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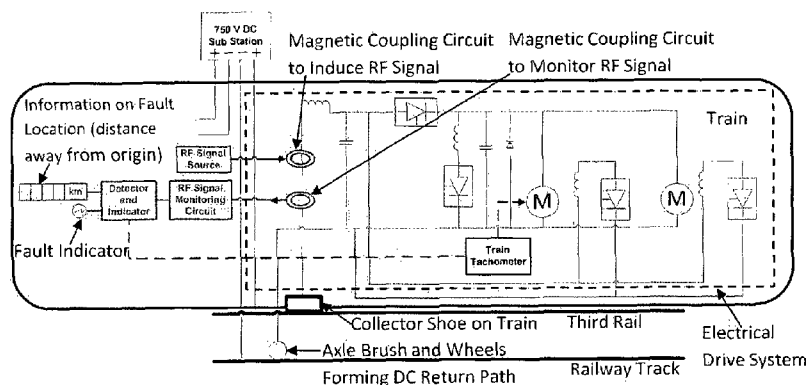
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(54) Title: METHOD AND APPARATUS FOR DETECTING RAILWAY SYSTEM DEFECTS



(57) **Abstract:** A technique for detecting faults in railway systems, such as defects in rails, is proposed, an alternating electrical signal is induced in a component of a rail vehicle (typically the electric locomotive) which is electrically connected to a rail. The signal is inductively detected, and a signal processing operation is performed to identify defects based on the detected signal. Under normal circumstances, the detected signal is of a specific level. If there is any abnormality, for example a poor electrical contact due to partially damaged rail (higher impedance) or a partial-short of motor (lower impedance), the impedance associated with the rail changes, which will be reflected by the detected signal having a lower or higher amplitude than its normal level.

