

Hall of Fame of Delaware Women

On March 27, chemist Stephanie Kwolek was inducted into the Hall of Fame of Delaware Women. The Delaware Hall includes several of the women featured in our book *Her Story: A Timeline of the Women Who Changed America*. In this month's e-newsletter, we profile Emily Bissell as well as Stephanie Kwolek.

In 1907, a small tuberculosis sanatorium in Delaware desperately needed to raise funds. One of the doctors serving the hospital thought his cousin, **Emily Bissell**, who was active in the American Red Cross in Wilmington, Delaware and had significant fundraising experience, might be able to help.



Emily Bissell



Stephanie Kwolek

Bissell had read an article about how money had been raised in Denmark for needy children stricken with tuberculosis. The money had been raised through the sale of small seals which were affixed to mailed letters, in addition to the postage stamps. She decided to design a Christmas seal that could be offered for sale. Her design was a red cross centered in a half-wreath of holly above the words "Merry Christmas." The national Red Cross organization agreed to the use of the red cross on the seals.

Bissell started her own one-woman campaign to publicize the seals. Her goal was to raise \$300 selling the seals at local post offices; they were one penny each. On December 7, 1907, the first seals were sold at a table in the corridor of the Wilmington post office. The campaign raised over \$3,000 - ten times her original goal!

From Christmas seals to KevlarTM, **Stephanie Kwolek**, the fourth woman inducted into the National Inventor's Hall of Fame (1995), is best known for her invention of KevlarTM, the lightweight yet very strong polymer used in bulletproof vests and many other products. In fact, when Kwolek was inducted into that Hall, she was escorted to the stage by a policeman whose bulletproof vest had saved his life. Kwolek spent 40 years with DuPont during which time she wrote 16 patents for a variety of groundbreaking materials; she also devised new processes in polymer chemistry.

One of Kwolek's early projects was the preparation of polymers that formed LycraTM spandex fibers, the stretchy material frequently used in athletic wear. Another notable product from her work is Nomex, a fire-resistant material used in protective gear worn by firefighters. In the course of looking for a strong, light-weight fiber that could be used in radial tires, Kwolek discovered what became KevlarTM. KevlarTM is used in over 200 product lines including bulletproof vests, helmets for the military, ropes, fiber-optic cables, aircraft parts, brake linings and canoes. It is five times stronger than the same weight of steel.

Among her many awards, Kwolek received the National Medal of Technology in 1996. She is the second individual woman to be awarded this honor. Kwolek has also been inducted into the National Women's Hall of Fame.

We stand on the shoulders of Emily Bissell and Stephanie Kwolek and we salute them and the many women in the Hall of Fame of Delaware.

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Her Story: A Timeline of the Women Who Changed America
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