

Haynes Boone Assists in Securing Patent for Water Filtration System in Continued Work for The Pennington School

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PRACTICES Patents, Intellectual Property

A team of Haynes Boone attorneys, led by Counsel [Sharon Crane](#) and Partner [Vera Suarez](#), assisted students from The Pennington School's Applied Science program in obtaining a United States design patent for a student-developed water filtration system known locally as the "Better Kitchen Sink." The patent, granted on Feb. 24, 2026, protects the ornamental design of the filtration system, which was created to help address water scarcity challenges in Malawi.

Developed by students at The Pennington School in collaboration with students and residents in the Dzaleka Refugee Camp, the filtration system is designed for use in and around Dzaleka, where residents have limited access to clean water and often must walk long distances to collect it. The device allows users to filter and reuse water for washing dishes and clothes, helping families extend limited daily water supplies.

The patented design features a funnel-like structure that attaches to commonly available plastic bottles. The system uses layers of locally sourced materials, including cotton, gravel and charcoal, to filter out debris before water flows into a collection container. When paired with a small amount of sodium hypochlorite, the filtered water can also be made potable.

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The system has been tested within the refugee camp and distributed to users, who report meaningful improvements in their ability to conserve water for household use. Students are continuing to refine the design to increase the volume of water that can be filtered at one time.

“This project reflects the very best of what student innovation can achieve when paired with real-world purpose,” said Crane, who has advised the students throughout the patent process. “These students identified a critical need, worked collaboratively across borders and developed a practical solution that can make a measurable difference in people’s daily lives. We are proud to support their efforts.”

The Haynes Boone team provided pro bono counsel to the students from The Pennington School throughout the multi-year patent application process. The design patent builds on the firm’s ongoing partnership with the school, including [last year’s successful effort to secure allowance of a United States design patent for the Women in STEM Solving Problems \(WISSP\) reusable menstrual pad](#).

To date, more than 18,000 WISSP pads have been distributed in Malawi and more than 175 girls have completed the program’s “Learn to Sew” initiative, which teaches teenagers how to produce and maintain the reusable product. The menstrual health initiative has supported more than 1,600 tailors, seamstresses, sellers and beneficiaries, helping girls remain in school during their menstrual cycles.

In addition to the filtration system and menstrual health work, The Pennington School's students continue to expand their impact. Last year, the team developed a soap-making process using materials available in Malawi and piloted a soap-making and selling training program for teen refugees at the camp.

They also authored two menstrual health informational booklets, tailored for girls ages 10-12 and 13-18, in collaboration with U.S. doctors, Malawian healthcare professionals and local project leaders to ensure accuracy and cultural sensitivity. Drafts of the booklets were distributed during menstrual hygiene lessons at the camp last June, and after receiving feedback, the Pennington team revised the booklets and is preparing them for publication. The ultimate goal is to translate these booklets into French and Chichewa to increase accessibility.

This year, the Pennington team is co-authoring a children's book with Dzalaeka teens. The book, titled "Spread Your Love", explores emotions through poetry and art. Additionally, the students have been working with local pop artist Perry Milou to transform a Dzaleka classroom into an art learning space. Pennington students have designed easels and a performance stage for the space and will paint a mural during their visit in June.

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The filtration system has received international recognition, including top placements in global innovation competitions, further highlighting the students' commitment to practical, community-driven solutions.

"This patent is another milestone in a much larger journey," Suarez said. "These students continue to listen, learn and innovate in ways that demonstrate both technical skill and extraordinary compassion."

To learn more about program, please visit The Pennington School's [Applied Science page](#).