(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 271 055 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
29.10.2003 Bulletin 2003/44

(43) Date of publication A2:
02.01.2003 Bulletin 2003/01

(21) Application number: **02013568.7**

(22) Date of filing: **19.06.2002**

(51) Int Cl.[7]: **F23Q 2/28**, F23Q 2/16

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **23.06.2001 CN 01246127**
29.04.2002 CN 11100608

(71) Applicant: **Ningbo Feixiang Electric Co., Ltd.**
Cixi City, Zhejiang Province, 315326 (CN)

(72) Inventors:
- **Mao, Lixiang**
  Cixi City, Thejiang Province 315326 (CN)
- **Li, Dongliang**
  Cixi City, Thejiang Province 315326 (CN)

(74) Representative:
Reinhard - Skuhra - Weise & Partner
Friedrichstrasse 31
80801 München (DE)

(54) A child proof lighter

(57) A childproof lighter with locker device provided inside the handle, including a movable frame located under the ignition trigger and above lever of the valve unit, which includes a vertical pole portion and a transverse pole, with the upper end of the vertical pole portion neighboring the top wall of the ignition trigger and the lower end neighboring the free end of the lever, and distal tip of head end of the transverse pole portion is comparatively thin and becomes thicker as it gets backward, and under natural status, the thinner portion of the head of the transverse pole portion is clamped between the piezoelectric bonnet of the piezoelectric unit and the protruding portion of the ignition trigger, so that stroke of the aforementioned movable frame is slightly smaller than the piezoelectric ignition stroke of the piezoelectric bonnet; a movable operating part that is fitted onto the handle and can make the above-mentioned movable frame to move toward the side of the piezoelectric unit; a compression spring which is fitted between the top end of the vertical pole portion and the inner side wall of the ignition trigger so as to maintain the movable frame in the backward position. With this invention, travel distance of piezoelectric bonnet is controlled through varying the thickness of the head end of the transverse pole portion fitted to the movable frame so that it can not be entirely pressed down and ignite under abnormal condition to completely prevent any hidden safety trouble.

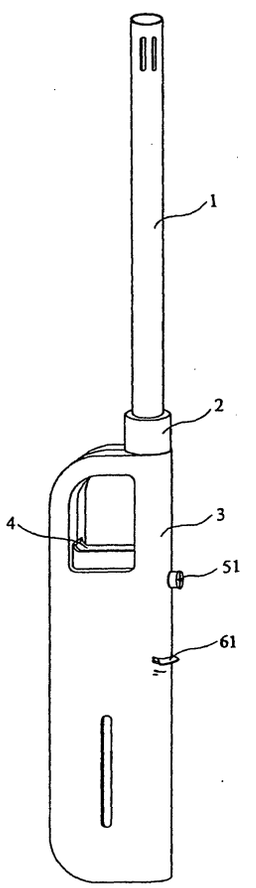

Fig.1

EP 1 271 055 A3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 01 3568

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
D,A	US 6 217 313 B1 (LUO YING WEN) 17 April 2001 (2001-04-17) * abstract *	1	F23Q2/28 F23Q2/16
A	US 6 244 858 B1 (WANG BOQI) 12 June 2001 (2001-06-12) * abstract *	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

F23Q

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	3 September 2003	Vanheusden, J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 02 01 3568

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

03-09-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6217313 B1	17-04-2001	NONE	
US 6244858 B1	12-06-2001	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82