

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CRUSOE ENERGY SYSTEMS, LLC,
Petitioner,

v.

UPSTREAM DATA, INC.,
Patent Owner.

Case PGR2023-00039
Patent 11,574,372

PETITIONER'S REPLY TO
PATENT OWNER'S PRELIMINARY RESPONSE

EXHIBIT LIST

- EX1001 U.S. Patent No. 11,574,372 to Stephen Barbour et al. (“the ‘372 Patent”)
- EX1002 Excerpts from the Prosecution History of the ‘372 Patent (“the Prosecution History”)
- EX1003 Declaration and Curriculum Vitae of Michael Nikolaou
- EX1004 Declaration and Curriculum Vitae of Vernon Kasdorf
- EX1005 WO2015123257A1 (Dickerson)
- EX1006 CryptoKube brochure from the WaybackMachine dated March 5, 2016 (“CryptoKube Brochure”)
- EX1007 CryptoKube Bitcoin Mining Data Center Tour(CC) (“CryptoKube Video-Part1”)
- EX1008 CryptoKube Bitcoin Mining Data Center Tour Transcript
- EX1009 Szmigielski, Albert. Bitcoin Essentials. Packt Publishing Ltd, 2016 (“Szmigielski”)
- EX1010 U.S. Patent Publication No. 2016/0125040 (“Kheterpal”)
- EX1011 PCT Patent Publication No. WO2015072989 (“Belady-989”)
- EX1012 U.S. Patent No. 9,394,770 (“Boot”)
- EX1013 Sanders, Gerald, and Johnson Space Center. "Gas Conversion Systems Reclaim Fuel for Industry." (“Sanders”)
- EX1014 US Patent Publication No. 2015/0368566 (“Young”)
- EX1015 Mining Container ~100kW by Polivka GmbH (“Bitcointalk Forum Post”)

- EX1016 Mining with free natural gas _ r _Bitcoin (“Reddit”)
- EX1017 U.S. Patent Publication No. 2014/0096837 (“Belady-837”)
- EX1018 U.S. Patent Publication No. 2018/0109541 (“Gleichauf”)
- EX1019 Polivka Mining Container Setup on Vimeo (“Polivka Video”)
- EX1020 Declaration of June Ann Munford
- EX1021 U.S. Patent No. 6,161,386 (“Lokhandwala”)
- EX1022 “Crypto you can mine from a home computer,” Brave New Coin
(bravenewcoin.com) (July 18, 2023)
- EX1023 CryptoKube Bitcoin Mining Data Center Tour(CC) (“CryptoKube
Video-Part2”)
- EX1024-1099 [RESERVED]
- EX1100 Complaint for Patent Infringement, *Upstream Data Inc. v. Crusoe
Energy Systems LLC*, Case No. 1:23-cv-01252 (D. Colo. May 18,
2023)
- EX1101 Email from the Board dated November 15, 2023, authorizing
Petitioner to file a response to Patent Owner’s Preliminary Response

Petitioner submits this reply to Patent Owner's Preliminary Response

("POPR"), as authorized by the Board's email of November 15, 2023. EX1101.

In the Petition, the following references were asserted against the independent claims: Dickerson (EX1005), CryptoKube (EX1006-1008, EX1023), Sanders (aka MAGS) (EX1013-1014), and Polivka (EX1015, EX1019). Pet., 3. The POPR alleges these references are substantially the same as certain file history references, and argues that discretionary denial under Section 325(d) is thus appropriate. POPR, 26-32, 58-62. PO is wrong. Discretionary denial under §325(d) is inappropriate because (1) none of the foregoing references (Dickerson, CryptoKube, MAGS, Polivka) were made of record, and (2) the same or substantially the same prior art and arguments were **not** previously presented to the Office.

During prosecution, the Examiner found that Belady-837 disclosed "using a gas generator to power a data center" and that it was obvious to repurpose Belady-837's datacenter to mine crypto in view of Gleichauf. EX1002, 336-337. In response, PO did not identify any claim limitation that was missing in the prior art. Instead, PO attacked the motivation to combine and argued that "[b]lockchain mining is not synonymous with regular data center processing and **cannot be compared as such.**" EX1002, 222. The Examiner was persuaded, erroneously, stating that "there does not appear to be sufficient grounds for combining or

modifying the prior art of record to adequately arrive at the claimed invention.”

EX1002, 7. Thus, the reason for allowance was not that a certain claim limitation was missing, but rather that there was no good motivation to combine allegedly.

I. The Prior Art and Arguments in the File History and Petition Differ Substantially

A. Dickerson Is Not Cumulative of Belady-837

For Dickerson, the POPR points to Belady-837. POPR, 26-30. However, Dickerson and Belady-837 have important structural and functional differences. For example, unlike Belady-837, Dickerson is a portable (i.e., mobile) container system, leading to a new and stronger motivation to combine. IPR2019-00975, Paper 15 at 16 (finding that, unlike a previously presented reference, the asserted prior art’s implant screw grooves were located at a different portion of the screw, providing a new motivation to combine).

Also, according to the POPR, a person skilled in the art allegedly would not have been motivated to combine Belady-837 with a blockchain miner because Belady-837’s “pressure regulating valve” supposedly would shut off the generator, purportedly making it unfit for crypto mining. POPR, 68-69. But Dickerson does not have this alleged deficiency and thus provides a stronger motivation to combine.

Further, claims 17, 18, 19, 20, and 21 all require a portable containerized system, which is disclosed by Dickerson, but not Belady-837.

B. CryptoKube / Polivka Is Not Cumulative of Gleichauf

For CryptoKube / Polivka, the POPR points to Gleichauf. POPR, 30-32, 60-61. However, unlike Gleichauf, CryptoKube / Polivka is a portable containerized crypto miner, leading to a new and stronger motivation to combine. IPR2019-00975, Paper 15 at 16. Also, in contrast to Gleichauf, CryptoKube, MAGS, and Polivka were all commercially deployed systems, thereby providing a strong reasonable expectation of success. *Bos. Sci., Inc. v. Iancu*, 811 F. App'x 618, 625 (Fed. Cir. 2020).

Further, claims 17, 18, 19, 20, and 21 all require a portable containerized system, which is disclosed by CryptoKube/Polivka, but not Gleichauf.

C. MAGS Is Not Cumulative of the Youtube Video

Regarding MAGS, the POPR points to a Youtube video that allegedly discloses the MAGS system. POPR, 58-60. However, this Youtube video is just a conceptual introduction and lacks important structural limitations required by claim 1, such as “a generator connected to the source of combustible gas to receive a continuous flow of combustible gas,” which is disclosed in Petitioner’s MAGS references. Pet., 77-79; EX1013, 2; EX1014, [0198]. Also, in contrast to the MAGS references in the Petition, the Youtube video does not show a system isolated from a sales gas line and an external electrical power grid, as required by claim 2. Pet., 86; EX1013, 2-3; EX1014, [0006], [0084], [0133], and [0146].

Further, because the Youtube video was merely made of record and not actually applied in a rejection, it does not weigh in favor of denying institution. IPR2019-01204, Paper 14 at 16; IPR2018-01216, Paper 14 at 35–36; IPR2017-02137, Paper 9 at 9–10; IPR2017-00551, Paper 9 at 7–8; IPR2022-00353, Paper 8 at 10 (finding that when a reference is not the basis of rejection, and merely made of record, it weighs “strongly against” exercising discretionary denial).

D. Polivka Is Not Cumulative of BlockBox

For Polivka, the POPR points to BlockBox, which allegedly is similar to Polivka. POPR, 61-62. However, Blockbox lacks important structural limitations required by claim 1, such as a plurality of “blockchain mining devices,” each having “a mining processor.” Pet., 79-81; EX1015, 17 and 31. Further, as discussed above, BlockBox was merely cited in an IDS.

E. The Arguments are Different

More importantly, in the Petition, it is Dickerson / MAGS and CryptoKube / Polivka together (combined with the other asserted references) that surpass any individual reference or set of references in the file history to render the claims obvious. Pet., 19-21, 81-83. For example, the Petition explains many motivations to combine Dickerson and CryptoKube including (1) both systems are containerized portable systems that can be easily combined and deployed to a remote location (Pet., 20); (2) Dickerson discloses generating free or cheap excess

electricity that otherwise would be wasted when a grid is not accessible (Pet. 19-20); and (3) cheap electricity is the primary concern for crypto mining (Pet. 20).

These arguments were not evaluated during prosecution.

The POPR's argument that the references are substantially the same cannot be reconciled with the PO's positions during prosecution. For example, during prosecution PO distinguished Belady-837 and Gleichauf by arguing, incorrectly, that "[b]lockchain mining is not synonymous with regular data center processing and **cannot be compared as such.**" EX1002, 222. Now, facing a different combination – namely the combinations asserted in the Petition – PO abandons the "cannot be compared" argument, and instead argues that blockchain mining requires a "reliable" energy source, a trial-inspired argument found nowhere in the prosecution history. POPR, 15-17.

II. The Examiner Erred

Among other errors, the examiner mistakenly relied on PO's erroneous argument that blockchain mining "cannot be compared" with regular data center processing. EX1002, 7. As explained in the Petition (at 5), crypto mining does not necessarily require any special hardware because, even today, a home computer can be used to mine blockchains. EX1022, 1. Thus, the Examiner erred by relying on this erroneous argument, which does not apply to the Petition's grounds.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4) and 42.205(b), the undersigned certifies that on November 22, 2023, a complete and entire copy of this Petitioner's Reply to Patent Owner's Preliminary Response and Exhibit 1101 were provided by email to the Patent Owner by serving the correspondence address of record as follows:

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