US009011123B2

(12) **United States Patent**
McIntyre

(10) **Patent No.: US 9,011,123 B2**
(45) **Date of Patent: Apr. 21, 2015**

(54) **SWINGING ABUTMENT ROTARY PUMP**

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

(21) Appl. No.: **14/022,486**

(22) Filed: **Sep. 10, 2013**

(65) **Prior Publication Data**

US 2015/0071807 A1 Mar. 12, 2015

(51) **Int. Cl.**

F03C 4/00	(2006.01)
F04C 2/00	(2006.01)
F04C 18/00	(2006.01)
F04C 18/02	(2006.01)
F04C 2/356	(2006.01)
F04C 2/46	(2006.01)
F01C 1/356	(2006.01)
F01C 1/46	(2006.01)
F01C 21/18	(2006.01)

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

CPC ***F04C 18/02*** (2013.01); ***F04C 2/3564*** (2013.01); ***F04C 2/46*** (2013.01); *F01C 21/18* (2013.01); ***F01C 1/3564*** (2013.01); ***F01C 1/46*** (2013.01)

(58) **Field of Classification Search**

USPC 418/248–250, 178–179, 152, 15

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

715,933	A *	12/1902	Allen	418/249
2,060,209	A *	11/1936	Heckert	418/182
2,238,395	A *	4/1941	Nittka	418/248
3,759,640	A *	9/1973	Hinckley et al.	418/249
7,766,636	B2 *	8/2010	Szepesy	418/248
7,798,739	B2 *	9/2010	Bar et al.	403/354
2005/0053509	A1 *	3/2005	Liposcak	418/268

FOREIGN PATENT DOCUMENTS

CH	657655	A5 *	9/1986	418/248

* cited by examiner

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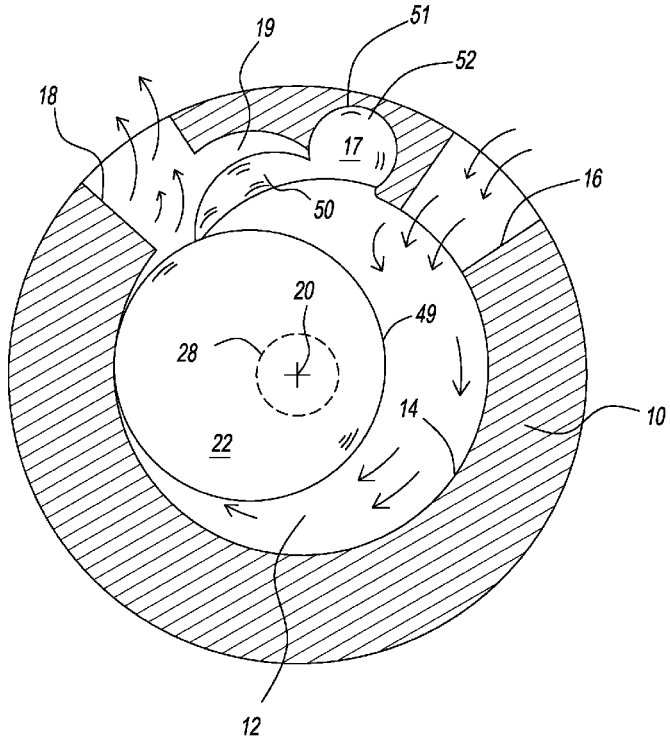
(57) **ABSTRACT**

A rotary pump device includes a stator chamber with a cylindrical inner wall having intake and exhaust ports and a swinging abutment mounted therein, and a rotor eccentrically mounted on an axial drive shaft for rotation within the chamber. The rotor keeps continuous wiping contact with the chamber wall while the swinging abutment maintains contact with the rotor to partition the intake and outlet ports. In a single abutment configuration, a full intake/exhaust cycle occurs every 360° of rotor travel.

2 Claims, 4 Drawing Sheets