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**Osterhout**

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(54) **AIR MOUSE**

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USPC ..... D14/402-411, 356, 388, 389, 383-385,  
D14/417, 426; 345/156-167; 463/36-38;  
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See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

3,305,294	A	2/1967	Alvarez	
4,668,155	A	5/1987	Kaufmann et al.	
D327,674	S *	7/1992	Kuo	D14/412
5,151,722	A	9/1992	Massof et al.	
5,257,094	A	10/1993	LaRussa et al.	
D376,790	S *	12/1996	Goulet et al.	D14/408
5,621,424	A	4/1997	Shimada et al.	
5,699,057	A	12/1997	Ikeda et al.	
5,699,194	A	12/1997	Takahashi	
5,717,422	A	2/1998	Ferguson et al.	
5,914,818	A	6/1999	Tejada et al.	
6,034,653	A	3/2000	Robertson et al.	
6,222,677	B1	4/2001	Budd	
6,456,438	B1	9/2002	Lee et al.	
6,461,000	B1	10/2002	Magarill	

6,478,429	B1	11/2002	Aritake et al.	
6,480,174	B1	11/2002	Kaufmann et al.	
6,491,389	B2	12/2002	Yaguchi et al.	
D470,144	S *	2/2003	Li	D14/409
6,535,182	B2	3/2003	Stanton	
D473,871	S *	4/2003	Santos	D14/417
6,795,041	B2	9/2004	Ogawa et al.	

(Continued)

**FOREIGN PATENT DOCUMENTS**

EP	368898	A1	5/1990
EP	777867	A1	6/1997

(Continued)

**OTHER PUBLICATIONS**

“Genius Ring Mice”, <http://www.geniusnet.com/Genius/wSite/productCompare/compare.jsp>, Dec. 23, 2014, 1 page.

(Continued)

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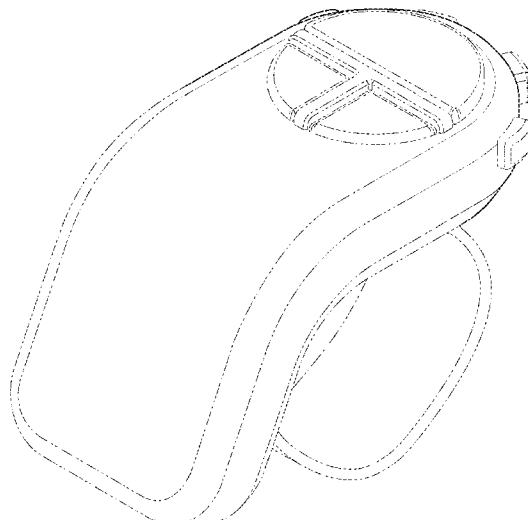
(57) **CLAIM**

The ornamental design for an air mouse, as shown and described.

**DESCRIPTION**

FIG. 1 is a front top perspective view of an embodiment of the new design;  
FIG. 2 is a front view thereof;  
FIG. 3 is a side view thereof;  
FIG. 4 is a side view thereof;  
FIG. 5 is a bottom view thereof;  
FIG. 6 is a rear view thereof; and,  
FIG. 7 is a top view thereof.  
The broken lines in FIGS. 1-7 are for environmental purposes only and form no part of the claimed design.

**1 Claim, 4 Drawing Sheets**



(56)

## References Cited

## U.S. PATENT DOCUMENTS

6,847,336 B1	1/2005	Lemelson et al.	2007/0024820 A1	2/2007	Chung et al.
6,987,787 B1	1/2006	Mick	2007/0024823 A1	2/2007	Chung et al.
7,016,116 B2	3/2006	Dolhoff et al.	2007/0025273 A1	2/2007	Chung et al.
7,088,234 B2	8/2006	Naito et al.	2007/0035563 A1	2/2007	Biocca et al.
D541,226 S *	4/2007	Wakisaka et al. .... D13/168	2007/0058868 A1	3/2007	Seino et al.
7,199,934 B2	4/2007	Yamasaki	2007/0100637 A1	5/2007	McCune et al.
D571,816 S *	6/2008	Corcoran et al. .... D14/454	2008/0005702 A1	1/2008	Skourup et al.
7,417,617 B2	8/2008	Eichenlaub	2008/0191965 A1	8/2008	Pandozy et al.
7,457,040 B2	11/2008	Amitai	2008/0266645 A1	10/2008	Dharmatileke et al.
7,646,540 B2	1/2010	Dolhoff et al.	2008/0291277 A1	11/2008	Jacobsen et al.
7,690,799 B2	4/2010	Nestorovic et al.	2009/0279180 A1	11/2009	Amitai et al.
7,728,799 B2	6/2010	Kerr et al.	2010/0007852 A1	1/2010	Bietry et al.
7,777,723 B2 *	8/2010	Namiki ..... 345/163	2010/0085325 A1	4/2010	King-Smith et al.
7,777,960 B2	8/2010	Freeman	2010/0103075 A1	4/2010	Kalaboukis et al.
7,830,370 B2	11/2010	Yamazaki et al.	2010/0130140 A1	5/2010	Waku et al.
7,855,743 B2	12/2010	Sako et al.	2010/0149073 A1	6/2010	Chaum et al.
D631,881 S *	2/2011	Quinn et al. .... D14/405	2010/0178101 A1	7/2010	Day et al.
D631,882 S *	2/2011	Odgers ..... D14/409	2010/0194682 A1	8/2010	Orr et al.
7,928,926 B2	4/2011	Yamamoto et al.	2011/0089325 A1	4/2011	Ottney
8,004,765 B2	8/2011	Amitai	2011/0102234 A1	5/2011	Adams et al.
8,018,579 B1	9/2011	Krah et al.	2011/0130958 A1	6/2011	Stahl et al.
8,166,421 B2	4/2012	Magal et al.	2011/0131495 A1	6/2011	Bull et al.
8,212,859 B2	7/2012	Tang et al.	2011/0157236 A1	6/2011	Inoue et al.
8,228,315 B1	7/2012	Starner et al.	2011/0164047 A1	7/2011	Pance et al.
8,246,170 B2	8/2012	Yamamoto et al.	2011/0164163 A1	7/2011	Bilbrey et al.
8,376,548 B2	2/2013	Schultz	2011/0164221 A1	7/2011	Tilleman et al.
8,378,924 B2	2/2013	Jacobsen et al.	2011/0196610 A1	8/2011	Waldman et al.
D680,112 S *	4/2013	Monahan ..... D14/409	2011/0199171 A1	8/2011	Prest et al.
8,427,396 B1	4/2013	Kim	2011/0201213 A1	8/2011	Dabov et al.
8,494,215 B2	7/2013	Kimchi et al.	2011/0202823 A1	8/2011	Berger et al.
D689,862 S	9/2013	Liu	2011/0221672 A1	9/2011	Osterhout et al.
D690,684 S *	10/2013	Lee et al. .... D14/218	2011/0221896 A1	9/2011	Haddick et al.
8,553,910 B1	10/2013	Dong et al.	2011/0248963 A1	10/2011	Lawrence et al.
8,564,883 B2	10/2013	Totani et al.	2012/0035934 A1	2/2012	Cunningham et al.
8,570,273 B1	10/2013	Smith	2012/0050493 A1	3/2012	Ernst et al.
8,576,276 B2	11/2013	Bar-Zeev et al.	2012/0075168 A1	3/2012	Osterhout et al.
8,576,491 B2	11/2013	Takagi et al.	2012/0078628 A1	3/2012	Ghulman et al.
8,587,869 B2	11/2013	Totani et al.	2012/0092328 A1	4/2012	Flaks et al.
8,594,467 B2	11/2013	Lu et al.	2012/0113514 A1	5/2012	Rodman
8,662,686 B2	3/2014	Takagi et al.	2012/0119978 A1	5/2012	Bietry et al.
8,670,183 B2	3/2014	Clavin et al.	2012/0120103 A1	5/2012	Border et al.
8,698,157 B2	4/2014	Hanamura	2012/0176682 A1	7/2012	Dejong et al.
8,711,487 B2	4/2014	Takeda et al.	2012/0188245 A1	7/2012	Hyatt et al.
8,743,052 B1	6/2014	Keller et al.	2012/0194553 A1	8/2012	Osterhout et al.
8,745,058 B1	6/2014	Garcia-Barrio	2012/0212398 A1	8/2012	Border et al.
8,750,541 B1	6/2014	Dong et al.	2012/0212593 A1	8/2012	Na' Aman et al.
8,752,963 B2	6/2014	McCulloch et al.	2012/0223885 A1	9/2012	Perez
8,760,765 B2	6/2014	Gupta et al.	2012/0229367 A1	9/2012	Magyari et al.
8,786,675 B2	7/2014	Deering et al.	2012/0242251 A1	9/2012	Kwisthout et al.
8,787,006 B2	7/2014	Golko et al.	2012/0250152 A1	10/2012	Larson et al.
8,803,867 B2	8/2014	Oikawa	2012/0264510 A1	10/2012	Wigdor et al.
8,823,071 B2	9/2014	Oyamada	2012/0293548 A1	11/2012	Perez et al.
8,832,557 B2	9/2014	Tang et al.	2012/0306850 A1	12/2012	Balan et al.
8,836,768 B1	9/2014	Zuccarino et al.	2012/0327040 A1	12/2012	Simon et al.
8,837,880 B2	9/2014	Takeda et al.	2012/0327116 A1	12/2012	Liu et al.
8,854,433 B1	10/2014	Rafii	2013/0009366 A1	1/2013	Hannegan et al.
8,867,139 B2	10/2014	Gupta	2013/0009907 A1	1/2013	Rosenberg et al.
D716,813 S *	11/2014	Deng ..... D14/409	2013/0077049 A1	3/2013	Bohn et al.
8,878,749 B1	11/2014	Wu et al.	2013/0083055 A1	4/2013	Piemonte et al.
8,922,530 B2	12/2014	Pance	2013/0088413 A1	4/2013	Raffle et al.
8,982,471 B1	3/2015	Starner et al.	2013/0100259 A1	4/2013	Ramaswamy
9,020,832 B2	4/2015	Fisher et al.	2013/0106674 A1	5/2013	Wheeler et al.
D728,573 S *	5/2015	Deng ..... D14/409	2013/0120841 A1	5/2013	Shpunt et al.
2001/0019240 A1	9/2001	Takahashi et al.	2013/0127980 A1	5/2013	Haddick
2002/0005108 A1	1/2002	Ludwig et al.	2013/0135198 A1	5/2013	Hodge et al.
2002/0183101 A1	12/2002	Oh et al.	2013/0154913 A1	6/2013	Genc et al.
2004/0066547 A1	4/2004	Parker et al.	2013/0162632 A1	6/2013	Varga et al.
2004/0150631 A1	8/2004	Fleck et al.	2013/0185052 A1	7/2013	Boyd et al.
2006/0092131 A1	5/2006	Kuroki et al.	2013/0196757 A1	8/2013	Latta et al.
2006/0098293 A1	5/2006	Garoutte et al.	2013/0201081 A1	8/2013	Evans et al.
2006/0132457 A1	6/2006	Rimas-Ribikauskas et al.	2013/0207970 A1	8/2013	Shpunt et al.
2006/0250322 A1	11/2006	Hall et al.	2013/0230215 A1	9/2013	Gurman et al.
2007/0024750 A1	2/2007	Chung et al.	2013/0250207 A1	9/2013	Bohn et al.
2007/0024763 A1	2/2007	Chung et al.	2013/0250430 A1	9/2013	Robbins et al.
2007/0024764 A1	2/2007	Chung et al.	2013/0257622 A1	10/2013	Davalos et al.
			2013/0265227 A1	10/2013	Julian et al.
			2013/0300652 A1	11/2013	Raffle et al.
			2013/0321265 A1	12/2013	Bychkov et al.
			2013/0321271 A1	12/2013	Bychkov et al.

(56)

## References Cited

## U.S. PATENT DOCUMENTS

2013/0335301 A1 12/2013 Wong et al.  
 2013/0336528 A1 12/2013 Itani et al.  
 2013/0336629 A1 12/2013 Mulholland et al.  
 2013/0342571 A1 12/2013 Kinnebrew et al.  
 2014/0028704 A1 1/2014 Wu et al.  
 2014/0043682 A1 2/2014 Hussey et al.  
 2014/0062854 A1 3/2014 Cho  
 2014/0063473 A1 3/2014 Pasolini  
 2014/0078282 A1 3/2014 Aoki et al.  
 2014/0091984 A1 4/2014 Ashbrook et al.  
 2014/0101608 A1 4/2014 Ryskamp et al.  
 2014/0129328 A1 5/2014 Mathew  
 2014/0146394 A1 5/2014 Tout et al.  
 2014/0147829 A1 5/2014 Jerauld  
 2014/0152530 A1 6/2014 Venkatesha et al.  
 2014/0152558 A1 6/2014 Salter et al.  
 2014/0152676 A1 6/2014 Rohn et al.  
 2014/0159995 A1 6/2014 Adams et al.  
 2014/0160055 A1 6/2014 Margolis et al.  
 2014/0160157 A1 6/2014 Poulos et al.  
 2014/0160170 A1 6/2014 Lyons  
 2014/0168266 A1 6/2014 Kimura et al.  
 2014/0168716 A1 6/2014 King et al.  
 2014/0168735 A1 6/2014 Yuan et al.  
 2014/0176603 A1 6/2014 Kumar et al.  
 2014/0177023 A1 6/2014 Gao et al.  
 2014/0247286 A1 9/2014 Chi et al.  
 2014/0253588 A1 9/2014 Mandala et al.  
 2014/0361957 A1 12/2014 Hua et al.  
 2014/0372957 A1 12/2014 Kipman et al.  
 2014/0375683 A1 12/2014 Massey et al.  
 2015/0097719 A1 4/2015 Balachandreswaran et al.  
 2015/0146004 A1 5/2015 Rakshit et al.  
 2015/0169953 A1 6/2015 Border  
 2015/0201834 A1 7/2015 Border et al.  
 2015/0201835 A1 7/2015 Border et al.  
 2015/0201836 A1 7/2015 Border et al.  
 2015/0205035 A1 7/2015 Border et al.  
 2015/0205100 A1 7/2015 Border  
 2015/0205101 A1 7/2015 Border  
 2015/0205102 A1 7/2015 Border  
 2015/0205103 A1 7/2015 Border  
 2015/0205104 A1 7/2015 Border  
 2015/0205105 A1 7/2015 Border  
 2015/0205107 A1 7/2015 Border  
 2015/0205108 A1 7/2015 Border et al.  
 2015/0205111 A1 7/2015 Border et al.  
 2015/0205112 A1 7/2015 Border  
 2015/0205113 A1 7/2015 Border et al.  
 2015/0205114 A1 7/2015 Border et al.  
 2015/0205115 A1 7/2015 Border et al.  
 2015/0205116 A1 7/2015 Border et al.  
 2015/0205117 A1 7/2015 Border et al.  
 2015/0205118 A1 7/2015 Border et al.  
 2015/0205119 A1 7/2015 Osterhout et al.  
 2015/0205120 A1 7/2015 Border et al.  
 2015/0205121 A1 7/2015 Border et al.  
 2015/0205122 A1 7/2015 Border et al.  
 2015/0205123 A1 7/2015 Border  
 2015/0205124 A1 7/2015 Border  
 2015/0205125 A1 7/2015 Border et al.  
 2015/0205127 A1 7/2015 Border et al.  
 2015/0205128 A1 7/2015 Border  
 2015/0205129 A1 7/2015 Border et al.  
 2015/0205130 A1 7/2015 Border  
 2015/0205131 A1 7/2015 Border et al.  
 2015/0205132 A1 7/2015 Osterhout et al.  
 2015/0205135 A1 7/2015 Border et al.  
 2015/0205346 A1 7/2015 Border  
 2015/0205347 A1 7/2015 Border  
 2015/0205348 A1 7/2015 Nortrup et al.  
 2015/0205349 A1 7/2015 Nortrup et al.  
 2015/0205351 A1 7/2015 Osterhout et al.  
 2015/0205373 A1 7/2015 Osterhout et al.  
 2015/0205378 A1 7/2015 Osterhout

2015/0205384 A1 7/2015 Osterhout et al.  
 2015/0205385 A1 7/2015 Osterhout et al.  
 2015/0205387 A1 7/2015 Osterhout et al.  
 2015/0205388 A1 7/2015 Osterhout  
 2015/0205401 A1 7/2015 Osterhout  
 2015/0205402 A1 7/2015 Osterhout  
 2015/0205566 A1 7/2015 Osterhout  
 2015/0206008 A1 7/2015 Border et al.  
 2015/0206173 A1 7/2015 Nortrup et al.  
 2015/0212324 A1 7/2015 Osterhout  
 2015/0212327 A1 7/2015 Osterhout et al.  
 2015/0213650 A1 7/2015 Barzuza et al.  
 2015/0226966 A1 8/2015 Osterhout  
 2015/0226967 A1 8/2015 Osterhout et al.  
 2015/0228099 A1 8/2015 Osterhout  
 2015/0228119 A1 8/2015 Osterhout et al.  
 2015/0228120 A1 8/2015 Osterhout et al.  
 2015/0229019 A1 8/2015 Osterhout  
 2015/0235422 A1 8/2015 Lohse et al.  
 2015/0235622 A1 8/2015 Border et al.  
 2015/0241963 A1 8/2015 Nortrup et al.  
 2015/0241964 A1 8/2015 Nortrup et al.  
 2015/0241965 A1 8/2015 Nortrup et al.  
 2015/0241966 A1 8/2015 Nortrup et al.

## FOREIGN PATENT DOCUMENTS

EP 2207164 A2 7/2010  
 EP 2486450 A1 8/2012  
 EP 2502410 A1 9/2012  
 JP 07110735 A 4/1995  
 JP 2000102036 A 4/2000  
 WO 2011143655 A1 11/2011  
 WO 2012058175 A1 5/2012  
 WO 2012064546 A1 5/2012  
 WO 2012082807 A2 6/2012  
 WO 2012118573 A1 9/2012  
 WO 2012118575 A2 9/2012  
 WO 2013043288 A2 3/2013  
 WO 2013049248 A2 4/2013  
 WO 2013050650 A1 4/2013  
 WO 2013103825 A1 7/2013  
 WO 2013110846 A1 8/2013  
 WO 2013170073 A1 11/2013  
 WO 2015/109145 A1 7/2015  
 WO 2015109145 A9 7/2015

## OTHER PUBLICATIONS

"Meet Nod, the Bluetooth Ring That Wants to Replace Your Mouse", <http://www.pcmag.com/article2/0,2817,2457238,00.asp>, Apr. 29, 2014, 6 pages.  
 Walton, "Wear This Smartphone Controller on Your Finger", <http://www.webpronews.com/wear-this-smartphone-controller-on-your-finger-2012-06>, 5 pages.  
 "Audio Spotlight", by Holosonics, <http://www.holosonics.com>, accessed Jul. 3, 2014, 3 pages.  
 "Sound from Ultrasound", Wikipedia entry, [http://en.m.wikipedia.org/wiki/Sound\\_from\\_ultrasound](http://en.m.wikipedia.org/wiki/Sound_from_ultrasound), accessed Jul. 3, 2014, 13 pages.  
 Allison, et al., "Tolerance of Temporal Delay in Virtual Environments", VR '01 Proceedings of the Virtual Reality 2001 Conference (VR'01), Mar. 2001, pp. 2-8.  
 Lang, et al., "Nonlinear Disparity Mapping for Stereoscopic 3D", Jul. 2010, pp. 1-10.  
 Logbar Inc., "Ring: Shortcut Everything", <https://www.kickstarter.com/projects/1761670738/ring-shortcut-everything>, Jun. 2012, 1 page.  
 Mastandrea, "Mycestro, the Next Generation 3D Mouse", <https://www.kickstarter.com/projects/mycestro/mycestrotm-the-next-generation-3d-mouse>, Dec. 2014, 22 pages.  
 PCT/US2015/011697, "International Application Serial No. PCT/US2015/011697, International Search Report and Written Opinion mailed Apr. 13, 2015", Osterhout Group, Inc., 14 pages.  
 Schedwill, "Bidirectional OLED Microdisplay", Fraunhofer Research Institution for Organics, Materials and Electronic Device Comedd, Apr. 11, 2014, 2 pages.

(56)

**References Cited**

## OTHER PUBLICATIONS

Vogel, et al., “Data glasses controlled by eye movements”, Information and communication, Fraunhofer-Gesellschaft, Sep. 22, 2013, 2 pages.

Ye, et al., “High Quality Voice Morphing”, 2004, pp. I-9-I-11.

“Help Requested! Comments and input needed for new coaxial UAS—DIY Drones”, <http://diydrone.com/profiles/blogs/help-requested-comments-and-input-needed-for-new-coaxial-uas>, Mar. 5, 2015, pp. 1-3.

“How Ascent AeroSystems is looking to add to your outdoor adventure”, <http://droneblog.com/2015/03/23/how-ascentaerosystems-is-looking-to-add-to-your-outdoor-adventure/#!prettyPhoto>, Mar. 23, 2015, pp. 1-10.

“Lightberry”, <https://web.archive.org/web/20131201194408/http://lightberry.eu/>, Dec. 1, 2013, 11 Pages.

Huang, “Image Completion Using Planar Structure Guidelines”, ACM Transactions on Graphics, vol. 33, No. 4, Article 129, Jul. 2014, 1-10.

Janin, et al., “Calibration of Head-Mounted Displays for Augmented Reality Applications”, 1993, 10 Pages.

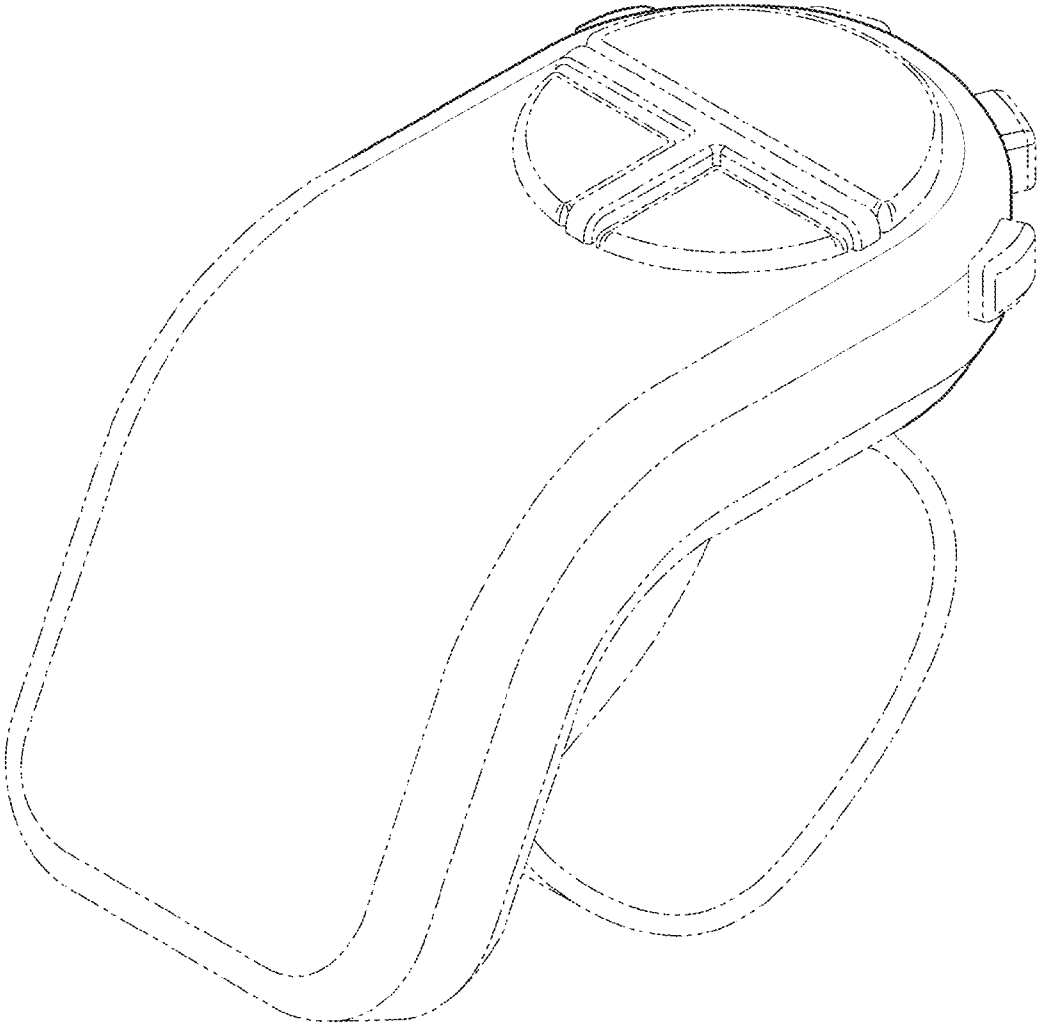
PCT/US2015/026704, “International Search Report and Written Opinion”, Osterhout Group, Inc., mailed Aug. 21, 2015, 15 pages.

PCT/US2015/035192, “International Application Serial No. PCT/US2015/035192, International Search Report and Written Opinion mailed Sep. 3, 2015”, Osterhout Group, Inc., 11 pages.

US 8,743,465, 06/2014, Totani et al. (withdrawn)

US 8,792,178, 07/2014, Totani et al. (withdrawn)

\* cited by examiner



**FIG. 1**

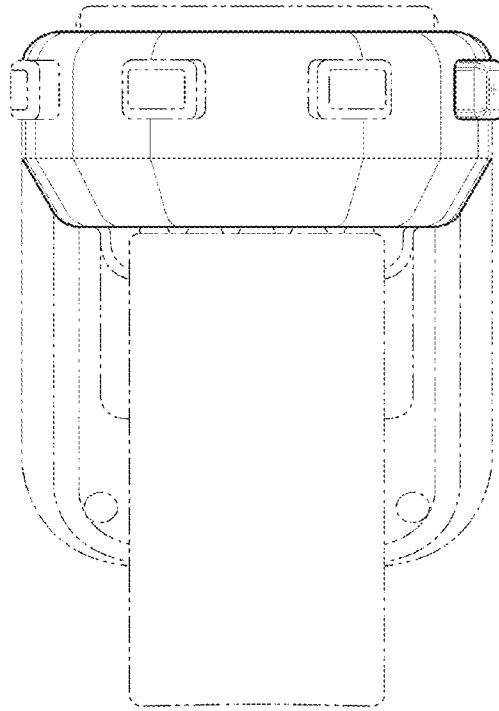
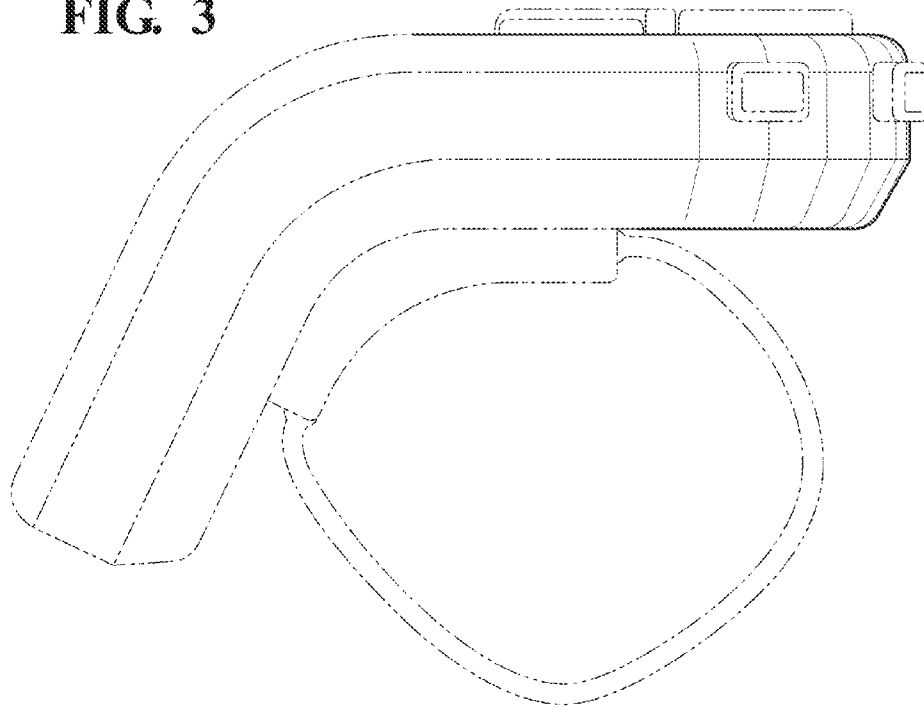


FIG. 2

FIG. 3



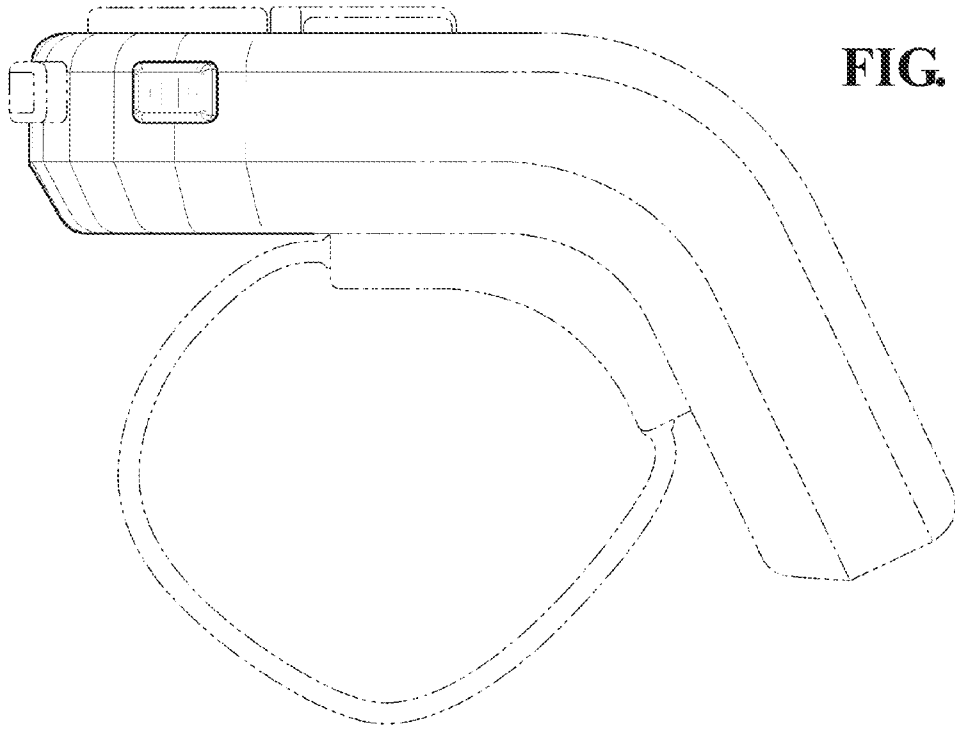
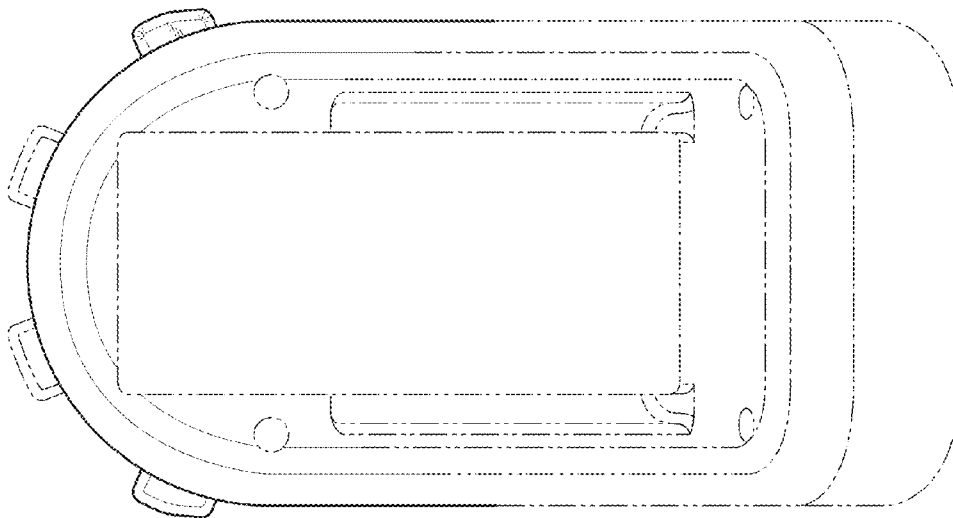
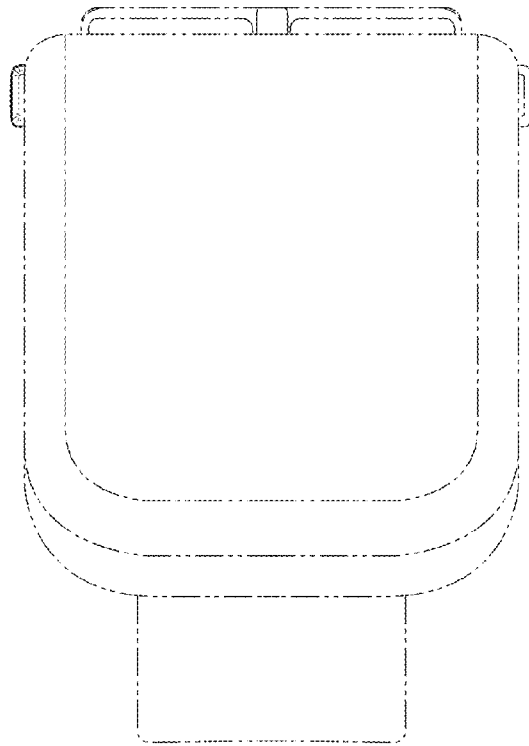


FIG. 4

FIG. 5



**FIG. 6**



**FIG. 7**

