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(54) **DISPLAY SCREEN OR PORTION THEREOF WITH A GRAPHICAL USER INTERFACE**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,960,128 A	10/1990	Gordon et al.
4,964,408 A	10/1990	Hink et al.
5,319,355 A	6/1994	Russek
5,337,744 A	8/1994	Branigan
5,341,805 A	8/1994	Stavridi et al.
D353,195 S	12/1994	Savage et al.

(Continued)

OTHER PUBLICATIONS

“Pressure Injury in the ICU: Major Reconstructive Surgery Required” Sep. 2017, ResearchGate, site visited Oct. 21, 2020: https://www.researchgate.net/figure/30-40-side-lying-position_fig15_319897168 (Year: 2017).*

(Continued)

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(57) **CLAIM**

The ornamental design for a display screen or portion thereof with a graphical user interface, as shown and described.

DESCRIPTION

The disclosures of U.S. patent application Ser. Nos. 29/666,332 and 29/666,340, each titled Display Screen or Portion Thereof with Graphical User Interface and filed on Oct. 11, 2018, are hereby incorporated by reference in their entireties.

FIG. 1 is a front view of a display screen or portion thereof with a graphical user interface showing our new design.

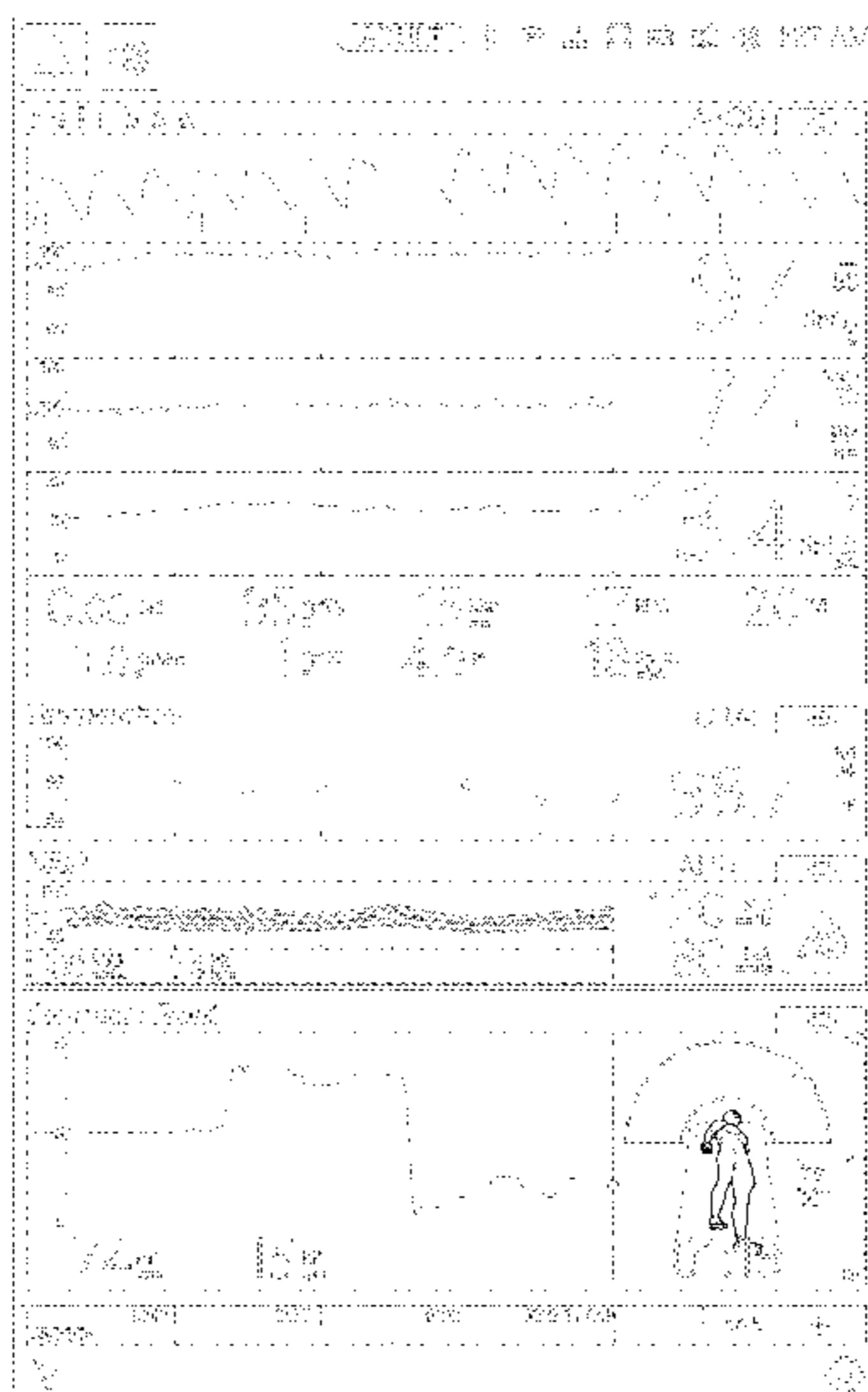
FIG. 2 is a front view of a display screen or portion thereof with a graphical user interface in accordance with a second embodiment.

FIG. 3 is a front view of a display screen or portion thereof with a graphical user interface in accordance with a third embodiment; and,

FIG. 4 is a front view of a display screen or portion thereof with a graphical user interface in accordance with a fourth embodiment.

The broken lines, including those showing a display screen or portion thereof and those depicting portions of a graphical user interface, form no part of the claimed design.

1 Claim, 4 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D353,196	S	12/1994	Savage et al.	6,639,668	B1	10/2003	Trepagnier
5,377,676	A	1/1995	Vari et al.	6,640,116	B2	10/2003	Diab
D359,546	S	6/1995	Savage et al.	6,640,117	B2	10/2003	Makarewicz et al.
5,431,170	A	7/1995	Mathews	6,658,276	B2	12/2003	Kiani et al.
5,436,499	A	7/1995	Namavar et al.	6,661,161	B1	12/2003	Lanzo et al.
D361,840	S	8/1995	Savage et al.	6,697,656	B1	2/2004	Al-Ali
D362,063	S	9/1995	Savage et al.	6,697,658	B2	2/2004	Al-Ali
D363,120	S	10/1995	Savage et al.	RE38,476	E	3/2004	Diab et al.
5,456,252	A	10/1995	Vari et al.	RE38,492	E	4/2004	Diab et al.
5,479,934	A	1/1996	Imran	6,738,652	B2	5/2004	Mattu et al.
5,482,036	A	1/1996	Diab et al.	6,760,607	B2	7/2004	Al-Ali
5,494,043	A	2/1996	O'Sullivan et al.	6,788,965	B2	9/2004	Ruchti et al.
5,533,511	A	7/1996	Kaspari et al.	6,816,241	B2	11/2004	Grubisic
5,561,275	A	10/1996	Savage et al.	6,822,564	B2	11/2004	Al-Ali
5,590,649	A	1/1997	Caro et al.	6,850,787	B2	2/2005	Weber et al.
5,602,924	A	2/1997	Durand et al.	6,850,788	B2	2/2005	Al-Ali
5,638,816	A	6/1997	Kiani-Azarbayjany et al.	6,876,931	B2	4/2005	Lorenz et al.
5,638,818	A	6/1997	Diab et al.	6,920,345	B2	7/2005	Al-Ali et al.
5,645,440	A	7/1997	Tobler et al.	6,934,570	B2	8/2005	Kiani et al.
5,671,914	A	9/1997	Kalkhoran et al.	6,943,348	B1	9/2005	Coffin, IV
5,726,440	A	3/1998	Kalkhoran et al.	6,956,649	B2	10/2005	Acosta et al.
D393,830	S	4/1998	Tobler et al.	6,961,598	B2	11/2005	Diab
5,743,262	A	4/1998	Lepper, Jr. et al.	6,970,792	B1	11/2005	Diab
5,747,806	A	5/1998	Khalil et al.	6,985,764	B2	1/2006	Mason et al.
5,750,994	A	5/1998	Schlager	6,990,364	B2	1/2006	Ruchti et al.
5,758,644	A	6/1998	Diab et al.	6,998,247	B2	2/2006	Monfre et al.
5,760,910	A	6/1998	Lepper, Jr. et al.	7,003,338	B2	2/2006	Weber et al.
5,890,929	A	4/1999	Mills et al.	7,015,451	B2	3/2006	Dalke et al.
5,919,134	A	7/1999	Diab	7,027,849	B2	4/2006	Al-Ali
5,987,343	A	11/1999	Kinast	D526,719	S	8/2006	Richie, Jr. et al.
5,997,343	A	12/1999	Mills et al.	7,096,052	B2	8/2006	Mason et al.
6,002,952	A	12/1999	Diab et al.	7,096,054	B2	8/2006	Abdul-Hafiz et al.
6,010,937	A	1/2000	Karam et al.	D529,616	S	10/2006	Deros et al.
6,027,452	A	2/2000	Flaherty et al.	7,133,710	B2	11/2006	Acosta et al.
6,040,578	A	3/2000	Malin et al.	7,142,901	B2	11/2006	Kiani et al.
6,066,204	A	5/2000	Haven	7,225,006	B2	5/2007	Al-Ali et al.
6,115,673	A	9/2000	Malin et al.	RE39,672	E	6/2007	Shehada et al.
6,124,597	A	9/2000	Shehada et al.	7,254,429	B2	8/2007	Schurman et al.
6,128,521	A	10/2000	Marro et al.	7,254,431	B2	8/2007	Al-Ali et al.
6,129,675	A	10/2000	Jay	7,254,434	B2	8/2007	Schulz et al.
6,144,868	A	11/2000	Parker	7,274,955	B2	9/2007	Kiani et al.
6,152,754	A	11/2000	Gerhardt et al.	D554,263	S	10/2007	Al-Ali et al.
6,184,521	B1	2/2001	Coffin, IV et al.	7,280,858	B2	10/2007	Al-Ali et al.
D441,761	S	5/2001	Machida et al.	7,289,835	B2	10/2007	Mansfield et al.
6,232,609	B1	5/2001	Snyder et al.	7,292,883	B2	11/2007	De Felice et al.
6,241,683	B1	6/2001	Macklem et al.	7,341,559	B2	3/2008	Schulz et al.
6,255,708	B1	7/2001	Sudharsanan et al.	7,343,186	B2	3/2008	Lamego et al.
6,280,381	B1	8/2001	Malin et al.	D566,282	S	4/2008	Al-Ali et al.
6,285,896	B1	9/2001	Tobler et al.	7,356,365	B2	4/2008	Schurman
6,308,089	B1	10/2001	von der Ruhr et al.	7,371,981	B2	5/2008	Abdul-Hafiz
6,317,627	B1	11/2001	Ennen et al.	7,373,193	B2	5/2008	Al-Ali et al.
6,321,100	B1	11/2001	Parker	7,377,794	B2	5/2008	Al-Ali et al.
6,334,065	B1	12/2001	Al-Ali et al.	7,395,158	B2	7/2008	Monfre et al.
6,360,114	B1	3/2002	Diab et al.	7,415,297	B2	8/2008	Al-Ali et al.
6,368,283	B1	4/2002	Xu et al.	7,438,683	B2	10/2008	Al-Ali et al.
6,411,373	B1	6/2002	Garside et al.	7,483,729	B2	1/2009	Al-Ali et al.
6,415,167	B1	7/2002	Blank et al.	D586,355	S	2/2009	Mori et al.
6,430,437	B1	8/2002	Marro	D587,657	S	3/2009	Al-Ali et al.
6,430,525	B1	8/2002	Weber et al.	7,500,950	B2	3/2009	Al-Ali et al.
6,463,311	B1	10/2002	Diab	7,509,494	B2	3/2009	Al-Ali
6,470,199	B1	10/2002	Kopotic et al.	7,510,849	B2	3/2009	Schurman et al.
6,487,429	B2	11/2002	Hockersmith et al.	7,514,725	B2	4/2009	Wojtczuk et al.
6,505,059	B1	1/2003	Kollias et al.	7,519,406	B2	4/2009	Blank et al.
6,525,386	B1	2/2003	Mills et al.	D592,507	S	5/2009	Wachman et al.
6,526,300	B1	2/2003	Kiani et al.	7,530,942	B1	5/2009	Diab
6,534,012	B1	3/2003	Hazen et al.	7,593,230	B2	9/2009	Abul-Haj et al.
6,542,764	B1	4/2003	Al-Ali et al.	7,596,398	B2	9/2009	Al-Ali et al.
6,580,086	B1	6/2003	Schulz et al.	7,606,608	B2	10/2009	Blank et al.
6,584,336	B1	6/2003	Ali et al.	7,620,674	B2	11/2009	Ruchti et al.
6,587,196	B1	7/2003	Stippick et al.	D606,659	S	12/2009	Kiani et al.
6,587,199	B1	7/2003	Luu	7,629,039	B2	12/2009	Eckerbom et al.
6,595,316	B2	7/2003	Cybulski et al.	7,640,140	B2	12/2009	Ruchti et al.
6,597,932	B2	7/2003	Tian et al.	7,647,083	B2	1/2010	Al-Ali et al.
6,606,511	B1	8/2003	Ali et al.	D609,193	S	2/2010	Al-Ali et al.
6,635,559	B2	10/2003	Greenwald et al.	D614,305	S	4/2010	Al-Ali et al.
				7,697,966	B2	4/2010	Monfre et al.
				7,698,105	B2	4/2010	Ruchti et al.
				RE41,317	E	5/2010	Parker
				RE41,333	E	5/2010	Blank et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

7,729,733 B2	6/2010	Al-Ali et al.	RE44,823 E	4/2014	Parker
7,761,127 B2	7/2010	Al-Ali et al.	RE44,875 E	4/2014	Kiani et al.
7,764,982 B2	7/2010	Dalke et al.	8,688,183 B2	4/2014	Bruinsma et al.
D621,516 S	8/2010	Kiani et al.	8,690,799 B2	4/2014	Telfort et al.
7,791,155 B2	9/2010	Diab	8,702,627 B2	4/2014	Telfort et al.
RE41,912 E	11/2010	Parker	8,712,494 B1	4/2014	MacNeish, III et al.
7,880,626 B2	2/2011	Al-Ali et al.	8,715,206 B2	5/2014	Telfort et al.
7,909,772 B2	3/2011	Popov et al.	8,723,677 B1	5/2014	Kiani
7,919,713 B2	4/2011	Al-Ali et al.	8,740,792 B1	6/2014	Kiani et al.
7,937,128 B2	5/2011	Al-Ali	8,755,535 B2	6/2014	Telfort et al.
7,937,129 B2	5/2011	Mason et al.	8,755,872 B1	6/2014	Marinow
7,941,199 B2	5/2011	Kiani	8,764,671 B2	7/2014	Kiani
7,957,780 B2	6/2011	Lamego et al.	8,768,423 B2	7/2014	Shakespeare et al.
7,962,188 B2	6/2011	Kiani et al.	8,771,204 B2	7/2014	Telfort et al.
7,976,472 B2	7/2011	Kiani	8,781,544 B2	7/2014	Al-Ali et al.
7,990,382 B2	8/2011	Kiani	8,790,268 B2	7/2014	Al-Ali
8,008,088 B2	8/2011	Bellott et al.	8,801,613 B2	8/2014	Al-Ali et al.
RE42,753 E	9/2011	Kiani-Azarbayjany et al.	8,821,397 B2	9/2014	Al-Ali et al.
8,028,701 B2	10/2011	Al-Ali et al.	8,821,415 B2	9/2014	Al-Ali et al.
8,048,040 B2	11/2011	Kiani	8,830,449 B1	9/2014	Lamego et al.
8,050,728 B2	11/2011	Al-Ali et al.	8,840,549 B2	9/2014	Al-Ali et al.
RE43,169 E	2/2012	Parker	8,852,094 B2	10/2014	Al-Ali et al.
8,118,620 B2	2/2012	Al-Ali et al.	8,852,994 B2	10/2014	Wojtczuk et al.
8,130,105 B2	3/2012	Al-Ali et al.	8,897,847 B2	11/2014	Al-Ali
8,182,443 B1	5/2012	Kiani	8,911,377 B2	12/2014	Al-Ali
8,190,223 B2	5/2012	Al-Ali et al.	8,989,831 B2	3/2015	Al-Ali et al.
8,203,438 B2	6/2012	Kiani et al.	8,998,809 B2	4/2015	Kiani
8,203,704 B2	6/2012	Merritt et al.	D728,601 S	5/2015	Angelides
8,219,172 B2	7/2012	Schurman et al.	D733,172 S	6/2015	Angelides
8,224,411 B2	7/2012	Al-Ali et al.	9,066,666 B2	6/2015	Kiani
8,229,532 B2	7/2012	Davis	9,066,680 B1	6/2015	Al-Ali et al.
8,233,955 B2	7/2012	Al-Ali et al.	9,095,316 B2	8/2015	Welch et al.
8,255,026 B1	8/2012	Al-Ali	9,106,038 B2	8/2015	Telfort et al.
D667,842 S	9/2012	Ouilhet	9,107,625 B2	8/2015	Telfort et al.
8,265,723 B1	9/2012	McHale et al.	D738,928 S *	9/2015	Mahaffey D14/495
8,274,360 B2	9/2012	Sampath et al.	D738,929 S *	9/2015	Mahaffey D14/495
8,280,473 B2	10/2012	Al-Ali	9,131,881 B2	9/2015	Diab et al.
8,315,683 B2	11/2012	Al-Ali et al.	9,138,180 B1	9/2015	Coverston et al.
RE43,860 E	12/2012	Parker	9,153,112 B1	10/2015	Kiani et al.
8,323,218 B2	12/2012	Davis et al.	9,180,302 B2 *	11/2015	Drees A61N 1/37247
D673,964 S *	1/2013	Cojuangco D14/486	9,192,329 B2	11/2015	Al-Ali
8,346,330 B2	1/2013	Lamego	9,192,351 B1	11/2015	Telfort et al.
8,353,842 B2	1/2013	Al-Ali et al.	9,195,385 B2	11/2015	Al-Ali et al.
8,355,766 B2	1/2013	MacNeish, III et al.	D745,046 S	12/2015	Shin et al.
8,374,665 B2	2/2013	Lamego	9,211,095 B1	12/2015	Al-Ali
8,388,353 B2	3/2013	Kiani et al.	9,211,096 B2 *	12/2015	Tremper A61B 5/02055
8,401,602 B2	3/2013	Kiani	9,218,454 B2	12/2015	Kiani et al.
8,414,499 B2	4/2013	Al-Ali et al.	9,245,668 B1	1/2016	Vo et al.
8,418,524 B2	4/2013	Al-Ali	9,267,572 B2	2/2016	Barker et al.
8,428,967 B2	4/2013	Olsen et al.	D752,076 S	3/2016	Guesnon, Jr.
8,430,817 B1	4/2013	Al-Ali et al.	9,277,880 B2	3/2016	Poeze et al.
D681,651 S	5/2013	Fletcher et al.	D753,173 S *	4/2016	Cojuangco D14/486
8,437,825 B2	5/2013	Dalvi et al.	D753,669 S	4/2016	Chen
8,455,290 B2	6/2013	Siskavich	D753,716 S	4/2016	Torres et al.
8,457,707 B2	6/2013	Kiani	D754,179 S	4/2016	Angelides
8,471,713 B2	6/2013	Poeze et al.	D754,705 S	4/2016	Angelides
8,473,020 B2	6/2013	Kiani et al.	9,307,928 B1	4/2016	Al-Ali et al.
8,509,867 B2	8/2013	Workman et al.	9,323,894 B2	4/2016	Kiani
8,515,509 B2	8/2013	Bruinsma et al.	D755,392 S	5/2016	Hwang et al.
8,523,781 B2	9/2013	Al-Ali	D756,372 S	5/2016	Bertnick et al.
D692,145 S	10/2013	Al-Ali et al.	9,326,712 B1	5/2016	Kiani
8,571,617 B2	10/2013	Reichgott et al.	9,392,945 B2	7/2016	Al-Ali et al.
8,571,618 B1	10/2013	Lamego et al.	D763,317 S	8/2016	Kim et al.
8,571,619 B2	10/2013	Al-Ali et al.	9,408,542 B1	8/2016	Kinast et al.
D693,365 S	11/2013	Gardner et al.	D767,605 S	9/2016	Mensing et al.
8,577,431 B2	11/2013	Lamego et al.	9,436,645 B2	9/2016	Al-Ali et al.
8,579,834 B2 *	11/2013	Davis A61B 5/1116 600/595	9,445,759 B1	9/2016	Lamego et al.
8,584,345 B2	11/2013	Al-Ali et al.	9,474,474 B2	10/2016	Lamego et al.
8,588,880 B2	11/2013	Abdul-Hafiz et al.	D772,905 S *	11/2016	Ingenlath D14/486
8,630,691 B2	1/2014	Lamego et al.	D772,931 S	11/2016	Vulk et al.
8,641,631 B2	2/2014	Sierra et al.	9,480,401 B2 *	11/2016	Koehler G16H 50/70
8,652,060 B2	2/2014	Al-Ali	9,480,435 B2	11/2016	Olsen
8,666,468 B1	3/2014	Al-Ali	9,510,779 B2	12/2016	Poeze et al.
8,670,811 B2	3/2014	O'Reilly	9,517,024 B2	12/2016	Kiani et al.
			D775,663 S	1/2017	Akana et al.
			9,532,722 B2	1/2017	Lamego et al.
			9,560,996 B2	2/2017	Kiani
			9,579,039 B2	2/2017	Jansen et al.
			9,622,692 B2	4/2017	Lamego et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

D786,279 S	5/2017	McKim et al.	10,231,670 B2	3/2019	Blank et al.
D788,312 S	5/2017	Al-Ali et al.	RE47,353 E	4/2019	Kiani et al.
9,649,054 B2	5/2017	Lamego et al.	10,279,247 B2	5/2019	Kiani
D790,577 S	6/2017	Hatzikosta et al.	10,292,664 B2	5/2019	Al-Ali
D791,817 S	7/2017	Sun	10,299,720 B2	5/2019	Brown et al.
9,697,928 B2	7/2017	Al-Ali et al.	10,327,337 B2	6/2019	Schmidt et al.
D793,427 S	8/2017	Sun	10,327,713 B2	6/2019	Barker et al.
D794,075 S *	8/2017	Park D14/495	10,332,630 B2	6/2019	Al-Ali
D795,899 S	8/2017	Carrigan et al.	10,383,520 B2	8/2019	Wojtczuk et al.
D795,902 S	8/2017	Ahmad et al.	10,383,527 B2	8/2019	Al-Ali
D795,903 S	8/2017	Chen et al.	10,388,120 B2	8/2019	Muhsin et al.
9,717,458 B2	8/2017	Lamego et al.	D859,460 S	9/2019	Kaminer et al.
9,724,016 B1	8/2017	Al-Ali et al.	D859,461 S	9/2019	Madison et al.
9,724,024 B2	8/2017	Al-Ali	D861,013 S	9/2019	Chang
9,724,025 B1	8/2017	Kiani et al.	10,402,650 B1	9/2019	Suiter et al.
9,749,232 B2	8/2017	Sampath et al.	D864,120 S	10/2019	Forrest et al.
D796,526 S	9/2017	Kim et al.	D864,229 S	10/2019	Frakulic et al.
D797,118 S	9/2017	Van Every et al.	10,441,181 B1	10/2019	Telfort et al.
D797,119 S	9/2017	Kim et al.	10,441,196 B2	10/2019	Eckerbom et al.
D797,769 S	9/2017	Li	10,448,844 B2	10/2019	Al-Ali et al.
D798,320 S	9/2017	Gouvernel et al.	10,448,871 B2	10/2019	Al-Ali et al.
D798,331 S	9/2017	Fong et al.	10,456,038 B2	10/2019	Lamego et al.
9,750,442 B2	9/2017	Olsen	D865,804 S	11/2019	Warner et al.
9,750,461 B1	9/2017	Telfort	10,463,340 B2	11/2019	Telfort et al.
9,775,545 B2	10/2017	Al-Ali et al.	10,471,159 B1	11/2019	Lapotko et al.
9,778,079 B1	10/2017	Al-Ali et al.	D870,773 S	12/2019	Marrufo
9,782,077 B2	10/2017	Lamego et al.	10,505,311 B2	12/2019	Al-Ali et al.
9,787,568 B2	10/2017	Lamego et al.	10,524,738 B2	1/2020	Olsen
9,808,188 B1	11/2017	Perea et al.	10,532,174 B2	1/2020	Al-Ali
9,830,424 B2 *	11/2017	Dixon G06Q 50/24	10,537,285 B2	1/2020	Shreim et al.
D804,499 S	12/2017	Eklund et al.	10,542,903 B2	1/2020	Al-Ali et al.
D805,102 S	12/2017	Stamatiou	10,555,678 B2	2/2020	Dalvi et al.
9,839,379 B2	12/2017	Al-Ali et al.	10,568,553 B2	2/2020	O'Neil et al.
9,839,381 B1	12/2017	Weber et al.	RE47,882 E	3/2020	Al-Ali
9,847,749 B2	12/2017	Kiani et al.	10,608,817 B2	3/2020	Haider et al.
9,848,800 B1	12/2017	Lee et al.	D880,477 S	4/2020	Forrest et al.
9,861,298 B2	1/2018	Eckerbom et al.	10,617,302 B2	4/2020	Al-Ali et al.
9,861,305 B1	1/2018	Weber et al.	10,617,335 B2	4/2020	Al-Ali et al.
9,877,650 B2	1/2018	Muhsin et al.	10,637,181 B2	4/2020	Al-Ali et al.
9,891,079 B2	2/2018	Dalvi	D887,548 S	6/2020	Abdul-Hafiz et al.
D812,640 S	3/2018	Spector et al.	D887,549 S	6/2020	Abdul-Hafiz et al.
9,924,897 B1	3/2018	Abdul-Hafiz	10,667,764 B2	6/2020	Ahmed et al.
9,936,917 B2	4/2018	Poeze et al.	D890,708 S	7/2020	Forrest et al.
9,955,937 B2	5/2018	Telfort	10,721,785 B2	7/2020	Al-Ali
9,962,081 B2	5/2018	Mensingher et al.	10,736,518 B2	8/2020	Al-Ali et al.
9,965,946 B2	5/2018	Al-Ali et al.	10,750,984 B2	8/2020	Pauley et al.
D820,865 S	6/2018	Muhsin et al.	D897,098 S	9/2020	Al-Ali
9,986,952 B2	6/2018	Dalvi et al.	10,779,098 B2	9/2020	Iswanto et al.
D822,215 S	7/2018	Al-Ali et al.	10,827,961 B1	11/2020	Iyengar et al.
D822,216 S	7/2018	Barker et al.	10,828,007 B1	11/2020	Telfort et al.
10,010,276 B2	7/2018	Al-Ali et al.	10,832,818 B2	11/2020	Muhsin et al.
10,061,896 B2	8/2018	Jordan et al.	10,849,554 B2	12/2020	Shreim et al.
D829,236 S	9/2018	Chauhan et al.	10,856,750 B2	12/2020	Indorf et al.
10,086,138 B1	10/2018	Novak, Jr.	2001/0034477 A1	10/2001	Mansfield et al.
10,111,591 B2	10/2018	Dyell et al.	2001/0039483 A1	11/2001	Brand et al.
D833,624 S	11/2018	DeJong et al.	2002/0010401 A1	1/2002	Bushmakina et al.
10,123,729 B2	11/2018	Dyell et al.	2002/0058864 A1	5/2002	Mansfield et al.
D835,132 S *	12/2018	Ito D14/485	2002/0133080 A1	9/2002	Apruzzese et al.
D835,282 S	12/2018	Barker et al.	2003/0013975 A1	1/2003	Kiani
D835,283 S	12/2018	Barker et al.	2003/0018243 A1	1/2003	Gerhardt et al.
D835,284 S	12/2018	Barker et al.	2003/0144582 A1	7/2003	Cohen et al.
D835,285 S	12/2018	Barker et al.	2003/0156288 A1	8/2003	Barnum et al.
10,149,616 B2	12/2018	Al-Ali et al.	2003/0212312 A1	11/2003	Coffin, IV et al.
10,154,815 B2	12/2018	Al-Ali et al.	2004/0106163 A1	6/2004	Workman, Jr. et al.
10,159,412 B2	12/2018	Lamego et al.	2005/0055276 A1	3/2005	Kiani et al.
D837,815 S	1/2019	Biberger et al.	2005/0234317 A1	10/2005	Kiani
10,188,348 B2	1/2019	Al-Ali et al.	2006/0073719 A1	4/2006	Kiani
RE47,218 E	2/2019	Al-Ali	2006/0189871 A1	8/2006	Al-Ali et al.
RE47,244 E	2/2019	Kiani et al.	2007/0073116 A1	3/2007	Kiani et al.
RE47,249 E	2/2019	Kiani et al.	2007/0180140 A1	8/2007	Welch et al.
D841,669 S	2/2019	Hansen et al.	2007/0244377 A1	10/2007	Cozad et al.
10,205,291 B2	2/2019	Scruggs et al.	2008/0064965 A1	3/2008	Jay et al.
D843,401 S	3/2019	Spector	2008/0094228 A1	4/2008	Welch et al.
10,226,187 B2	3/2019	Al-Ali et al.	2008/0221418 A1	9/2008	Al-Ali et al.
10,231,657 B2	3/2019	Al-Ali et al.	2009/0036759 A1	2/2009	Ault et al.
			2009/0054743 A1	2/2009	Stewart
			2009/0093687 A1	4/2009	Telfort et al.
			2009/0095926 A1	4/2009	MacNeish, III
			2009/0149743 A1	6/2009	Barron et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

2009/0247984 A1 10/2009 Lamego et al.
 2009/0275813 A1 11/2009 Davis
 2010/0004518 A1 1/2010 Vo et al.
 2010/0010584 A1* 1/2010 Skelton A61B 5/6846
 607/62
 2010/0030040 A1 2/2010 Poeze et al.
 2010/0099964 A1 4/2010 O'Reilly et al.
 2010/0234718 A1 9/2010 Sampath et al.
 2010/0270257 A1 10/2010 Wachman et al.
 2010/0277571 A1* 11/2010 Xu G06T 7/521
 348/47
 2010/0298660 A1* 11/2010 McCombie A61B 5/0022
 600/301
 2011/0028806 A1 2/2011 Merritt et al.
 2011/0028809 A1 2/2011 Goodman
 2011/0040197 A1 2/2011 Welch et al.
 2011/0082711 A1 4/2011 Poeze et al.
 2011/0087081 A1 4/2011 Kiani et al.
 2011/0118561 A1 5/2011 Tari et al.
 2011/0137297 A1 6/2011 Kiani et al.
 2011/0172498 A1 7/2011 Olsen et al.
 2011/0230733 A1 9/2011 Al-Ali
 2012/0089419 A1* 4/2012 Huster A61G 7/05769
 705/3
 2012/0123231 A1 5/2012 O'Reilly
 2012/0165629 A1 6/2012 Merritt et al.
 2012/0209084 A1 8/2012 Olsen et al.
 2012/0226117 A1 9/2012 Lamego et al.
 2012/0232520 A1 9/2012 Sloan et al.
 2012/0283524 A1 11/2012 Kiani et al.
 2013/0023775 A1 1/2013 Lamego et al.
 2013/0041591 A1 2/2013 Lamego
 2013/0060147 A1 3/2013 Welch et al.
 2013/0096405 A1 4/2013 Garfio
 2013/0296672 A1 11/2013 O'Neil et al.
 2013/0345921 A1 12/2013 Al-Ali et al.
 2014/0098933 A1* 4/2014 Profio A61B 6/465
 378/19
 2014/0135588 A1 5/2014 Al-Ali et al.
 2014/0166076 A1 6/2014 Kiani et al.
 2014/0180160 A1 6/2014 Brown et al.
 2014/0187973 A1 7/2014 Brown et al.
 2014/0270082 A1 9/2014 Moellmer et al.
 2014/0275871 A1 9/2014 Lamego et al.
 2014/0275872 A1 9/2014 Merritt et al.
 2014/0316217 A1 10/2014 Purdon et al.
 2014/0316218 A1 10/2014 Purdon et al.
 2014/0320391 A1 10/2014 Bazaz
 2014/0323897 A1 10/2014 Brown et al.
 2014/0323898 A1 10/2014 Purdon et al.
 2014/0343628 A1* 11/2014 Kaula G06F 3/0484
 607/59
 2014/0368499 A1* 12/2014 Kaur G06T 19/20
 345/420
 2015/0005600 A1 1/2015 Blank et al.
 2015/0011907 A1 1/2015 Purdon et al.
 2015/0073241 A1 3/2015 Lamego
 2015/0080754 A1 3/2015 Purdon et al.
 2015/0099950 A1 4/2015 Al-Ali et al.
 2015/0099955 A1 4/2015 Al-Ali et al.
 2015/0106121 A1 4/2015 Muhsin et al.
 2016/0019352 A1* 1/2016 Cohen G06F 3/0482
 705/3
 2016/0196388 A1 7/2016 Lamego
 2016/0199240 A1* 7/2016 Newkirk G06F 3/04842
 715/771
 2016/0367173 A1 12/2016 Dalvi et al.
 2017/0024748 A1 1/2017 Haider
 2017/0042488 A1 2/2017 Muhsin
 2017/0173632 A1 6/2017 Al-Ali

2017/0251974 A1 9/2017 Shreim et al.
 2017/0270260 A1 9/2017 Shetty et al.
 2017/0311891 A1 11/2017 Kiani et al.
 2018/0103874 A1 4/2018 Lee et al.
 2018/0129357 A9 5/2018 Imes et al.
 2018/0174679 A1 6/2018 Sampath et al.
 2018/0184984 A1* 7/2018 Zerhusen A61B 5/6892
 2018/0242926 A1 8/2018 Muhsin et al.
 2018/0247353 A1 8/2018 Al-Ali et al.
 2018/0247712 A1 8/2018 Muhsin et al.
 2018/0256087 A1 9/2018 Al-Ali et al.
 2018/0277255 A1 9/2018 Martin et al.
 2018/0296161 A1 10/2018 Shreim et al.
 2018/0300919 A1 10/2018 Muhsin et al.
 2018/0310822 A1 11/2018 Indorf et al.
 2018/0310823 A1 11/2018 Al-Ali et al.
 2018/0317826 A1 11/2018 Muhsin et al.
 2018/0350451 A1 12/2018 Ohnemus et al.
 2019/0015023 A1 1/2019 Monfre
 2019/0117070 A1 4/2019 Muhsin et al.
 2019/0200941 A1 7/2019 Chandran et al.
 2019/0239787 A1 8/2019 Pauley et al.
 2019/0320906 A1 10/2019 Olsen
 2019/0374139 A1 12/2019 Kiani et al.
 2019/0374173 A1 12/2019 Kiani et al.
 2019/0374713 A1 12/2019 Kiani et al.
 2020/0060869 A1 2/2020 Telfort et al.
 2020/0111552 A1 4/2020 Ahmed
 2020/0113435 A1 4/2020 Muhsin
 2020/0113488 A1 4/2020 Al-Ali et al.
 2020/0113496 A1 4/2020 Scruggs et al.
 2020/0113497 A1 4/2020 Triman et al.
 2020/0113520 A1 4/2020 Abdul-Hafiz et al.
 2020/0138288 A1 5/2020 Al-Ali et al.
 2020/0138368 A1 5/2020 Kiani et al.
 2020/0163597 A1 5/2020 Dalvi et al.
 2020/0196877 A1 6/2020 Vo et al.
 2020/0253474 A1 8/2020 Muhsin et al.
 2020/0253544 A1 8/2020 Belur Nagaraj et al.
 2020/0275841 A1 9/2020 Telfort et al.
 2020/0288983 A1 9/2020 Telfort et al.
 2020/0321793 A1 10/2020 Al-Ali et al.
 2020/0329983 A1 10/2020 Al-Ali et al.
 2020/0329984 A1 10/2020 Al-Ali et al.
 2020/0329993 A1 10/2020 Al-Ali et al.
 2020/0330037 A1 10/2020 Al-Ali et al.

OTHER PUBLICATIONS

“Know yourself and others by sleeping positions” Aug. 19, 2015, Blogspot, site visited Oct. 21, 2020: <http://anurawla.blogspot.com/2015/08/happyclub.html> (Year: 2015).*

Nielay, Kurkin, “Man is Lying on the Floor . . . ” Nov. 28, 2016, alamy, site visited Oct. 21, 2020: <https://www.alamy.com/man-is-lying-on-the-floor-time-to-relax-man-relaxing-and-dreaming-3d-human-body-model-vector-illustration-image239976040.html> (Year: 2016).*

Baxter, Nancy, “Will A New Pillow Help My Neck Pain?” Sep. 30, 2017, Lakeview Physiotherapy, site visited Oct. 21, 2020: <https://lakeviewphysio.ca/blog/will-a-new-pillow-help-my-neck-pain> (Year: 2017).*

“Clip Studio Paint useful features : 3D drawing figures” Apr. 8, 2018, YouTube, site visited Oct. 21, 2020: <https://www.youtube.com/watch?v=RuWpouIXTK4> (Year: 2018).*

iPhoneNess, “6 Best Heart Monitor Apps for iPhone”, posted by Ci Dec. 12, 2012. Archived Jan. 29, 2019 to <https://web.archive.org/web/20130129233623/https://www.iphoneness.com/phone-apps/best-heart-monitor-apps-for-iphone/>.

IconBros, <https://www.iconbros.com/icons/ib-mi-f-map>, retrieved Nov. 3, 2020, Medical Item Collection, Map Icon Image, 1 page.

* cited by examiner

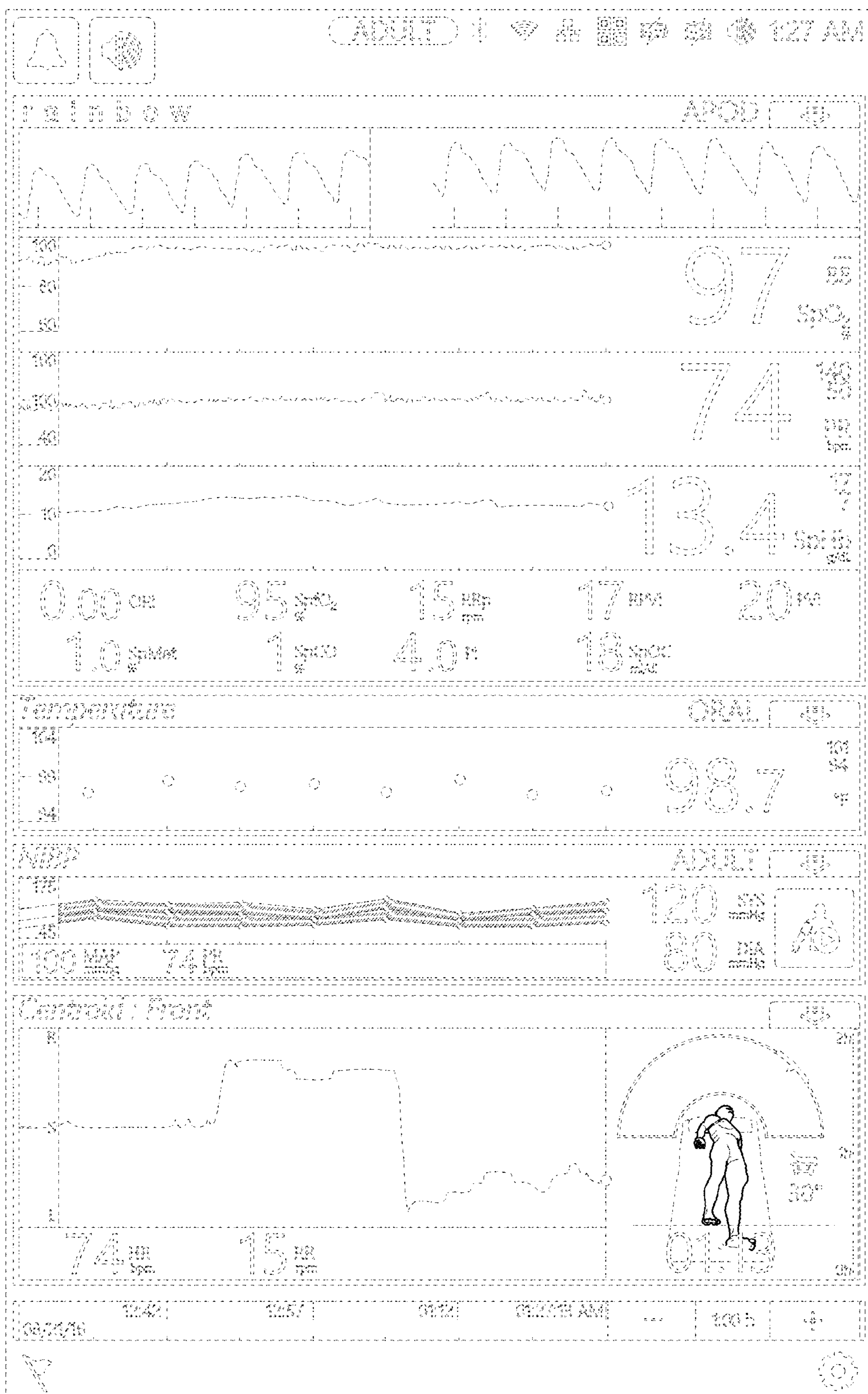


FIG. 1

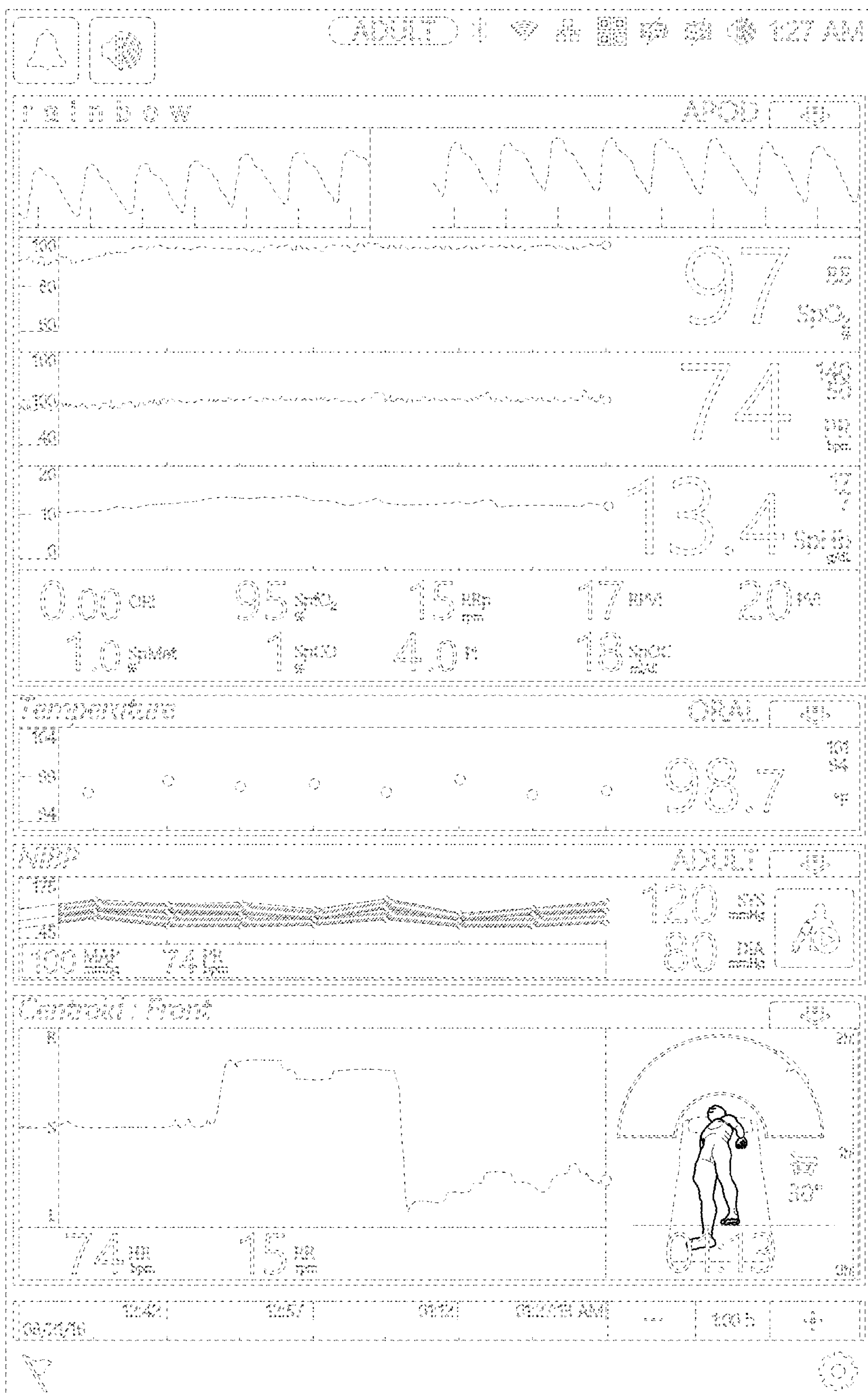


FIG. 2

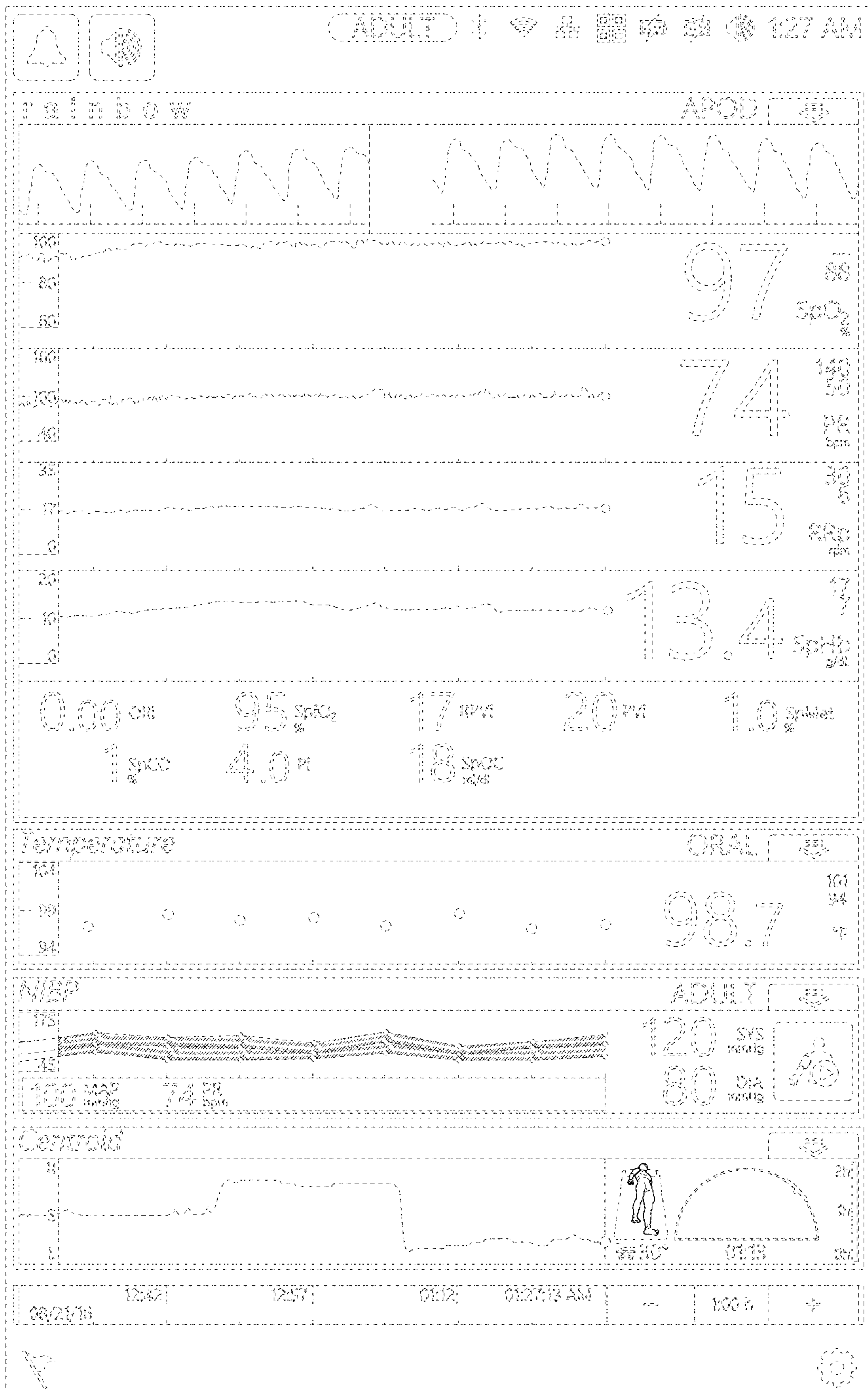


FIG. 3

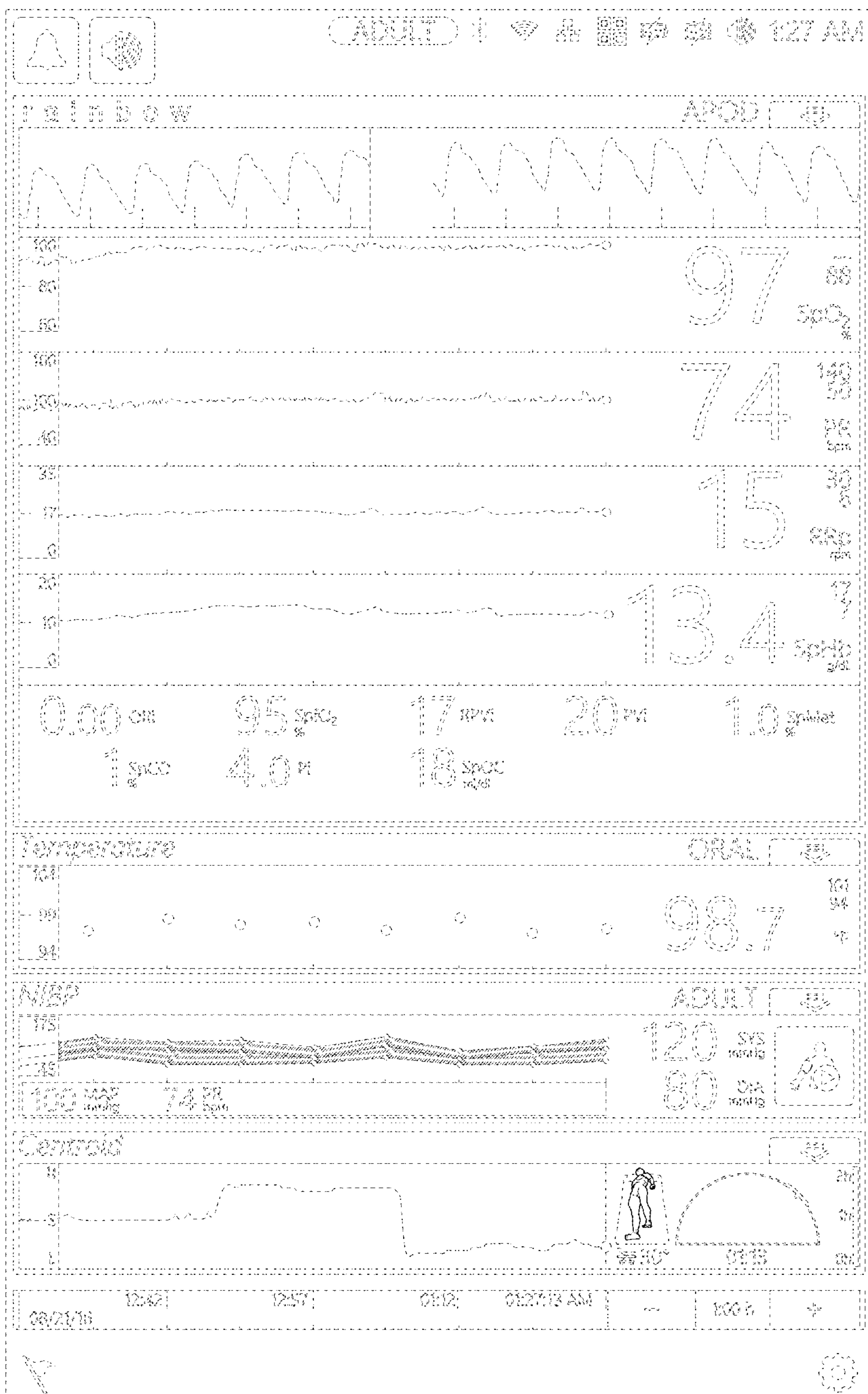


FIG. 4