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Philipp

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(54) **CAPACITIVE KEYBOARD WITH NON-LOCKING REDUCED KEYING AMBIGUITY**

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Related U.S. Application Data

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(51) **Int. Cl.**
H03M 11/00 (2006.01)

(52) **U.S. Cl.** **341/33**; 341/26; 345/173; 400/479.1; 200/600

(58) **Field of Classification Search** 341/20, 341/22, 26, 33; 400/479.1; 345/173; 200/600; 178/18.01; 702/65, 64
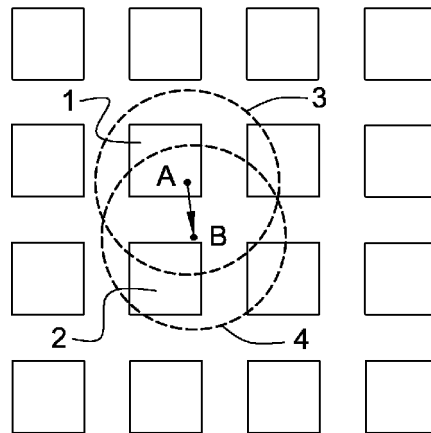See application file for complete search history.

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(57) **ABSTRACT**

Keyboards, keypads and other data entry devices can suffer from a keying ambiguity problem. In a small keyboard, for example, a user's finger is likely to overlap from a desired key to onto adjacent ones. An iterative method of removing keying ambiguity from a keyboard comprising an array of capacitive keys involves measuring a signal strength associated with each key in the array, comparing the measured signal strengths to find a maximum, determining that the key having the maximum signal strength is the unique user-selected key, and maintaining that selection until either the initially selected key's signal strength drops below some threshold level or a second key's signal strength exceeds the first key's signal strength.

40 Claims, 7 Drawing Sheets

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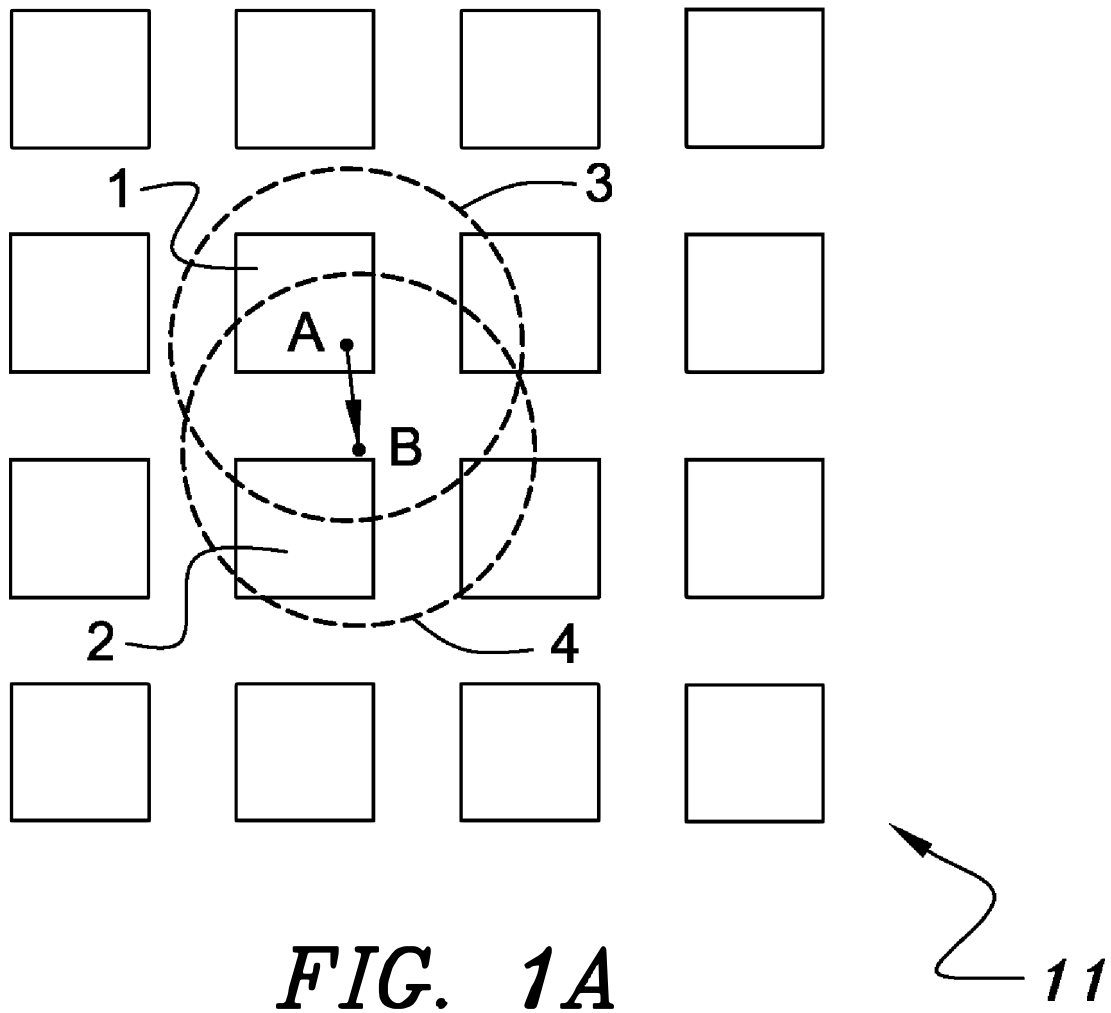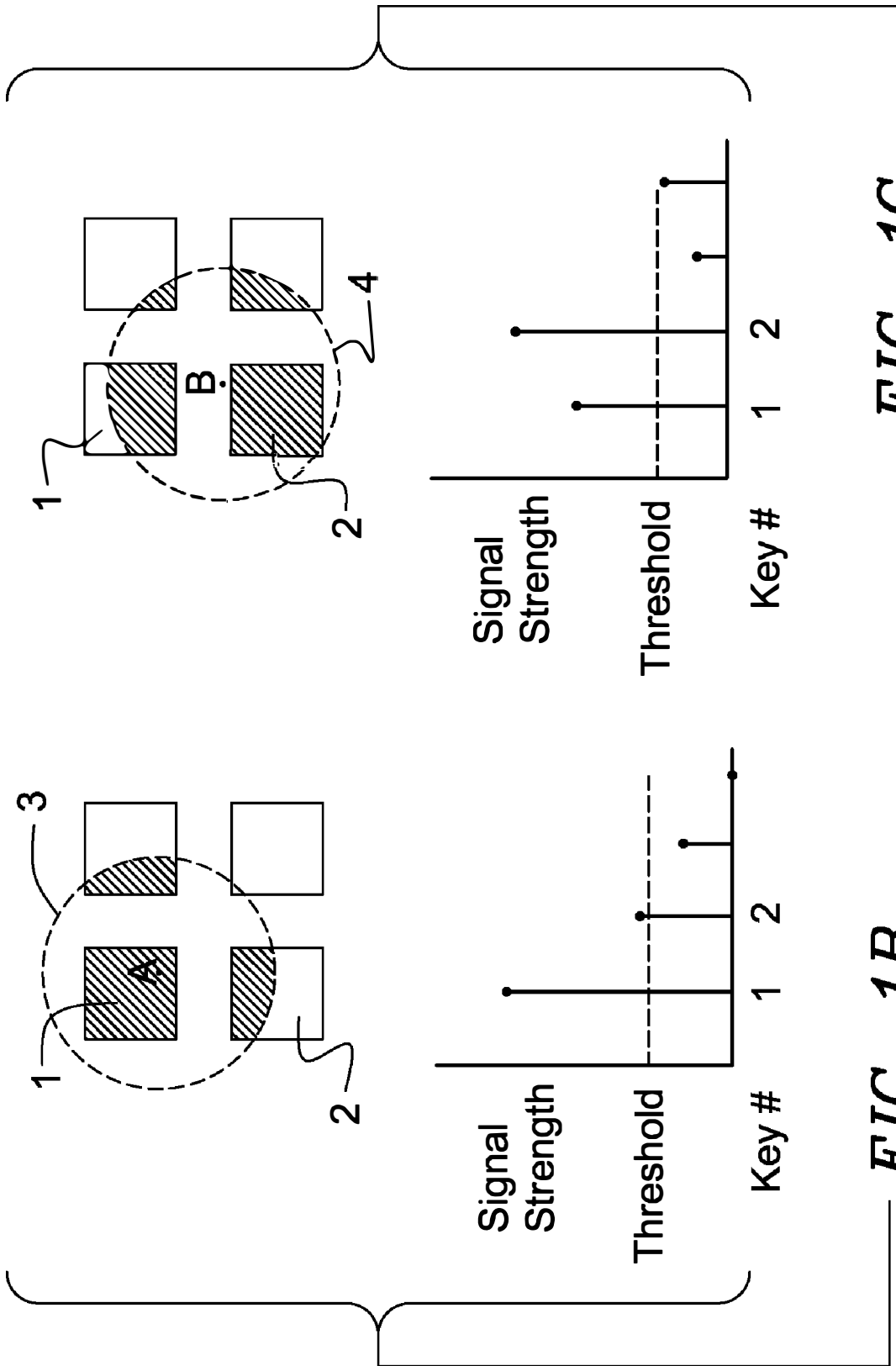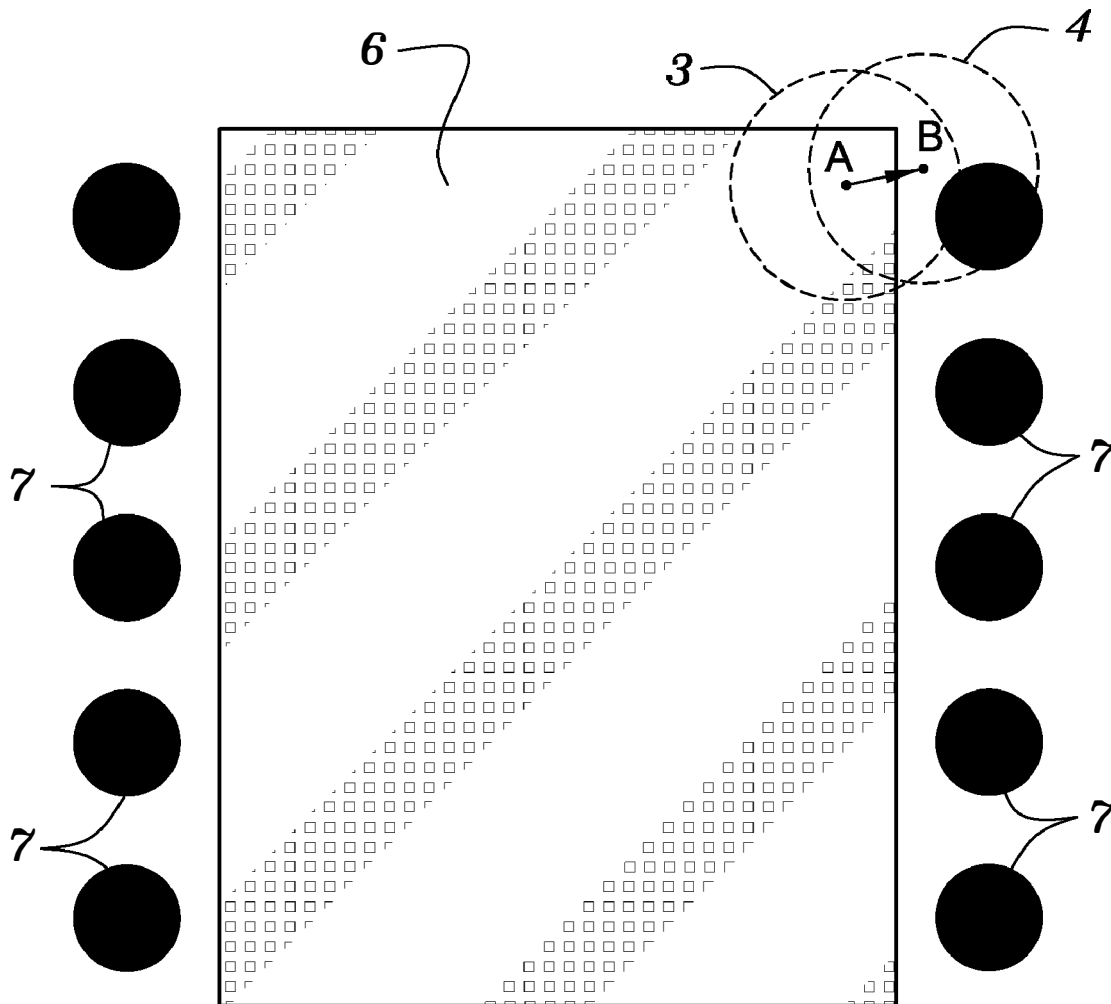
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FIG. 1A

FIG. 1C

FIG. 1B

FIG. 2

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