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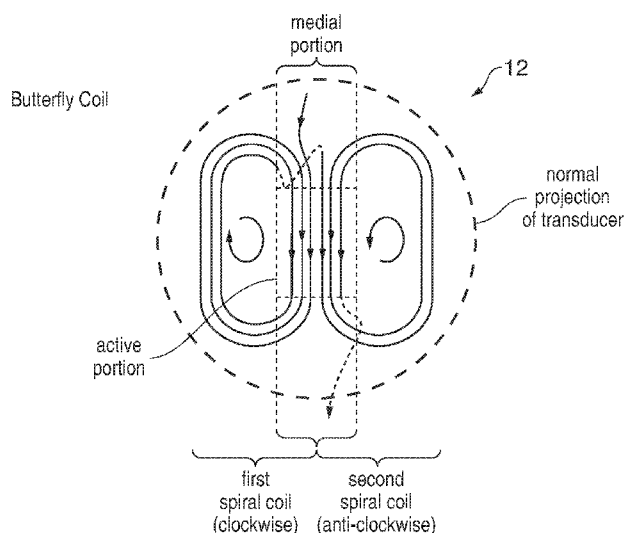
(54) **Title:** ELECTROMAGNETIC ACOUSTIC TRANSDUCER

FIG. 8A

(57) **Abstract:** An electromagnetic acoustic transducer (4) includes a flux guide (8) surrounded by one or more permanent magnets (10) abutting side faces of the flux guide (8). The magnetic field from the permanent magnets (10) enters the flux guide (8) where repulsion between the magnetic fields directs at least a portion of the magnetic fields toward a test face abutting a test object (2). The flux density at the test face is greater than the flux density within the originating permanent magnets (10). An active portion of a coil (12) disposed between the flux guide (8) and the test object contains conductors that are substantially straight, parallel and carry current in the same direction in order to provide substantially mode pure and uni-directionally polarised excitation of shear waves within the test object.