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(71) Applicant: **Ricoh Company, Ltd.**
Tokyo 143-8555 (JP)

(72) Inventor: **MOTEGI, Akio**
Ohta-ku, Tokyo 143-8555 (JP)

(74) Representative: **White, Duncan Rohan Marks & Clerk LLP**
Fletcher House
Heatley Road
The Oxford Science Park
Oxford OX4 4GE (GB)

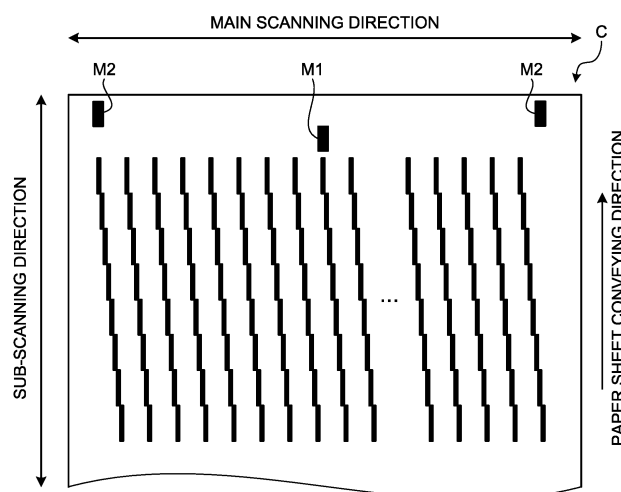
(30) Priority: **14.03.2019 JP 2019047192**

(54) **LIQUID DISCHARGING APPARATUS**

(57) A liquid discharging apparatus (1) includes a liquid discharging head (220) including nozzles arranged linearly and configured to discharge liquid onto a recording medium (P) conveyed by a conveying unit (210); a scanner (231, 232) installed in such a manner that a main-scanning direction of the scanner (231, 232) is aligned with a direction in which the nozzles of the liquid discharging head (220) are arranged; a chart generating unit (101) configured to generate a defective nozzle detection chart (C) in which lines (L) in a sub-scanning di-

rection corresponding to the respective nozzles of the liquid discharging head (220) are arranged; and a position detecting unit (102) configured to perform an interpolating process on pixel values of a plurality of pixels around a line position detected from pixel values of scanned data of the defective nozzle detection chart (C) scanned by a scanner (231, 232), and detect a position where a differential of an interpolation function derived from the interpolating process is zero, as a line position.

FIG.5





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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)
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 24 February 2021	Examiner Hartmann, Mathias
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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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:

☐ 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**

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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: 1-6

1st invention (searched): "line length"

2. claims: 7, 8

2nd invention (searched): "pitch differences"

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

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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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