

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GREENE'S ENERGY GROUP, LLC,
Petitioner,

v.

OIL STATES ENERGY SERVICES, LLC,
Patent Owner.

Case IPR2014-00216
Patent 6,179,053 B1

Before SCOTT E. KAMHOLZ, WILLIAM A. CAPP, and
JAMES A. TARTAL, *Administrative Patent Judges*.

TARTAL, *Administrative Patent Judge*.

FINAL WRITTEN DECISION

35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Greene's Energy Group, LLC ("Petitioner") filed a reformatted Petition (Paper 6, "Pet.") requesting an *inter partes* review of claims 1 and 22 of U.S. Patent No. 6,179,053 B1 (Ex. 1001, "the '053 patent"). Based on the information provided in the Petition, we instituted a trial pursuant to 35 U.S.C. § 314(a) of claims 1 and 22 of the '053 patent as anticipated under 35 U.S.C. § 102 by Dallas '118.¹ Paper 12 ("Inst. Dec.").

After institution of trial, Oil States Energy Services, LLC ("Patent Owner") filed a Patent Owner's Response (Paper 20, "PO Resp.") and Petitioner filed a Reply (Paper 35, "Reply"). Patent Owner also filed a Motion to Amend (Paper 23, "Mot.") proposing substitute claim 28 if claim 1 is found unpatentable, and substitute claim 29 if claim 22 is found unpatentable. Petitioner filed an Opposition to the Motion to Amend (Paper 36, "Opp."), and Patent Owner filed a Reply (Paper 44, "PO Reply"). A transcript of the Oral Hearing conducted on February 11, 2015, is entered as Paper 52 ("Tr.").

We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, Petitioner has shown by a preponderance of the evidence that claims 1 and 22 of the '053 patent are unpatentable, and Patent Owner's Motion to Amend is denied.

¹ Canadian Patent Application 2,195,118 (Ex. 1003, "Dallas '118"). In this decision, the cited page numbers of Dallas '118 correspond to the numbers centered at the bottom of the pages of Exhibit 1003.

A. *The '053 Patent*

The '053 patent, titled “Lockdown Mechanism for Well Tools Requiring Fixed-Point Packoff,” relates to an apparatus and method for securing a mandrel of a well tool in an operative position in which the mandrel is packed off against a fixed-point in a well. Ex. 1001, Abstract, 1:6–10. The '053 patent issued on January 30, 2001, from Application No. 09/373,418, filed August 12, 1999 (“the '418 application”).

According to the '053 patent, the servicing of oil and gas wells to stimulate production requires pumping generally corrosive and abrasive fluids under high pressure. *Id.* at 1:16–20. Such fluids purportedly can cause irreparable damage if they are pumped directly through the spool and valves that make up a wellhead. *Id.* at 1:21–23. The '053 patent states that it is well known to isolate a wellhead by inserting a mandrel through the wellhead to prevent damage from stimulation fluids. *Id.* at 1:23–30. At the bottom end of the mandrel, a packoff (fluid seal)² assembly usually is provided to isolate the wellhead from the stimulation fluids. *Id.* at 1:32–36.

If the packoff assembly seals against the inside of the production tubing or casing, however, then the smaller internal diameter of the mandrel used will reduce the flow rate at which stimulation fluids may be pumped into the well. *Id.* at 1:43–47. To avoid such a reduction in flow rate, the '053 patent proposes a lockdown mechanism for securing a mandrel requiring a fixed-point packoff in an operative position in the well. *Id.* at 2:43–45. “The fixed-point for packoff may be a bit guide mounted to the top of a casing, . . . an annular step above back pressure valve threads of a

² The parties agree “packoff” means a fluid seal. *See* Pet. 13; PO. Resp. 9; Ex. 1001, 1:32-36.

tubing hanger, . . . or any other type of fixed-point location used for packoff in a wellhead, a casing, a tubing or downhole tool.” *Id.* at 5:34–39.

According to the ’053 patent, such an arrangement permits the internal diameter of the mandrel to be the same as that of the well tubing or casing. *Id.* at 1:62–67.

As described by the ’053 patent, the mandrel is locked in an operative position only when both first and second lockdown mechanisms are in respective lockdown positions. *Id.* at 4:5–7. The first lockdown mechanism includes a base member for connection to a wellhead and a locking member for detachably engaging the base member. *Id.* at 4:10–13. The second lockdown mechanism has a range of adjustment adequate to ensure that the mandrel can be moved into the operative position and locked down while the first lock down mechanism is in the lockdown position. *Id.* at 4:13–17.

Figure 2 of the '053 patent is reproduced below.

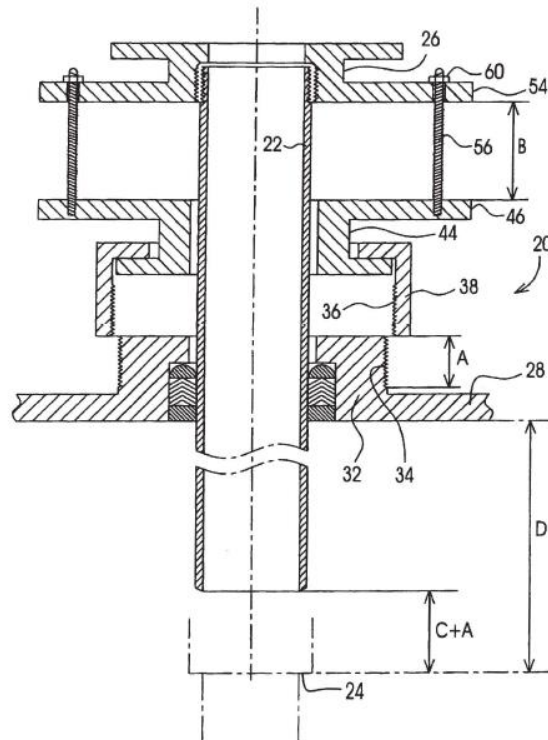


FIG. 2

Figure 2 shows a cross-sectional view of one embodiment of an apparatus for securing mandrel 22 of a well tool in an operative position in which mandrel 22 may be packed-off against fixed-point 24 in a well. Ex. 1001, 7:6–9. Base plate 28 may be mounted on the top of a wellhead while it is disengaged from the other parts of apparatus 20. *Id.* at 7:8–10. The other parts of apparatus 20 remain connected to the top end of mandrel 22, and are moved with mandrel 22 when it is inserted into the wellhead by a setting tool (not shown in Figure 2). *Id.* at 7:10–12. Upper flange 46 of connector 44 remains spaced from lower flange 54 of mandrel head 26 as mandrel 22 is inserted through the wellhead. *Id.* at 7:15–19. For safe engagement to restrain the high fluid pressures during a well treatment to stimulate production, after mandrel 22 is inserted through the wellhead, a first locking

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