

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD**

PRIME WIRE & CABLE, INC.)
)
Petitioner,)
)
v.)
)
CANTIGNY LIGHTING)
CONTROL, LLC.)
)
Patent owner)
)
JASCO PRODUCTS, INC.)
)
Licensee)

**Case: IPR2018-01592
Patent No.: 9,320,122**

EXHIBIT 1039



US009888551B1

(12) **United States Patent**
King

(10) **Patent No.:** **US 9,888,551 B1**
(45) **Date of Patent:** **Feb. 6, 2018**

(54) **PROGRAMMABLE LIGHT TIMER AND A METHOD OF PROGRAMMING A PROGRAMMABLE LIGHT TIMER**

(56) **References Cited**

U.S. PATENT DOCUMENTS

(71) Applicant: **John Joseph King**, Wheaton, IL (US)

2,397,688 A	4/1944	Osinski
2,908,743 A	10/1959	Premoshis
3,609,647 A	9/1971	Castellano
3,879,101 A	4/1975	McKissic
4,117,258 A	9/1978	Shanker
4,349,748 A	9/1982	Goldstein et al.
4,357,665 A	11/1982	Korff
4,521,843 A	6/1985	Pezollo et al.
4,521,869 A	6/1985	Moss
4,631,354 A	12/1986	Boteler
4,677,541 A	6/1987	Singhi
4,893,062 A	1/1990	D'Aleo
5,046,157 A	9/1991	Smith et al.
5,105,336 A	4/1992	Jacoby
5,160,853 A	11/1992	Simon et al.
5,191,265 A	3/1993	D'Aleo et al.
5,229,925 A	7/1993	Spencer et al.

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OTHER PUBLICATIONS

Intermatic ST01 Series Timer User Manual, published Jul. 1, 2009.

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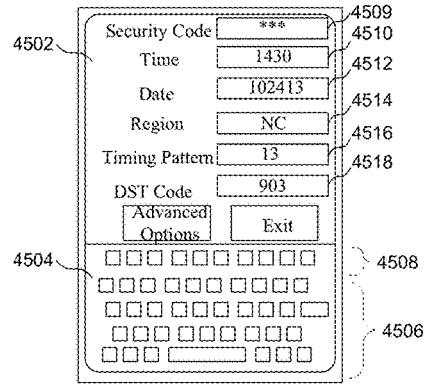
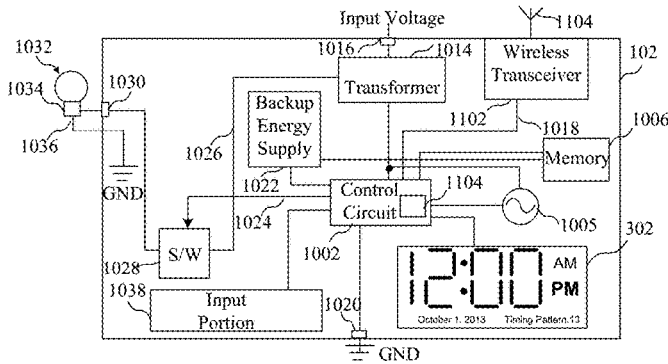
(57) **ABSTRACT**

A programmable light timer for implementing a timing pattern is described. The programmable light timer comprises a wireless communication circuit configured to receive, using a wireless communication protocol, a timing pattern and a location from a wireless communication device; and a memory storing the timing pattern and the location; wherein programmable light timer application applies the timing pattern based upon the location received from the wireless communication device. A method of implementing a programmable light timer is also described.

(52) **U.S. Cl.**
CPC **H05B 37/0281** (2013.01); **H04W 4/028** (2013.01); **H05B 37/0227** (2013.01); **H05B 37/0272** (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

20 Claims, 18 Drawing Sheets



(56)	References Cited			8,018,089 B2	9/2011	King, Jr.	
	U.S. PATENT DOCUMENTS			8,019,485 B2	9/2011	Chen	
				8,050,145 B2*	11/2011	Ostrovsky	G04F 1/005 307/141
	5,399,806 A	3/1995	Olson	8,054,175 B2	11/2011	Kato et al.	
	5,442,177 A	8/1995	Boulos et al.	8,058,552 B2	11/2011	Kruse	
	5,471,012 A	11/1995	Opel	8,068,014 B2	11/2011	Steiner et al.	
	5,528,229 A	6/1996	Mehta	8,084,700 B1	12/2011	Massaro et al.	
	5,586,048 A	12/1996	Coveley	8,086,357 B2	12/2011	Marellapudi et al.	
	5,793,125 A	8/1998	Tarng	8,096,818 B2	1/2012	Arenas et al.	
	5,805,444 A	9/1998	Seymour	8,143,803 B2	3/2012	Beij	
	5,831,391 A	11/1998	MacKay	8,154,154 B2	4/2012	Buerer	
	5,867,099 A	2/1999	Keeter	8,223,508 B2	7/2012	Baarman et al.	
	5,949,200 A	9/1999	Ference et al.	8,242,714 B2	8/2012	Weightman et al.	
	5,962,989 A	10/1999	Baker	8,267,719 B1	9/2012	Benoit	
	5,990,471 A	11/1999	Watanabe	8,306,634 B2	11/2012	Nguyen	
	6,120,165 A	9/2000	Shalvi	8,344,666 B1	1/2013	King	
	6,121,889 A	9/2000	Janda et al.	8,344,667 B1	1/2013	King	
	6,169,377 B1	1/2001	Bryde	8,371,863 B1	2/2013	Ganta	
	6,188,182 B1	2/2001	Nickols	8,442,695 B2	5/2013	Imes	
	6,335,852 B1	1/2002	Nimmo	8,446,263 B2	5/2013	King	
	6,376,770 B1	4/2002	Hyde	8,478,450 B2	7/2013	Lu et al.	
	6,388,399 B1	5/2002	Eckel et al.	8,489,715 B2	7/2013	Averbuch et al.	
	6,442,452 B1	8/2002	Kopke	8,508,135 B2	8/2013	King	
	6,476,523 B1	11/2002	Lee	8,508,148 B1	8/2013	Carley et al.	
	6,617,511 B2	9/2003	Schultz	8,513,891 B2	8/2013	Hsieh	
	6,658,303 B2	12/2003	Hatemata et al.	8,531,134 B2	9/2013	Chemel	
	6,660,948 B2	12/2003	Clegg et al.	8,541,959 B2	9/2013	Adams	
	6,664,468 B2	12/2003	Jarasse	8,558,129 B2	10/2013	Elliott et al.	
	6,737,576 B1	5/2004	Dinh	8,558,464 B2	10/2013	King	
	6,740,831 B2	5/2004	Baertl	8,583,263 B2	11/2013	Hoffberg et al.	
	6,767,245 B2	7/2004	King	8,602,799 B2	12/2013	Ganta et al.	
	6,797,900 B2	9/2004	Hoffman	8,610,305 B2	12/2013	Sarid et al.	
	D500,687 S	1/2005	Morrison et al.	8,613,624 B2	12/2013	Arenas	
	6,870,099 B1	3/2005	Schultz	8,629,617 B2	1/2014	Richards et al.	
	6,888,323 B1	5/2005	Null et al.	8,659,978 B2	2/2014	Schroeder	
	6,943,296 B2	9/2005	Perrella et al.	8,742,694 B2	6/2014	Bora et al.	
	6,958,584 B2	10/2005	Nakamura et al.	8,816,610 B2	8/2014	King	
	6,965,801 B2	11/2005	Hall	8,901,858 B2	12/2014	King	
	6,967,565 B2	11/2005	Lingemann	9,024,545 B2	5/2015	Bloch et al.	
	6,989,489 B1	1/2006	Savicki, Jr.	9,030,789 B2	5/2015	Benoit	
	7,039,397 B2	5/2006	Chuey	9,049,116 B2	6/2015	King	
	7,047,092 B2	5/2006	Wimsatt	9,095,053 B2	7/2015	Trolese	
	7,081,009 B2	7/2006	Gorman	9,204,523 B2	12/2015	Reed et al.	
	7,155,305 B2	12/2006	Hayes et al.	9,226,373 B2	12/2015	King	
	7,160,147 B1	1/2007	Stephan	9,368,025 B2	6/2016	Carmen, Jr.	
	7,167,777 B2	1/2007	Budike	9,418,809 B2	8/2016	Hausman, Jr.	
	7,255,596 B2	8/2007	Pyrros	9,450,508 B2	9/2016	Janning et al.	
	7,258,064 B2	8/2007	Vaseloff	9,596,741 B2	3/2017	Lemke et al.	
	7,273,392 B2	9/2007	Fields	9,607,786 B2	3/2017	Haines	
	7,285,721 B1	10/2007	Savicki, Jr.	9,620,945 B2	4/2017	Rohmer	
	7,345,998 B2	3/2008	Cregg et al.	9,699,870 B2	7/2017	Spira	
	7,357,652 B1	4/2008	Arenas et al.	2002/0038981 A1	4/2002	Brown	
	7,365,964 B2	4/2008	Donahue, IV	2002/0086567 A1	7/2002	Cash, Jr.	
	7,375,476 B2	5/2008	Walter	2003/0124905 A1	7/2003	Hyde	
	7,382,100 B2	6/2008	Johnson et al.	2004/0159531 A1	8/2004	Hoffman	
	7,400,239 B2	7/2008	Kiko et al.	2004/0260853 A1	12/2004	Cho	
	7,405,524 B2	7/2008	Null et al.	2005/0075741 A1	4/2005	Altmann	
	7,436,132 B1	10/2008	Null	2005/0126813 A1	6/2005	Hyde	
	7,439,832 B1	10/2008	Radosavljevic	2005/0242753 A1	11/2005	Morrison	
	7,460,930 B1	12/2008	Howell	2005/0253538 A1	11/2005	Shah et al.	
	7,463,148 B2	12/2008	Leen	2006/0012312 A1	1/2006	Lyle et al.	
	7,501,941 B2	3/2009	Arnold	2006/0012317 A1	1/2006	Chiu et al.	
	7,575,470 B2	8/2009	Pyrros	2006/0038499 A1	2/2006	Yeh	
	7,579,717 B2	8/2009	Blair et al.	2006/0074497 A1	4/2006	Pollin	
	7,627,313 B2	12/2009	Aretz et al.	2006/0125324 A1	6/2006	Lai Lui	
	7,628,643 B2	12/2009	Pyrros	2006/0202851 A1	9/2006	Cash et al.	
	7,641,491 B2	1/2010	Altonen et al.	2006/0239123 A1	10/2006	Chen	
	7,663,325 B2	2/2010	McDonough et al.	2006/0250745 A1	11/2006	Butler et al.	
	7,683,755 B2	3/2010	Ostrovsky et al.	2007/0109763 A1	5/2007	Wolf et al.	
	7,689,875 B2	3/2010	Cahill et al.	2007/0109781 A1	5/2007	Chiu	
	7,694,005 B2	4/2010	Reckamp et al.	2007/0183270 A1	8/2007	Sakamoto et al.	
	7,767,905 B2	8/2010	Meyer	2007/0206375 A1	9/2007	Piegras et al.	
	7,774,648 B2	8/2010	Majewski et al.	2008/0001551 A1	1/2008	Abbondanzio et al.	
	7,847,706 B1	12/2010	Ross et al.	2008/0125888 A1	5/2008	Marellapudi et al.	
	7,852,234 B1	12/2010	Borenstein et al.	2008/0154652 A1	6/2008	Bresch	
	7,859,136 B2	12/2010	Blair et al.	2008/0229125 A1	9/2008	Lin et al.	

(56)

References Cited

U.S. PATENT DOCUMENTS

2008/0265685 A1 10/2008 Blair et al.
 2008/0309253 A1 12/2008 Guanrong et al.
 2009/0059603 A1 3/2009 Recker
 2009/0122571 A1 5/2009 Simmons et al.
 2009/0125682 A1 5/2009 Schroeder
 2009/0190443 A1 7/2009 Huizi et al.
 2009/0225811 A1 9/2009 Albert et al.
 2009/0273243 A1 11/2009 Blair et al.
 2010/0025210 A1 2/2010 Simard et al.
 2010/0045205 A1 2/2010 Bergman et al.
 2010/0052487 A1 3/2010 Stein
 2010/0052894 A1 3/2010 Steiner et al.
 2010/0084996 A1 4/2010 Van De Sluis
 2010/0176744 A1 7/2010 Lee et al.
 2010/0213875 A1 8/2010 Lai
 2010/0244706 A1 9/2010 Steiner et al.
 2010/0271802 A1 10/2010 Recker
 2010/0295454 A1 11/2010 Reed
 2011/0018448 A1 1/2011 Metchev, III et al.
 2011/0101868 A1 5/2011 Weiss
 2011/0285292 A1 11/2011 Mollnow et al.
 2011/0316453 A1 12/2011 Ewing
 2012/0025960 A1* 2/2012 King H05B 37/0281
 340/309.8
 2012/0091902 A1 4/2012 Radermacher
 2012/0139417 A1 6/2012 Mironichev et al.
 2012/0181935 A1 7/2012 Velazquez
 2012/0194102 A1 8/2012 King
 2013/0026947 A1 1/2013 Economy et al.
 2013/0033187 A1 2/2013 Brown et al.
 2013/0043788 A1 2/2013 O'Brien
 2013/0141018 A1 6/2013 Kamii
 2013/0241432 A1 9/2013 Ebihara et al.
 2014/0043544 A1 2/2014 Kasuga
 2014/0064260 A1 3/2014 Masterbrook et al.
 2014/0070707 A1 3/2014 Nagazoe
 2014/0098247 A1 4/2014 Rao et al.
 2014/0117871 A1 5/2014 Swatsky et al.
 2014/0139137 A1 5/2014 Recker et al.
 2014/0166447 A1 6/2014 Thea et al.
 2014/0167621 A1 6/2014 Trott et al.
 2014/0204214 A1 7/2014 Singhal
 2014/0254829 A1 9/2014 Wang et al.
 2014/0265836 A1 9/2014 Nourbakhsh et al.
 2014/0270237 A1 9/2014 Wang et al.
 2014/0273892 A1 9/2014 Nourbakhsh
 2014/0292222 A1 10/2014 Velazquez
 2014/0354162 A1 12/2014 Sun et al.
 2014/0368115 A1 12/2014 Ando et al.
 2015/0035437 A1 2/2015 Panopoulos et al.
 2015/0061546 A1 3/2015 Stack et al.
 2017/0033942 A1 2/2017 Koeninger
 2017/0221654 A1 8/2017 Danowski

OTHER PUBLICATIONS

GE 7 Day Digital Timer User Instructions, published Jul. 30, 2010.
 GE Smart Digital Timer, published Jul. 2010.
 GE Digital Time Switch, published Nov. 24, 2009.
 SmartLink-INSTEON Smarthome, published Aug. 27, 2008.
 3COM IEEE 802.11 Wireless LANs, published Jan. 2000.
 Schlage Link RP200 LiGHT Module User Manual, published Mar. 2009.
 Intermatic Model EI600 Self-Adjusting Wall Switch Timer, Installation and User Instructions, published Jul. 2009.
 GE Wireless Lighting Control 45631 Keypad Controller User Manual, published Apr. 2010.
 Grasslin Talento Plus Product Catalogue, published Apr. 1, 2008.
 Aube Technologies T1033 Installation and Instruction Guide, Programmable Wall Switch, published Nov. 30, 2006.
 GE Z-Wave Wireless Controls 45603—Florescent and Appliance Module, published Apr. 1, 2010.

GE Outdoor Timer User Manual, published Nov. 24, 2009.
 Diehl Controls User Manual, published Apr. 2002.
 Hydrofarm Digital Grounded 7 Day Timer User Manual, published Sep. 2009.
 Honeywell RPLS 740A User Manual, published May 17, 2010.
 Heath/Zenith Motion Sensor Light Control Model SL-5408, published 2004.
 Honeywell RPLS540A/RPLS541A User Guide, published May 17, 2010.
 Leviton Indoor Plug-In Timer, PK93194-10-00-2A, published 2010.
 Tork Digital Time Switch Instruction Manual DMZ200 BP, published Mar. 27, 2007.
 Tork Digital Lighting Control Instruction Manual, DLC400BP, published Jun. 1, 2007.
 Aube T1062 User Manual, published Jul. 4, 2008.
 Sylvania SA 170 User Manual, published Aug. 17, 2005.
 Intermatic SS5 User Manual, published Apr. 20, 2009.
 Intermatic HA07 Master Controller User Manual, published 2007.
 Intermatic SS8 User Manual, published Sep. 13, 2002.
 Intermatic EJ500C User Manual, published Aug. 3, 2004.
 Sywylite LST100 User Manual, published 2010.
 Westek TE02 DBH User Manual, published 2010.
 Leviton LT112-10W User Manual, published 2010.
 Leviton In-Wall Timer VPT20 User Manual, published 2010.
 NEXTGEN programming software, published 2004.
 Intermatic ET90000 Help Support, published 2013.
 Belkin WeMo Support—Selling Up WeMo, published 2013.
 Belkin WeMo Support—How to create or edit Rules for WeMo using a mobile device, published 2013.
 GE SunSmart Digital Timer published 2010.
 Leviton Product Data Wireless Infrared Occupancy Sensors, published 2008.
 Sylvania Model SA135, published 2010.
 Setting up Zigbee Ethernet Gateway, published Dec. 17, 2008.
 US Cellular LG Wine, published Dec. 12, 2008.
 Theben New Products for 2008, published 2008.
 Theben Selektta, published 2008.
 Woods TM16R Series Timers, published Sep. 6, 2007.
 Woods TM29HR Timer, published Sep. 6, 2007.
 Woods 2500 Timer, published 2007.
 Woods Timer Model 50043, published 2007.
 Guide to Obelisk Top2 Software V3.6 published 2012.
 Defiant Timer Model 49820 User Manual, published 2013.
 GE Wall Box Time Switch Instructions, Model 15303, Jan. 2013.
 Defiant Timer Item 1001-524-883 Use and Care Guide Push Button Countdown Timer, Jul. 5, 2011.
 Theben New Products, 2010.
 Woods Timer Model 50000 24-hour Indoor Mechanical Timer 2-C, Aug. 15, 2013.
 TheBen EM LAN top2 TR641/642/644.
 Ferroli HE Programmer instructions, Aug. 12, 2006.
 Radioshack Mini Timer Programmable Controller, Sep. 8, 1999.
 Theben TR644 Top 2, Article No. 6440100, Jun. 23, 2016.
 Home Easy HE-200/210/220 Remote Control Timer, 2007.
 Larsen and Toubro Astronomical Time Switches, Feb. 2, 2013.
 TCP-Remote Lighting Kit, Oct. 8, 2013.
 RT-200 Astronomical Time Switch, Dec. 2010.
 A System for Smart-Home Control of Appliances Based on Timer and Speech Interaction, Jan. 2006.
 Design of Multi-Functional Street Light Control System Based on AT89S52 Single-Chip Microcomputer, May 2010.
 Design and Implementation of WiFi Based Home Automation System, 2012.
 Case Studies of Mental Models in Home Heat Control: Searching for Feedback, Valve, Timers and Switch Theories, May 2013.
 RF Remote Control of Power Line Devices Using Embedded System, May 2013.
 Light Symphony Base Station, Part No. LS0900BSR, 2012.
 House Control Language, Aalborg University, 2008.
 Siemens-TR-648-310, published 2002.
 Siemens 16 Channel Time Switch, published Mar. 2004.

(56)

References Cited

OTHER PUBLICATIONS

Theben Luna 120 Installing and Operating Instruction, published?
Theben Luna 111 and 112 Assembly and operating Instructions,
Digital Twilight Switch, published?
TimeGuard The Official TimeGuard Newsletter, published Autumn
2009.
Theben Astronomical Time Switch, Selekt 171 top2, published?
Theben Digital twilight Switch Luna 120 top 2, published?
Theben Astro Time Switch Selekt 170 top2, published?
Theben Termina TR611 TR622 Assembly and Operating Instruc-
tions, published?
TimeGuard Official TimeGuard Newsletter, published winter 2008.
TheBen Luna 120 Installing and Operating Instruction, published
2008.
TheBen Luna 111 and 112 Assembly and Operating Instructions,
Digital Twilight Switch, published 2008.
TimeGuard The Official TimeGuard Newsletter, published Autumn
2009.
TheBen Astronomical Time Switch, Selekt 171 Top2, published
2008.
TheBen Digital Twilight Switch Luna 120 top2, published 2008.
TheBen Astro Time Switch Selekt 170 Top2, published 2008.
TheBen Termina TR611 TR622 Assembly and Operating Instruc-
tions, published 2008.

* cited by examiner

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