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DETAILED ACTION

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.
2. This Non-Final office action is in response to application 18/095,817, application filed on 01/11/2023, and Preliminary Amendment filed on 05/29/2024. In the Preliminary Amendment, claims 1-20 are cancelled by Applicant, and claims 21-40 are presented as new. Claims 21-40 are currently pending in this application.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 07/12/2023 is/are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

(a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

5. **Claim(s) 21, 28-33 and 40 is/are rejected under 35 U.S.C. 102(a)(2)** as being anticipated by **Griffith et al.** (US PG Pub No. 2022/0344941).

6. With respect to **independent** claim 21, **Griffith teaches:**

an appliance having a battery module (**see appliance as shown in Fig 3b having a receptacle and battery as shown, where battery can be nested with the load or appliance itself, where battery nests directly external to appliance, para 56-58, Fig 3b**), the battery module being configured to provide power to the appliance (**see battery providing power to appliance via power cord and battery, battery providing power to appliance as part of power distribution system to appliance, para 55-58, Fig 3b**);

a sensor coupled to the appliance to monitor an operation condition of the appliance at a specific time point (**see monitoring power configuration for load source and/or appliance, see monitoring of appliance's power use session, including type of power, duration, whether it is on or off, etc. para 99-103, Fig 6b**); and

a control unit communicatively coupled to the sensor to collect information obtained from the sensor (**see controller for storing power use data of appliance based on monitoring usage of appliance, para 99-103**), the control unit being configured to determine whether to adjust power provided to the appliance from the battery module based on the operation condition of the appliance (**see adjusting/modifying power output configuration if needed for power to appliance and/or load source, para 99-103**).

7. With respect to **independent** claim 33, **Griffith teaches:**

monitoring an operation condition of an appliance at a specific time point (**see monitoring power configuration for load source and/or appliance, see monitoring of appliance's power use session, including type of power, duration, whether it is on or off, etc. para 99-103, Fig 6b**), wherein the operation condition is monitored by a sensor coupled to the appliance (**see sensors for determining aspects of battery including those associated or connected to appliances, and aspects of elements within building system, para 70**);

collecting power usage data of the appliance at the specific time point (**see controller for storing power use data of appliance based on monitoring usage of appliance, para 99-103; collecting data of battery and/or load source data such as that from appliance, para 99-103**), wherein the power usage data indicates power provided to the appliance by a battery module included in the appliance (**see appliance as shown in Fig 3b having a receptacle and battery as shown, where battery can be nested with the load or appliance itself, where battery nests directly external to appliance, para 56-58, Fig 3b; see battery providing power to appliance via power cord and battery, battery providing power to appliance as part of power distribution system to appliance, para 55-58, Fig 3b**); and

determining whether to adjust power provided to the appliance from the battery module based on the operation condition of the appliance and power usage data of the appliance (**see adjusting/modifying power output configuration if needed for power to appliance and/or load source, para 99-103**).

8. With respect to claims 28 and 40, **Griffith teaches**:

wherein the control unit is further configured to determine a charge and discharge schedule for the battery module based on a power usage pattern of the appliance **(determining power storage and/or power discharge of battery based on time, para 69-70; see determining usage patterns, para 96-98).**

9. With respect to claim 29, **Griffith teaches:**

one or more sensors or third party services coupled to the control unit and configured to collect contextual information related to one or more of the battery module or the appliance **(see external controller for storing power use data of appliance based on monitoring usage of appliance, para 99-103; collecting data of battery and/or load source data such as that from appliance, para 99-103).**

10. With respect to claim 30, **Griffith teaches:**

wherein the control unit further comprises a machine learning model trained to predict a usage of the appliance based on the collected contextual information **(see monitoring and learning behavior of load source related to time, size and battery usage, para 76-78; see reinforcement learning, para 98).**

11. With respect to claim 31, **Griffith teaches:**

wherein the control unit is further configured to adjust the determined charge and discharge schedule based on the predicted usage of the appliance by the trained machine learning model **(see predictive models for power usage, para 86; predict loads and supply, para 125; see monitoring and learning behavior of load source**

related to time, size and battery usage, para 76-78; see reinforcement learning, para 98).

12. With respect to claim 32, **Griffith teaches:**

a physical user interface configured to receive a user input for manually editing the charge and discharge schedule for the battery module at a time point **(see user interface for interacting with user for input/output of data, changes to system characteristics, para 70-75; changes made manually by user, para 97; see user defined schedules, para 137).**

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. **Claim(s) 22-27 and 34-39 is/are rejected under 35 U.S.C. 103** as being unpatentable over **Griffith et al.** (US PG Pub No. 2022/0344941) in view of **STEELE** et al. (US PG Pub No. 2015/0005900).

16. With respect to claims 22 and 34, **Griffith teaches:**
wherein the appliance is a stove (**see appliance as stove, Fig 3b, para 55-58**).

Griffith appears to be silent regarding:

the sensor is a video sensor.

However, STEELE teaches:

the sensor is a video sensor (**see sensors such as cameras, etc for monitoring usage conditions of device/appliance at outlet, para 38; where device can be an oven, refrigerator, fan, or other appliance, para 41**).

It would have been obvious to one of ordinary skill in the art before the time of the invention to have incorporated STEELE's camera as a sensor for determining usage conditions of the appliances in Griffith for at least the following reason(s): the appliances/devices in STEELE are disclosed as being a stove/oven similar to Griffith, and STEELE uses as monitoring sensor a camera to monitor usage conditions, which would be advantageous to Griffith as it would improve the sensors of Griffith by enabling a camera to be used to monitor usage conditions.

17. With respect to claims 23 and 35, **Griffith teaches:**
monitor a cooking process (**see cooking loads, including monitoring for cooking needs for a given day or time frame, para 45-47**).

Griffith appears to be silent regarding:

A video sensor for monitoring loads.

However, STEELE teaches:

A video sensor for monitoring loads (**see sensors such as cameras, etc for monitoring usage conditions of device/appliance at outlet, para 38; where device can be an oven, refrigerator, fan, or other appliance, para 41**).

It would have been obvious to one of ordinary skill in the art before the time of the invention to have incorporated STEELE's camera as a sensor for determining usage conditions of the appliances in Griffith for at least the following reason(s): the appliances/devices in STEELE are disclosed as being a stove/oven similar to Griffith, and STEELE uses as monitoring sensor a camera to monitor usage conditions, which would be advantageous to Griffith as it would improve the sensors of Griffith by enabling a camera to be used to monitor usage conditions.

18. With respect to claims 24 and 36, **Griffith teaches:**

wherein the control unit is configured to determine whether to adjust power provided to the stove from the battery module according to the cooking process and a predefined cooking protocol (**see cooking loads, including monitoring for cooking needs for a given day or time frame, para 45-47; see user interface for interacting with user for input/output of data, changes to system characteristics, para 70-75; changes made manually by user, para 97; see user defined schedules, para 137**).

19. With respect to claims 25 and 37, **Griffith teaches:**

wherein the appliance is a refrigerator (**see load as refrigerator, para 20; 25-28, 38-39**).

Griffith appears to be silent regarding:

the sensor is a video sensor.

However, STEELE teaches:

the sensor is a video sensor (**see sensors such as cameras, etc for monitoring usage conditions of device/appliance at outlet, para 38; where device can be an oven, refrigerator, fan, or other appliance, para 41**).

It would have been obvious to one of ordinary skill in the art before the time of the invention to have incorporated STEELE's camera as a sensor for determining usage conditions of the appliances in Griffith for at least the following reason(s): the appliances/devices in STEELE are disclosed as being a stove/oven similar to Griffith, and STEELE uses as monitoring sensor a camera to monitor usage conditions, which would be advantageous to Griffith as it would improve the sensors of Griffith by enabling a camera to be used to monitor usage conditions.

20. With respect to claims 26 and 38, **Griffith teaches:**

wherein the video sensor is configured to detect type of items stored in the refrigerator (**see characteristics of refrigerator, and its impact on load demand, para 58-60**).

21. With respect to claims 27 and 39, **Griffith teaches:**

wherein the control unit is configured to determine whether to adjust power provided to the refrigerator from the battery module according to the detected type of items stored in the refrigerator (**see characteristics of refrigerator, and its impact on load demand, para 58-60; see user interface for interacting with user for input/output of data, changes to system characteristics, para 70-75; changes made manually by user, para 97; see user defined schedules, para 137**).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUCHIN PARIHAR whose telephone number is (703)756-1970. The examiner can normally be reached on M-F 8am-5pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Art Unit: 2851

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/SUCHIN PARIHAR/

Primary Examiner, Art Unit 2851