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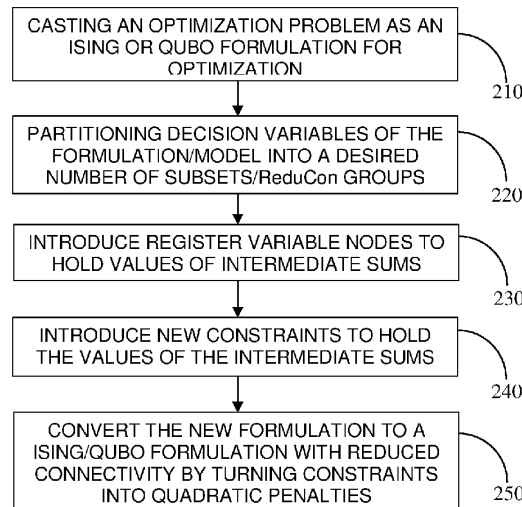
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(54) Title: METHODS AND SYSTEMS FOR OPTIMIZATION PROBLEM TRANSFORMATION FOR FACILITATED RESOLUTION



200

FIG. 2

(57) Abstract: Methods and system for transformation of an optimization problems to facilitate its resolution are provided. According to at least one aspect of the present embodiments, a method includes casting the optimization problem into a quadratic unconstrained binary model and transforming the optimization problem into an optimization problem in the same model but with reduced connectivity. Transforming the optimization problem into the optimization problem with reduced connectivity includes partitioning decision variables in the quadratic unconstrained binary model into two or more groups, each of the two or more groups comprising at least one decision variable node and introducing a register variable node between adjacent pairs of the at least one decision variable node in the two or more groups to hold partial values of a sum in a linear constraint to form the optimization problem with reduced connectivity.

[Continued on next page]

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