

(12) 按照专利合作条约所公布的国际申请

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2013 年 12 月 27 日 (27.12.2013)



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H04M 1/23 (2006.01) *H01H 13/06* (2006.01)
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- (26) 公布语言: 中文
- (30) 优先权:
201320087650.5 2013 年 2 月 26 日 (26.02.2013) CN
- (71) 申请人: 中兴通讯股份有限公司 (ZTE CORPORATION) [CN/CN]; 中国广东省深圳市南山区高新技术产业园科技南路中兴通讯大厦, Guangdong 518057 (CN)。
- (72) 发明人: 卞团兵 (BIAN, Tuanbing); 中国广东省深圳市南山区高新技术产业园科技南路中兴通讯大厦, Guangdong 518057 (CN)。 户剑锋 (HU, Jianfeng); 中国广东省深圳市南山区高新技术产业园科技南路中兴通讯大厦, Guangdong 518057 (CN)。
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FICE); 中国北京市海淀区海淀南路 21 号中关村知识产权大厦 B 座 2 层, Beijing 100080 (CN)。

(81) 指定国 (除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW。

(84) 指定国 (除另有指明, 要求每一种可提供的地区保护): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), 欧亚 (AM, AZ, BY, KG, KZ, RU, TJ, TM), 欧洲 (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG)。

本国际公布:

— 包括国际检索报告(条约第 21 条(3))。

[见续页]

(54) Title: WATERPROOF KEY STRUCTURE AND CELLULAR PHONE

(54) 发明名称: 防水按键结构和手机

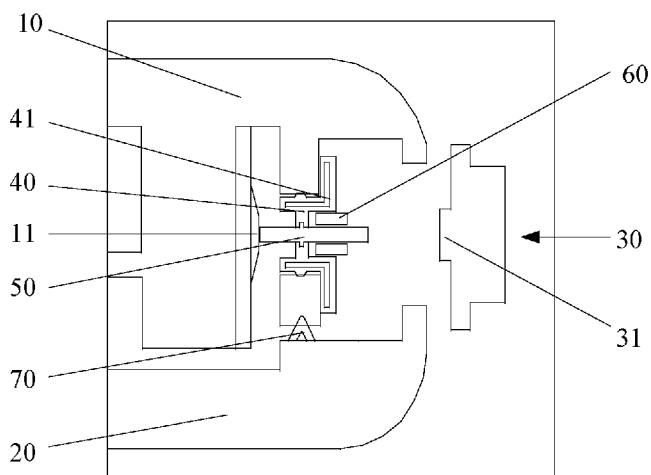


图 2 / Fig. 2

(57) Abstract: A waterproof key structure and a cellular phone. The waterproof key structure comprises conductive posts (50) passing through waterproof soft rubber (40) and sealed and connected to the waterproof soft rubber (40). One end of each conductive post (50) abuts against a key trigger (11) and the other end abuts against a key (4) to achieve the function of pressing the key. In the waterproof key structure, the size of the conductive posts (50) can be adjusted to make the thickness of the waterproof key structure smaller, so as to meet the requirements of the structure of a super-thin cellular phone. In addition, using a conductive post (50) alone to press a key trigger (11) instead of, as previously, using the waterproof soft rubber to press a key trigger, ensures the feel of the key.

(57) 摘要: 一种防水按键结构和手机。本防水按键结构包括穿设于防水软胶(40)且与该防水软胶(40)密封连接的导电柱(50), 该导电柱(50)一端与按键触发器(11)抵接、另一端与按键(4)抵接实现按

键按压功能。该防水按键结构可调整导电柱(50)的大小使本防水按键结构厚度较小, 以适应超薄手机的结构需要。此外, 通过单独的导电柱(50)去按压按键触发器(11)以代替原来的防水软胶按压按键触发器, 保证了按键手感。



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- 在修改权利要求的期限届满之前进行，在收到该 (88) 国际检索报告公布日期: 2014 年 2 月 20 日
修改后将重新公布(细则 48.2(h))。
- 根据申请人的请求，在条约第 21 条(2)(a)所规定的期限届满之前进行。

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2013/081698

A. CLASSIFICATION OF SUBJECT MATTER

See the extra sheet

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: H01H 13/06, H01H 9/04, H01H 13/04, H04M 1/23

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)

CNPAT, CNKI, EPODOC, WPI: mobile terminal, +phone, mobile, terminal, key, button, waterproof

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 102782788 A (SHARP CORP.), 14 November 2012 (14.11.2012), description, paragraphs [0030]-[0055], and figures 1-10	1-7
A	CN 1881498 A (CASIO HITACHI MOBILE COMMUNICATION CO.), 20 December 2006 (20.12.2006), the whole document	1-7
A	CN 1285602 A (NEC CORP.), 28 February 2001 (28.02.2001), the whole document	1-7
A	JP 2009-70657 A (HITACHI KOKUSAI ENGINEERING INC.), 02 April 2009 (02.04.2009), the whole document	1-7

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:	“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
“A” document defining the general state of the art which is not considered to be of particular relevance	“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
“E” earlier application or patent but published on or after the international filing date	“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
“L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	“&” document member of the same patent family
“O” document referring to an oral disclosure, use, exhibition or other means	
“P” document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 11 November 2013 (11.11.2013)	Date of mailing of the international search report 05 December 2013 (05.12.2013)
Name and mailing address of the ISA/CN: State Intellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088, China Facsimile No.: (86-10) 62019451	Authorized officer SU, Wei Telephone No.: (86-10) 82246827

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2013/081698

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 102782788 A	14.11.2012	WO 2012011236 A1	26.01.2012
		JP 2012028175 A	09.02.2012
		JP 4881465 B2	22.02.2012
		US 2012325637 A1	27.12.2012
CN 1881498 A	20.12.2006	US 2007034493 A1	15.02.2007
		JP 2006344528 A	21.12.2006
		KR 20060128735 A	14.12.2006
		US 7355137 B2	08.04.2008
		KR 100755178 B1	03.09.2007
		CN 100468590 C	11.03.2009
		JP 4352178 B2	28.10.2009
		US 2007034493 A1	15.02.2007
CN 1285602 A	28.02.2001	JP 2001057127 A	27.02.2001
		GB 2353251 A	21.02.2001
		GB 2353251 B	20.03.2002
		US 6437267 B1	20.08.2002
		CN 1183564 C	05.01.2005
JP 2009-70657 A	02.04.2009	None	

INTERNATIONAL SEARCH REPORT

International application No.

P PCT/CN2013/081698

CONTINUATION OF A. CLASSIFICATION OF SUBJECT MATTER

H04M 1/23 (2006.01) i

H01H 13/06 (2006.01) i

国际检索报告

国际申请号

PCT/CN2013/081698

A. 主题的分类

见附加页

按照国际专利分类(IPC)或者同时按照国家分类和 IPC 两种分类

B. 检索领域

检索的最低限度文献(标明分类系统和分类号)

IPC: H01H 13/06, H01H 9/04, H01H 13/04, H04M 1/23

包含在检索领域中的除最低限度文献以外的检索文献

在国际检索时查阅的电子数据库(数据库的名称, 和使用的检索词(如使用))

CNPAT, CNKI, EPODOC, WPI: 手机, 移动电话, 移动终端, 按键, 按钮, 防水, +phone, mobile, terminal, key, button, waterproof

C. 相关文件

类 型*	引用文件, 必要时, 指明相关段落	相关的权利要求
X	CN 102782788 A (夏普株式会社) 14.11 月 2012 (14.11.2012) 说明书第[0030]-[0055]段、附图 1-10	1-7
A	CN 1881498 A (株式会社卡西欧日立移动通信) 20.12 月 2006 (20.12.2006) 全文	1-7
A	CN 1285602 A (日本电气株式会社) 28.2 月 2001 (28.02.2001) 全文	1-7
A	JP 特开 2009-70657 A (株式会社日立国际电气エンジニアリング) 02.4 月 2009 (02.04.2009) 全文	1-7



其余文件在 C 栏的续页中列出。



见同族专利附件。

* 引用文件的具体类型:

“A” 认为不特别相关的表示了现有技术一般状态的文件

“E” 在国际申请日的当天或之后公布的在先申请或专利

“L” 可能对优先权要求构成怀疑的文件, 或为确定另一篇引用文件的公布日而引用的或者因其他特殊理由而引用的文件(如具体说明的)

“O” 涉及口头公开、使用、展览或其他方式公开的文件

“P” 公布日先于国际申请日但迟于所要求的优先权日的文件

“T” 在申请日或优先权日之后公布, 与申请不相抵触, 但为了理解发明之理论或原理的在后文件

“X” 特别相关的文件, 单独考虑该文件, 认定要求保护的发明不是新颖的或不具有创造性

“Y” 特别相关的文件, 当该文件与另一篇或者多篇该类文件结合并且这种结合对于本领域技术人员为显而易见时, 要求保护的发明不具有创造性

“&” 同族专利的文件

国际检索实际完成的日期

11.11 月 2013 (11.11.2013)

国际检索报告邮寄日期

05.12 月 2013 (05.12.2013)

ISA/CN 的名称和邮寄地址:

中华人民共和国国家知识产权局

中国北京市海淀区蓟门桥西土城路 6 号 100088

传真号: (86-10)62019451

受权官员

苏伟

电话号码: (86-10) **82246827**

国际检索报告
关于同族专利的信息

国际申请号
PCT/CN2013/081698

检索报告中引用的 专利文件	公布日期	同族专利	公布日期
CN 102782788 A	14.11.2012	WO 2012011236 A1	26.01.2012
		JP 2012028175 A	09.02.2012
		JP 4881465 B2	22.02.2012
		US 2012325637 A1	27.12.2012
CN 1881498 A	20.12.2006	US 2007034493 A1	15.02.2007
		JP 2006344528 A	21.12.2006
		KR 20060128735 A	14.12.2006
		US 7355137 B2	08.04.2008
		KR 100755178 B1	03.09.2007
		CN 100468590 C	11.03.2009
		JP 4352178 B2	28.10.2009
		US 2007034493 A1	15.02.2007
CN1285602A	28.02.2001	JP 2001057127 A	27.02.2001
		GB 2353251 A	21.02.2001
		GB 2353251 B	20.03.2002
		US 6437267 B1	20.08.2002
		CN 1183564 C	05.01.2005
JP 特开 2009-70657 A	02.04.2009	无	

续 A. 主题的分类

H04M 1/23 (2006.01) i

H01H 13/06 (2006.01) i