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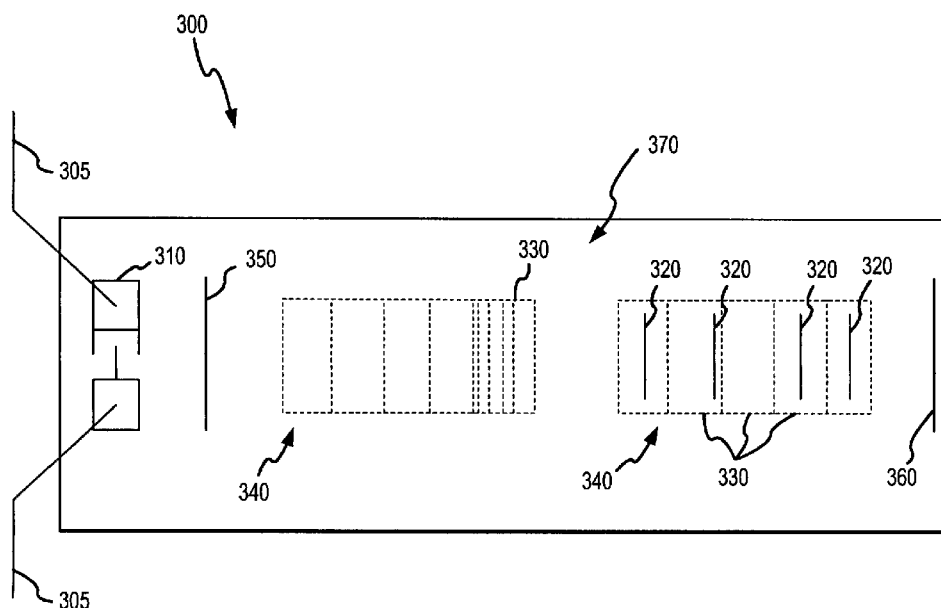
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- Declarations under Rule 4.17:**
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[Continued on next page]

(54) Title: READER FOR A HIGH INFORMATION CAPACITY SAW IDENTIFICATION TAG AND METHOD OF USE THEREOF



(57) Abstract: The present invention provides for a surface acoustic wave (SAW) identification tag reader and for methods of operating and manufacturing the same. In one embodiment, the SAW identification tag reader includes: (1) a transmitter capable of sending an interrogation signal that excites a SAW transducer (310) located on a piezoelectric substrate, the piezoelectric substrate having a group (340) of slots (330) arranged by both pulse position and phase position, and a number of reflectors (320) distributed among the slots such that the reflectors return to the transducer a return signal containing a number encoded by both pulse position and phase position; and (2) a receiver for detecting the return signal and decoding the number.



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