



US009097389B2

(12) **United States Patent**
Goodson

(10) **Patent No.:** **US 9,097,389 B2**
(45) **Date of Patent:** ***Aug. 4, 2015**

(54) **APPARATUS AND METHOD FOR
DETECTION AND CESSATION OF
UNINTENDED GAS FLOW**

(75) Inventor: **Mark E. Goodson**, Corinth, TX (US)

(73) Assignee: **GOODSON HOLDINGS, LLC**,
Denton, TX (US)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 499 days.

This patent is subject to a terminal dis-
claimer.

(21) Appl. No.: **13/596,972**

(22) Filed: **Aug. 28, 2012**

(65) **Prior Publication Data**

US 2013/0014830 A1 Jan. 17, 2013

Related U.S. Application Data

(63) Continuation-in-part of application No. 13/279,932,
filed on Oct. 24, 2011, now Pat. No. 8,905,058, which
is a continuation-in-part of application No.
12/534,455, filed on Aug. 3, 2009, now Pat. No.
8,251,085.

(51) **Int. Cl.**
F17D 5/08 (2006.01)

(52) **U.S. Cl.**
CPC **F17D 5/08** (2013.01); **Y10T 137/0318**
(2015.04); **Y10T 137/1915** (2015.04)

(58) **Field of Classification Search**

CPC F16K 17/36; F17D 5/08
USPC 137/78.1, 78.4, 78.5; 251/65-71,
251/129.01, 129.04; 340/601, 659; 324/72,
324/72.5

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,388,606 A *	2/1995	Banks	137/38
7,044,167 B2	5/2006	Rivest	
7,367,364 B2	5/2008	Rivest et al.	
7,821,763 B2	10/2010	Goodson	
8,203,820 B2 *	6/2012	Khonkar	361/160
8,905,058 B2 *	12/2014	Goodson	137/78.1

* cited by examiner

Primary Examiner — Eric Keasel

(74) *Attorney, Agent, or Firm* — David W. Carstens; Jeffrey
G. Degenfelder; Carstens & Cahoon, LLP

(57) **ABSTRACT**

A method and apparatus for detecting and preventing electri-
cally induced fires in a gas tubing systems constructed of
Corrugated Stainless Steel Tubing (CSST) and Gas Appli-
ance Connectors (GAC). The system of the present invention
may include one or more energy detection schemes to detect
electrical energy surges on the gas line. When such a surge is
detected, the control circuitry of the present invention causes
an electric two-way main gas valve to de-energize into a
position wherein the flow of gas from a gas feeder pipe to the
gas tubing system is blocked and residual gas pressure in the
gas tubing system is automatically vented to the atmosphere.

28 Claims, 15 Drawing Sheets

