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(54) Title: BIOMIMETIC AIRFOIL BODIES AND METHODS OF DESIGNING AND MAKING SAME

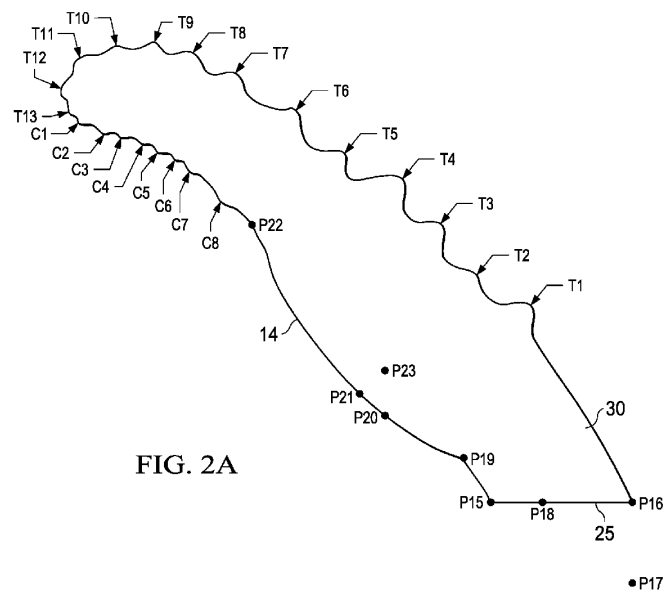


FIG. 2A

(57) Abstract: An airfoil body may include a plurality of tubercles along a leading edge of the airfoil body and a plurality of crenulations along a trailing edge of the airfoil body, wherein at least one of a position, a size, and a shape of the plurality of tubercles and the plurality of crenulations varies in a non-periodic fashion. The non-periodic fashion may be according to a Fibonacci function and may mimic the configuration of a pectoral fin of a humpback whale. The tubercles and crenulations may be defined with respect to a pivot point. The spanwise profile, including the max chord trailing edge curvature, may closely follow divine spirals and related Fibonacci proportions. The spanwise chord thickness may vary in a nonlinear pattern. Related methods are also described.

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