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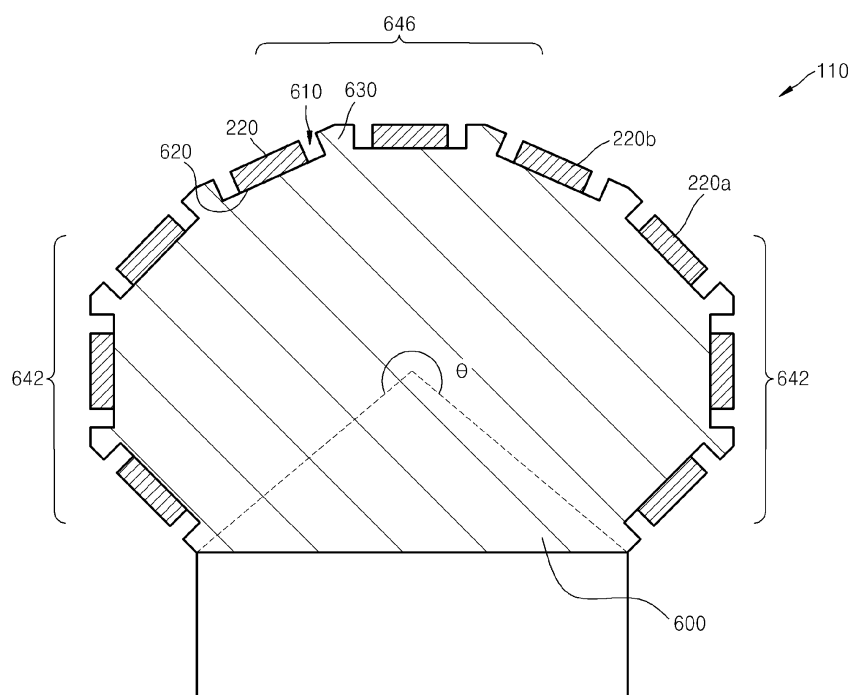
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(54) **Ultrasonic probe and method of manufacturing the same**

(57) Provided are an ultrasonic probe (110) and a method of manufacturing the same. The ultrasonic probe includes a body (600) in which grooves (610) are formed,

and ultrasonic transducers (220) disposed respectively in the grooves to perform transduction between an ultrasonic signal and an electrical signal.

**FIG. 6**





## EUROPEAN SEARCH REPORT

Application Number  
EP 14 16 5132

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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	EP 2 610 860 A2 (SAMSUNG MEDISON CO LTD [KR]) 3 July 2013 (2013-07-03)	1-5,9,12-14	INV. B06B1/06
Y	* abstract; claims 1,7; figures 1,16 * * paragraphs [0057], [0122] * -----	6,10,11,15	G10K11/00 B06B1/02
Y	EP 1 911 529 A1 (OLYMPUS MEDICAL SYSTEMS CORP [JP]) 16 April 2008 (2008-04-16) * abstract; claim 1; figures 3,4,9,10 * * paragraph [0086] * -----	6,10,11,15	
			TECHNICAL FIELDS SEARCHED (IPC)
			B06B G10K A61B
<p>4 <del>The present search report has been drawn up for all claims</del></p>			
Place of search		Date of completion of the search	Examiner
The Hague		27 October 2015	Fernandes, Paulo
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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 ..... &amp; : member of the same patent family, corresponding document</p>			

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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☒ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

1-6, 9-15

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number

EP 14 16 5132

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

## 1. claims: 1-4, 12-14

Ultrasonic probe comprising a body with a plurality of grooves wherein a plurality of ultrasonic transducers are disposed and wherein the ultrasound transducers are disposed on bottom surfaces of the grooves.

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## 2. claims: 5, 6, 9-11, 15

Ultrasonic probe comprising a body with a plurality of grooves wherein a plurality of ultrasonic transducers are disposed and wherein the transducers transmit at two different frequencies.

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## 3. claims: 7, 8

Ultrasonic probe comprising a body with a plurality of grooves wherein a plurality of ultrasonic transducers are disposed and wherein the body comprises a curved surface.

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

EP 14 16 5132

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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27-10-2015

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EPO FORM P0459

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