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Paper 12
Date: August 11, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

ECOFACTOR, INC.,
Patent Owner.

IPR2021-00488
Patent 8,180,492 B2

Before TREVOR M. JEFFERSON, CHRISTOPHER L. OGDEN, SCOTT B. HOWARD, *Administrative Patent Judges.*

HOWARD, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

INTRODUCTION

A. Background and Summary

Google LLC ("Petitioner") filed a Petition requesting an *inter partes* review of claims 1–4, 6–13, and 15–28 of U.S. Patent No. 8,180,492 B2 (Ex. 1001, "the '492 patent"). Paper 2 ("Petition," "Pet."). EcoFactor, Inc. ("Patent Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp.").

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). *Inter partes* review may not be instituted unless "the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a) (2018).

For the reasons set forth below, upon considering the Petition and the Preliminary Response, we do not institute an *inter partes* review of any of the challenged claims of the '492 patent.

B. Real Parties in Interest

Petitioner identifies itself as the real party in interest. Pet. 5.

Patent Owner identifies itself as the real party in interest. Paper 3, 1 (Patent Owner's Mandatory Notices).

C. Related Matters

The parties identify various district court proceedings, including *EcoFactor, Inc. v. Google LLC*, 6:20-cv-00075 (W.D. Tex. Jan. 31, 2020) ("the District Court proceeding"). Pet. 5; Paper 3, 2.

D. The '492 Patent

The '492 patent is entitled "System and Method for Using a Networked Electronic Device as an Occupancy Sensor for an Energy

Management System" and is directed generally "to the use of thermostatic HVAC and other energy management controls that are connected to a computer network" and, more specifically, "to the use of user interactions with an interface such as a personal computer or an Internet-enabled television as signal related to occupancy to inform an energy management system." Ex. 1001, code (54), 1:19–25.

According to the '492 patent, "[h]eating and cooling systems for buildings (heating, ventilation and cooling, or HVAC systems) have been controlled for decades by thermostats." Ex. 1001, 1:26–28. Thermostats "include[] a means to allow a user to set a desired temperature [(sometimes called a setpoint)], a means to sense actual temperature, and a means to signal the heating and/or cooling devices to turn on or off in order to try to change the actual temperature to equal the desired temperature." *Id.* at 1:28–33; *see also* Ex. 1002 ¶ 35 (Shah declaration discussing the term setpoint).

The '492 patent discusses some problems associated with typical thermostat user interfaces. *See* Ex. 1001, 1:43–3:15. One problem is the thermostat's "inability to take into account more than two variables: the desired temperature set by the user, and the ambient temperature sensed by the thermostat." *Id.* at 1:43–48. "Users can generally only set one series of commands per day, and in order to change one parameter (e.g., to change the late-night temperature) the user often has to cycle through several other parameters by repeatedly, pressing one or two buttons." *Id.* at 1:48–52. As a result, the significant theoretical costs savings are never achieved and most people never program their thermostats or program them suboptimally. *Id.* at 1:53–61.

The '492 patent identifies a second problem associated with typical thermostats: "they represent only a small evolutionary step beyond the first, purely mechanical thermostats." Ex. 1001, 1:62–64.

The '492 patent describes how the hotel industry has partially addressed those issues by adding occupancy detectors to hotel rooms and using occupancy status to alter the HVAC setpoint. Ex. 1001, 2:37–60. "Adding occupancy detection capability to residential HVAC systems could also add considerable value in the form of energy savings without significant tradeoff in terms of comfort." *Id.* at 2:61–64. According to the '492 patent, "[i]t would thus be desirable to provide a system that could detect occupancy without requiring the installation of additional hardware; that could accurately detect occupancy regardless of which room in the house is occupied, and could optimize energy consumption based upon dynamic and individually configurable heuristics." *Id.* at 3:16–21.

Figure 7 of the '492 patent, not reproduced, "is a flowchart showing the steps involved in the operation of one embodiment of the subject invention." Ex. 1001, 4:12–13. More specifically, Figure 7 shows the operation of system which has two setpoints—one for when the house is occupied and another when the house is unoccupied:

> In step 1302, computer 104 transmits a message to server 106 via the Internet indicating that there is user activity on computer 104. This activity can be in the form of keystrokes, cursor movement, input via a television remote control, etc. In step 1304 the application queries database 300 to retrieve setting information for the HVAC system. In step 1306 the application determines whether the current HVAC program is intended to apply when the home is occupied or unoccupied. If the HVAC settings then in effect are intended to apply for an occupied home, then the application terminates for a specified interval. If the HVAC settings then in effect are intended to apply when the

> home is unoccupied, then in step 1308 the application will retrieve from database 300 the user's specific preferences for how to handle this situation. If the user has previously specified (at the time that the program was initially set up or subsequently modified) that the user prefers that the system automatically change settings under such circumstances, the application then proceeds to step 1316, in which it changes the programmed setpoint for the thermostat to the setting intended for the house when occupied. *If the user has previously specified that the application should not make such changes without further user input, then in step 1310 the application transmits a command to computer 104 directing the browser to display a message informing the user that the current setting assumes an unoccupied house and asking the user in step 1312 to choose whether to either keep the current settings or revert to the pre-selected setting for an occupied home*. If the user selects to retain the current setting, then in step 1314 the application will write to database 300 the fact that the users has so elected and terminate. If the user elects to change the setting, then in step 1316 the application transmits the revised setpoint to the thermostat. In step 1314 the application writes the updated setting information to database 300.

Id. at 6:53–7:20 (emphasis added). As the italicized language above shows, the user can set the system to send a message to the user prior to changing the settings from unoccupied to occupied. *Id.*

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