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Ishii

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(54) **3-STROKE/6-STROKE ROCKET JET ENGINE**

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123/45 R, 56.1, 200, 241, 246, 249, 39
See application file for complete search history.

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(56) **References Cited**

U.S. PATENT DOCUMENTS

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

104,469 A * 6/1870 Leuchtweiss 418/191
805,552 A * 11/1905 Hofe 418/191

(Continued)

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FOREIGN PATENT DOCUMENTS

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DE 395976 5/1924
DE 658152 3/1938

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OTHER PUBLICATIONS

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English Translation of DE3313592 by Espacenet Machine Translation, Eiermann Dankwart, Oct. 18, 1984.*

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(Continued)

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(57) **ABSTRACT**

(51) **Int. Cl.**

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The present invention provides an engine pump that has: a housing having a cylinder space; an output shaft unit formed with one or more pistons capable of constant velocity true-circle rotation within the cylinder space, a ring disk, and an output disk; a rotor capable of constant velocity true-circle rotation at a fixed relative rotational velocity with respect to the rotation of the pistons; a rotor guide, which is concentric with the output shaft unit, governs the inside of the aforementioned cylinder, has a retaining part that makes concave contact with the rotor and has an outer circumferential surface that makes surface contact with the pistons, and supports the rotor and the center of the output shaft unit which rotates at constant velocity in a true circle; and a drive means that actuates the pistons. A portion of the inner circumferential wall surface of the cylinder of the housing has a notch part that is used for sealing and makes surface contact with a portion of the outer circumferential surface of the rotor.

(52) **U.S. Cl.**

CPC ... **F01B 3/00** (2013.01); **F01C 1/20** (2013.01);
F01C 1/36 (2013.01); **F02B 53/00** (2013.01);
F01C 1/28 (2013.01); **F02B 75/021** (2013.01);
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(2013.01)

(58) **Field of Classification Search**

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F01C 1/28; F02B 2075/026

16 Claims, 12 Drawing Sheets

