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(71) Applicant and

(72) Inventor: KIM, Yong, W. [US/US]; 15796 Caminito La Torre, San Diego, CA 92128 (US).

(74) Agent: DELANEY, James, P.; Delaney IP, Post Office Box 9542, Rancho Santa Fe, CA 92067 (US).

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(54) Title: PNEUMATIC HANDHELD MEDICAL DEVICE WITH REDUCED NOISE

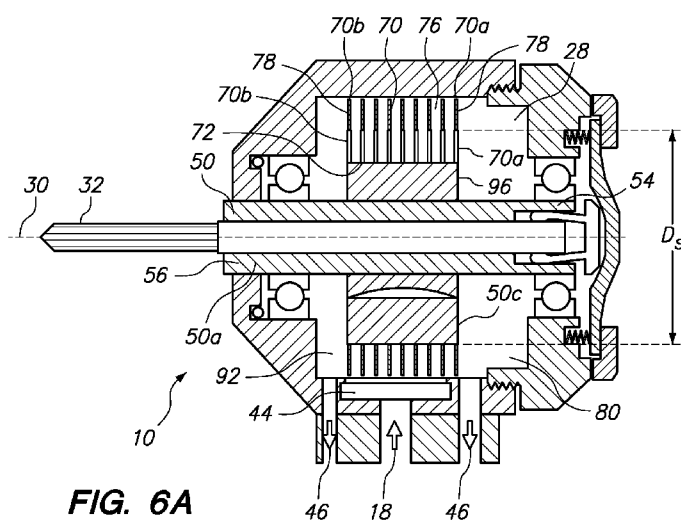


FIG. 6A

(57) Abstract: A handheld pneumatic medical device, such as a dentist handpiece, is provided for rotating a bur about an axis. Importantly, the device utilizes the boundary layer effect to transfer energy from the fluid flow to rotation of the bur. As a result, the device is operated without creating high decibel noise. Structurally, the device includes a housing defining a chamber, and a hub mounted for rotation in the chamber. When engaged with the hub, the bur passes through a distal aperture in the housing. The housing is further provided with a port for introducing a fluid into the chamber substantially tangential to the axis. Also, the device includes disks connected directly or indirectly to the hub and substantially perpendicular to the axis. Operationally, boundary layer effect forces between the fluid flow and the disks cause the hub and the bur to rotate about the axis.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/042351

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61C 1/05 (2009.01)

USPC - 433/132

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - A61C 1/05 (2009.01)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PatBase

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ---	GB 1,034,867 A (OMARK AIR CONTROLS INC) 06 July 1966 (06.07.1966) entire document	1-3, 5-12
Y		4, 13-18, 20
Y	US 3,844,113 A (LOCKWOOD JR) 29 October 1974 (29.10.1974) entire document	4
Y	WO 01/02701 A1 (GIRGIS) 11 January 2001 (11.01.2001) entire document	13-18, 20

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Authorized officer:

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PCT Helpdesk: 571-272-4300

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