

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ZHONGSHAN BROAD OCEAN MOTOR CO., LTD.; BROAD OCEAN  
MOTOR, LLC; AND BROAD OCEAN TECHNOLOGIES, LLC  
Petitioners

v.

NIDEC MOTOR CORPORATION  
Patent Owner

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Case No. IPR2014-01121  
U.S. Patent No. 7,626,349

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**DECLARATION OF GE HU**

BOM Exhibit 1020  
BOM v. Nidec  
IPR2014-01121

1. My name is Ge Hu and I am currently employed as Director of Engineering at Broad Ocean Motor Technologies, LLC (“BOM”). I have been employed at BOM since August of 2011. I obtained a Bachelor of Science degree in both mechanical engineering and electrical engineering in 2000 from Shanghai Jiaotong University, and a master’s degree in mechanical engineering in 2003 from Purdue University. In 2004, I became employed as an electrical design engineer for a local equipment manufacturing company located in Lebanon, Indiana. In 2005, I became employed by Carrier as an electrical engineer working in Niles, Michigan. My day-to-day functions at Carrier included, but not limited to, the following: electrical design, review and testing for commercial refrigeration equipment.

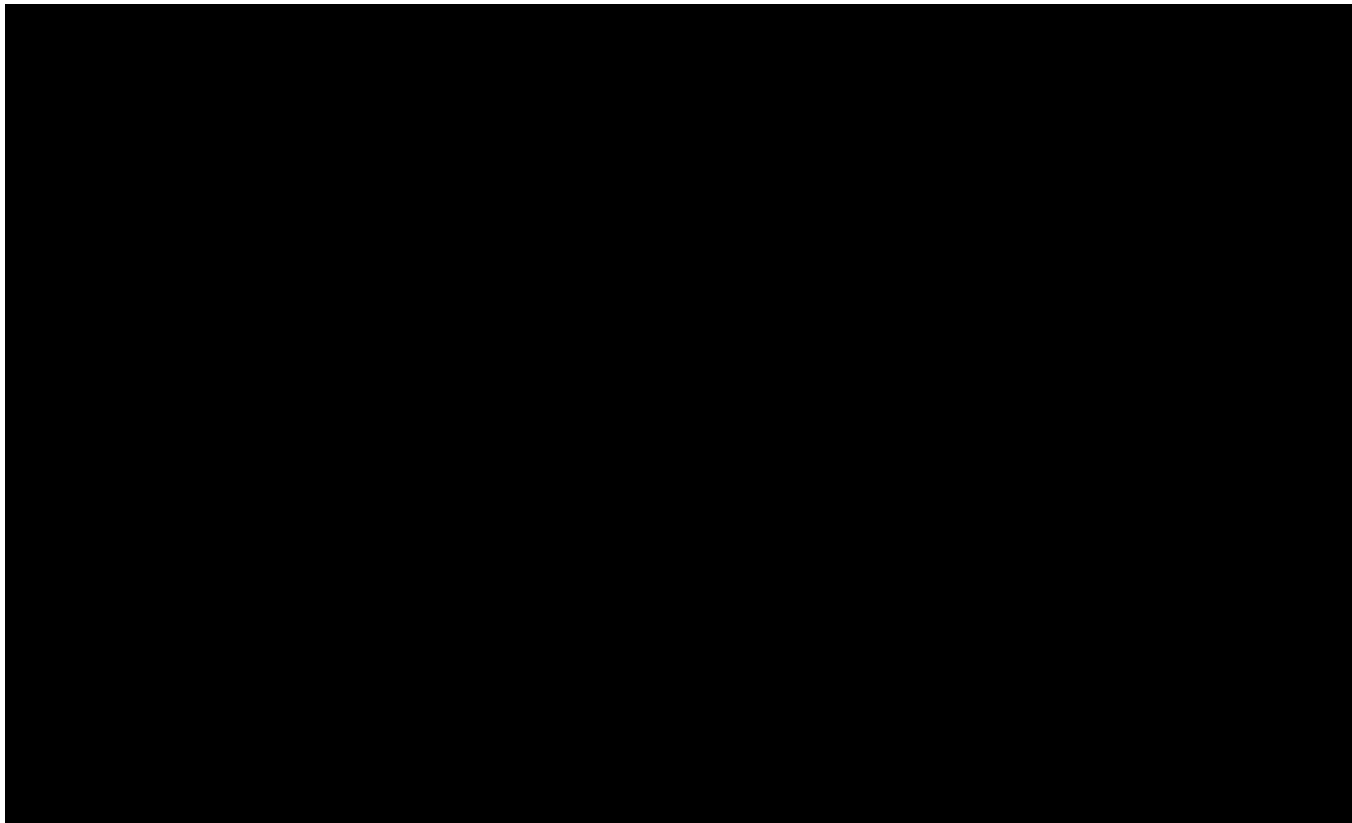
2. In March 2008, I left Carrier and began working at Goodman Manufacturing Company (Goodman) which, like Carrier, is an Original Equipment Manufacturer (“OEM”) of residential heating, ventilation and air conditioning (“HVAC”) systems. These systems include blower motors that are typically outsourced by third-party manufacturers such as BOM and Nidec Motor Corporation (“Nidec”).

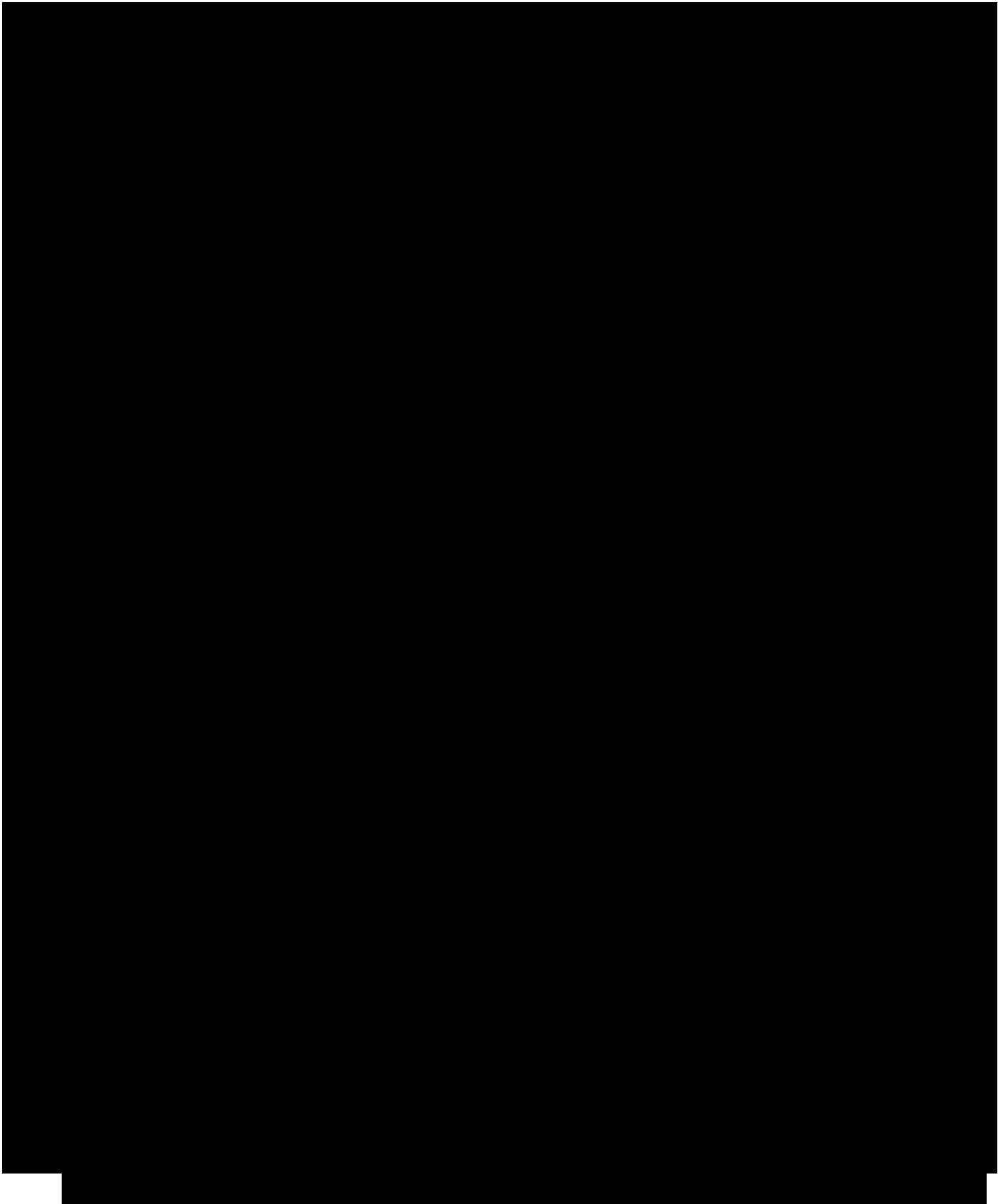
3. When I was first employed at Goodman, I was assigned to different projects until early 2009 when I became assigned to lead a new product

development project that included development of controller boards for indoor and outdoor motors that were to be used in residential HVAC systems. The purpose of this project was to develop a four wire communicating EC (electronically commutated) motor in order to be able to offer a product similar to what Goodman's competitors were offering at that time. The project was known as ComfortNet. Up to that point in time, Regal Beloit ("RB") had been Goodman's sole supplier of EC motors used in residential HVAC systems. I was informed that because Goodman was not satisfied with RB being the sole supplier of these motors, and due to RB's poor customer service and high prices, that Goodman decided to seek an additional source of motors. At that time, Emerson Electric Company (its motor division was later acquired by Nidec) worked closely with Goodman to develop, design and build a competing four wire communicating EC motor and system. This EC motor was a constant airflow motor like the RB 16 wire EC motor Goodman was using at the time. Goodman used the RB's constant airflow EC motor as the baseline for Nidec to compete with, but also wanted a totally new four wire motor that was simpler to install and that maintained the same functionality as 16 wire motors but adding certain safeguards not available with conventionally-wired systems. In other words, Goodman wanted Nidec to supply it with essentially the same motor that RB had been supplying but wanted it to be easier to install and offer some additional features. Goodman was not

seeking a more efficient motor, but instead a less complicated, less wire-intensive motor and controller.

4. When Goodman began the development of their indoor blower motors for this project, Goodman took the specifications of the RB motor and asked Nidec to meet those specifications, usually providing a range of target values for certain specifications such as system noise level and air input rates. As long as Nidec's EC motors fell within a predetermined range of these targeted values, then the motor would qualify. Eventually, the Nidec EC motor was tested and Goodman determined that it met the various specifications as mandated by Goodman.





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