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(54) **METHOD AND APPARATUS FOR BUILDING AND MAINTAINING AN OBJECT-ORIENTED GEOSPATIAL DATABASE**

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(52) **U.S. Cl.** ..... **707/103 R**; 707/102
(58) **Field of Search** 707/102–104.1; 709/217

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(57) **ABSTRACT**

An object-oriented system for building and maintaining a spatial data structure for use in topological applications. The data is organized in a database which incorporates spatial feature location, attributes, and metadata information in a relational framework across a hierarchy. The system provides for the instantiation of the objects and levels that make up the database and for spatially indexing the data among the objects across hierarchical levels. The data can be updated while preserving the spatial linking among objects and levels, and the data can be exported to a relational vector product format database.

7 Claims, 13 Drawing Sheets