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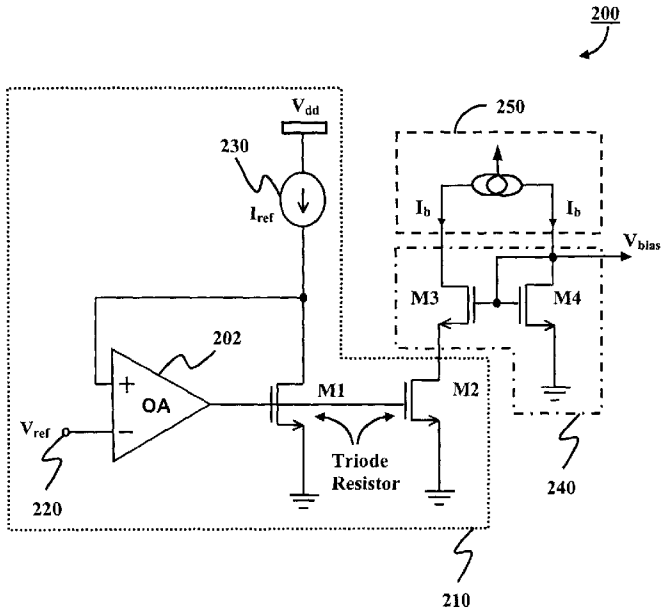
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(54) **Title:** APPARATUS AND METHOD FOR IMPLEMENTING A CONSTANT TRANSCONDUCTANCE CIRCUIT



(57) **Abstract:** A circuit for generating constant transconductance using an on-chip resistance equivalent circuit in place of an off-chip resistor. The on-chip resistance equivalent circuit includes first and second MOSFETs. The first MOSFET is configured to operate in a triode region for generating a first resistance. The second MOSFET is configured to operate in a triode region and to mirror the first resistance of the first MOSFET, thereby generating a second resistance. The second resistance generated by the second MOSFET is then used for biasing a transconductance generating circuit to provide a biasing voltage with constant transconductance.

WO 2004/042782 A2