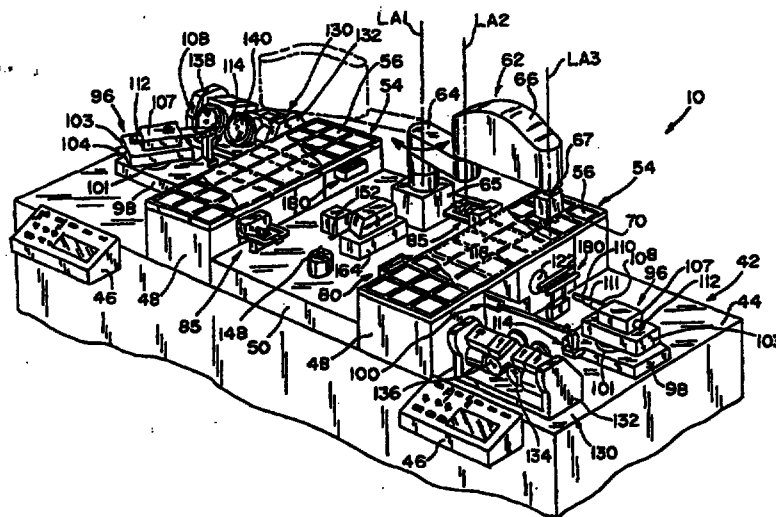


**PCT**WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : B24B 49/00, 51/00, B07C 5/36	A1	(11) International Publication Number: / WO 99/59777 (43) International Publication Date: 25 November 1999 (25.11.99)
(21) International Application Number: / PCT/US99/06020 (22) International Filing Date: 19 March 1999 (19.03.99) (30) Priority Data: 09/082,590 / 21 May 1998 (21.05.98) / US (71) Applicant: TYCOM CORPORATION [US/US]; 17682 Fitch, Irvine, CA 92714 (US). / (72) Inventors: MORTELL, Paul; 6315 Sequoia Circle, Eden Prairie, MN 55346 (US). HOANG, Chi, Khai; 13201 Dean Street, Tustin, CA 92680 (US). MCELDRONE, David, M.; 400 Mahoney Drive, San Jose, CA 95127 (US). ERPENBECK, Gary, P.; 26532 Meadowcrest, Laguna Hills, CA 92653 (US). FRANDSEN, Walter, J., Jr.; 7467 New Salem Street, San Diego, CA 92126 (US). SLEMON, Charles, S.; 1060 Olive Crest Drive, Encinitas, CA 92024 (US) / (74) Agent: STETINA, Kit, M.; Stetina Brunda Garred & Brucker, 4th floor, 24221 Calle de la Louisa, Laguna Hills, CA 92653 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published With international search report.

(54) Title: AUTOMATED DRILL BIT RE-SHARPENING AND VERIFICATION SYSTEM ✓



(57) Abstract

A completely automated apparatus for verifying the identity and geometry of drill bits, re-sharpening the cutting tip (12) of a drill bit (16) and re-positioning a locating ring (22) upon the shank portion of the drill bit subsequent to the re-sharpening of the cutting tip thereof. The apparatus comprises a housing (42) having a pair of cassette trays (54), a pair of grinding assemblies (130), a pair of optical assemblies (118), a pair of primary cleaning assemblies (18), a pair of secondary cleaning assemblies (180), a pair of inversion assemblies (85), a pair of workhead assemblies (96), a bumping assembly (146), and a loader assembly (62) attached thereto. The workhead (96) and loader (62) assemblies are used to transport drill bits (16) between the cassette trays (54) and other assemblies in a selected sequence which is controlled and coordinated by a programmable control device (46). The control device (46) is electrically interfaced to each of the assemblies and allows the cutting tip re-sharpening and locating ring re-positioning processes to be conducted simultaneously on at least two drill bits.