

Title (en)  
METHOD OF MANUFACTURING A PIPE TYPE BALL-POINT PEN TIP

Title (de)  
VERFAHREN ZUM HERSTELLEN VON RÖHRCHENKUGELSCHREIBERSPITZEN

Title (fr)  
PROCEDE DE FABRICATION D'UNE POINTE TUBULAIRE DE CRAYON A BILLE

Publication  
**EP 1074402 A1 20010207 (EN)**

Application  
**EP 00903964 A 20000216**

Priority  
• JP 0000849 W 20000216  
• JP 4092499 A 19990219

Abstract (en)  
A method of manufacturing a tubular ballpoint pen tip (10) with not only a ball seat but also an ink hole (40) of constant sizes by cutting is provided. The inner wall of a steel tube (11) is cut in the same diameter as the finishing diameter (D1) of the ink hole (40) in order to eliminate the variations of the ink hole (40) caused by an error of the steel tube (11). Then, channels (50) are bored and the ink hole (40) is cut with a drill with a caliber (D2) slightly shorter than the above-mentioned finishing diameter (D1). In this way, burrs (51) produced by the boring of the channels (50) is removed.  
<IMAGE> <IMAGE> <IMAGE>

IPC 1-7  
**B43K 1/08**

IPC 8 full level  
**B43K 1/08** (2006.01)

CPC (source: EP KR)  
**B43K 1/08** (2013.01 - EP KR)

Citation (search report)  
See references of WO 0048846A1

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)  
**WO 0048846 A1 20000824**; EP 1074402 A1 20010207; KR 20010042179 A 20010525

DOCDB simple family (application)  
**JP 0000849 W 20000216**; EP 00903964 A 20000216; KR 20007010663 A 20000926