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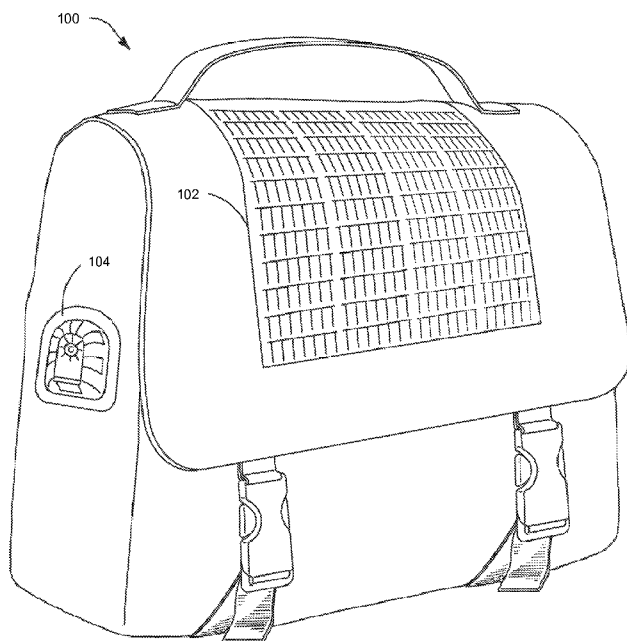
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- (71) **Applicant (for all designated States except US):** TRUE SOL INNOVATIONS, INC. [US/US]; 8560 Greenwood Avenue, Suite 711, Seattle, Washington 98103 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** BLACK, Eric, K. [US/US]; 2615 NE 100th Street, Seattle, Washington 98125 (US). BLACK, Michael, J. [US/US]; 11209 2nd Avenue NW, Seattle, Washington 98177 (US).
- (74) **Agent:** CHERRY, Jared, L.; STOEL RIVES LLP, 201 So. Main Street, Suite 1100, One Utah Center, Salt Lake City, Utah 84111 (US).
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[Continued on next page]

(54) **Title:** SYSTEMS AND METHODS FOR DYNAMIC POWER ALLOCATION

FIG. 1



(57) **Abstract:** Disclosed herein are systems and methods for providing power to a load. Systems according to the present embodiment may include an electrical generator to generate electrical power and a battery to store electrical power. The present disclosure may be applied to electrical power generators having variable outputs, and may be utilized to provide a more constant electrical output by drawing power from the electrical generator and the battery as necessary to satisfy the power requirements of the electrical load. The system draws power from the electrical power generator and the battery to satisfy the power requirements of the load. Based on a mode of operation, the system may draw power only from the battery, only from the electrical power generator, or from both the electrical power generator and the battery alternately.



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A. CLASSIFICATION OF SUBJECT MATTER**H02J 7/00(2006.01)i, H02J 7/35(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H02J 7/00; G06F 15/16; H04J 3/22; H04B 7/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: solar cell, solar panel, switch, battery, external power source, AC adaptor, multiplexor.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	KR 10-0475830 B1 (KOREA WATER RESOURCES CORPPRATION.) 10 March 2005 See abstract; claims 2-6; figure 1.	1-2,5-19,22-34,36 3-4,20-21,35
Y A	KR 10-0283476 B1 (DAEWOO ELECTRONICS CO., LTD.) 02 March 2001 See abstract; claim 1; figure 2.	1-2,5-19,22-34,36 3-4,20-21,35
Y A	JP 2008-219979 A (OMRON CORP) 18 September 2008 See abstract; claims 1-11; figures 1-6.	2,9-13,17,19,26-30 1,3-8,14-16,18 ,20-25,31-36
A	US 2003-0141846 A1 (HIROTSUGU MATSUYAMA) 31 July 2003 See abstract; claims 1-13; figures 1-2.	1-36

 Further documents are listed in the continuation of Box C. See patent family annex.

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"&" document member of the same patent family

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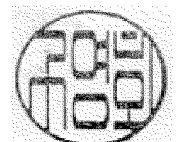
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Authorized officer

KOO, Young Hoi

Telephone No. 0424818376



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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 10-0475830 B1	10.03.2005	None	
KR 10-0283476 B1	02.03.2001	None	
JP 2008-219979 A	18.09.2008	JP 2008-219979 A	18.09.2008
US 2003-0141846 A1	31.07.2003	JP 2003-217685 A US 6806684 B2	31.07.2003 19.10.2004