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(54) **Title:** COMPUTER-IMPLEMENTED METHOD FOR DETERMINING DEPTH AND LOCATION OF LOCALISED THINNING IN PLATE STRUCTURE

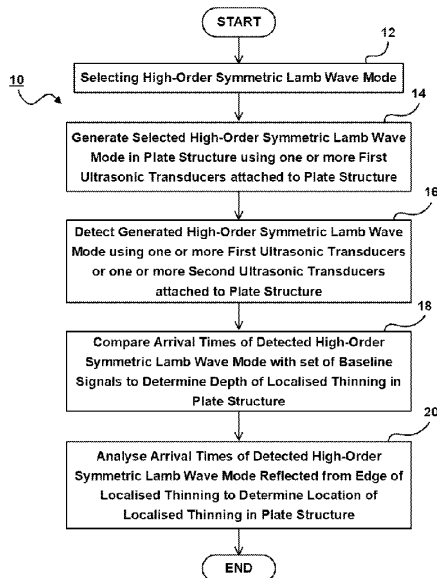


FIG. 1A

(57) **Abstract:** A computer-implemented method (10) for determining depth and location of localised thinning in a plate structure is provided. The computer-implemented method (10) for determining depth and location of localised thinning in the plate structure includes executing on one or more processors the steps of: selecting (12) a high-order symmetric Lamb wave mode; generating (14) the selected high-order symmetric Lamb wave mode in the plate structure using one or more first ultrasonic transducers attached to the plate structure; detecting (16) the generated high-order symmetric Lamb wave mode using the 0 one or more first ultrasonic transducers or one or more second ultrasonic transducers attached to the plate structure; comparing (18) arrival times of the detected high-order symmetric Lamb wave mode with a set of baseline signals to determine the depth of the localised thinning in the plate structure; and analysing (20) the arrival times of the detected high-order symmetric Lamb wave mode reflected from an edge of the localised thinning to determine the location of the localised thinning in the plate structure.

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