



US009408937B2

(12) **United States Patent**
Engelhard

(10) **Patent No.:** **US 9,408,937 B2**

(45) **Date of Patent:** **Aug. 9, 2016**

(54) **PHOTO-CATALYZING FLUID MOBILIZING SYSTEM AND METHOD**

2219/0892 (2013.01); C02F 2201/326 (2013.01); C02F 2201/3227 (2013.01); C02F 2201/3228 (2013.01); C02F 2305/10 (2013.01); Y02W 10/37 (2015.05)

(71) Applicant: **Rolf Engelhard**, Prescott, AZ (US)

(58) **Field of Classification Search**

(72) Inventor: **Rolf Engelhard**, Prescott, AZ (US)

CPC C02F 1/32; B01J 19/08
See application file for complete search history.

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

(56) **References Cited**

(21) Appl. No.: **14/887,235**

U.S. PATENT DOCUMENTS

(22) Filed: **Oct. 19, 2015**

D48,392 S 1/1916 Loheide
2,255,491 A 9/1941 Mohen
2,738,224 A 3/1956 Checkovich et al.
4,422,824 A 12/1983 Eisenhardt, Jr.
5,680,016 A 10/1997 Valcke
D398,044 S 9/1998 Gutmann
5,833,740 A 11/1998 Brais

(65) **Prior Publication Data**

US 2016/0038625 A1 Feb. 11, 2016

(Continued)

Related U.S. Application Data

FOREIGN PATENT DOCUMENTS

(63) Continuation of application No. 13/076,367, filed on Mar. 30, 2011, now Pat. No. 9,162,903.

CN 002531297 Y * 1/2003 F24F 3/16
CN 2664666 Y 12/2004

(60) Provisional application No. 61/319,215, filed on Mar. 30, 2010.

(Continued)

(51) **Int. Cl.**

Primary Examiner — Walter D Griffin

C02F 1/32 (2006.01)
A61L 9/20 (2006.01)
B01D 53/88 (2006.01)
B01J 19/12 (2006.01)
B01J 19/18 (2006.01)
C02F 1/72 (2006.01)

Assistant Examiner — Cameron J Allen

(74) *Attorney, Agent, or Firm* — Mintz Levin Cohn Ferris Glovsky and Popeo, P.C.

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

CPC **A61L 9/205** (2013.01); **B01D 53/885** (2013.01); **B01J 19/123** (2013.01); **B01J 19/18** (2013.01); **C02F 1/32** (2013.01); **C02F 1/325** (2013.01); **C02F 1/725** (2013.01); **B01D 2255/20707** (2013.01); **B01D 2255/802** (2013.01); **B01D 2257/708** (2013.01); **B01D 2257/91** (2013.01); **B01D 2259/4508** (2013.01); **B01D 2259/4533** (2013.01); **B01D 2259/804** (2013.01); **B01J 2219/0877** (2013.01); **B01J**

(57) **ABSTRACT**

A photo-catalyzing fluid mobilizing system and method are disclosed. A chamber has a power source. A fluid mobilizer is mounted in the chamber and connected with the power source to mobilize a fluid through the chamber. The fluid mobilizer includes one or more fan blades that are coated with a photo catalyst. A UV light source is mounted in the chamber proximate the fluid mobilizer and connected with the power source to catalyze the photo catalyst coating the blades to purifier the fluid being mobilized thereover.

12 Claims, 3 Drawing Sheets

