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(54) **Pedal device for electronic keyboard instrument**

(57) A pedal device for an electronic keyboard apparatus adds sound effects to musical notes generated by the electronic keyboard apparatus in response to an operator depressing the pedal device. A first reaction force application device is configured to apply a first reaction force countering a depression of the pedal by the operator from an initial state to a specified state to produce a first

reaction force, wherein the first reaction force increases as the pedal is depressed from the initial state to the specified state. A second reaction force application device that is configured to apply a second reaction force countering a depression of the pedal by the operator after the specified state, wherein after the specified state the first reaction force and the second reaction force are applied to the pedal.

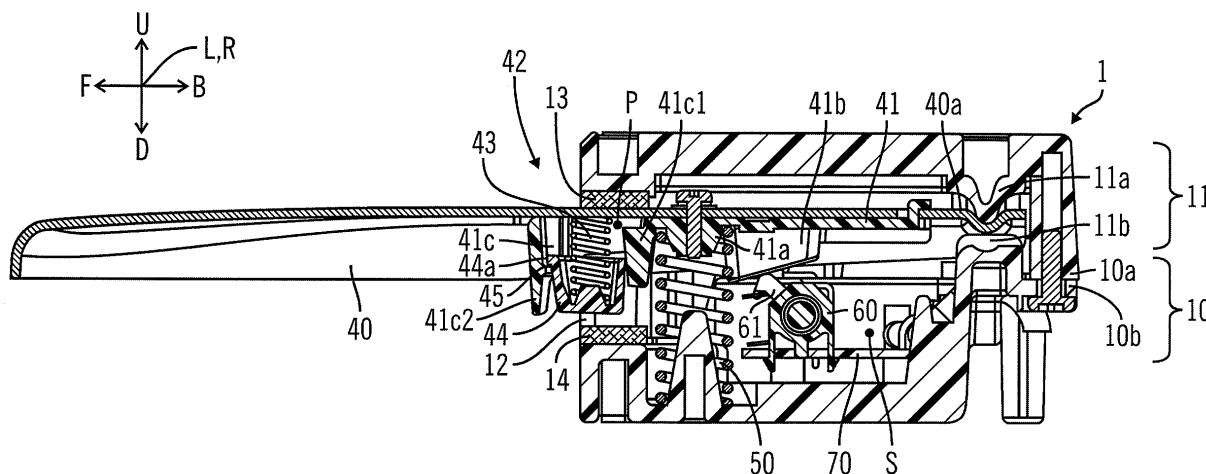


FIG. 3



EUROPEAN SEARCH REPORT

Application Number
EP 11 15 3681

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2009/314156 A1 (KOMATSU AKIHIKO [JP]) 24 December 2009 (2009-12-24) * abstract; figures 2A-3,4-5,6A,6B,13 * * paragraph [0036] - paragraph [0045] * * paragraph [0037] * * paragraph [0052] - paragraph [0053] * -----	1,11-15	INV. G10H1/34
X	US 2009/235803 A1 (IWAMOTO TOSHIYUKI [JP] ET AL) 24 September 2009 (2009-09-24) * abstract; figures 12,13A-13D,14A-14D,2829A-29D * * paragraph [0184] - paragraph [0195] * -----	1,11-13	
X	US 4 744 279 A (LIVINGSTON DUANE P [US]) 17 May 1988 (1988-05-17) * abstract; figures 1-6 * * columns 6-9 * -----	1-6,8, 10,11	
X	US 2006/096448 A1 (YOSHINO KIYOSHI [JP] ET AL) 11 May 2006 (2006-05-11) * abstract; figure 3 * * paragraph [0057] - paragraph [0063] * -----	1,11-13	TECHNICAL FIELDS SEARCHED (IPC)
X	JP 9 097075 A (ROLAND CORP) 8 April 1997 (1997-04-08) * abstract; figures 1-5 * -----	1,11,12	G10H
X	JP 58 086694 U (*****) 11 June 1983 (1983-06-11) * abstract; figures 1,2 * -----	1,11-13	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 6 December 2011	Examiner Lecoointe, Michael
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			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 11 15 3681

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
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06-12-2011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009314156 A1	24-12-2009	JP 2010008515 A US 2009314156 A1	14-01-2010 24-12-2009
US 2009235803 A1	24-09-2009	US 2009235803 A1 US 2011138987 A1	24-09-2009 16-06-2011
US 4744279 A	17-05-1988	NONE	
US 2006096448 A1	11-05-2006	US 2006096448 A1 US 2009133569 A1	11-05-2006 28-05-2009
JP 9097075 A	08-04-1997	JP 3059105 B2 JP 9097075 A	04-07-2000 08-04-1997
JP 58086694 U	11-06-1983	NONE	