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## **Patent Inventorship: How Difficult is it to Add a Joint Inventor to an Issued Patent?**

*HIP, Inc. v. Hormel Foods Corp. (Fed. Cir. 2023)*

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# Overview

- Definition and Requirements of Patent Inventorship
- Examples of Inventors and Non-Inventors
- Improper Inventorship of Patent
- *HIP, Inc. v. Hormel Foods Corp.* (Fed. Cir.) -  
Decided: May 2, 2023
- Discussion and Takeaways of Decision

## Inventorship\* of Patent Application

- An inventor is a person who contributes to the conception (i.e., mental aspect of development) of the invention.
  - Conception requires a definite and permanent idea of the complete and operable invention.
- An invention occurs when:
  - 1) conception of the claimed invention; and
  - 2) reduction to practice of the invention.
    - “actual” – developing/testing an invention to establish it will work for its intended purpose.
    - “constructive” – filing a patent application on claimed invention.
- Note: Inventor is NOT required to reduce the invention to practice, but reduction to practice is often performed at the direction of inventor.

## 35 U.S.C § 116 - Inventors

- **(a) JOINT INVENTIONS.**— “When an invention is made by two or more persons jointly, they shall apply for patent jointly...Inventors may apply for a patent jointly even though
  - (1) they did not physically work together or at the same time,
  - (2) each did not make the same type or amount of contribution, or
  - (3) each did not make a contribution to the subject matter of every claim of the patent.”

# Examples of Inventors

- A person who conceives the subject matter of at least one claim of a patent.
- Two or more persons who collaborate to develop the claimed invention.

# Examples\* of Non-Inventors

- Someone whose only contribution is to use “ordinary skill” in a field or technical area to create or reduce an invention/concept to practice.
  - A technician who carries out experiments according to routine protocols or merely assembles the invention.
  - A supervisor or department manager of a named inventor.
  - Someone whose only contribution to the invention is something that would be “obvious” to those skilled in that field of the invention.
  - A person who identifies data or information to be obtained in support of the invention but does not contribute to the inventive idea itself.
  - A person who merely discovers a problem (unless, perhaps, that individual contributes to the solution).
- 
- Available at: <https://www.invo.northwestern.edu/invention-management/process/submit-disclosure/what-is-inventorship.html>

# Improper Inventorship of Patent

Improper inventorship of patent may be grounds for:

- 1) a request to correct the inventorship under 35 U.S.C § 256 (by USPTO or federal court); or
- 2) invalidating a patent.

## Everybody Loves Bacon? – Intro to *HIP v. Hormel Foods*

### Statistics on bacon in America\*:

- 21% would eat it every day for the rest of their lives
- 16% cannot live without it
- 18% favorite food
- 4% do not like bacon

### Preferences for bacon\*:

- 52% crispy
- 31% not crispy
- 8% slightly cooked
- **3% prefer it charred**

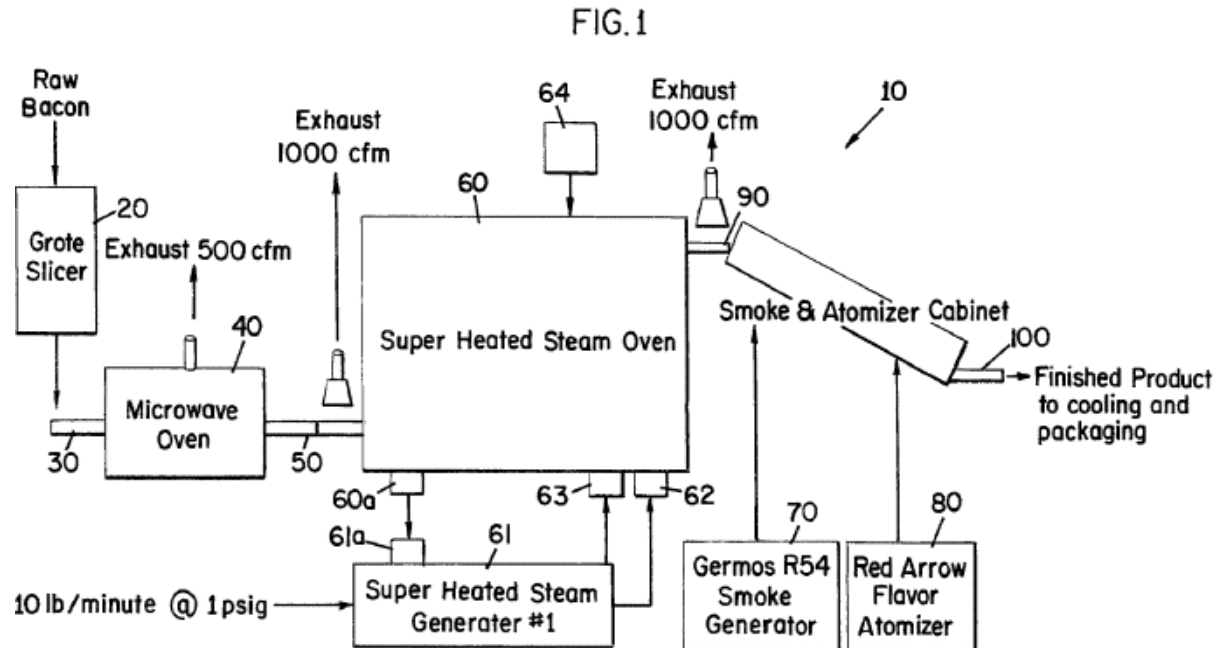


## Background – *HIP, Inc. v. Hormel Foods Corp.*

- Hormel owns U.S. Patent 9,980,498 ('498 patent), directed to methods of precooking bacon and meat pieces.
  - Filed application in August 2011; Brian J. Srsen, Richard M. Herreid, James E. Mino and Brian E. Hendrickson listed as joint-inventors.
  - Patent issued in May 2018; joint inventors assigned their interests to Hormel.
- At issue: whether **David Howard** of HIP (formerly Unitherm Food Systems) is a joint inventor to '498 patent.

# U.S. Patent 9,980,498

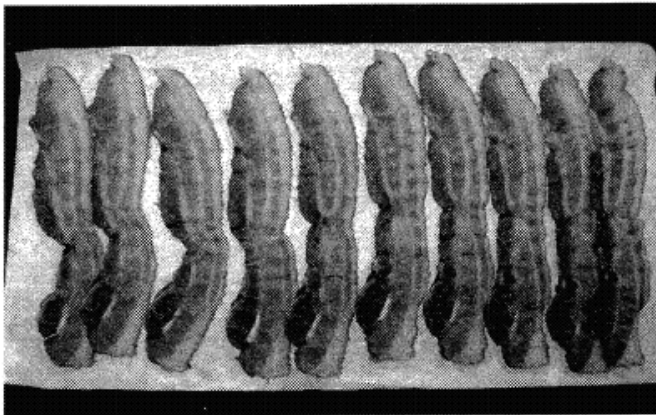
- **Hybrid Bacon Cooking System and Method**
- Assignee: Hormel Foods Corp.
- Technology is directed to a two-step method for cooking bacon:
  - (1) preheating step using a microwave oven, infrared oven, or hot air; and
  - (2) higher-temperature cooking step with a superheated steam oven.



## U.S. Patent 9,980,498

- Benefits of two-step method for cooking bacon:
  - (1) preheating step using a microwave oven, infrared oven, or hot air *creates a layer of melted fat around the meat pieces, which protects the meat from condensation that may wash away salt and flavor during cooking; and*
  - (2) higher-temperature cooking step *prevents the charred (off flavor) associated with cooking the meat at higher temperatures.*

FIG. 4



Cooking with only microwave

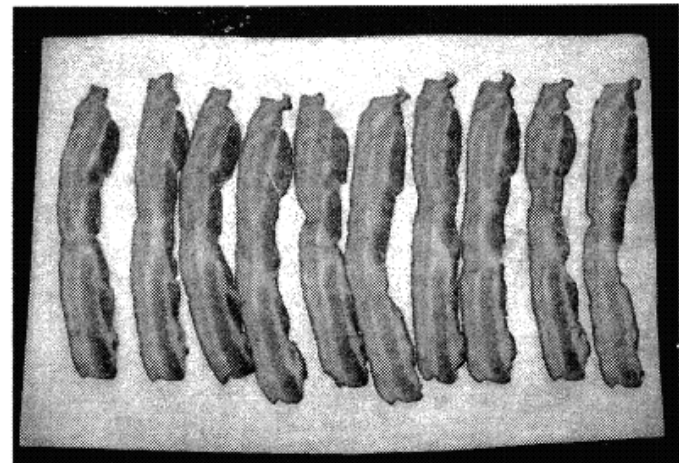


FIG. 5

Hybrid cooking with two-step method

## Relevant Background\* - U.S. Patent 9,980,498

- 2005: Hormel started project to improve the microwave cooking process for precooked bacon.
- July 2007: Hormel planned to meet with **David Howard of Unitherm Food Systems ( now “HIP”)** to discuss Hormel’s products/processes and Unitherm’s cooking equipment.
  - Over next few months, **David Howard and Tom Van Doorn (Unitherm)** met with Hormel representatives and entered into a joint agreement to develop an oven for the two-step cooking process of invention.
- December 2007 – January 2008: Performance of tests:
  - Hormel conducted a series of pork loin testing relating to color development using both an infrared oven and more conventional spiral oven (i.e., Unitherm’s oven)
  - Hormel conducted additional tests with Unitherm’s spiral oven and adjusted settings of oven to solve charred cooking issue with bacon.
  - Testing resulted in two-step cooking method of ’498 patent.
- **David Howard alleged that he disclosed the infrared preheating concept during the described meetings and testing process.**

\* Fed. Cir. Opinion – *HIP v. Hormel Foods*, pages 4 and 5.

## '498 Patent – Independent claims 1 and 5 at issue

1. *A method of making precooked bacon pieces using a hybrid cooking system, comprising:*
  - *preheating bacon pieces with a **microwave oven** to a temperature of 140° F. to 210° F. to create preheated bacon pieces, the preheating forming a barrier with melted fat around the preheated bacon pieces and reducing an amount of condensation that forms on the preheated bacon pieces when transferred to a cooking compartment of an oven, the barrier preventing any condensation that forms from contacting the preheated bacon pieces under the melted fat and diluting flavor in the preheated bacon pieces;*
  - *transferring the preheated bacon pieces to the cooking compartment of the oven, the cooking compartment heated with steam from an external steam generator..., the steam being injected into the cooking compartment and being approximately 400° F. to 1000° F..., the cooking compartment including internal surfaces, the steam assisting in keeping the internal surfaces at a temperature below 375° F. thereby reducing off flavors during cooking in the cooking compartment; and*
  - *cooking the preheated bacon pieces in the cooking compartment...*

## '498 Patent – Independent claims 1 and 5 at issue

5. *A method of making precooked meat pieces using a hybrid cooking system, comprising:*
- *preheating meat pieces in a first cooking compartment using a preheating method selected from the group consisting of a microwave oven, an infrared oven, and hot air to a temperature of at least 140° F. to create preheated meat pieces, the preheating forming a barrier with melted fat around the preheated meat pieces and reducing an amount of condensation that forms on the preheated meat pieces when transferred to a second cooking compartment, the barrier preventing any condensation that forms from contacting the preheated meat pieces under the melted fat and diluting flavor in the preheated meat pieces;*
  - *transferring the preheated meat pieces to the second cooking compartment, the second cooking compartment heated with an external heating source..., the external heating source assisting in keeping the internal surfaces at a temperature below a smoke point of fat from the meat pieces thereby reducing off flavors during cooking in the second cooking compartment; and*
  - *cooking the preheated meat pieces in the second cooking compartment...*

## Background\* – District Ct. Summary and Holding

- April 2021: HIP sued Hormel in the U.S. Dist. Ct. of Delaware, alleging that Howard was either the sole inventor or a joint inventor of the '498 patent on multiple grounds including a contribution to the *preheating with an infrared oven in independent claim 5*.
- **Dist. Ct. holding:**
  - **Howard was not the sole inventor of the '498 patent, but was a joint inventor based solely on his alleged contribution of the *infrared preheating in claim 5*.**
  - **Ct. ordered the USPTO to issue a Certificate of Correction and add David Howard as a joint inventor on the '498 patent.**
- Dist. Ct. reasoning:
  - Infrared preheating concept in claim 5 was “significant” based on differences between independent claims 1 and 5.
  - HIP established that Howard’s testimony was corroborated by Van Doorn’s testimony, the pork loin testing data, and testimony from three Hormel inventors stating that they had not conceived the *preheating with an infrared oven* limitation.

## Appeal to Federal Circuit (CAFC)

- Before Circuit Judges LOURIE, CLEVINGER, and TARANTO
- Hormel appealed to the Fed. Cir. and alleged two issues:
  - 1) Dist. Ct. erred in holding that David Howard is a joint inventor of the '498 patent because the alleged contribution of *preheating with an infrared oven* was “well known and part of the state of the art and because it was not significant when measured against the scope of the full invention”; and
  - 2) Dist. Ct. erred in holding that HIP met its burden of establishing by clear and convincing evidence that David Howard is a joint inventor because Howard’s testimony was insufficiently corroborated.



## Fed. Cir. – Legal Precedent on Inventorship

- **Federal Circuit’s high standard for adding a joint inventor to an issued patent\*:**
  - “The burden of proving that an individual should have been added as an inventor to an issued patent is a ‘heavy one’”. *Pannu v. Iolab Corp.* (Fed. Cir. 1998).
  - “[T]he issuance of a patent creates a presumption that the named inventors are the true and only inventors”. *General Electric v. Wilkins* (Fed. Cir. 2014).
  - “[A]n alleged joint inventor must prove a claim of joint inventorship by ‘clear and convincing evidence.’” *Hess v. Advanced Cardiovascular Sys., Inc.* (Fed. Cir. 1997).
    - “clear and convincing” = evidence is highly and substantially more likely to be true than untrue.

## Fed. Cir. – Legal Precedent on Inventorship

### *Pannu v. Iolab Corp.* (Fed. Cir. 1998):

- **Three-part test (“Pannu factors”) to determine if a contribution is “significant” to qualify a person as a joint-inventor.**
- Joint inventor must:
  - 1) contribute in some significant manner to the conception (or reduction to practice) of the invention;
  - 2) make a contribution to the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full invention; **and**
  - 3) do more than merely explain to the real inventors well-known concepts and/or the current state of the art.

## Fed. Cir. – Hormel’s Arguments\* on Appeal

### **Pannu factor (1) - Dist. Ct. erred in concluding the *infrared preheating* of claim 5 was “significant” to the invention.**

- Argued Dist. Ct.’s finding that Howard was NOT a “sole” inventor establishes that he did not contribute to overall conception of claimed invention.
  - *Infrared preheating* corresponds to mere use of one piece of equipment.
- No indication that *infrared preheating* solved any specific problem in the field of the ’498 patent.

### **Pannu factor (2) - Dist. Ct. erred by failing to analyze the significance of the alleged contribution of *infrared preheating* in light of the full invention.**

- Specification of ’498 patent mentions *infrared ovens* only one time.
- *Microwave ovens* are mentioned throughout the specification and figures.

## Fed. Cir. – Hormel’s Arguments\* on Appeal

- **Pannu factor (3) - Dist. Ct. erred in holding that Howard did more than merely explain to the real inventors well-known concepts and/or the current state of the art.**
  - Argued contribution of *preheating meat with infrared oven* in claim 5 was disclosed in Holm (U.S. Patent Pub. 2004/0131738; published in July 8, 2004 before Howard’s discussions with Hormel in 2007).
    - Holm is directed to a “method and apparatus for browning and cooking food products with steam”, in which an infrared oven is disclosed as a heat source.
  - Relied on expert testimony to assert Holm’s browning is “preheating”.
  - Argued the Dist. Ct. failed to consider Holm’s disclosure and only looked to the claim language in determining whether *preheating with an infrared oven* is reflected in the state of the art.

## Fed. Cir. – HIP’s Arguments\* in Response and Pannu Factors

### **Pannu factor (1)**

- Argued Dist. Ct. did not err in determining that Howard contributed in some significant way to the invention.
- Dist. Ct. did not err in comparing claims 1 and 5 and determining that the added *infrared preheating* in claim 5 was “significant”.

### **Pannu factor (2)**

- Argued the Dist. Ct. did not err in determining that Howard’s *infrared preheating* contribution was not insignificant in view of the whole invention.

### **Pannu factor (3) and Holm (U.S. 2004/0131738)**

- Holm is an obscure publication that was never commercialized, and has not been described in a marketing/sales brochure, or in a textbook.
- Argued the *infrared preheating* claim limitation does not become current state of the art merely because it is mentioned in a single patent publication.
- Argued its inventor testimony established that *infrared preheating* was not the state of the art.

## Fed. Cir. – Summary of Decision

- **Fed. Cir. agreed with Hormel and concluded that David Howard was NOT a joint inventor to the '498 patent since Pannu factor (2) was not satisfied.**
- **Decision of Dist. Ct. is reversed.**
- “In summary, the specification, claims, and figures all illustrate that Howard’s alleged contribution of preheating the bacon or meat pieces with an infrared oven is ‘insignificant in quality’ when ‘measured against the dimension of the full invention,’ Pannu, 155 F.3d at 1351, which squarely focuses on a preheating step using a microwave oven. Thus, we conclude that Howard is not a joint inventor of the '498 patent.”

## Fed. Cir. – Analysis\* and Pannu Factor (2)

**Is Dave Howard’s alleged contribution of *preheating meat with an infrared oven* in claim 5 considered not insignificant in quality when measured against the dimension of the full invention?**

- **Insignificant recitations of *preheating with infrared oven* in '498 patent**

- Mentioned only once in specification. Col 5, lines 40-43 of patent recite:

Preheating the sliced bacon with a microwave oven, or other suitable heating methods such as infrared or hot air, prior to fully cooking the sliced bacon in a superheated steam oven minimizes condensation on the sliced bacon

- Recited only once in claims (i.e., independent claim 5) in a Markush Group reciting, “...*a preheating method selected from the group consisting of a microwave oven, an infrared oven, and hot air*”.
- Other independent claims 1 and 13 recite *a method for making preheated bacon/meat using a microwave oven* without mention of an infrared oven.

## Fed. Cir. – Analysis\* and Pannu Factor (2)

- **Significant recitations/disclosures of *preheating with microwave oven* in '498 patent**
  - Brief Summary of Invention recites *preheating with a microwave oven*, but does not mention infrared preheating
  - Independent claims 1, 5 and 13 recite *preheating bacon/meat with a microwave oven*.
  - Specification repeatedly refers to *preheating with a microwave oven* in Background of Invention and Detailed Description of Invention.
  - Examples and corresponding Figures include frequent recitations of preheating with a microwave oven (alone or in hybrid cooking method of invention).
    - Note: Lack of a single example that mentions preheating with an infrared oven.
  - FIGS. 2-5 directed to results of examples with microwave ovens.
  - FIG. 1 directed to schematic view of system with microwave oven 40 used in preheating.



## Fed. Cir. – Decision

- **Fed. Cir. Holding**: David Howard is NOT a joint inventor to the '498 patent since Pannu factor (2) is not satisfied, since his alleged contribution of *preheating bacon/meat pieces with an infrared oven* is “insignificant in quality” when “measured against the dimension of the full invention”.
- Fed. Cir. did not address the parties’ comments on Pannu factors (1) and (3) since failure to meet any factor is dispositive on inventorship issue.

Would the Fed. Cir. decide the case differently if '498 patent disclosed the following?

- Example(s) of preheating with infrared oven;
- Additional recitations of “infrared oven” in one or more claims; and/or
- Figures directed to test results of preheating with infrared oven?

# Takeaways

- Avoid costs, uncertainty and high burden to correct inventorship (i.e., add joint inventor) of a patent under the Pannu factors.
- Determine correct inventorship early in patent prosecution process when application is filed (and during prosecution) to avoid above issues.
  - Determine scope of claimed invention;
  - Identify parties who worked on the project;
  - Determine each party's contribution to invention; and
  - Determine whether each party's contribution is sufficient to establish inventorship.

# Takeaways

- High Standard of Pannu Factors still applies to determine if joint inventor can be added to issued patent.
  - After Fed. Cir. Decision in *HIP v. Hormel Foods*, petition for a writ of certiorari was filed August 24, 2023.
  - Supreme Ct. denied writ of certiorari on November 6, 2023.
- For Pannu factor (2), tip the scale of “significant” contribution vs. “insignificant” contribution in your favor.
  - Thoroughly explain subject matter of claims in specification with descriptive examples and illustrations in the figures.

Thank you.  
Questions?

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