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Mahwah Museum Society, Mahwah, NJ

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Sealed Air Corporation, Saddle Brook, NJ



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EUREKA!

INVENTION & INNOVATION IN NEW JERSEY

September 17 to
November 19, 2014

Oct. 21, 1958

A. N. SPANEL

2,856,683

HAIR CUTTERS

File **EUREKA! Invention & Innovation in New Jersey** Pat 1

shares with visitors to Drumthwacket amazing everyday inventions invented in the Garden State. Curated by the Drumthwacket Foundation, the exhibit coincides with the Foundation's development of an on-line learning module about NJ inventors and inventions to be made available to educators in the fall 2015.

New Jersey consistently ranks among the top states in the number of U.S. patents issued. An achievement earned in small part by Abram Spanel, the third and last private owner of Drumthwacket, who held over 2,000 patents at the time of his death in 1985.

I hope you enjoy learning about the wonderful inventions highlighted in this exhibit and celebrating the spirit of innovation and achievement marked by each.



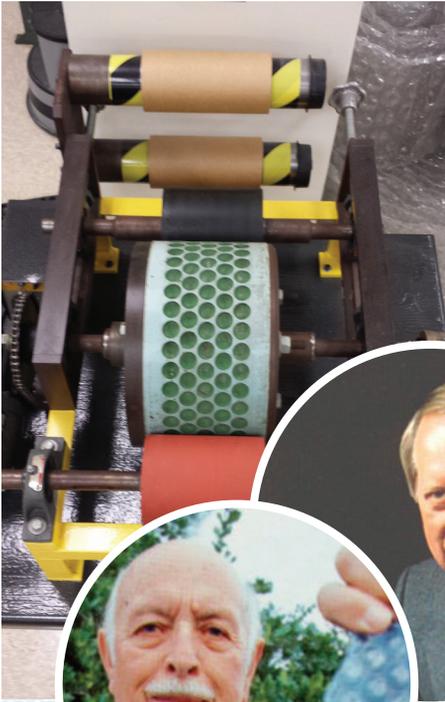
First Lady Mary Pat Christie





ABRAM SPANEL

In 1965, the International Latex Corporation founded by Abram Spanel, won the NASA sponsored competition to design the Apollo spacesuit. Custom-made by ILC employees as a training suit for Astronaut Paul Weitz who flew aboard the Skylab II mission in 1973, the suit is identical to all of the suits that were used on the Apollo 15, 16 and 17 lunar missions. *Collection of ILC Dover, Frederica, DE.*



ALFRED FIELDING & MARC CHAVANNES

BUBBLE WRAP WAS invented by two engineers, Alfred Fielding (1917 – 1994) and Swiss inventor, Marc Chavannes (b. 1946) in Hawthorne, New Jersey, in 1957. Their initial intent was to create textured wallpaper for home décor by sealing two shower curtains together in such a way that the captured air bubbles would create bumps and ridges. When the product failed commercially, the team first re-marketed it as greenhouse insulation until the early 1960s, when it was discovered it could be successfully used as a cushioning packing material.



Alfred Fielding (top) and Marc Chavannes

Top left: Bubble Wrap® Prototype Machine.
Collection of Sealed Air Corporation, Saddle Brook, New Jersey.

LES PAUL



LESTER WILLIAM POLSFUSS —known as Les Paul— was a pioneer of the electric guitar and inventor of many recording techniques such as multi-tracking, reverb and close miking. In 2007, he was presented with the National Medal of Arts. In a White House ceremony attended by President Bush, he was praised for “his innovation as a musician, his pioneering designs of the electric guitar, and his groundbreaking recording techniques that have influenced the development of American jazz, blues, and pop music, and inspired generations of guitarists.” Les Paul (1915 – 2009) was a lifelong resident of Mahwah, NJ.

ABRAM SPANEL

ABRAM SPANEL (1901-1985), was the third and last private owner of Drumthwacket, having purchased the property from Moses Taylor Pyne's granddaughter Agnes in 1941. His inventions on which he held more than 2,000 patents, ranged from

a pneumatic stretcher designed to carry wounded military personnel in water to a home hair-cutting device. In 1932, Spanel founded the International Latex Corporation which would later become known as the International Playtex Corporation. In 1965, the company

won the NASA sponsored competition to design

the Apollo spacesuit. In an address to ILC employees, Spanel remarked, "...it is the

greatest privilege of my life to present

to you the role of the International

Latex Corporation in the colossal

of all human achievements in placing

two American astronauts on the s

urface of the moon for the glory

of civilization and humanity."



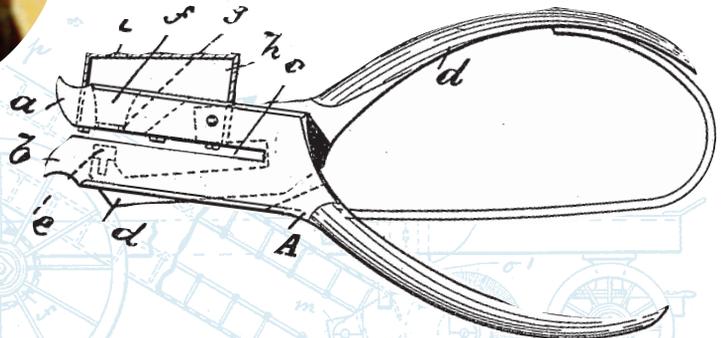
INVENTOR
ABRAHAM N. SPANEL.

CHARLES BROOKS

CHARLES BROOKS (1865-?), a resident of Newark, New Jersey, patented the paper punch in 1893. Used as a ticket puncher, the device included a built in receptacle to collect the round pieces of waste paper left behind by the punch. Brooks is also known for his 1896 patent for improvements to the street sweeper which included the spinning brushes characteristic of modern machines and a more efficiently designed compartment to contain the collected debris.



Purported photograph of Charles Brooks.



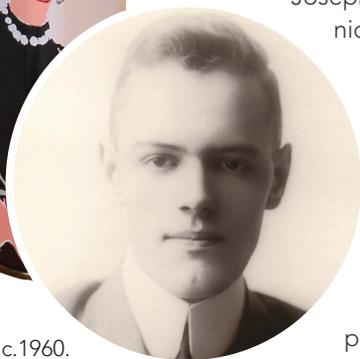


EARLE DICKSON

EARLE DICKSON (1892 – 1961), a resident of Highland Park, New Jersey, invented an adhesive bandage to better protect small wounds when his accident prone wife,

Josephine Frances Knight, kept burning and nicking her fingers while cooking in the kitchen. A cotton buyer for Johnson & Johnson, Dickson introduced the product to executives who after distributing free samples to the nation's Boy Scouts, marketed the product to world-wide success.

Early Band Aid packages included instructions on how to use the product. Today, over 100 billion bandages have been sold.



BAND-AID® Brand
Adhesive Bandages, c.1960.
Collection of Johnson & Johnson,
New Brunswick, NJ.

LILLIAN MOLLER GILBRETH

LILLIAN MOLLER GILBRETH (1878-1972), a resident of Montclair, New Jersey, was an inventor, author, industrial engineer and mother of 12 children.

Working with her husband Frank, the couple pioneered industrial management techniques which they applied to the workplace and household. Their experiments included detailed analysis of motion to produce faster ways to wash dishes, brush teeth and other such chores. Lillian's work as an industrial engineer to improve kitchen design and the efficiency of kitchen appliances led to many of her patented inventions including among others, the electric food mixer, shelves inside refrigerator doors (including the egg keeper and butter tray) and the foot pedal trash can. The Gilbreth family was immortalized in the book *Cheaper by the Dozen* written by two of Lillian's twelve children and subsequently turned in the popular 1950 movie of the same name.



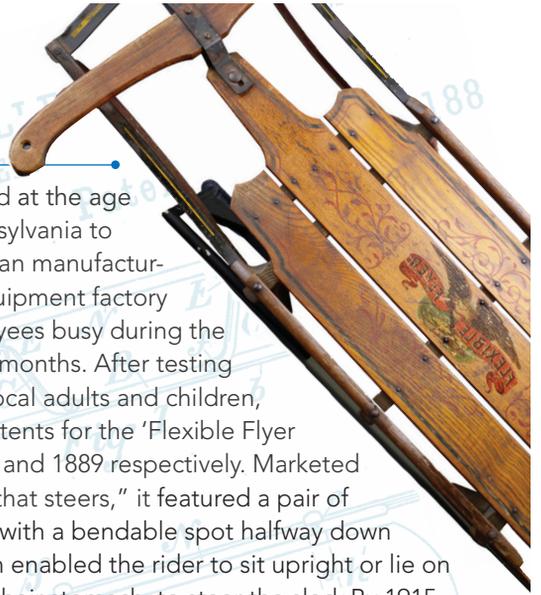
The Gilbreth Family.
Collection Purdue University Libraries.

SAMUEL LEEDS ALLEN

SAMUEL LEEDS ALLEN (1841 – 1918), moved at the age of 20 with his family from Philadelphia, Pennsylvania to Cinnaminson Township, New Jersey. He began manufacturing sleds at his farm equipment factory



to keep his employees busy during the slower summer months. After testing his sled with local adults and children, Allen filed patents for the 'Flexible Flyer Sled' in 1887 and 1889 respectively. Marketed as the "sled that steers," it featured a pair of steel runners with a bendable spot halfway down the slide which enabled the rider to sit upright or lie on their stomach, to steer the sled. By 1915, the sled identified by its trademarked eagle, shield and ribbon logo was selling at Macy's and Wanamakers at the rate of 2,000 per day.



Flexible Flyer
"The Sled that Steers"

Flexible Flyer Sled, c. 1915. Collection of RSL Auction Company, Oldwick, NJ.



DR. JOHN T. DORRANCE

THE CAMPBELL SOUP COMPANY began as a small canning company in 1869 in Camden, NJ. In 1879, Arthur Dorrance, the general manager of the company,

hired his nephew Dr. John T.

Dorrance (1873-1930) with the stipulation that the younger Dorrance pay for laboratory equipment out of his own pocket and accept a token salary of \$7.50 per week. A brilliant chemist, John Dorrance became convinced that if he could find a way to reduce the water content in soup (thus lowering the costs of packaging, shipping and storage) while retaining the nutrients and flavor, the company could offer a high quality product at value for the money prices. In 1897, the same year in which he was hired, John Dorrance invented the formula for condensed soup and revolutionized food processing. By 1911, condensed soup is distributed nationally and in 1914, John Dorrance serves as president of the Campbell Soup Company until his death in 1930 as the third richest man in America.

