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Barbour

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(54) PORTABLE BLOCKCHAIN MINING SYSTEMS AND METHODS OF USE

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G06F 1/20 (2006.01)

H05K7/20 (2006.01)

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(52) **U.S. Cl.**

CPC *H05K 7/1497* (2013.01); *F02B 63/044* (2013.01); *G06F 1/181* (2013.01);

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See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

5,943,221 A * 8/1999 Asai H02M 5/271

7,542,947 B2 6/2009 Guyon et al.

(Continued)

FOREIGN PATENT DOCUMENTS

EP 3054405 10/2016 EP 2648496 B1 5/2019

(Continued)

OTHER PUBLICATIONS

Wiki, Mining, accessed Jan. 19, 2017, 4 pages, URL=https://en.bitcoin.it/wiki/Mining.

(Continued)

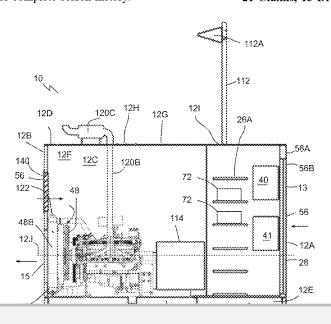
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(57) **ABSTRACT**Portable blockchain mining systems ar

Portable blockchain mining systems and methods of use are discussed here. Systems include a portable building; a plurality of blockchain mining processors mounted within, or a plurality of blockchain mining processor mounts located within, an interior of the portable building; an air inlet defined in the portable building; and an air outlet defined in the portable building. Air outlets may be above the air inlet and oriented to direct exhaust air in an upward direction out of the portable building. A cooling fan may be connected to convey air through the air inlet, across the plurality of blockchain mining processors and out the air outlet. The cooling fan may simultaneously cool a genset and processors 72. Compact, stackable mining modules are discussed.

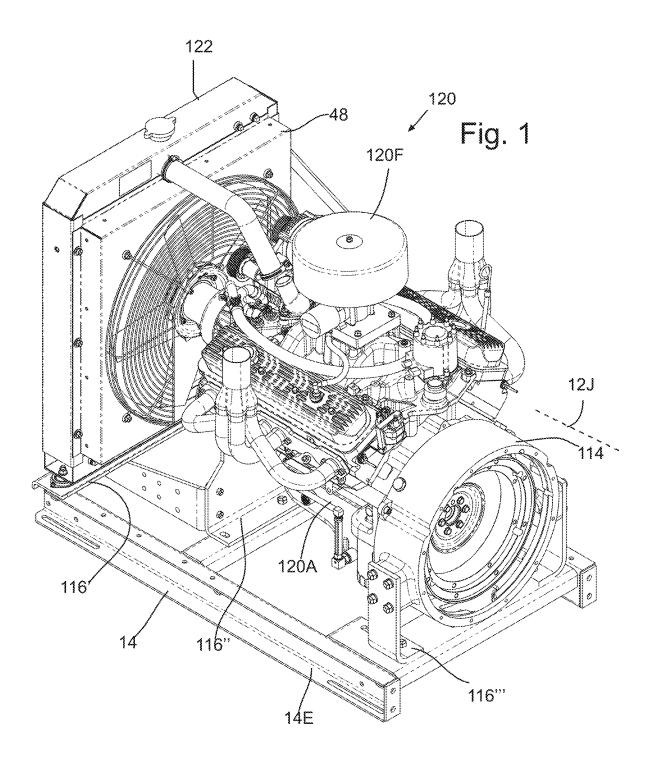
21 Claims, 15 Drawing Sheets



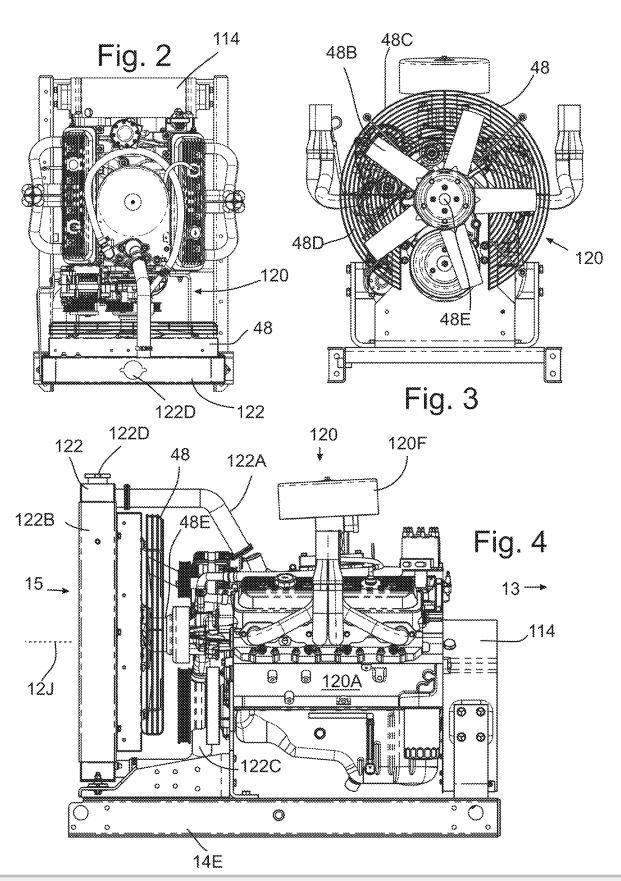


(51) Int. Cl.		2017/0280594 A	.1 9/2017 Sato
H05K 7/14	(2006.01)	2018/0109163 A	.1* 4/2018 Paine E04H 5/04
G06F 15/16	(2006.01)	2018/0124955 A	
F02B 63/04	(2006.01)	2019/0044412 A	
H02K 9/06		2019/0332149 A 2019/0335625 A	
	(2006.01)	2019/0333023 A 2020/0040272 A	
H04L 9/06	(2006.01)	2020/0051184 A	
G06F 1/18	(2006.01)		1* 11/2021 Thornton H05K 7/1497
F01P 1/00	(2006.01)		
$H04L \ 9/00 $ (2022.01)		FOREIGN PATENT DOCUMENTS	
(52) U.S. Cl.			
CPC <i>G0</i> 6	<i>6F 1/20</i> (2013.01); <i>G06F 1/206</i>		5077378 5/2015
(2013.01);	G06F 15/161 (2013.01); H02K	WO 2018	8145201 A1 8/2018
9/06 (201	(3.01); H04L 9/0643 (2013.01);		
H05K 7/20181 (2013.01); H05K 7/20745		•	OTHER PUBLICATIONS
(2013.01); F01P 2001/005 (2013.01); H04L			
9/50 (2022.05)		Wiki, Google Modular Data Center, accessed Oct. 5, 2019 but	
	,		as early as Feb. 8, 2017, 2 pages, URL=https://
(56) References Cited		en.wikipedia.org/wiki/Google_Modular_Data_Center.	
		Bitfury, Block Box AC Mobile Datacenter, available at least as early	
U.S. PATENT DOCUMENTS		as Feb. 2, 2017, 3 pages, screenshots taken from Wayback machine	
			RL=https://web.archive.org/web/20170130043612/
	2 Kiley et al.		roducts#blockbox-ac.
· · · · · · · · · · · · · · · · · · ·	3 Chen		Container, accessed Oct. 5, 2019 but available at eb. 8, 2017, 24 pages, URL=https://en.wikipedia.
9,495,668 B1 11/2016 9,843,470 B1* 12/2017	7 Gartrell H04L 65/40	org/wiki/Intermoda	
	Papen		r Datacenter, accessed Oct. 5, 2019 but available
	3 Newman		Feb. 8, 2017, 3 pages, URL=https://en.wikipedia.
	1 Crook	org/wiki/Sun_Mod	
	Johansen et al.		10ft Bitcoin Mining Container, accessed Sep. 5,
	Cugnet et al.		least as early as May 14, 2019, 5 pages, URL=
	Waters et al. Hunt et al.	https://bitcoinco	ntainer.com/products/10ft-bitcoin-mining-
2011/0199862 A1 8/2011		container.	
2012/0077427 A1 3/2012			AC, available at least as early as May 9, 2019,
	2 Abbott		L=https://bitfury.com/content/downloads/
	2 Kiesling	blockboxacbrochu	
	Breed et al. Michaelson et al.		n, Crypto Mining Container, available at least as 2019, 9 pages, URL=https://blockchain.iwando.
	B DeFosse et al.	com/en/crypto-min	
	3 Feigelson		Z Smartbox, available at least as early as May 9,
	3 Samsom et al.		L=https://www.ezblockchain.net/smart-box.html.
	Dent		ave, accessed May 9, 2019 but available at least
	Irvine Schwartz	as early as Mar. 27	7, 2019, 4 pages, URL=https://miningstore.com/
	5 Bruscoe	bitcoin-mining-con	ntainers/bitcave/.
	5 Shtylman		ner Cube, accessed May 9, 2019 but available at
	Dusseault et al.	•	ep. 16, 2018, 7 pages, URL=https://solminer.io/
	Pauker et al.	mobile-mining-sys	
	Myers	Nordcoin Mining,	Mobile Mining Container, accessed May 9, 2019
	5 Gadwa 5 Pennanen		rly as Feb. 6, 2019, 7 pages, URL=https://www.
	Zawodniok et al.	nordcoinmining.co	on. obile Mining Unit ASIC-184, accessed May 9,
	Weatherhead et al.		as early as Dec. 27, 2018, 8 pages, URL=https://
	Harrison et al.		shop.com/pdf/Power Mining Crpyo Container
	Leyendecker et al.	ASIC_184.pdf.	synopromiting_crpyo_container_
	Malm et al.		r T9+, accessed Apr. 24, 2019 but available as
	5 Kheterpal et al. 5 Kheterpal et al.		018, 3 pages, Screenshots taken from Wayback
	5 Shedd	machine Internet	archive, URL=https://web.archive.org/web/
	Karighattam et al.	20180217221522/1	http://shop.bitmain.com/productDetail.htm?pid=
2016/0214715 A1 7/2016	6 Meffert		128506gKlcpoR06AA.
	5 Ferrin		rs Ltd, Shipping Containers, accessed Jan. 17,
	5 Ford et al.		e as early as Jul. 3, 2018, 3 pages, Screenshots
	5 Chen et al. 5 Fisher et al.		ack machine Internet archive, URL=https://web.
	Moss-Pultz et al.		20180703184711/http://seacan.com/shipping-
	6 Reeves et al.	containers/.	lution To Floring Crusca Engage available
2016/0328713 A1 11/2016	5 Ebrahimi		lution To Flaring, Crusoe Energy, available as 2019, 2 pgs, screenshots taken from Wayback
	Drego et al.		archive, URL=https://web.archive.org/web/
	5 Ebrahimi et al.		https://www.crusoeenergy.com/.
2016/0342977 A1 11/2016 2016/0362954 A1 12/2016	5 Lam 5 Hansen et al.	20151205227203/1	Tank to the state of the state
	7 Campbell H05K 7/20736	* cited by exami	iner
	*	,	

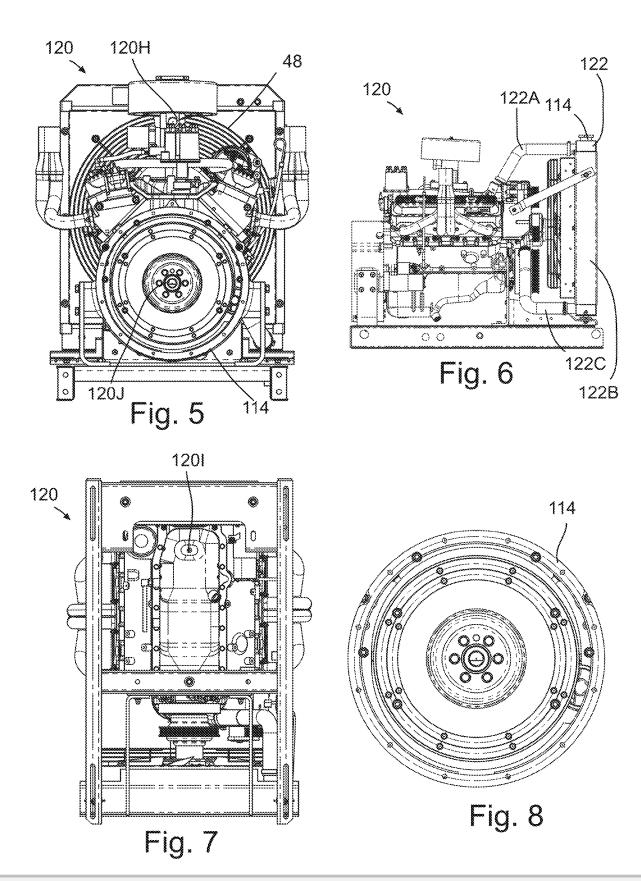












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