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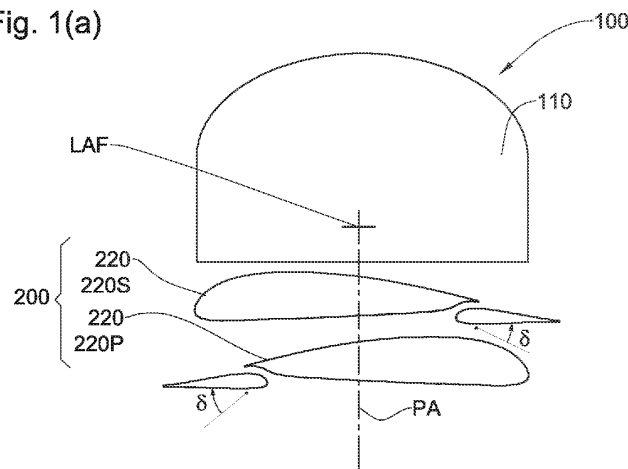


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(54) Title: WING SYSTEM FOR AIR VEHICLE

Fig. 1(a)



(57) **Abstract:** A wing system is provided for an air vehicle, the wing system having a stowed configuration, a pre-deployed configuration, and a deployed configuration. The wing system includes two wings, each wing having aerofoil profiles and being pivotably deployable about a respective pivot axis between the pre-deployed configuration and the deployed configuration. In the stowed configuration the two wings are in first general superposed spatial relationship with respect to one another and are capable of being accommodated within an envelope having an envelope cross-sectional profile and a corresponding envelope cross-sectional area. In the pre-deployed configuration, the two wings are in second general superposed spatial relationship with respect to one another and capable of deploying to the deployed configuration. In the deployed configuration the wings are each capable of generating aerodynamic lift in an airstream. Each aerofoil profile of each wing is a slotted aerofoil having a primary element, a secondary element and a chord, the secondary element being pivotable with respect to the primary element and spaced therefrom by a gap. Each aerofoil profile has a respective maximum thickness, and a respective maximum absolute thickness. In the stowed configuration, the respective second element of each

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aerofoil of one wing is set at a different flap angle as compared with the respective second element of each aerofoil of the other wing.