

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTELLIGENT WELLHEAD SYSTEMS, INC.,
Petitioner,

v.

DOWNING WELLHEAD EQUIPMENT, LLC,
Patent Owner.

PGR2025-00002
U.S. Patent 12,134,952

DECLARATION OF TIMOTHY MARVEL

I, Timothy K. Marvel, hereby declare as follows:

I. INTRODUCTION

1. I submit this declaration in connection with Downing Wellhead Equipment, LLC's (Downing) Preliminary Patent Owner Response to IWS's Petition for Post-Grant Review of U.S. Patent No. 12,134,952 (the '952 patent). I understand that the '952 patent relates to performing a CP swap and continuously pumping during hydraulic fracturing and was invented by Jordan Kuehn, Austin Johnson, Ronnie Beason, and Nicholas Cannon. I have been asked to prepare this declaration to provide information regarding Downing's public disclosure of this CP swap invention through a webpage on Downing's public-facing website, published on October 12, 2020. I have also been asked to provide information on the video saved in Ex.1027 that Petitioner refers to as "FS-Video." I base this declaration on my personal knowledge.

2. I am a licensed professional engineer in the state of Texas. I completed my undergraduate studies at the Colorado School of Mines, where I received a Bachelor of Science in Mechanical Engineering in 1995. In 2024, I received a Master's in Economics from the University of Missouri. I have since spent my career working in the oil and gas industry. I started in the oil and gas industry at Baker Hughes in 1995, where I was employed for over 18 years. I held various roles at Baker Hughes, including Product Development Engineer, Research

Engineer, District Manager, Director of Product Development, Director of Technology, Drilling, and Evaluation, and Director of Business Development and Marketing for Completions Services.

3. In 2014, I left Baker Hughes to join Alcoa as Managing Director. I remained there until 2016, when I moved to Dover Energy Automation as Vice President and General Manager of Production Optimization.

4. In 2017, I joined SEF Energy as Vice President of Business Development and Technology. I have remained there since. Although I officially work for SEF Energy, I am involved in Downing's business because Downing is a subsidiary of SEF Energy.

II. DOWNING'S PUBLIC DISCLOSURE

5. On October 12, 2020, Downing published a webpage describing continuous pumping on its public-facing internet website. This webpage was publicly accessible at <https://downingusa.com/freedomseries/continuouspumping>.

The Internet Archive Wayback Machine archived a copy of this webpage on October 20, 2020, eight days after I published it. This archived version is accessible at

<https://web.archive.org/web/20201020115107/https://downingusa.com/freedomseries/continuouspumping>, which is accurately reflected in exhibit Ex.2015. I have reviewed the October 20, 2020 archived version of Downing's continuous

pumping webpage captured in Ex.2015 and it is the same as the version I originally posted on October 12, 2020 via WordPress. Ex.2002 is a true and correct copy of the WordPress version of the webpage I posted on October 12, 2020. Ex.2002 correctly indicates in the header that the WordPress version is from “Oct 12, 2020 @ 3:13 pm.” Ex.2002, 1.

6. I was responsible for drafting, revising, and publishing Downing’s continuous pumping webpage. The information about continuous pumping that I included on the webpage I learned directly from Mr. Johnson, one of the co-inventors of the ’952 patent.

7. In 2020, in my role as Vice President of Business Development and Technology, I communicated with Mr. Johnson frequently. It was common for Mr. Johnson and me to communicate several times per week.

8. Through these direct communications with Mr. Johnson, I learned that Mr. Johnson and Mr. Kuehn, two of the inventors of the ’952 patent, were attempting to perform a new continuous pumping invention in fracking systems by performing a CP swap. In September 2020, I learned that the Downing team successfully performed continuous pumping via Downing’s commercial fracking system, the Freedom Series Completion System. I again learned this information from Mr. Johnson. Shortly thereafter, I began working on materials to promote and advertise Downing’s ability to perform continuous pumping with the Freedom

Series Completion System. At the time, no one else in the industry knew of or could perform continuous pumping. I believed it was critical to get information on Downing's new continuous pumping capability out to the public as quickly as possible to help Downing gain a competitive advantage.

9. As noted above, one of the materials I created to promote the continuous pumping invention was a webpage for Downing's public-facing website. Ex.2015; Ex.2002. I used the information I obtained from Mr. Johnson about continuous pumping to draft the webpage.

10. On October 9, 2020, I emailed a draft of the continuous pumping webpage to Mr. Johnson and Brian Wiesner, Downing's President and Chief Operating Officer. The reason I did this was to confirm that I had accurately represented on the webpage the information about continuous pumping that I had received from Mr. Johnson. Ex.2003 is a true and correct copy of the email I sent to Mr. Johnson and Mr. Wiesner. In response to my email, Mr. Johnson provided me feedback on the draft webpage and I incorporated the feedback to create a final version. In other words, the subject matter related to continuous pumping on the final version of the webpage was obtained directly from Mr. Johnson, including the text-based information on pages 1-2 and the example graph on page 2 of Ex.2015.

11. On October 12, 2020, I posted the final version of the continuous pumping webpage on Downing's public-facing website. Ex.2002. It is my

understanding that anyone with an internet connection could search for and visit Downing's website and view the continuous pumping webpage.

12. The same day I published Downing's continuous pumping web page on the company website, I promoted this webpage in a LinkedIn post on my account. Ex.2004. Ex.2004 is a true and correct screen capture of my LinkedIn post. In my LinkedIn post, I provided a link to Downing's continuous pumping webpage. My goal with the LinkedIn post was to reach as wide of an audience as possible to advertise Downing's innovative new technology.

III. FS-VIDEO (Ex.1027)

13. I understand that IWS's Petition relies upon a video Downing published on YouTube in 2019 promoting aspects of the Freedom Series. Ex.1027; Petition, 127-135. IWS refers to this video as FS-Video, which is still available at <https://www.youtube.com/watch?v=X0m9DcnZczE>. I am personally familiar with FS-Video, as I worked with Downing engineers and others to develop and publish the video.

14. Downing created FS-Video to advertise the capabilities of the "FS Valve" and "FS Latch" within the Freedom Series completion system. Ex.1027, 0:23. FS-Video was created and published before Downing's invention of the continuous pumping swap by more than a year. Downing posted FS-Video in 2019 but, as I explain above, Downing did not perform the CP swap with the Freedom

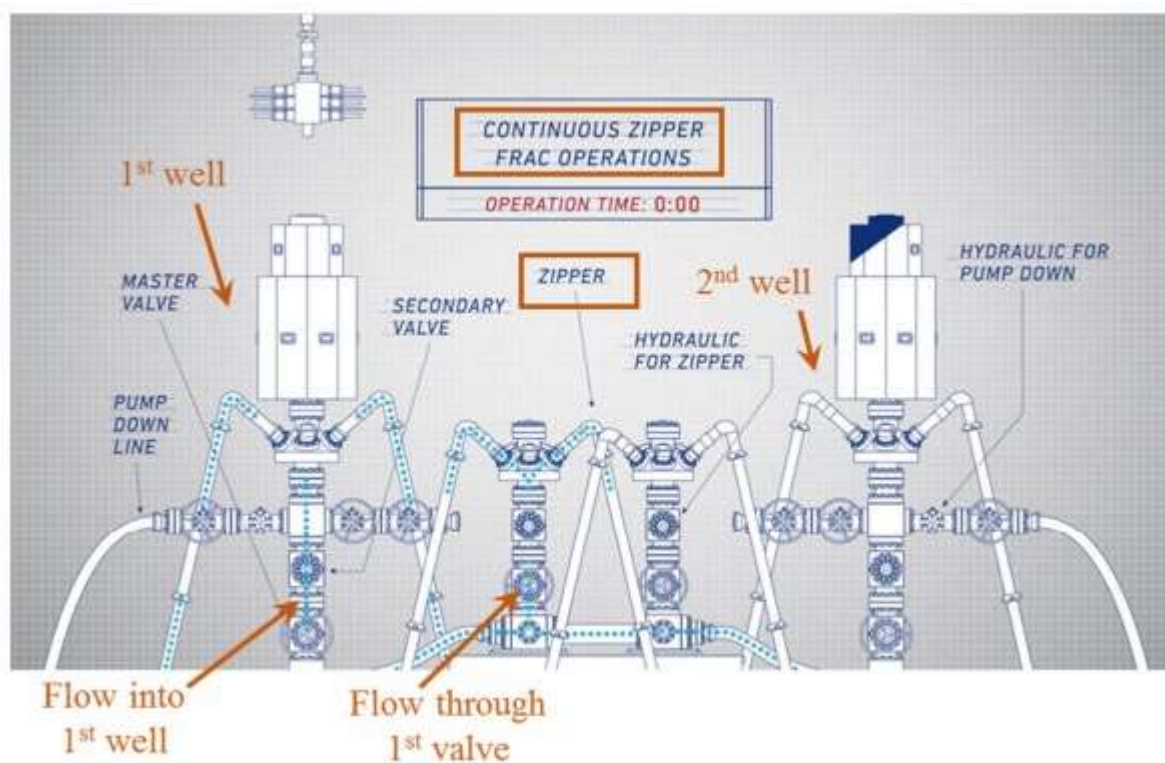
Series until September 2020 or advertise it until October 2020. For that reason, FS-Video does not illustrate continuous pumping when transitioning between fracturing wells.

15. FS-Video instead promotes “continuous zipper frac operations,” which refers to the ability to simultaneously perform various operations on wells attached to a zipper manifold. As an example, FS-Video illustrates that with FS Valve and FS Latch, “while fracking on one well you can simultaneously attach the lubricator” to the other well “allowing you to complete swap and equalization operations in under five minutes.” Ex.1027, 0:54-1:17. This is operationally different than the later-introduced CP swap feature that can “transition the zipper valves from one well to the other” in “as fast as 40 seconds,” as I noted in Downing’s original Continuous Pumping webpage I posted in October of 2020. Ex.2015, 1.

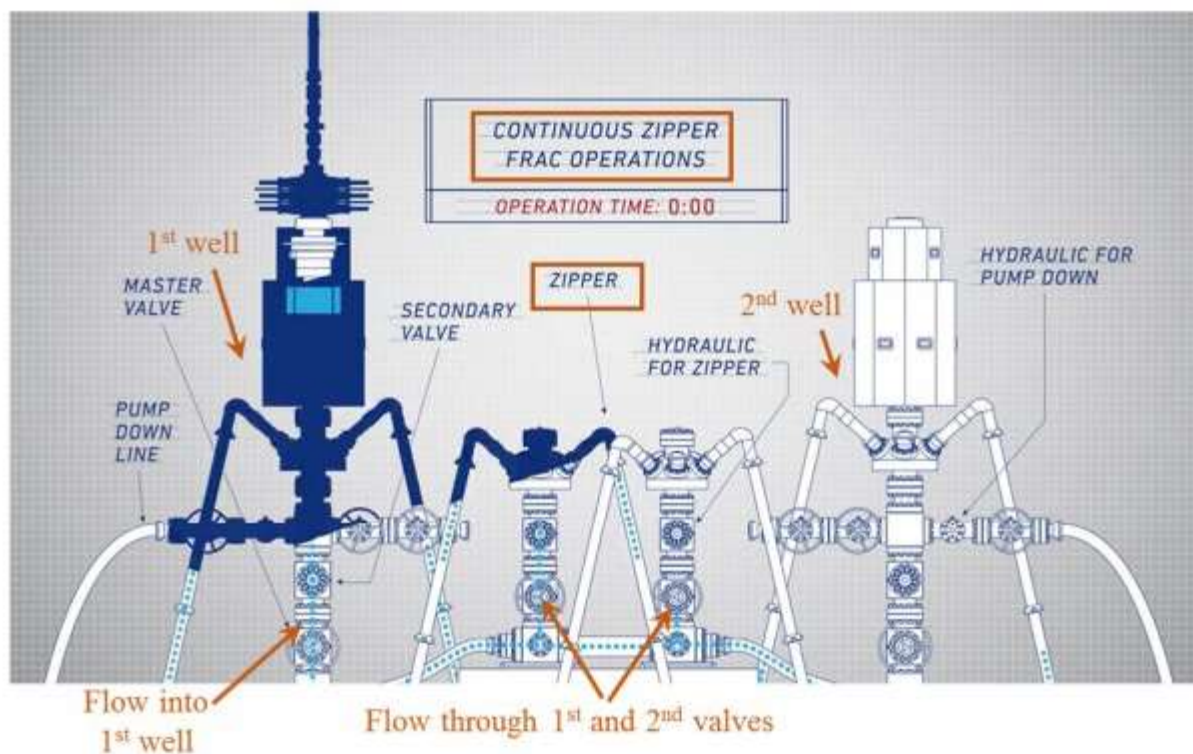
16. FS-Video was developed to promote the FS Valve and FS Latch’s “automated [] pressure equalization process” in the context of zipper operations. Ex.1027, 0:46-49. I note that this equalization process took approximately 3-5 minutes. Because of this, the Downing team (including myself) took liberties with the depiction of the fracturing operations in order to condense the process into a smaller timeframe. For marketing purposes, the three minutes of “operation time” depicted from 1:09-1:18, was sped up to span only 10 seconds. Ex.1027, 1:09-1:18.

The various operations within those 10 seconds of video time do not accurately depict—and are not meant to accurately depict—the actual fracturing steps and their respective timing.

17. As an example of this non-technical purpose, I note that when the well on the left (“1st well”) is transitioned from being stimulated at 1:07 to being pressurized for wireline operations at 1:08, the transition is graphically depicted with a solid blue color covering the well over the course of two seconds:



Petition, 130 (reproducing and annotating Ex.1027, 1:07).



Petition, 133 (reproducing and annotating Ex.1027, 1:08).

18. This graphic was intended to be aesthetically appealing but not reflective of actual operation given that the video's primary purpose was to engage the viewer rather than provide accurate or detailed technical information. As another example, FS-Video does not depict individual valve operation. It does not depict when the second valve is opened or whether it is opened before or after the first valve is closed. Ex.1027, 1:07-1:09. It did not need to include those details because the Freedom Series in 2019 did not remotely control the valves Petitioner has labeled as "1st" and "2nd" valves. In 2019, during a FS Valve/FS Latch transition between stimulating wells, the operator would manually control the valves after stopping the pumps. Specifically, when performing the operation

depicted in FS-Video, an operator would shut down the pumps, close the 1st valve to the 1st well, open the 2nd valve to the 2nd well, and then start the pumps.

Manually opening and closing valves takes some amount of time, which is not depicted in FS-Video for the sake of brevity. Also, the reason FS-Video illustrates fluid (blue dots) continuously present in the zipper manifold during the transition is because pressure is maintained (despite the pumps being shut down).

19. For these reasons, the FS-Video does not illustrate the CP swap sequence, nor it is meant to illustrate the CP swap sequence.

IV. CONCLUSION

20. I declare that all statements made in this declaration upon my knowledge are true and that all statements made upon information and belief are believed to be true, and further declare that these statements were made knowing that willful false statements and the like are made punishable by fine, imprisonment, or both, under 18 U.S.C. § 1001.

Date: March 5, 2025


Timothy Marvel (Mar 5, 2025 20:20 CST)

Timothy K. Marvel