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- [54] **WAYPOINT NAVIGATION USING EXCLUSION ZONES**
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[57] ABSTRACT

A method is provided for navigating a vehicle. Waypoint exclusion zones are defined as circles whose centers are known-position waypoints. The vehicle is steered along a path that is tangential to the "current" waypoint exclusion zone. This path that is maintained until a relative bearing between the vehicle and a center of the current waypoint exclusion zone is at least 90° if the path is left of the center of the current waypoint exclusion zone, and at most -90° if the path is right of the center of the current waypoint exclusion zone. When either of these conditions is met, the vehicle is located along the circle of the current waypoint exclusion zone. The vehicle is then advanced along the circle of the current waypoint exclusion zone until a heading of the vehicle matches a heading of a path that is tangential to the "next" waypoint exclusion zone. When the heading of the vehicle matches the heading of the path that is tangential to the next waypoint exclusion zone, the next waypoint exclusion zone becomes the current waypoint exclusion zone for carrying out the steering, maintaining and advancing of the vehicle.

8 Claims, 3 Drawing Sheets

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