



US008689891B2

(12) **United States Patent**  
**Gette et al.**

(10) **Patent No.:** **US 8,689,891 B2**

(45) **Date of Patent:** **Apr. 8, 2014**

(54) **BALL AND DART LAUNCHER WITH PARALLEL AXIS RELEASE**

5,890,537 A 4/1999 Lavaure et al.  
2008/0296012 A1\* 12/2008 Peer et al. .... 166/75.15  
2010/0175891 A1 7/2010 Rondeau et al.  
2012/0152525 A1 6/2012 McGuire

(75) Inventors: **Nicholas Peter Gette**, Houston, TX (US); **Marc Minassian**, Montgomery, TX (US); **James Christopher Clingman**, Tomball, TX (US)

FOREIGN PATENT DOCUMENTS

GB 2458046 A 9/2009  
GB 2469590 A 10/2010

(73) Assignee: **Vetco Gray Inc.**, Houston, TX (US)

OTHER PUBLICATIONS

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 399 days.

Search Report from corresponding GB Application No. GB1207312.8 dated Jul. 30, 2012.

Search Report from corresponding GB Application No. GB1207312.8 dated Sep. 7, 2012.

(21) Appl. No.: **13/097,832**

\* cited by examiner

(22) Filed: **Apr. 29, 2011**

*Primary Examiner* — Cathleen Hutchins

(65) **Prior Publication Data**

(74) *Attorney, Agent, or Firm* — Bracewell & Giuliani LLP

US 2012/0273198 A1 Nov. 1, 2012

(51) **Int. Cl.**

**E21B 33/12** (2006.01)

**E21B 34/14** (2006.01)

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

CPC ..... **E21B 34/14** (2013.01); **E21B 33/12** (2013.01)

USPC ..... **166/386**; 166/75.15; 166/192; 166/193

(58) **Field of Classification Search**

USPC ..... 166/381, 386, 75.15, 192, 193, 194

See application file for complete search history.

(57) **ABSTRACT**

A universal dart launcher launches a dart by moving a dart from a first position to a second position. The universal dart launcher has a launcher body defining a central bore having an axis and lower and upper ends configured to attach to a string of pipe. A cartridge housed within the launcher body may move perpendicular to the axis from a first position to a second position. A drop member is positioned within the cartridge so that it will not be in axial alignment with the central bore while in the first position, and will be in axial alignment with the central bore while in the second position. An actuator assembly couples to the launcher body to move the cartridge from the first position to the second position when actuated.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,651,970 A \* 3/1987 Sadler ..... 251/63.6  
4,944,348 A \* 7/1990 Whiteley et al. .... 166/278

**28 Claims, 8 Drawing Sheets**

