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Patenting is Such Sweet Sorrow – a Panela Patent Explained

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A few months ago, there was an article in the *New York Times* by Jennie Erin Smith titled, "*Colombians Ask: Who Would Dare Patent Panela?*" [1] The article explains that 'panela' is an unrefined form of cane sugar prepared from the boiling of sugarcane juice, and its use has been widespread in Latin America for hundreds of years. According to the article, the panela process was somehow recently patented in the United States, under U.S. Patent No. 10,632,167. Since international patent laws, including those in the United States, require absolute novelty and non-obviousness as a pre-condition for patentability, my interest as an intellectual property professional was piqued. How could something in use for over 300 years suddenly become patentable? Surely the U.S. Patent Office would not have allowed such a well-known process to be patented, would it? How was this patent, U.S. Patent No. 10,632,167, allowed? And does the patent cover what the article implies? Finally, if for some reason such a patent were accidentally granted by mistake, has anyone yet challenged the so-called panela patent by using any one of the many corrective procedures the U.S. Patent Office offers to third parties, including post-grant review (PGR) and inter partes review (IPR)? What's the *real* intellectual property story here?

First things first, how does one make panela? To understand the patent itself, we must also learn about the underlying technology. According to a few easy-to-find Internet recipes with beautiful photos, panela is essentially a raw sugar cane reduction.[2], [3] The basic steps are as follows:

- Step 1. Cut sugar cane and press/extract sugar cane juice
- Step 2. Heat the sugar cane juice to reduce water content
- Step 3. Stir/transfer sugar cane juice as it thickens
- Step 4. Pour thickened sugar cane into desired shape or mold
- Step 5. Let cool

It's that simple. The panela recipes are generally described as "low-technology," which is visibly apparent and historically accurate. Clearly, if these processes have been used for hundreds of years, they would need to be low-tech. Further, the product itself is an alternative to more highly-processed sugar products, so it would make sense that the alternative to a highly refined sugar is a so-called

‘low-tech’ sugar. The key technological difference is that panela is not refined by centrifugation (i.e., high-speed spinning), which is why panela is sometimes referred to as non-centrifugal sugar (NCS).[4], [5]

Having learned the basics about making panela, we must now look to the language of the ‘167 patent in question. The ‘167 patent is directed to a “System and method for processing raw sugarcane maximizing the preservation of policosanols during the production of a shelf-stable potable cholesterol-reducing product” The patent lists Jorge Enrique Gonzalez Ulloa as the sole inventor. Cane Juice Company LLC in Jupiter, FL, owns the ‘167 patent and the patent recites 19 patent claims, including one independent claim. Independent claim 1, exemplary of the ‘167 patent, recites a method of processing a quantity of unwashed raw sugarcane sticks to produce a policosanol-rich sugarcane juice. The method includes:

- Shredding the unwashed sugarcane,
- Extracting sugarcane juice,
- Filtering the sugarcane juice,
- Stabilizing the pH,
- Clarifying the heated sugarcane juice, and
- Evaporating the clarified sugarcane product.

At first blush, none of the method steps appear to be particularly special, so the patent file history before the Patent Office—which is open to the public—must be explored for further insight. After reviewing the patent file history, the patent applicant asserted certain features to be different from the prior art. In the response submitted by the patent applicant on November 21, 2019, the applicant asserted:

1. that their product is especially “policosanol-rich”;
2. (2) it is critical that the cut cane stalks are not cleaned (to preserve the policosanols); and,
3. (3) throughout processing, it is critical that the temperature never exceeds 70° C in order to prevent the loss of policosanols.

Upon close examination, all of these features appear to be required or embodied in the ‘167 patent claims, so there is a correlation between the arguments presented during prosecution and the issued claims.

Having reviewed the panela recipes and the case presented to the Patent Office, that leaves us with a reasonable background to understand how the ‘167 patent may be reasonably viewed. As a practical matter, what this means from an IP perspective is that the ‘167 patent is likely not as broad as implied by the *New York Times* article. In short, the world is not ending. Someone looking to circumvent the patent may potentially use “washed” cane stalks instead of “unwashed” cane stalks. Likewise, a competitor may attempt to circumvent the ‘167 patent by heating the cane sugar juice to 71° C or 72° C or above—at any point in the process—which is beyond the range identified by the ‘167 as being acceptable. Lastly, a competitor could attempt to invalidate the ‘167 patent, arguing that the patent fails to meet any one of the statutory requirements for patentability. While all issued

patents carry a presumption of validity, this could still be challenged by a competitor seeking to invalidate the patent. For example, a competitor may theoretically argue that one or more new references (e.g., references not previously before the Patent Office) render the patent claims anticipated or obvious. A competitor may also theoretically argue that the claims are indefinite, non-enabled, or lack adequate written description because the term “policosanol-rich” is vague or unsupported. A search of the Patent Office’s Trial and Appeal Board indicates that, thus far, no such invalidity challenges have yet been lodged against the ‘167 patent in this manner.

Being mindful of the historical importance of panela; an attack against the ‘167 patent on prior art grounds could theoretically be the most beneficial because panela-like processes have been used for hundreds of years and are likely to have extensive prior art if one looks in the right place. A patent challenger may also note that even more prior art could be identified if using all of the well-known names for the product, including panela, non-centrifugal sugar (NCS), unrefined muscovado, whole cane sugar, jaggery and kokuto. In short, the less than 20 references considered by the Patent Office are likely only the tip of the iceberg. Indeed, part of the issue here may be industrialized patent search engines trying to find prior art that is not necessarily memorialized in such a manner. Stated differently, this may be a problem of high-tech patent search engines not identifying low-technology processes that may not be well-recorded.

There is also the overarching IP lesson about areas that patent professionals have long overlooked. Businesses using technology that has historically been considered low-technology, historical in nature, and/or not subject to patents may want to take a fresh look at their IP practices. If nothing else, these businesses may want to file defensive patent applications in order to better populate the industrialized patent search engines that are typically used to evaluate such patents. If not, the odds that some entity may attempt to patent a historical process—or perhaps a legitimate, newer modification thereof—is a real business risk that shouldn’t be ignored. After all, for every product like panela, it’s not a question of if it will ever be patented, but how.

[1] https://www.nytimes.com/2021/01/26/science/colombia-panela-patent-gonzalez.html

[2] https://trans-americas.com/making-panela/

[3] https://www.seriouseats.com/2015/01/making-panela-colombian-sugar-mill-low-tech.html

[4] https://en.wikipedia.org/wiki/Non-centrifugal_cane_sugar

[5] https://www.researchgate.net/publication/275343164_Non_centrifugal_cane_sugar_NCS_panela_jaggery_gur_muscovado_process_technology_and_the_need_of_its_innovation

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