

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WEATHERFORD INTERNATIONAL, LLC,
WEATHERFORD /LAMB, INC., WEATHERFORD US, LP, and
WEATHERFORD ARTIFICIAL LIFT SYSTEMS, LLC,
Petitioner,

v.

PACKERS PLUS ENERGY SERVICES, INC.,
Patent Owner.

Case IPR2016-01517
Patent 7,134,505 B2

Before SCOTT A. DANIELS, NEIL T. POWELL, and
CARL M. DEFRANCO, *Administrative Patent Judges*.

POWELL, *Administrative Patent Judge*.

DECISION TO INSTITUTE
37 C.F.R. § 42.108

I. INTRODUCTION

A. *Background*

Petitioner filed a Petition requesting *inter partes* review of claims 23 and 27 of U.S. Patent No. 7,134,505 B2 (Ex. 1001, “the ’505 patent”). Paper 1 (“Pet.”). Patent Owner filed a Preliminary Response. Paper 18 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(a); 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

After considering the Petition and Preliminary Response, we determine that Petitioner has established a reasonable likelihood of prevailing in showing the unpatentability of claims 23 and 27. Accordingly, we institute *inter partes* review of these challenged claims.

B. *Related Matters*

The ’505 patent is involved in a concurrent district court action, *Rapid Completions LLC v. Baker Hughes Incorporated*, No. 6:15-cv-00724 (E.D. Tex.), which was filed July 31, 2015. Paper 4. Additionally, the ’505 patent is challenged in IPR2016-00596, where we instituted trial in August, 2016. The ’505 patent is also challenged in IPR2016-01496, in which trial was instituted in February, 2017.

C. The '505 Patent

The '505 patent describes a tubing string for treating a particular segment of a wellbore, while sealing off other segments. Ex. 1001, Abstract. Typically, a tubing string is run into a wellbore as a conduit for oil and gas products to flow to the surface. *Id.* at 1:23–43. But when natural formation pressure is insufficient, a well “stimulation” technique is employed, which involves injecting fracturing fluids into the formation to enlarge existing channels and thereby improve inflow into the wellbore. *Id.* at 1:30–34.

As described in the '505 patent, the tubing string includes a series of ports along its length, with a ball-actuated sliding sleeve mounted over each port, for selectively permitting the release of fluid from certain segments of the tubing string. *Id.* at 2:35–62, 6:41–7:36. Special sealing devices, called “solid body packers,” are mounted along the length of the tubing string downhole and uphole of each port. *Id.* at 2:35–62, 6:8–40. The solid body packers are disposed about the tubing string and seal the annulus between the tubing string and the wellbore wall, thereby dividing the wellbore into a series of isolated segments. *Id.* at 6:22–28. When the sliding sleeve over a particular port is activated to an open position, fluid can pass into one segment of the wellbore but is prevented from passing into adjacent segments by the packers positioned on either side of the port. *Id.* at 6:46–61.

D. Illustrative Claims

Claim 23 depends from independent claim 19. Claim 27 depends from independent claim 24. Claims 19 and 23 are reproduced below as illustrative.

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

providing an apparatus for wellbore treatment including

a tubing string having a long axis,

a first port opened through the wall of the tubing string,

a second port opened through the wall of the tubing string, the second port offset from the first port along the long axis of the tubing string,

a first packer operable to seal about the tubing string and mounted on the tubing string to act in a position offset from the first port along the long axis of the tubing string,

a second packer operable to seal about the tubing string and mounted on the tubing string to act in a position between the first port and the second port along the long axis of the tubing string;

a third packer operable to seal about the tubing string and mounted on the tubing string to act in a position offset from the second port along the long axis of the tubing string and on a side of the second port opposite the second packer,

at least one of the first, second and third packer being a solid body packer each including multiple packing elements;

a first sleeve positioned relative to the first port, the first sleeve being moveable relative to the first port between a closed port position and a position permitting fluid flow through the first port from the tubing string inner bore

a second sleeve being moveable relative to the second port between a closed port position and a position permitting fluid flow through the second port from the tubing string inner bore; and

a sleeve shifting means for moving the second sleeve from the closed port position to the position permitting fluid flow, the means for moving the second sleeve selected to create a seal in the tubing string against fluid flow past the second sleeve through the tubing string inner bore and;

running the tubing string into a wellbore in a desired position for treating the wellbore;

setting the packers by hydraulically driving a piston to compress at least one of the multiple packing elements of at least one of the first, second and third packers;

conveying the means for moving the second sleeve to move the second sleeve and increasing fluid pressure to force wellbore treatment fluid out through the second port.

Ex. 1001, 15:46–16:16 (line breaks added).

23. The method of claim 19 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.

Id. at 16:31–34.

E. Asserted References

Petitioner relies on the following references:

D.W. Thomson et al., *Design and Installation of a Cost-Effective Completion System for Horizontal Chalk Wells Where Multiple Zones Require Acid Stimulation*, SPE (Society for Petroleum Engineering) 37482 (1997) (“Thomson”) (Ex. 1003).

B. Ellsworth et al., *Production Control of Horizontal Wells in a Carbonate Reef Structure*, 1999 Canadian Institute of Mining, Metallurgy, and Petroleum Horizontal Well Conference (1999) (“Ellsworth”) (Ex. 1004).

A.B. Yost et al., *Production and Stimulation Analysis of Multiple Hydraulic Fracturing of a 2,000-ft Horizontal Well*, SPE 19090, Society of Petroleum Engineers, Gas and Technology Symposium, Dallas TX, (June 7–9, 1989) (“Yost”) (Ex. 1002).

F. Asserted Ground

Petitioner contends that claims 23 and 27 of the ’505 patent are unpatentable under 35 U.S.C. § 103 based on the following ground (Pet. 6):

Ground	Reference(s)	Challenged Claims
§ 103	Thomson, Ellsworth, and	23 and 27

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