

Inter Partes Review – Final Hearing

Weatherford Int'l, LLC, et al., v. Packers Plus Energy Servs., Inc.

Case IPR2016-01509 (U.S. Patent No. 7,861,774B2),

Case IPR2016-01514 (U.S. Patent No. 7,543,634B2),

Case IPR2016-01517 (U.S. Patent No. 7,134,505B2)

Before the Honorable Scott Daniels, Neil Powell, and
Carl DeFranco, Administrative Patent Judges

Counsel for Petitioners:

Edell, Shapiro & Finnan, LLC

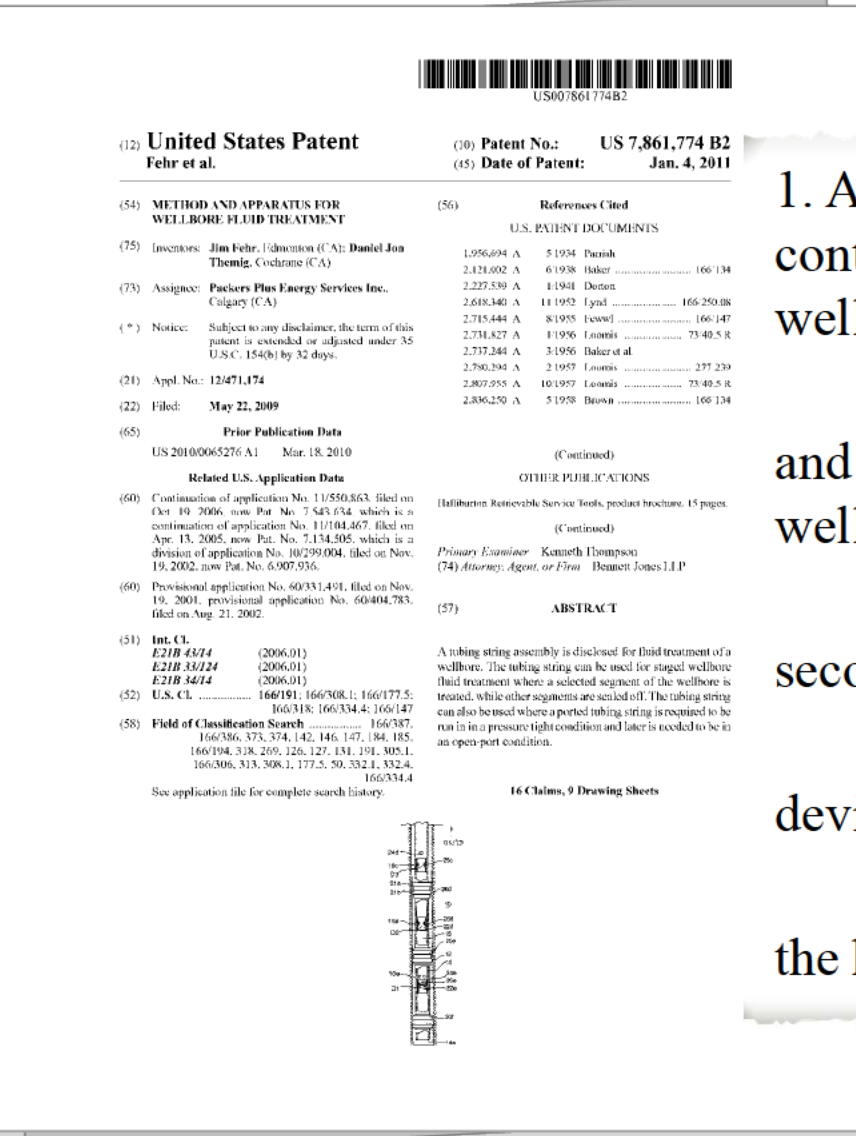
Jason Shapiro

Patrick Finnan

Heim, Payne & Chorush LLP

Douglas R. Wilson


Challenged Claims - '774 Claims 1, 3-7, 9-10, 12, and 16



1. A *method* for *fracturing* a hydrocarbon-containing formation accessible through a wellbore, the method comprising:

- running a tubing string into an open hole and uncased, non-vertical section of the wellbore . . . ;
- expanding radially outward the first, second and third solid body packers . . . ;
- conveying a fluid conveyed sealing device through the tubing string . . . ;
- pumping fracturing fluid . . . to fracture the hydrocarbon-containing formation.

Challenged Claims - '634 Claim 25



US007543634B2

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

(10) **Patent No.:** US 7,543,634 B2
(45) **Date of Patent:** *Jun. 9, 2009

(54) **METHOD AND APPARATUS FOR WELLBORE FLUID TREATMENT**

(75) Inventors: **Jim Fehr**, Edmonton (CA); **Daniel Jon Thwing**, Cochrane (CA)

(73) Assignee: **Packers Plus Energy Services Inc.**, Calgary (CA)

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

(21) Appl. No.: 11/550,863
(22) Filed: **Oct. 19, 2006**

(65) **Prior Publication Data**
US 2007/0151734 A1 Jul. 5, 2007

Related U.S. Application Data

(60) Continuation of application No. 11/104,467, filed on Apr. 13, 2005, now Pat. No. 7,134,505, which is a division of application No. 10/299,004, filed on Nov. 19, 2002, now Pat. No. 6,907,936.
(60) Provisional application No. 60/331,491, filed on Nov. 19, 2001, provisional application No. 60/604,783, filed on Aug. 21, 2002.

(51) Int. Cl.
E21B 43/14 (2006.01)
E21B 33/124 (2006.01)
E21B 34/14 (2006.01)

(52) U.S. CL. 166/191; 166/313; 166/373; 166/147; 166/318

(58) **Field of Classification Search** 166/387, 166/389, 373, 374, 142, 146, 147, 184, 185, 166/194, 318, 269, 126, 127, 131, 191, 305, 1, 166/306, 313; 175/237, 317
See application file for complete search history.

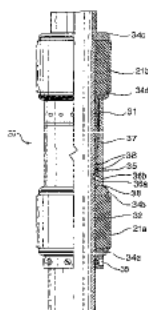
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<http://www.packersplus.com/stock/0%202.htm> description of open hole packer, available prior to Nov. 19, 2001.
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Primary Examiner: Kenneth Thompson
(74) **Attorney, Agent, or Firm:** Bennett Jones LLP

(57) **ABSTRACT**
A tubing string assembly is disclosed for fluid treatment of a wellbore. The tubing string can be used for staged wellbore fluid treatment where a selected segment of the wellbore is treated, while other segments are sealed off. The tubing string can also be used where a ported tubing string is required to be run in to a pressure tight condition and later is needed to be in an open-port condition.

25 Claims, 9 Drawing Sheets



20. A *method* for fluid treatment of a borehole, the method comprising: ...

25. The method of claim 20 wherein when in a desired position the apparatus is adjacent an *open hole* section of the wellbore and the packers are set to seal the annulus between the apparatus and the wellbore wall.

Challenged Claims - '505 Claims 23 and 27



(12) **United States Patent**
Fehr et al.
 (10) **Patent No.:** US 7,134,505 B2
 (45) **Date of Patent:** Nov. 14, 2006

(54) **METHOD AND APPARATUS FOR WELLBORE FLUID TREATMENT**
 (75) Inventors: **Jim Fehr**, Edmonton (CA); **Daniel Jon Theinig**, Cochrane (CA)
 (73) Assignee: **Packers Plus Energy Services Inc.**, Calgary (CA)
 (*) 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.: **11/104,467**
 (22) Filed: **Apr. 13, 2005**

(65) **Prior Publication Data**
 US 2005/0178552 A1 Aug. 18, 2005

Related U.S. Application Data
 (62) Division of application No. 10/299,004, filed on Nov. 19, 2002, now Pat. No. 6,907,936.
 (60) Provisional application No. 60/404,783, filed on Aug. 21, 2002; provisional application No. 60/531,491, filed on Nov. 19, 2001.

(51) **Int. Cl.**
E21B 43/14 (2006.01)
E21B 33/124 (2006.01)
E21B 34/14 (2006.01)
 (52) **U.S. Cl.** **166/387**; 166/191; 166/194; 166/306; 166/318

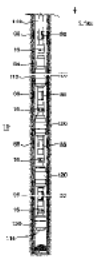
(58) **Field of Classification Search** 166/387; 166/386; 373; 374; 142; 146; 147; 184; 185; 166/194; 318; 269; 126; 127; 131; 191; 305.1; 166/306; 313; 175/237; 317
 See application file for complete search history.

(56) **References Cited**
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 Design and installation of a Cost-Effective Completion System for Horizontal Chalk Wells Where Multiple Zones Require Acid Stimulation, D. W. Thompson, SPE Drilling & Completion, Sep. 1998, pp. 151-156.
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 Primary Examiner: Kenneth Thompson
 (74) Attorney, Agent, or Firm: Bennett Jones LLP
 (57) **ABSTRACT**

A tubing string assembly is disclosed for fluid treatment of a wellbore. The tubing string can be used for staged wellbore fluid treatment where a selected segment of the wellbore is treated, while other segments are sealed off. The tubing string can also be used where a perforated tubing string is required to be run in a pressure tight condition and later is needed to be in an open-port condition.

44 Claims, 9 Drawing Sheets

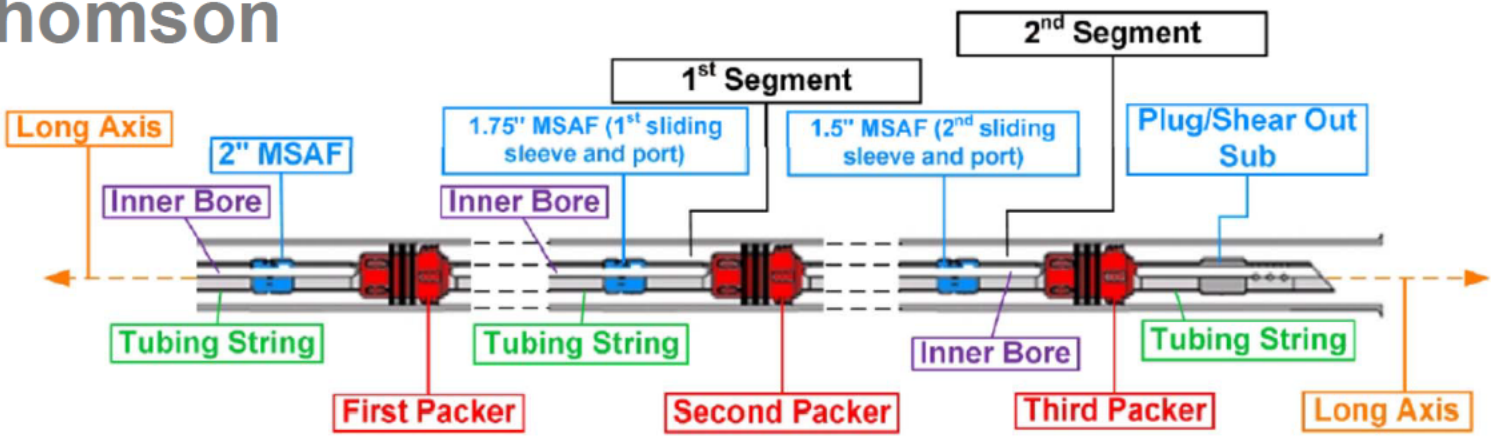


19/24. A **method** for fluid treatment of a borehole, the method comprising: ...

23/27. The method of claim 19/24 wherein when in a desired position the apparatus is adjacent an **open hole** section of the wellbore and the packers are set to seal the annulus between the apparatus and the wellbore wall.

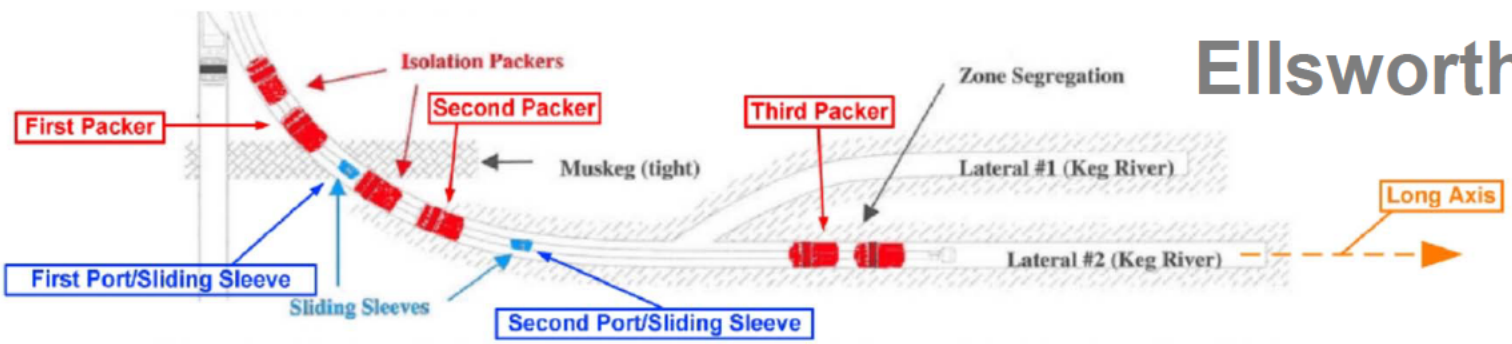
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+

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