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**(54) Title:** SAFE EMERGENCY LANDING OF A UAV

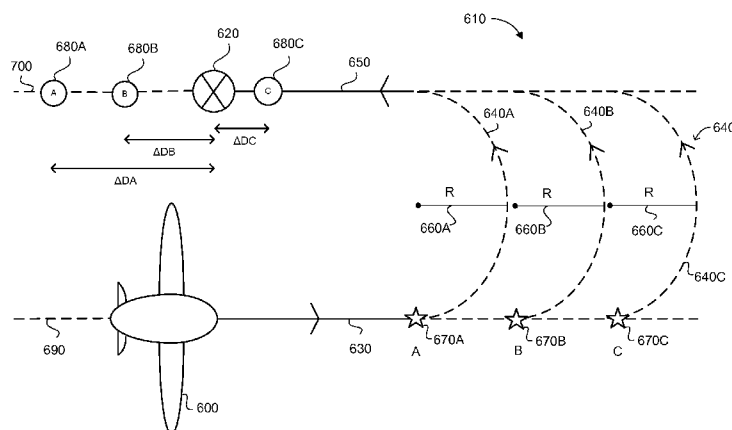


FIG. 5

**(S7) Abstract:** Method for autonomous safe emergency landing of a powered unmanned aerial vehicle (UAV) in the event of an engine failure. A landing approach trajectory is generated, including a downwind leg, initiating at an initiation point of the trajectory, an upwind leg, terminating at a selected touchdown point, and a U-turn leg, joining between the downwind leg and the upwind leg. The UAV is directed to the initiation point to follow the downwind leg. A glide ratio of the UAV is repeatedly determined based on current flight conditions. A current turning point is repeatedly determined along the downwind leg based on the determined glide ratio, the U-turn leg initiating at the current turning point. When the UAV arrives at the current turning point, the UAV is directed to follow the U-turn leg and the upwind leg, for landing the UAV at the selected touchdown point.