

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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NINE ENERGY SERVICE INC.,  
Petitioner,

v.

NCS MULTISTAGE INC.,  
Patent Owner.

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IPR2020-01615  
Patent 10,465,445 B2

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Before JOSIAH C. COCKS, LYNNE H. BROWNE, and  
JAMES A. WORTH, *Administrative Patent Judges*.

BROWNE, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

NINE ENERGY SERVICE INC. (“Petitioner” or “Nine”), on September 11, 2020, filed a Petition to institute *inter partes* review of claims 1–57 of U.S. Patent No. 10,465,445 B2 (Ex. 1001, “the ’445 patent”). Paper 1 (“Pet.”). NCS MULTISTAGE INC. (“Patent Owner” or “NCS”) filed a Preliminary Response to the Petition on December 29, 2020. Paper 7 (“Prelim. Resp.”).

Having considered the arguments and evidence of record, and for the reasons explained below, we exercise our discretion under 35 U.S.C. § 314(a) and deny institution of post-grant review.

### A. *Real Parties in Interest*

Petitioner indicates that it is the real-party-in-interest. Pet. 2. Patent Owner indicates that it is the real-party-in-interest. Paper 5, 2.

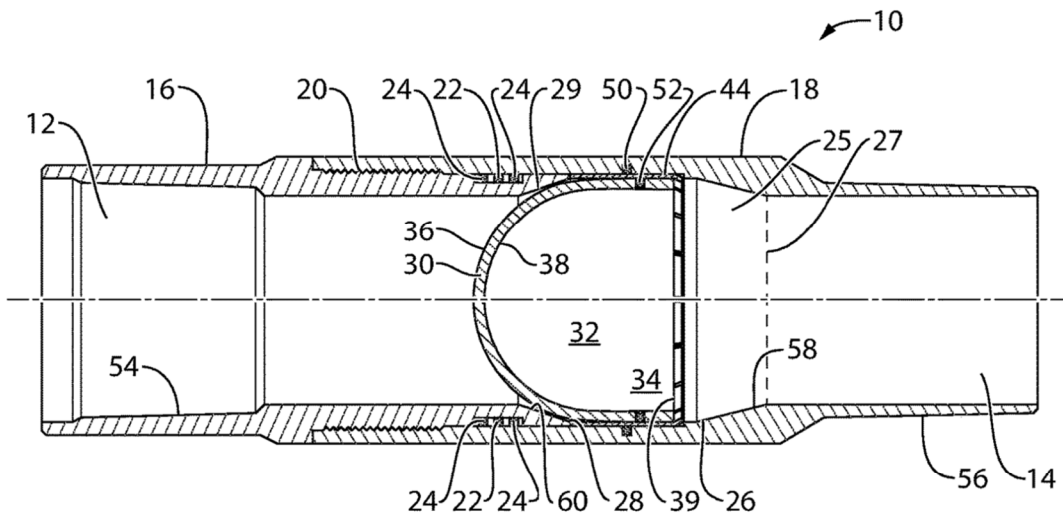
### B. *Related Matters*

Petitioner indicates that the ’445 patent is the subject of *NCS Multistage Inc. v. Nine Energy Service, Inc.*, Case No. 6:20-cv-00277 (W.D. Tex.) (the “parallel district court proceeding” or “Nine litigation”); *NCS Multistage Inc. v. Innovex Downhole Solutions, Inc.*, Case No. 6:20-cv-00280 (W.D. Tex.); *NCS Multistage Inc. v. TCO AS, et al.*, Case No. 6:20-cv-00622 (W.D. Tex.) (*see, e.g.*, Exs.1006, 1007) (“TCO litigation”); *NCS Multistage Inc. v. Allamon Tool Company Inc.*, Case No. 6:20-cv-00699 (W.D. Tex.); *NCS Multistage Inc. v. Packers Plus Energy Services, Inc., et al.*, Case No. 6-20-cv-00700 (W.D. Tex.); and *NCS Multistage Inc. v. Permian Petrolink, LLC*, Case No. 6:20-cv-00701 (W.D. Tex.). Pet. 2–3. Petitioner further indicates that the ’445 patent is also the subject of PGR2020-00077 and PGR2020-00078. *Id.* at 3.

*C. The '445 Patent*

The '445 patent “relates to a method and apparatus for sealing well casings.” Ex. 1001, 1:17–18. Specifically, the method and apparatus “relates to an improved rupture disc assembly and improved rupture disc within the assembly wherein the rupture disc, when installed in the wellbore, can be ruptured by engagement with an impact surface of a tubular once a rupturing force is applied to the disc, such as by hydraulic fluid under pressure.” *Id.* at 2:1–8.

Figure 2 of the '445 patent is reproduced below:



**FIG.2**

Figure 2 shows a cross-sectional view of rupture disc assembly 10 for installation of a casing sting. Ex. 1001, 3:41–43. Rupture disc assembly 10 consists of upper tubular member 16 having upper fluid passageway 12 coupled to lower tubular member 18 having lower fluid passageway 14 formed in its interior to form a continuous fluid passageway. *Id.* at 7:31–38.

Rupture disc 30 is sealingly engaged between upper tubular member 16 and lower tubular member 18. *Id.* at 7:37–38. The outer wall of lower tubular member 18 overlaps at least a portion of the outer wall of lower tubular member 16 with the tubular members being mechanically joined together at 20 by a threaded connection. *Id.* at 7:40–44. Rupture disc 30 consists of cylindrical portion 34 continuous with hollow, hemispherical dome portion 32. *Id.* at 8:11–12. Portion 32 has concave surface 38 facing down-hole and convex surface 36 facing up-hole and cylindrical portion 34 terminates in circumferential edge 39. *Id.* at 8:8–13.

Rupture disc assembly 30 is used in a method of installing a casing string or to float a casing. Ex. 1001, 5:50–52. Once the casing has landed rupture disc 30 is burst by pressuring the casing from the surface. *Id.* at 6:24–26. After rupture, the inside diameter of the casing string in the region of rupture disc assembly 10 is essentially the same as this in the remainder of the casing. *Id.* at 6:62–65.

*D. Illustrative Claim*

Petitioner challenges claims 1–57 of the '445 patent. Claims 1, 22 and 50 are independent. Claim 1, reproduced below, is illustrative of the challenged claims.

1. A float tool configured for use in a casing string for a wellbore containing a well fluid, the casing string having an internal diameter that defines a fluid passageway between an upper portion of the casing string and a lower portion of the casing string, the float tool comprising:

a rupture disc assembly comprising (i) a tubular member having an upper end and a lower end, the upper and lower ends configured for connection in-line with the casing string and (ii) a rupture disc having a rupture burst pressure and in sealing

engagement with a region of the tubular member within the upper and lower ends,

wherein the rupture disc is configured to rupture when exposed to a rupturing force greater than the rupture burst pressure and the region of the tubular member where the rupture disc is attached has a larger internal diameter than the internal diameter of the casing string and is parallel to the internal diameter of the casing string.

Ex. 1001, 14:6–23.

*E. The Asserted Grounds of Unpatentability*

Petitioner asserts that the challenged claims are unpatentable on the following grounds:

Claims Challenged	35 U.S.C. §	References
1, 5, 6, 28, 29, 33, 34	102	Frazier <sup>1</sup>
1–3, 8–18, 22–31, 36–46, 50–57	103	Rogers <sup>2</sup> , Frazier
1–3, 5–20, 22–31, 33–48, 50–57	103	Rogers, Entchev <sup>3</sup>
4, 32	103	Rogers, Entchev, Lembcke <sup>4</sup>
21, 49	103	Rogers, Entchev, Fishbeck <sup>5</sup>

Pet. 11. Petitioner supports its challenge with the Declaration of Nathan Meehan, PhD, PE, dated September 11, 2020 (“Meehan Declaration”) (Ex. 1002).

<sup>1</sup> U.S. 9,194,209 B2 issued November 24, 2015. Ex. 1009 (“Frazier”).

<sup>2</sup> H.E. Rogers, *Buoyancy Assist Extends Casing Reach in Horizontal Wells*, Society of Petroleum Engineers, SPE 50680, 1998. Ex. 1007 (“Rogers”).

<sup>3</sup> WO 2010/120774 A1 published Oct. 21, 2010. Ex. 1010 (“Entchev”).

<sup>4</sup> US 5,526,884 issued June 18, 1996. Ex. 1012 (“Lembcke”).

<sup>5</sup> US 8,800,660 B2 issued August 12, 2014. Ex. 1011 (“Fishbeck”).

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