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Fehr et al.

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(45) **Date of Patent:** **Jan. 4, 2011**

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

(56) **References Cited**

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(75) Inventors: **Jim Fehr**, Edmonton (CA); **Daniel Jon Themig**, 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 32 days.

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(65) **Prior Publication Data**

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Related U.S. Application Data

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(60) Provisional application No. 60/331,491, filed on Nov. 19, 2001, provisional application No. 60/404,783, 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**; 166/308.1; 166/177.5; 166/318; 166/334.4; 166/147

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See application file for complete search history.

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(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 in a pressure tight condition and later is needed to be in an open-port condition.

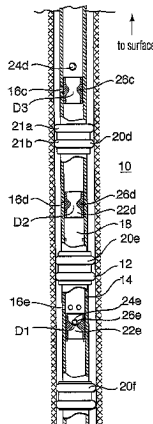
16 Claims, 9 Drawing Sheets

WEATHERFORD INTERNATIONAL, LLC, et al.

EXHIBIT 1001

WEATHERFORD INTERNATIONAL, LLC, et al.

v.
PACKERS PLUS ENERGY SERVICES, INC.



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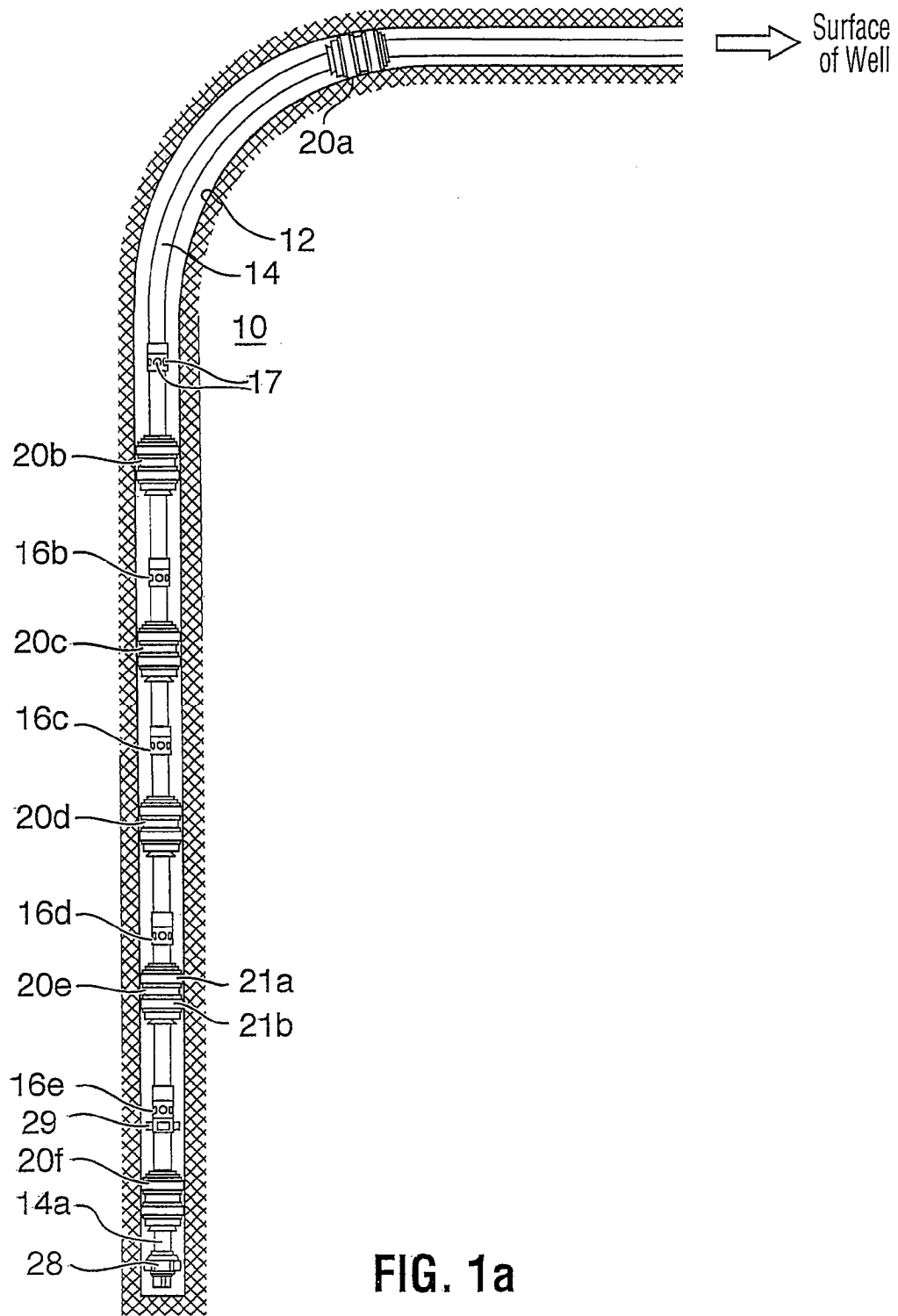


FIG. 1a

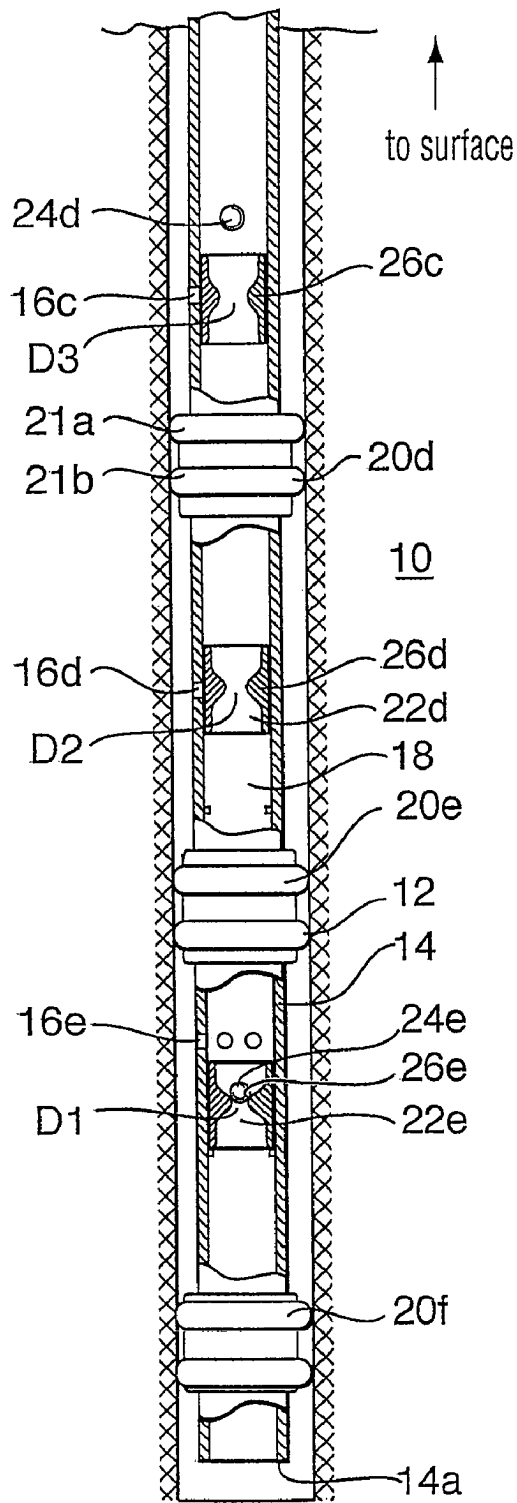


FIG. 1h

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