

**The AIPLA's
2021–2022 Giles Sutherland Rich Memorial
Moot Court Competition**

Wicked Clean Homes, Inc. v. Midnight, Inc., Case No. 2021-GSR

Problem Materials:

This year's problem materials include:

- (1) This problem prompt.
- (2) The Joint Appendix. The Joint Appendix includes pages Appx001–Appx038.

Patent-in-Suit:

The Patent-in-Suit is United States Patent GSR,826,022 to Cindy Rella (the “’022 patent”).

The ’022 patent is directed to room air purifiers incorporating high-efficiency particulate air (HEPA) filters and ultra-violet (UV) light devices for use in removing air contaminants as small as 0.1 microns and sanitizing to destroy contaminants including viruses and bacteria. Claims 1–6 of the ’022 patent recite an air purifier device performing certain steps including, *inter alia*, detecting the concentration of particle matter to determine the air quality.

Issues on Appeal:

Two issues are on appeal to the United States Court of Appeals for the Federal Circuit:

- (1) Whether claim 1 of the ’022 patent is indefinite under *IPXL Holdings, LLC v. Amazon, Inc.*, 430 F.3d 1377 (Fed. Cir. 2005).
- (2) Whether Defendant Midnight, Inc. is estopped under 35 U.S.C. § 315(e)(2) from asserting an invalidity defense based on the Clean Air 5ever air purifier system.

Trial Counsel:

The appellant was represented in the district court and PTAB by the law firm of Smith & Smith LLP. The appellee was represented in the district court and PTAB by the law firm of Jones & Jones LLP. The competitors are engaged as counsel only for the purposes of this appeal.

Background:

Wicked Clean Homes, Inc. (“Wicked Clean”) was founded in 2011 by Cindy Rella. Cindy founded Wicked Clean—as a home cleaning business—to save money to attend her dream school, Bibbidi University. Wicked Clean was founded the summer before Cindy left to attend Bibbidi, where she declared a double major in engineering and public health. While Cindy was excited about the opportunity to leave home and advance her education, she also was concerned with the financial demands associated with attending college full-time. As a result, she planned to continue operating the business to help finance her education while she was in school.

Cindy was no stranger to either hard work or cleaning homes. After her father died, she became solely responsible for the daily chores and upkeep of her home where she lived with her stepmother and two stepsisters. Cindy was, therefore, easily able to balance running Wicked Clean while attending college full-time. Much like her studies, Wicked Clean was a success. Throughout Cindy’s four years in college, the business expanded tremendously. By her senior year of college, Wicked Clean was a well-known home cleaning business that received repeatedly excellent reviews and had twenty employees on payroll.

In 2015, during her senior year of college, Cindy invented a new type of air purifier. Many of Cindy’s clients used air purifiers in their homes, and Cindy thought that she could put her engineering and public health studies to use and create a better air purifier that would remove more

contaminants from the air. Dubbed “Wicked Clean Air,” Cindy’s new air purifier used a high-efficiency particulate air (HEPA) filter that removes air contaminants as small as 0.1 microns and an ultra-violet (UV) light that destroys contaminants including viruses and bacteria. Wicked Clean Air was a smart air purifier with advanced air cleaning technology. Wicked Clean Air was controllable via a smartphone application and capable of detecting changes in air quality, carbon monoxide, radon, dust, humidity, temperature, and total volatile organic compounds.

Wicked Clean Air was an advancement over prior air purifiers, which only filtered contaminants as small as 0.3 microns and did not connect to smartphone applications. For her work, Cindy was awarded the ’022 patent, which she assigned to Wicked Clean. The ’022 patent claims an air purifier device performing certain steps including, *inter alia*, detecting the concentration of particle matter to determine air quality. Claim 1 is representative:

1. An air purifier device having stored thereon computer-executable instructions for detecting the concentration of particle matter, having a characteristic with a predetermined value, in a predefined area using particle matter measurements received from the air quality monitor performing the steps of:
 - a. a user inputting a numerical value to define desired particle matter size to monitor within the predefined area of interest;
 - b. detecting the concentration of particle matter to determine the air quality;
 - c. determining if the air quality is within a predefined tolerance of the predetermined value of the desired air quality;
 - d. generating an indication of the air quality having the value of the particle matter concentration within the predefined tolerance.

In June 2015, shortly after graduating *summa cum laude* from Bibbidi University, Cindy began manufacturing Wicked Clean Air purifiers. Cindy also created two subsidiary divisions of Wicked Clean—a home cleaning division and an air purifier division. Wicked Clean’s air purifier division hired several employees, including a computer scientist to develop the smartphone application for Wicked Clean Air.

Between 2015 and 2019, the air purifier market expanded exponentially, and approximately 1 in 4 U.S. households owned an indoor air purifier. Likewise, the success of Wicked Clean’s air purifier division followed the rising popularity. Cindy eventually sold Wicked Clean’s home cleaning subsidiary and used the proceeds to build a new air purifier manufacturing facility and increase the manufacturing capacity for Wicked Clean Air. In addition to hiring ample factory employees, Cindy also hired more application developers to ensure Wicked Clean Air’s smartphone application stayed up-to-date and continuously incorporated cutting-edge technology.

In early 2020, as COVID-19 was spreading rapidly around the globe, Cindy discovered that Wicked Clean Air was effective at removing coronavirus from the air. Wicked Clean’s marketing team promptly issued a press release describing Wicked Clean Air’s ability to reduce indoor air pollutants, including airborne coronavirus particles. Wicked Clean Air’s sales rapidly increased. Even with the new manufacturing facility, Wicked Clean was, unfortunately, unable to keep up with the demand, and Wicked Clean’s order backlog continuously grew as a result.

Meanwhile, Wicked Clean’s biggest competitor, Midnight, Inc. (“Midnight”), demonstrated that its air purifier, the Midnight Pure, also was effective at removing coronavirus from the air. Midnight experienced a similar increase in sales during the COVID-19 pandemic. Midnight Pure is similar to Wicked Clean Air in many respects—smartphone application

compatibility, air quality detection, and airborne particle detection—but Midnight Pure’s HEPA filter removes air contaminants as small as 0.3 microns, not 0.1 microns.

The Case Below:

On January 4, 2021, Wicked Clean sued Midnight in the United States District Court for the District of Gilesead, which is part of the First Circuit. The complaint accused Midnight of infringing claims 1–6 of the ’022 patent.

On February 1, 2021, Midnight filed a petition for *inter partes* review (IPR) at the Patent Trial and Appeal Board (PTAB). Midnight argued that claims 1–6 of the ’022 patent are obvious in view of the publicly-available instruction manual for a prior art air purifier system called “Clean Air 5ever.” On March 1, 2021, the PTAB found that Midnight had shown a reasonable likelihood that it would prevail in establishing unpatentability of at least one claim of the ’022 patent, and accordingly, the PTAB instituted a trial of all challenged claims on the asserted ground. The following day, Midnight moved to stay the district court case pending the outcome of the IPR. Wicked Clean opposed, and the district court granted Midnight’s motion to stay. On July 12, 2021, the PTAB issued a Final Written Decision (FWD), finding that Midnight had not shown by a preponderance of the evidence that claims 1–6 of the ’022 patent are unpatentable based on the Clean Air 5ever Instruction Manual.¹

On January 3, 2022, both parties moved for summary judgment under Federal Rule of Civil Procedure 56—Wicked Clean on the issue of infringement, and Midnight on the issue of invalidity. Wicked Clean concurrently filed a motion regarding IPR estoppel. Regarding invalidity, Midnight

¹ Midnight has not appealed the PTAB’s decision, and the Supreme Court’s decisions in *U.S. v. Arthrex, Inc.* (19-1434); *Smith & Nephew, Inc. v. Arthrex, Inc.* (19-1452); and *Arthrex, Inc. v. Smith & Nephew, Inc.* (19-1458) are not at issue in this case.

argued that claim 1 of the '022 patent is indefinite under *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed. Cir. 2005) and its progeny because it claims both an apparatus and a method for its use. In response, Wicked Clean argued that recent Federal Circuit cases have narrowed *IPXL*, and a person of ordinary skill in the art would understand that that claim 1 uses functional language to describe the capabilities of the claimed apparatus, and that infringement does not require actual performance of any steps. Midnight also argued that claims 1–6 of the '022 patent are invalid as obvious in view of the Clean Air 5ever air purifier system. Wicked Clean responded that Midnight should be estopped under 35 U.S.C. § 315(e)(2) from asserting an invalidity defense based on the Clean Air 5ever air purifier system because Midnight relied on the Clean Air 5ever Instruction Manual in the IPR proceedings. In response, Midnight argued that the estoppel statute is limited to invalidity theories based on patents or printed publications that were raised or reasonably could have been raised in IPR proceedings, which does not include prior art systems.

The district court granted Midnight's motion for summary judgment of indefiniteness, and denied Wicked Clean's motion regarding IPR estoppel.

The Appeal:

Wicked Clean timely appeals the district court's summary judgment of indefiniteness and its denial of Wicked Clean's motion regarding IPR estoppel to the United States Court of Appeals for the Federal Circuit.