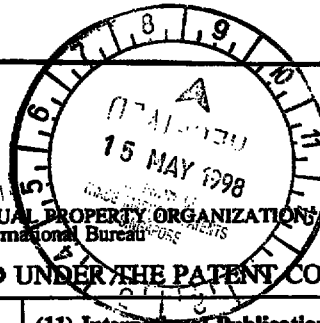


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(71) Applicant: KENNAMETAL INC. [US/US]; P.O. Box 231, Latrobe, PA 15650 (US).		
(72) Inventors: OSHNOCK, Robert, E.; 5917 Oxford Green Drive, Apex, NC 27502 (US). ERICKSON, Robert, A.; 1005 Pebble Brook Drive, Raleigh, NC 27609 (US).		
(74) Agents: PORCELLI, James, G. et al.; Kennametal Inc., P.O. Box 231, Latrobe, PA 15650 (US).		Published With international search report.

(54) Title: CUTTING TOOL WITH INSERT CLAMPING MECHANISM

(57) Abstract

A cutting tool assembly (1) clamping mechanism (5) which secures a cutting insert (3) for performing cutoff, grooving, slotting, and profiling operations. The clamping mechanism (5) has resilient upper and lower clamping jaws (7, 9) for receiving and securing the insert (3). The cutting insert (3) has front and top faces (13, 15) that define a cutting edge (21) at an intersection thereof, a back face (25), and adjacent proximal and distal bottom faces (27, 29) contiguous with said front and back faces (13, 25) that define an angular lower seating portion (30). The lower clamping jaw (9) of the clamping mechanism (5) includes proximal and distal pocket surfaces (59, 67) forming an angularly recessed jaw portion that is complementary in shape to the angular seating portion (30) of the insert (3). The distal pocket surface (67) of the lower clamping jaw (9) is oriented with the proximal pocket surface (59) to form a stop for limiting the extent that the insert (3) may be received between the clamping jaws (7, 9). This orientation further redirects a component of the cutting force (F) on the insert (3) toward the top face (15) thereof in order to wedgingly engage the top face (15) of the insert (3) against the top pocket surface (45) of the upper clamping jaws (9), thereby enhancing the clamping force that the jaws (7, 9) apply to the insert (3).

