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Decker et al.

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(54) **LOW SOLIDITY TURBOFAN**

(75) Inventors: **John Jared Decker**, Liberty Township, OH (US); **Peter Nicholas Szucs**, West Chester, OH (US); **William Joseph Solomon**, Cincinnati, OH (US); **Virginia Louise Wilson**, Walton, KY (US)

(73) Assignee: **General Electric Company**, Schenectady, NY (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 524 days.

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(58) **Field of Classification Search** 415/1,
415/173.1, 192, 220, 222; 416/223 R, 223 A,
416/228, 238, 242, 243, DIG. 5
See application file for complete search history.

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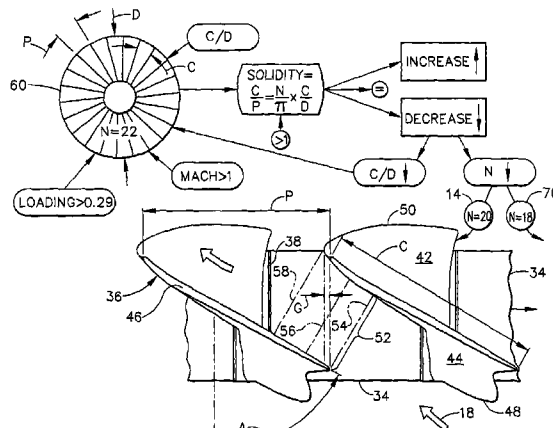
Primary Examiner—Igor Kershteyn

(74) *Attorney, Agent, or Firm*—William S. Andes; Francis L. Conte

(57) **ABSTRACT**

A turbofan includes a row of fan blades extending from a supporting disk inside an annular casing. Each blade includes an airfoil having opposite pressure and suction sides extending radially in span between a root and tip and axially in chord between leading and trailing edges. Adjacent airfoils define corresponding flow passages therebetween for pressurizing air. Each airfoil includes stagger increasing between the root and tip, and the flow passage has a mouth between the airfoil leading edge and the suction side of an adjacent airfoil and converges to a throat aft from the mouth. The row includes no more than twenty fan blades having low tip solidity for increasing the width of the passage throat.

28 Claims, 6 Drawing Sheets



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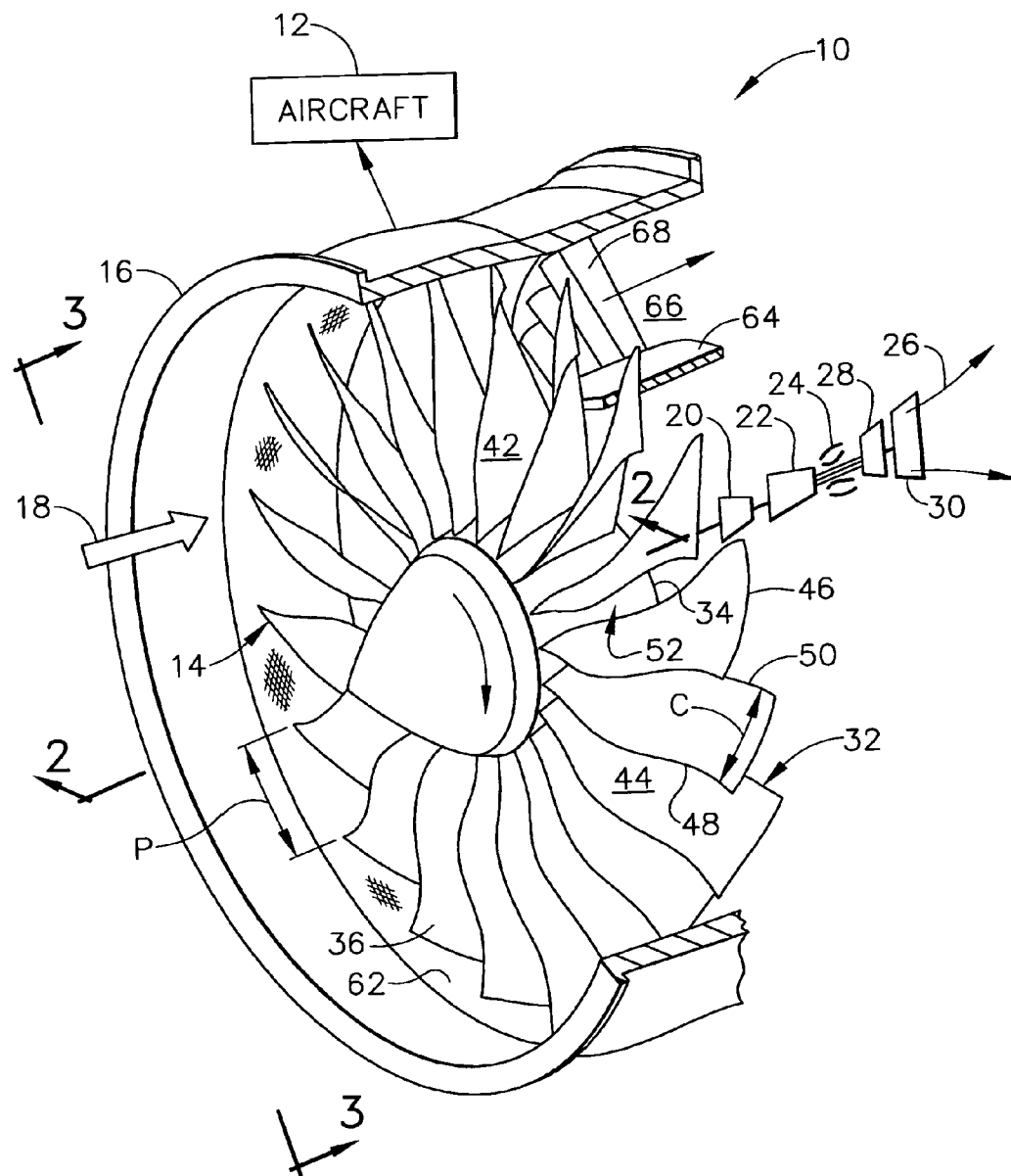


FIG. 1

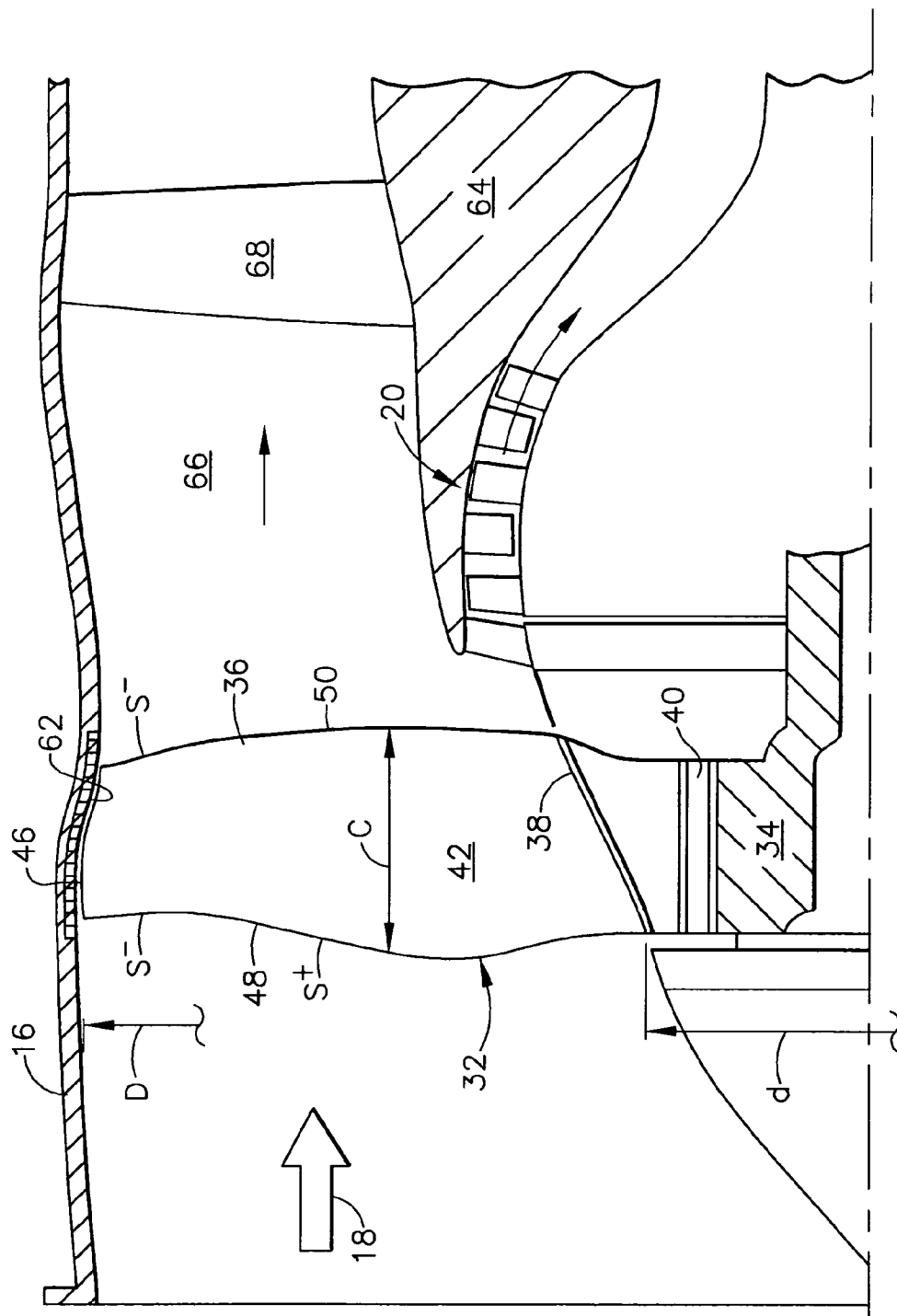


FIG. 2

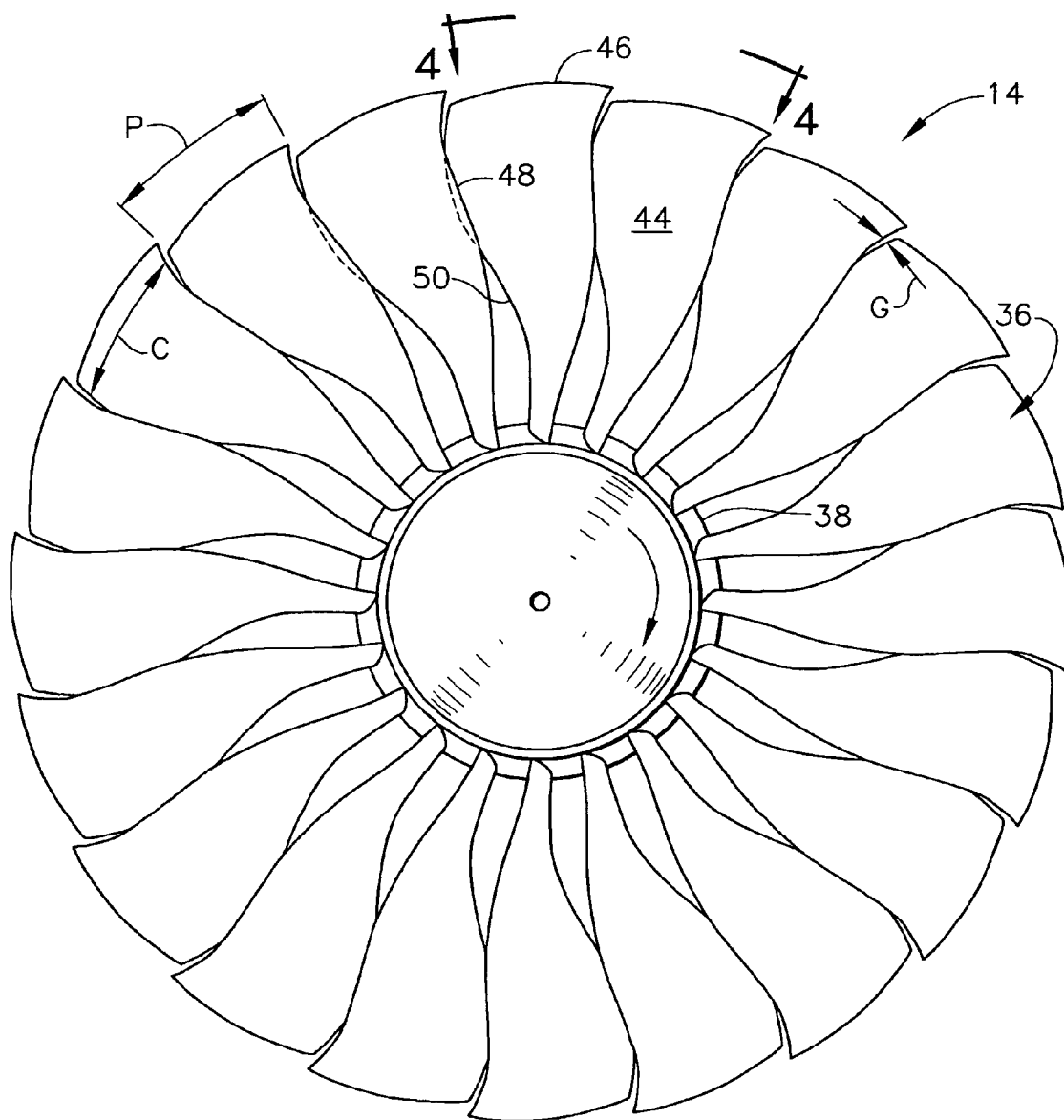


FIG. 3

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