

# The Patented Peanut Butter and Jelly Sandwich Food as Intellectual Property

THE WORDS “INVENTION” and “patent” often conjure images of mad inventors working frantically in their workshops, or of visionary technological developments such as the light bulb, the automobile, the airplane, the radio. A sandwich probably would not be among the objects that the general public would consider worth patenting.

Yet on December 21, 1999, the J.M. Smucker Company’s Menusaver division obtained U.S. Patent Number 6,004,596 (“the ’596 patent”), entitled “Sealed Crustless Sandwich.” Several months later, Smucker’s released the commercial embodiment of the patented sandwich. Marketed under the name “Un crustables,”™ the sandwich is a round, crustless, frozen peanut butter and jelly sandwich sealed in an airtight foil wrapper. The frozen sandwich can be placed in a lunchbox in the morning so that by lunchtime, the thawed sandwich is ready to eat. The instructions on the Un crustables™ box helpfully inform that the thawing process takes about half an hour, just in case the sandwich cravings are too urgent to ignore.

The ’596 patent drew much criticism soon after it issued and even more criticism when Smucker’s attempted to stop another company from making similar sandwiches. Various commentators, including a federal judge,<sup>1</sup> accused Smucker’s of trying to patent a simple peanut butter and jelly sandwich with its crusts removed. The patent itself has been used as an example of “colossal idiocy” in patents<sup>2</sup> and a waste of taxpayer dollars.<sup>3</sup>

Much of the coverage in the popular media, however, misinterprets patent law, the patent itself, and the nature of Smucker’s improvement over existing sandwich-making technologies. Patents are both technical and legal documents, and their interpretation is subject to many laws and legal decisions that challenge even experienced patent attorneys. As a result, the question remains: is the ’596 patent as ridiculous as the media portrays it to be?

## Anatomy of a Patent

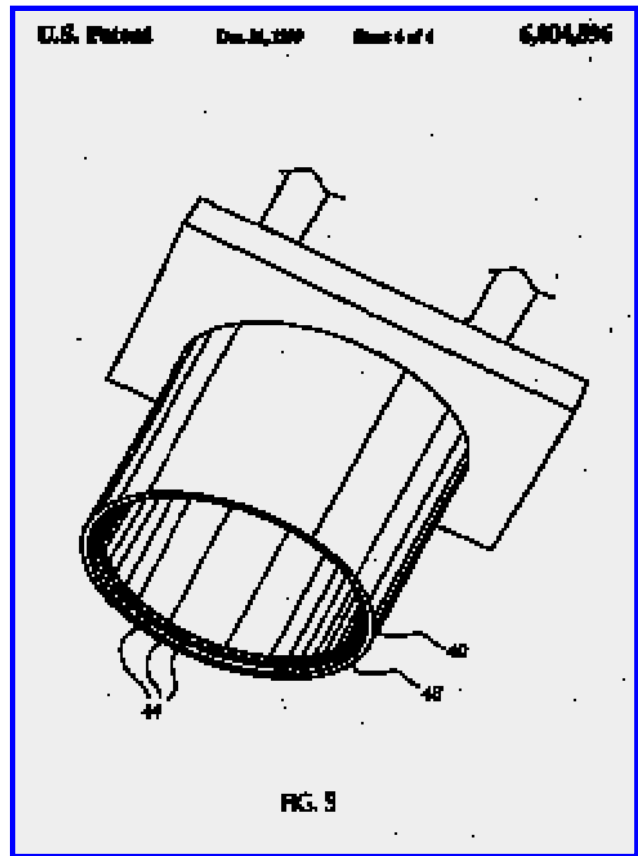
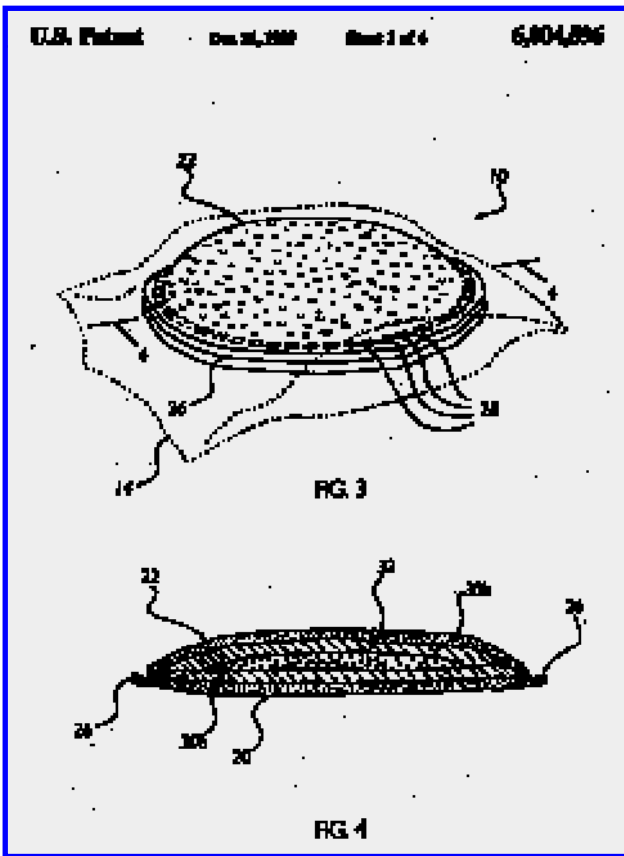
One common misconception regarding patents is that inventions must involve large technological leaps to be worthy of

patent protection. In reality, patents more commonly cover incremental improvements to known products and methods. Further, patents can be obtained in any technical field and are not limited to highly publicized areas such as electronics, biotechnology, chemicals, or mechanics.

Patenting food products and food-processing techniques is not new, or even uncommon. The U.S. Patent and Trademark Office (USPTO) has an entire category in its patent classification system devoted to food-related patents. Class 426, entitled “Food or Edible Material: Products, Compositions, and Products,” includes over five hundred sub-categories covering every aspect of food and food processing, such as flaked or puffed ready-to-eat breakfast cereal (subclass 621) and food-frying methods (subclass 438). Given the breadth of Class 426 and the value that many companies place on patents, nearly every food item in a supermarket or fast-food restaurant could conceivably incorporate at least one patented invention in its creation, and the patents could be directed to the food product itself, additives in the food product, the manner in which it is processed, or even the machinery used in the processing.

Patents may differ greatly in the technologies they cover, but the parts of a patent and the process patents undergo during examination in the U.S. Patent and Trademark Office are virtually identical, regardless of the technology they cover. Every patent starts its life as a patent application, which includes the proposed text and drawings to appear in the final patent itself if approved by the USPTO. Patents also include a brief abstract to help patent searchers understand the subject of the invention quickly, one or more drawings showing the invention, and a detailed description of the invention.

The patent may also include a background and summary of the invention to describe problems that previously known technologies encountered and the objectives fulfilled by the patented invention. For example, in the sandwich patent, the background of the invention states, “[S]ome individuals do not enjoy the outer crust associated with the conventional slices of bread and therefore take the time to tear away the outer crust from the desired soft inner portions of the bread.” The invention then solves this perceived problem by creating



a sandwich with the crusts already removed before reaching the consumer. The patent also explains that the invention “provides a sandwich primarily developed for the purposes of providing a convenient sandwich without an outer crust which can be stored for long periods of time without a central filling from [sic] leaking outwardly.”

Once the patent identifies the problems to be solved by the invention, the detailed description and drawings describe the invention in more detail, providing sufficient information for a person in the same field to duplicate the invention. The drawings usually show several different views of the invention. The detailed description then identifies the components shown in each drawing, describes each component in greater detail, and explains the interrelationship between the components. The reason that the detailed description must be complete enough for someone to build the invention lies with the policy behind patent law: a patent acts as a bargain between the government and the inventor. In the bargain, the government grants a time-limited (around twenty-year) monopoly to the inventor, allowing the inventor to exclude others from making, using, selling, or importing the invention into the U.S. In exchange, the inventor publishes the details of the invention so that other inventors can invent improvements, furthering technological progress.

The '596 patent is directed to a simple sealed, crustless sandwich, and therefore the detailed description is rela-

Left: Fig. 3: Upper perspective view of the sealed crustless sandwich within an airtight packaging. Fig. 4: Cross-sectional view from Fig. 3 disclosing the peanut butter sealing the jelly in between. Both from Kretchman et al. U.S. Patent application no. 6,004,596. Right: Fig. 5: Lower perspective view of the cutting cylinder. From Kretchman et al. U.S. Patent application no. 6,004,596.

tively brief. The patent includes drawings showing the sealed, crustless sandwich itself as well as the device used to create the sandwich (see Figs. 3, 4, and 5). The patent also includes a series of drawings illustrating the sandwich-manufacturing process at different stages. Along with the drawings, the detailed description in the '596 patent enumerates possible materials that can be used for the sandwich filling, the various components of the sandwich-making device, and the way in which the device cuts and crimps the sandwich edges.

Although the detailed description can be lengthy, the numbered paragraphs following the detailed description form the actual heart of the patent. These numbered paragraphs, called “claims,” form the legal definition of the subject matter the inventor actually owns. Grammatically, each claim is the direct object of the phrase “I claim” or “We claim” and may contain one or more items, or “elements,” much like a component checklist for the invention. Claims are analogous to a land deed; just as the geographic

description in a land deed describes the outer boundaries of a landowner's real property, claims in a patent define the outer boundaries of an inventor's intellectual property. The claims act as a fence around the inventive subject matter. And like a fence that encloses a person's land without encroaching onto another person's land, patent claims must define a boundary that does not encroach onto the boundaries of other people's inventions or information already known by the public. Because the claims dictate the scope of the inventor's protection, the patent examination process in the USPTO and any disputes after the patent grant focus primarily on claim interpretation.

Claims can vary in scope from broad to narrow, covering different amounts of intellectual property. As the word "broad" implies, a broad claim lists fewer details and therefore potentially covers more product variations than a narrow claim. To catch a copyist under a given patent claim, the copied device must contain each and every element recited in the claim. For example, if a broad claim lists elements A and B and a narrow claim lists elements A, B, C, and D, an accused copyist having a device with elements A, B, and C would encroach on, or "infringe," the broad claim because the copied device has every element (A and B) in the broad claim. The copied device, however, would not infringe the narrow claim because it does not contain element D, which is explicitly required in the narrow claim.

Inventors applying for patents like to include multiple claims having different scopes for several reasons. The primary reason is that it is difficult to predict which claims will ultimately remain in the final patent after the patent application has been examined in the USPTO. The patenting process often involves negotiations between the inventor (or the inventor's attorney) and the patent examiner, with the claims being the central topic. It is not uncommon for the original claims in the patent application to be changed, revised, or even deleted during this process.

Multiple claims having varying scopes also help ensure that if the broader claims are invalidated during a lawsuit or a patent re-examination proceeding, the narrower claims will still remain intact for snaring infringers. A patent claim can be invalidated if a court or tribunal determines that the broader claims impermissibly cover products that were already known to the public, which may occur if the examination in the USPTO was not sufficiently thorough. To infringe a patent, the accused infringer need only infringe one of the claims. Patent drafters often include one narrow claim describing the invention that will be actually commercialized by the inventor, but as a general rule the claims describe the invention in a broader and more

abstract way than the specific examples described in the rest of the patent.

Because claims play such an important role in defining an inventor's property rights, patent drafters choose each word in a claim carefully and draft each claim to describe the invention as precisely as possible (although some readers feel this focus on precision sacrifices clarity). To be patentable, the claims must meet standards of novelty, usefulness, and non-obviousness.<sup>4</sup> The novelty and usefulness requirements are relatively easy hurdles to overcome, because the invention merely needs to be new and usable to reach an attainable result. The non-obviousness requirement, however, is where most of the negotiations in the USPTO focus and where most patent disputes arise. Non-obviousness is a subjective standard and requires that the differences between the invention and publicly known information be non-obvious to an average person working in the same technological field as the invention at the time the invention was made.

## How to Protect a PB&J Sandwich

The broadest claim in the '596 patent is claim 1, which reads as follows:

1. A sealed crustless sandwich, comprising:
  - a first bread layer having a first perimeter surface coplanar to a contact surface;
  - at least one filling of an edible food juxtaposed to said contact surface;
  - a second bread layer juxtaposed to said at least one filling opposite of said first bread layer, wherein said second bread layer includes a second perimeter surface similar to said first perimeter surface;
  - a crimped edge directly between said first perimeter surface and said second perimeter surface for sealing said at least one filling between said first bread layer and said second bread layer;
  - wherein a crust portion of said first bread layer and said second bread layer has been removed.

In simpler terms, claim 1 covers any crustless sandwich that includes two layers of bread, a center filling that covers less than the entire bread layer to leave perimeter surfaces on both bread layers exposed, and a sealed, crimped edge around the sandwich's entire perimeter, formed from direct contact between the perimeter portions of the two bread layers.

The sealed, crimped edge, created from direct contact between the two bread layers, was considered by the inventors to be the critical difference between the inventive sandwich

and conventional sandwiches. During patent examination, the patent examiner considered the inventive sandwich obvious in light of publicly available descriptions of similarly sealed sandwiches. The inventors, through their patent attorney, argued that known sandwich-manufacturing processes required applying a hydrolyzed starch layer between the bread layers to act as an adhesive in the seal, while the invention used direct contact between the bread layers to form the seal. They also argued that none of the sandwiches shown by the examiner have the claimed crimped edge.<sup>5</sup> By arguing that the claims require a crimped edge with direct contact between the bread layers, the inventors convinced the USPTO that their sandwich constituted a non-obvious improvement over known sandwich structures formed by other manufacturing processes. The patent subsequently issued.

Claim 9 recites a more specific sandwich structure:

9. A sealed crustless sandwich, comprising:

a first bread layer having a first perimeter surface, a first crust portion and a first contact surface;

a first filling juxtaposed to said first contact surface;

a second bread layer having a second perimeter surface, a second crust portion and a second contact surface;

a second filling juxtaposed to said contact surface;

a third filling;

a crimped edge directly between said first and second perimeter surfaces for sealing said first, second and third fillings between said first and second bread layers;

wherein said first and second crust portions have been removed and said third filling is encapsulated by said first and second fillings.

While claim 1 covers any sealed, crustless sandwich, regardless of the filling inside, claim 9 requires three layers of fillings between the bread layers and also requires the second filling layer to be “encapsulated” between the first and third filling layers. Claim 9, in essence, describes the sandwich that Smucker’s actually commercialized. As a result, a person who makes a sealed crustless peanut butter and jelly sandwich containing one jelly layer and one peanut butter layer would avoid infringing claim 9. Further, claim 9 would not catch an infringer that simply placed a jelly layer in between two peanut butter layers in the sandwich without sealing the peripheral edges of the peanut butter layers together around the jelly, because a simple three-layer filling structure would not enclose the jelly layer within the peanut butter layers; the open peanut butter layer edges would fail to form the requisite closed capsule

encasing the jelly layer. This sandwich, however, would still fall under the broader description of claim 1, allowing the patent owner to catch the infringer with the broader claim.

While the sealed, crimped edge may seem like an insignificant change in the sandwich-manufacturing field, it does represent an improvement that provides Smucker’s with a competitive advantage, particularly in markets requiring participants to adhere to strict specifications. School lunch programs are one significant market; in a request for bids, for example, the Oregon Department of Administrative Services required the bidders to provide price quotes for circular, crustless peanut butter and grape jelly sandwiches that were individually packaged and frozen.<sup>6</sup> Given that all competing bids must specify sandwiches meeting these minimum requirements, the sealed, crimped edge in the patented sandwich and its attendant leak resistance is an advantageous functional feature distinguishing the patented sandwich from competing sandwiches. Thus, even seemingly small changes to known products may be worth protecting, especially if the changes have commercial value.

## Food Fights in the Courts and in the U.S. Patent and Trademark Office

The ’596 patent alone provided sufficient ammunition for critics of the U.S. patent system, but when Smucker’s decided to enforce its sandwich patent against Albie’s Foods, a small Michigan-based business, commentators uniformly criticized Smucker’s for attempting to prevent others from making its crustless peanut butter and jelly sandwiches. Albie’s Foods received a letter from an attorney representing Smucker’s MenuSaver division, asking Albie’s Foods to stop making its allegedly infringing sandwiches. From this letter, three separate proceedings emerged.

The first proceeding was a lawsuit initiated by Albie’s Foods on January 11, 2001, in response to the cease-and-desist letter. Albie’s Foods filed a complaint against Smucker’s in a U.S. Federal District Court and selected the Eastern District of Michigan, its home jurisdiction, as the forum.<sup>7</sup> A proceeding filed by an accused patent infringer requesting patent invalidation is called a “declaratory judgment” action because the accused infringer is asking the court to declare the patent invalid.

Albie’s Foods also filed a “request for re-examination” in the USPTO on March 9, 2001.<sup>8</sup> This type of proceeding is not a lawsuit because it does not involve suing another party. Instead, a re-examination is a confidential proceeding within the USPTO that involves reviewing and re-examining patent claims in view of additional information brought by

the person requesting the proceeding. Usually, the requestor brings to the USPTO's attention a new patent or other publicly available reference that was not considered during the initial patent examination. The patent claims are then evaluated in view of the new reference to see whether the claims are still new, useful, and non-obvious, much in the same manner as a regular patent examination.

Not to be outdone, Smucker's filed a patent infringement lawsuit against Albie's Foods in another U.S. Federal District Court in its own home forum, the Northern District of Ohio, on May 17, 2001.<sup>9</sup> In this lawsuit, Smucker's formally accused Albie's Foods of infringing the claims of its '596 patent. In a patent infringement lawsuit, the elements of the patent claims are compared with the accused infringer's product. If the accused product contains each element of any one valid claim in the patent, the accused infringer must pay the patent owner damages and/or stop making the product.

Having three simultaneous proceedings over the same issue is not unusual, but the high costs and diverted business resources required to support even a single dispute force patent owners and accused infringers alike to avoid involvement in multiple disputes for all but the most commercially important patents and products. All three proceedings are currently in the early stages, and therefore little public information is available. What is available, however, is data indicating just how important the patented sandwich is to Smucker's business; in the year and a half after Smucker's obtained its patent, sales of the patented sandwich reached over fifty million units at a price of over fifteen million dollars, making the sandwich Smucker's fastest-growing product in many years. This figure does not include sales by other companies accused of copying Smucker's product and diverting sales from Smucker's.<sup>10</sup> Given these high stakes, quick resolution of any of the three proceedings appears improbable. Instead, Smucker's and Albie's will likely spend tens or even hundreds of thousands of dollars in legal fees as their patent attorneys parse each word in the claims and argue over each word's meaning in three different venues. Reaching trial at the district court level can take many months or even one or more years. Appellate proceedings can stretch the case for even more years, depending on the number of disputed issues.

Both sides can also expect to pay technical experts to testify on their behalf in all three proceedings, to help the judges understand the technology and the subtle differences between seemingly identical objects. In the USPTO proceeding, Smucker's has already filed a statement by one of its expert witnesses, an adjunct professor at Case Western Reserve University in the Mechanical and

Aerospace Engineering department. The professor used his manufacturing-systems expertise to explain the differences between the patented sandwich and a sandwich generated by a spring-loaded device called the "Tartmaster" and sold by The Pampered Chef.<sup>11</sup>

With the attention surrounding Smucker's crustless sandwich patent, one would assume that such a sandwich must be special to eat. The glossy foil packaging encasing the precious patented sandwich, complete with the words "Patent No. 6,004,596" emblazoned on the back, invites at least some curiosity as to the sandwich's taste. Unfortunately, the crimping process formed the sandwich's edges into a stiff, chewy border with the texture of compressed Wonder Bread™. Air inside the foil packaging combined with freezing temperatures dried the outer surface of the thinly sliced bread to form its own unintentional crust, and a single bite into the sandwich mangled the first, second, and third filling layers into a gooey, homogenized, peanut butter and grape jelly mass between the bread layers. After I tossed the half-eaten sandwich into the trash, I decided to keep making my sandwiches the old-fashioned way, reminding myself not to remove the crusts or crimp the edges. ☹

#### NOTES

1. William W. Bedsworth, "Food Fight!" *The Recorder*, March 16, 2001.
2. Seth Schuman, "Owning the Future: PB&J Patent Punch Up," *MIT Technology Review*, May 2001.
3. This particular criticism is unfounded; the U.S. Patent and Trademark Office is funded completely through user fees and does not receive any money obtained from tax revenues. In fact, every year Congress diverts funds collected by the U.S. Patent and Trademark Office into the general treasury.
4. 35 United States Code, Sections 102 and 103.
5. Amendment filed July 12, 1999, *In re Kretchman et al.*, Appln. No. 08/986,581 (issued as U.S. Patent No. 6,004,596).
6. Oregon Department of Administrative Services, 2000 *Request for Bids*, Item D.3.1, Salem, OR.
7. Case No. 01-CV-10022 (Bay City, Michigan).
8. *In re Kretchman et al.*, Re-examination Proceeding Serial No. 90/005,949, filed March 9, 2001 (U.S. Patent and Trademark Office).
9. Case No. 01-CV-1182 (Cleveland, Ohio).
10. Declaration of Steven T. Oakland, *In re Kretchman et al.*, Re-examination Proceeding Serial No. 90/005,949, filed March 9, 2001 (U.S. Patent and Trademark Office).
11. Declaration of Malcolm Cooke, *In re Kretchman et al.*, Re-examination Proceeding Serial No. 90/005,949, filed March 9, 2001 (U.S. Patent and Trademark Office). In his statement, Professor Cooke noted, "The removal action of the sandwich [from the Tartmaster device] causes the edges of the sandwich to tear, thereby unsealing and damaging the edge of the sandwich which would allow the filling to escape."