **HELICAL CUTTING INSERT WITH OFFSET CUTTING EDGES**

(57) Abstract

A cutting insert (20) for use in a rotary milling tool (10) is provided. The cutting insert (20) includes an insert body including a bottom face (22), a top face (24) and a side face (26). A stepped cutting edge (20) is formed at the intersection of the top face (24) and the side face (26) for engaging a workpiece and removing a chip from it. The stepped cutting edge includes at least two offset edge portions (30a-c) which produce distinct, transversely-spaced chip segments during the cutting operation. The offset edge portions (30a-c) are connected by transition edge portions (30d-e) which are disposed at an obtuse angle with respect to the offset edge portions. The angle of the transition edge portions tends to spread the individual chip segments apart during the machining operation to effect a thinning of the chip between the individual chip segments. The entire cutting edge is helically curved so that the cutting edge lies on the surface of a circumscribing cylinder defined by the rotation of the cutting edge about the axis of the milling cutter.

