The United States of America



Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.

2. Toda Tychimi

Acting Commissioner of Patents and Trademarks

Dandra I Mortan



US005868533A

United States Patent [19]

Fiala

[56]

Patent Number: [11]

5,868,533

Date of Patent: [45]

Feb. 9, 1999

[54]	FINISHING TOOL FOR PRECISION	966,925	8/1910	Kittredge 285/361
	MACHINING OF HOLES	981,866	1/1911	Lockhart 285/361
		1,766,136	6/1930	Markstrum 279/93
[76]	Inventor: Stanislav Fiala, Josefy Fajmonove 2,	2,057,143	10/1936	Gairing 279/93
	628 00 Brno, Czech Rep.	2,299,357	10/1942	
	SCHOOL SCHOOL SCHOOL SEE HER SCHOOL SEE SEE SCHOOL SEE	2,337,402	12/1943	Mills 279/83
[21]	Appl. No.: 776,999	4,995,768	2/1991	Craft 408/239 A
[22]	PCT Filed: Jul. 27, 1995	5,090,488	2/1992	Cotton 408/226
[22]	1 C1 Flied. Jul. 27, 1993	5,397,196	3/1995	Boiret et al 403/348
[86]	PCT No.: PCT/CZ95/00015			
	§ 371 Date: Mar. 21, 1997	FOREIGN PATENT DOCUMENTS		
	\$ 102(a) Date: Man 21 1007	0508468	1/1994	European Pat. Off
	§ 102(e) Date: Mar. 21, 1997	90134	3/1990	Japan 403/348
[87]	PCT Pub. No.: WO96/04089			
	PCT Pub. Date: Feb. 15, 1996	Primary Examiner-Steven C. Bishop		
[30]	Foreign Application Priority Data	Attorney, Agent, or Firm-Dvorak & Orum		
Aug	g. 1, 1994 [CZ] Czech Rep PUV 2737-94	[57]	9	ABSTRACT
[51]	Int. Cl. ⁶ B23B 51/00; B23B 31/113	Finishing tool for precision machining of holes includes a chuck unit having a driving head and a replaceable cutting element which includes at least one cutting blade and a cylindrical support shaft that is provided with a drive pin projecting from the supporting shaft. The supporting shaft		
[52]	U.S. Cl			
Date: will	403/349			
[58]	Field of Search 408/226, 239 R, 408/239 A; 279/93, 97, 904; 403/348, 349;			

285/360, 361, 396

References Cited

U.S. PATENT DOCUMENTS

3 Claims, 2 Drawing Sheets

return movement prevention device.

being is inserted into a cylindrical hollow of the driving head

and the drive head includes a support groove for receiving the drive pin, while the pin is retained by a spring-loaded

