

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

**AOS Holding Company and  
A. O. Smith Corporation,**

Plaintiffs,

v.

**Rheem Manufacturing Company,**

Defendant.

Case No. \_\_\_\_\_

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiffs, AOS Holding Company and A. O. Smith Corporation (collectively “AOS”), by undersigned counsel, allege as follows for their Complaint against Defendant, Rheem Manufacturing Company (“Rheem”):

***Introduction***

1. AOS is a global leader in the hot water heater industry and manufactures and sells hot water heaters worldwide. At issue in this case, AOS developed an innovative gas water heater that utilizes a power burner and an exhaust plenum to permit natural convection exhaust of products of combustion, which is protected by AOS’s U.S. Patent No. 8,375,897 ( “’897 patent”). A true and correct copy of the ’897 patent is attached to this Complaint as Exhibit A.

2. The invention recited in Claim 1 of the ’897 patent is significant. The water heater configuration described and claimed in the ’897 patent fills an important need in the current gas-fired water heater market. The efficiency of an atmospheric water heater is limited by the necessity of balancing the pressure drop through the heater with allowing the flue gases to vent through buoyancy. Baffles are used in the flue(s) to enhance heat transfer through the flue tube to the water by forcing the flue gases against the walls of the flue tubes while also retaining the flue gases in

the flue for a longer period of time. Generally, increasing the flue restriction will increase the heater efficiency. But a more restrictive baffle will also increase the pressure drop through the flue tube. And if the pressure drop through the flue tube is too high, the flue gases will not exhaust properly. So the efficiency of an atmospheric heater is limited by the allowable pressure drop through the flue tubes. By using a powered burner to increase the pressure of the flue gases exiting the combustion chamber, the heater can be designed with a more restrictive baffle for higher pressure drop, improved efficiency, and operate with higher BTU limits.

3. The invention recited in claim 1 of the '897 patent permits a water heater to have a power burner on the input end and an atmospheric vent on the output end, interposing an exhaust plenum between the flue and the vent. The invention therefore enables the water heater to operate at high energy input levels while avoiding the complex and costly venting configurations normally required with a power burner. As explained in the '897 patent, "a water heater according to the present invention can replace an existing atmospheric water heater without the need to modify the exhaust structure. Because of the relatively high capacity-to-size ratio of a water heater according to the present invention, the present water heater should be able to retro-fit into the space occupied by most existing gas water heaters without reducing, and in most cases actually increasing, the hot water capacity for the user." *See Ex. A, '897 patent*, column 5, line 25 - column 6, line 5.

4. Defendant Rheem competes with AOS in the same markets and has developed and is marketing a family of commercial gas water heaters under the name Universal Ultra Low NOx water heaters designated by a model number beginning with the prefix GNU, specifically including Model Nos. GNU75-125, GNU82-156, GNU37-200, GNU76-200, GNU91-200, GNU100-200, GNU72-250, GNU100-250, GNU100-270, GNU65-360, and GNU100-400 (the "Rheem GNU water heaters").

5. The Rheem GNU water heaters incorporate AOS's innovative and patented technology. The Rheem GNU water heaters directly infringe AOS's '897 patent or induce infringement by their installers and/or users.

6. Rheem's unauthorized infringing activities are interfering with AOS's customer relationships and causing AOS to incur monetary damages and suffer irreparable harm. AOS brings this action seeking relief for Rheem's ongoing patent infringement.

### ***The Parties***

7. A. O. Smith Corporation is a corporation duly organized and existing under the laws of the State of Delaware having its principal place of business at 11270 West Park Place, Suite 170, Milwaukee, Wisconsin.

8. AOS Holding Company is a corporation duly organized and existing under the laws of the State of Delaware having its principal place of business in Wilmington, Delaware.

9. AOS Holding Company is a wholly owned subsidiary of A. O. Smith Corporation.

10. On information and belief, Rheem Manufacturing Company is a Delaware corporation with its principal place of business at 1100 Abernathy Road, Suite 1400, Atlanta, GA 30328. On information and belief, Rheem offers to sell and sells its Rheem GNU water heaters in interstate commerce through the United States.

### ***Jurisdiction and Venue***

11. This action arises under the patent laws of the United States, Title 35 of the United States Code. This Court has exclusive subject matter jurisdiction over this case for patent infringement under 28 U.S.C. §§ 1331 and 1338(a).

12. This Court has personal jurisdiction over Rheem because, on information and belief, Rheem is a corporation duly organized and existing under the laws of the State of Delaware.

Rheem also has committed acts within this state that give rise to this suit, on information and belief, including importing, making, using, offering to sell, or selling infringing products such as those identified in this Complaint. At a minimum, Rheem places products, including infringing products such as those identified in this Complaint, into the stream of commerce knowing and intending that such products will be used, sold, or offered for sale within this district. Exercising personal jurisdiction over Rheem is appropriate and reasonable under the circumstances.

13. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1400(b) because, on information and belief, Rheem is a corporation duly organized and existing under the laws of the State of Delaware, and on information and belief, Rheem, conducts regular and substantial business in this judicial district, and has committed acts within this judicial district that give rise to this suit, including importing, making, using, offering to sell, or selling infringing products such as those identified in this Complaint.

### ***Background***

14. The '897 patent, entitled "GAS WATER HEATER," was duly and legally issued by the United States Patent and Trademark Office on February 19, 2013 to inventors Herbert Edward Smith and Gordon Stretch. The '897 patent is valid and enforceable.

15. The owner of the '897 patent by assignment is AOS Holding Company. A. O. Smith Corporation is the only licensee of the '897 patent, and as such A. O. Smith Corporation is the only entity other than AOS Holding Company permitted to practice and/or profit from the invention embodied in the '897 patent.

16. AOS Holding Company is the sole owner of the '897 patent. As the owner of the '897 patent, AOS Holding Company is authorized and has standing to bring legal action to enforce all rights arising from the '897 patent.

17. Rheem competes with AOS, offering to sell and selling within the United States the Rheem GNU water heaters, which embody each and every limitation of claim 1 of the '897 patent.

18. Rheem does not have authority to make, use, offer to sell, or sell within the United States, or to import into the United States, the technology of the '897 patent.

**COUNT I**  
**Infringement of U.S. Patent No. 8,375,897**

19. AOS re-alleges and incorporates by reference into this Count I the preceding paragraphs of this Complaint as though fully set forth herein.

20. Rheem has directly infringed the '897 patent at least by importing, making, using, offering to sell or selling within the United States the Rheem GNU water heaters that embody the technology of the '897 patent, including the inventions recited in claim 1 of the '897 patent (the "Asserted Claim").

21. The Rheem GNU water heaters perform a method of interfacing a natural convection vent construction with a water heater.

22. The Rheem Spec Sheet, for example, describes the Rheem GNU water heaters as "ultra low NOx" and "a family of commercial gas water heaters that are designed to fit into tight retrofit applications." *See* Exhibit B (Rheem GNU water heater Spec Sheet, p. 1).

23. Among other things, Rheem touts the following features in the Rheem GNU water heater Spec Sheet:

- "The tighter the commercial retrofit, the more you will appreciate how the Universal's compact size and multiple water connections simplify ultra low NOx installations. Choose from 80% thermal efficiency models that range from 125,000 - 399,900 Btu/h and 82% thermal efficiency models that range from 199,900 - 270,000 Btu/h. All models have a maximum temperature setting of 180°F."

- **“Space Saver Design** The short heights and narrow jacket diameters, plus the top, front and rear water inlets/outlets offer the ultimate in installation flexibility.”
- **“Ultra Low NOx Burner** The power assist burner design incorporates stainless steel multi-port burner tubes for long term ultra low NOx performance, less than 14 ng/J. A sight glass allows for burner observation. The entire design is removable and it is highly resistant to the effects of negative air pressure common in modern commercial buildings.”
- **“Safety and Construction |** Design certified by CSA: For operation at 180 degrees; meets all safety and construction requirement of ANSI Z21.10.3; as an automatic storage or instantaneous water heater; as an automatic circulating tank water heater; and for operation on combustible floors and in alcove installations. **Certified for 150 PSI maximum working pressure (160 PSI for ASME models).**

24. The Rheem GNU water heaters are sold with and require a draft hood and are Category I-rated appliances, as reflected by the “CATEGORY I” notation on their product labeling. If the Rheem GNU water heaters were not Category I compliant, they could not be sold in the United States and would not be certified as meeting all safety and construction requirements of ANSI Z21.10.3, which includes provisions governing category classifications for gas-fired water heaters, as indicated in the Rheem GNU Spec Sheet.

25. Rheem directly performs all the steps of claim 1 of the ’897 patent or directs or controls the performance of all the steps of claim 1 of the ’897 patent, and therefore is the entity responsible for infringement of the ’897 patent.

26. Alternatively, Rheem induces infringement of claim 1 of the ’897 patent by installers and/or users of the Rheem GNU water heaters in that the Rheem GNU water heaters are manufactured and sold by Rheem as complete, self-contained water heaters that when used as

directed, encourage, recommend and/or promote use of the Rheem GNU water heaters in a manner that infringes claim 1 of the '897 patent.

27. The Rheem GNU water heaters are water heaters that include a premix power burner and multiple flue tubes, thereby providing a water heater having a burner, a blower, and a flue.

28. The Rheem GNU water heaters create products of combustion with the burner.

29. The Rheem GNU water heaters force the products of combustion into the flue under positive pressure with the blower.

30. The measurable pressure of the products of combustion entering and exiting the flue tubes of the Rheem GNU water heaters confirms that the blower forces the products of combustion into the flue under positive pressure.

31. The Rheem GNU water heaters interpose an exhaust plenum between the flue and a natural convection vent construction that includes a draft hood.

32. The Rheem GNU water heaters drop the pressure of the products of combustion to near atmospheric pressure within the plenum.

33. The measurable pressure of the products of combustion entering and exiting the plenum of the Rheem GNU water heaters confirms that the pressure of the products of combustion drops to near atmospheric pressure within the plenum.

34. The Rheem GNU water heaters permit the products of combustion to rise out of the plenum and into the natural convection vent construction substantially entirely under the influence of natural convection.

35. The measurable pressure of the products of combustion exiting the plenum and Category I certification of the Rheem GNU water heaters, as well as the absence of any device

downstream of the plenum that creates positive pressure in the vent system or prevents the products of combustion from rising into the vent system, confirms that the products of combustion are permitted to rise out of the plenum and into the natural convection vent construction substantially entirely under the influence of natural convection.

36. The Rheem GNU water heaters mix ambient air with the products of combustion as the products of combustion flow into the draft hood.

37. Upon information and belief, Rheem is and has been aware of its infringement of AOS's '897 patent at least due to its knowledge about the lawsuit AOS filed against Bradford White Corporation in this Court (C.A. No. 18-412-LPS), and yet Rheem has failed to cease its infringing activities.

38. Rheem's infringement of the '897 patent is willful and deliberate.

39. As a direct and proximate result of Rheem's conduct, AOS has suffered and will continue to suffer substantial injury and damage in an amount to be determined at trial, as well as irreparable harm, for which AOS has no adequate remedy at law, unless Rheem is enjoined from infringing the '897 patent.

40. On information and belief, Rheem's acts infringing the '897 patent will continue unless enjoined by the Court, and will cause AOS further injury and damage, including immediate and irreparable harm that cannot be adequately compensated by monetary damages.

***Prayer for Relief***

WHEREFORE, AOS respectfully requests that the Court enter judgment in favor of AOS and against Rheem, granting the following relief:

a. A judgment in favor of AOS that Rheem has infringed the '897 patent, either directly or by inducing infringement by installers and/or users of the Rheem GNU water heaters;



b. A preliminary and permanent injunction enjoining Rheem and its agents, officers, directors, employees, customers and all persons in privity or active concert or participation with them, directly or indirectly, from infringing, inducing others to infringe, or contributing to the infringement of the '897 patent;

c. A judgment and award that Rheem account for and pay to AOS damages adequate to compensate for Rheem's infringement of the '897 patent, including at least a reasonable royalty, as well as damages for infringement of the patent after publication and prior to issuance;

d. A judgment and award of any supplemental damages sustained by AOS for any continuing post-verdict infringement of the '897 patent until entry of final judgment with an accounting as needed;

e. An award to AOS of treble damages due to the willful and deliberate nature of Rheem's infringement of the '897 patent;

f. An order finding that this case is an exceptional case under 35 U.S.C. § 285 and awarding AOS its costs, expenses, and disbursements incurred in this action, including reasonable attorneys' fees, as available by law, to be paid by Rheem;

g. An award of pre-judgment interest, post-judgment interest, and costs in this action;  
and

h. An award of any such other relief as this Court deems just and proper.

Dated: June 29, 2021

Respectfully submitted,

/s/ John C. Phillips, Jr.

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