

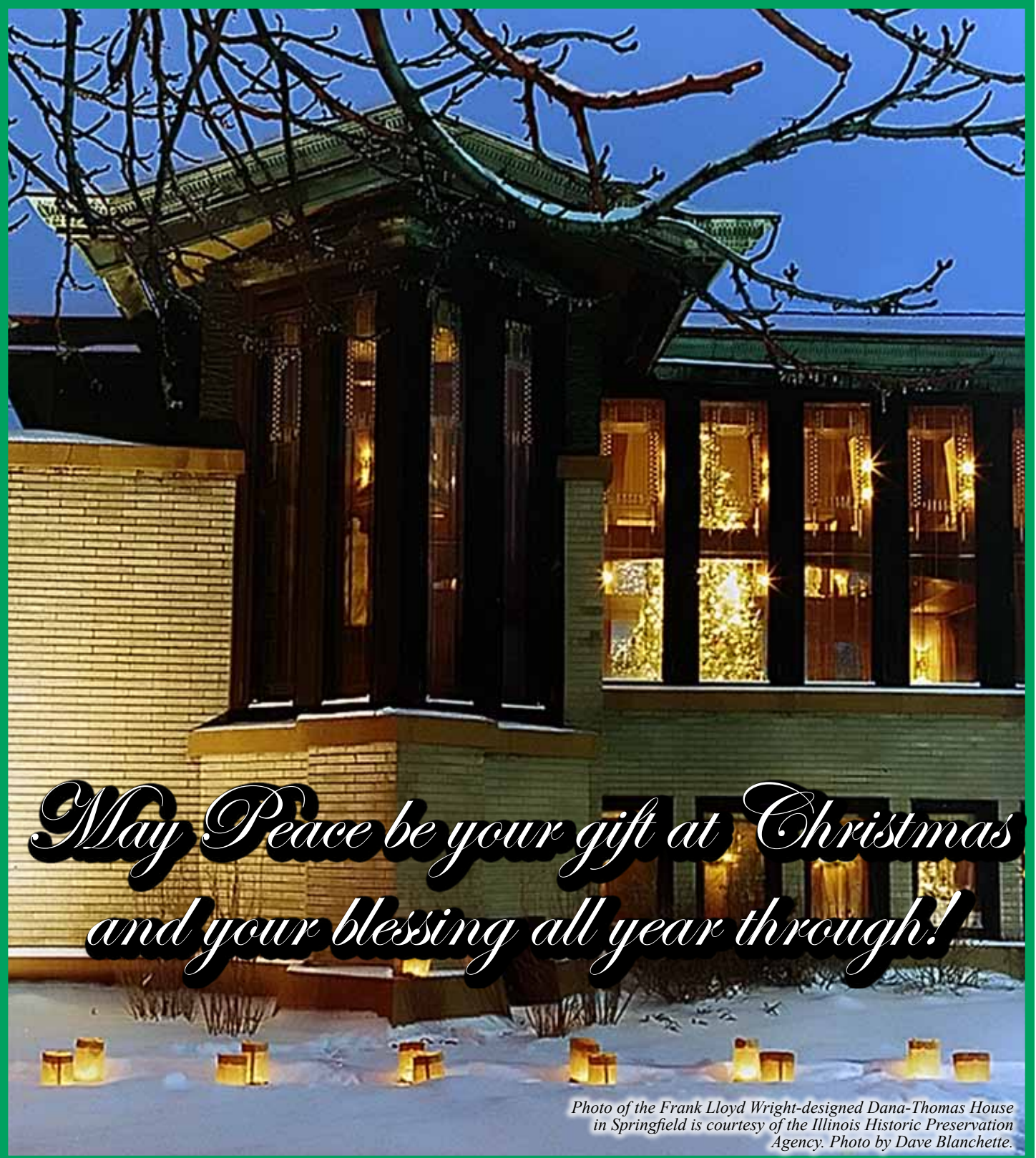


the

# COOK-WITTER REPORT

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*May Peace be your gift at Christmas  
and your blessing all year through!*

*Photo of the Frank Lloyd Wright-designed Dana-Thomas House  
in Springfield is courtesy of the Illinois Historic Preservation  
Agency. Photo by Dave Blanchette.*

# Illinois: Land of Inventors

*"I do not think there is any thrill that can go through the human heart like that felt by the inventor as he sees some creation of the brain unfolding to success...Such emotions make a man forget food, sleep, friends, love, everything."*

*-Nikola Tesla, Serbian Inventor and Engineer (1856-1943)*

Illinois is not only the Land of Lincoln, but the Land of Inventors, which included Abraham Lincoln -- the only U.S. president to be granted a patent.

Maybe there's something in our fertile soil that fuels imagination.

In Lincoln's case, it was his experiences on a flatboat crew. He first arrived in central Illinois on a flatboat in the spring of 1831 and helped sail it to New Orleans. The long, flat-bottomed boats were great for transporting Midwestern goods to thriving southern markets, but they got stuck on sandbars. Lincoln

had a solution -- install inflatable bellows beneath the hull that would enable the boat to float over shallow waters. His patent for "Buoying Vessels Over Shoals" was granted on May 22, 1849, but his invention was never manufactured.

Lincoln is one of hundreds of Illinois inventors, judging by patents held by our citizens. The Illinois State Library (in Springfield) and the Chicago Public Library are the state's two Patent and Trademark Depository Libraries. Both Libraries' collections are open to the public and include all U.S. patents dating back to 1790, as well as trademark materials and resources. You can find Illinoisans' patents at these Libraries and online. (See the box on page 4 for Web sites.)

Margaret J. Collins, with the Illinois State Library's Patent and Trademark Depository Library, has

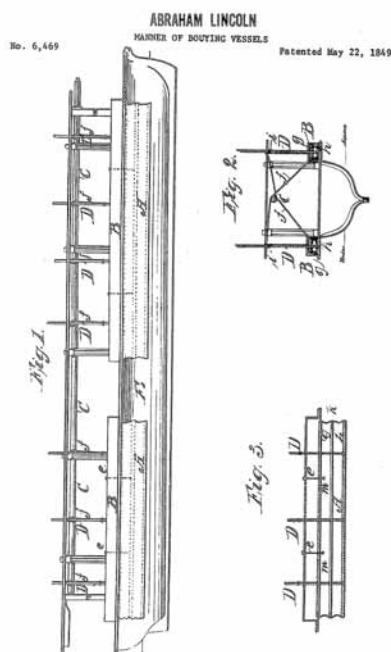
researched some of Illinois' interesting patent holders and categorized them by gender, race, location, and type of invention. Looking through these categories, some interesting patent holders and patents stand out. Here are a few of them.

## John E. McWorter - helicopter

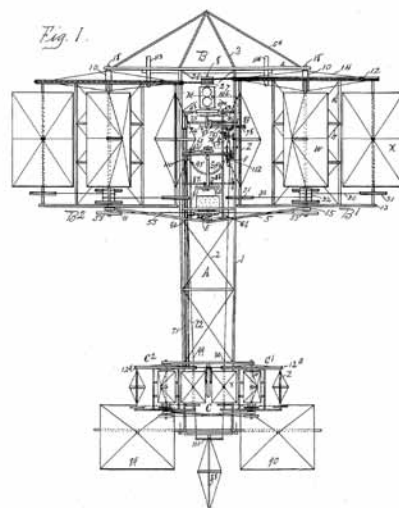
Many of us have heard about New Philadelphia, the racially integrated town in west central Illinois established by former slave "Free Frank" McWorter in 1836. Free Frank was an enterprising man who bought his own freedom and that of several family members', and developed this town where blacks and whites lived in equality.

Few of us have heard of Frank's grandson, John E. McWorter. John was an inventor, like his father Solomon (Free Frank's son). According to the Illinois State Library Patent and Trademark Depository Library, Solomon McWorter was the first black man in Illinois to receive a patent; he got one in 1867 for an improvement to machines that evaporated sorghum and other syrups.

His grandson John, born in 1864, was a dreamer according to John's daughter Helen McWorter Simpson's book, "Makers of History" (1981, Laddie B. Warren publisher). He read every math and science book he could find and spent hours watching birds fly. His parents made sure he received a good education at a time when few whites, much



J. E. M. WORTER.  
FLYING MACHINE.  
APPLICATION FILED MAY 4, 1913. Patented Oct. 20, 1914.  
1,114,167. A BIRD-FLYER.



Witnesses:  
Albert Compton  
Andrew J. [unclear]

Inventor:  
John E. McWorter

less African-Americans, got any education.

John worked in St. Louis as a mail carrier for the U.S. Postal Service. But his heart was elsewhere, as evidenced by the trail of experiments he left throughout his house.

“Wires were stretched everywhere and all kinds of material was on the floor,” wrote Simpson. “You walked gingerly...the living room, kitchen and one bedroom were the only places where you were completely safe.” Inspiration often struck in the middle of the night, when John could be found at his drawing board, sometimes for hours. His pride and joy was located in the dining room, which had been cleared to make room for a model of his new “flying machine.”

In 1911, eight years after Wilbur and Orville Wright made U.S. history by flying their plane, John submitted a patent application for an improved “aeroplane” design. It was granted in 1914, the same year he received another patent for improvements in “flying machines.” He got his third in 1922.

His patents were for helicopters, though that name didn’t exist at the time. John had designed a “flying machine” that “may ascend vertically from the ground... (and) maintain its lateral and also its longitudinal equilibrium automatically...,” according to his first patent.

In 1919, John received a letter from the Engineering Division of the War Department’s Air Service (the letter is copied in Simpson’s book) telling him that a representative was coming to St. Louis on July 31 to review a “trial flight” of his “auto plane” model.

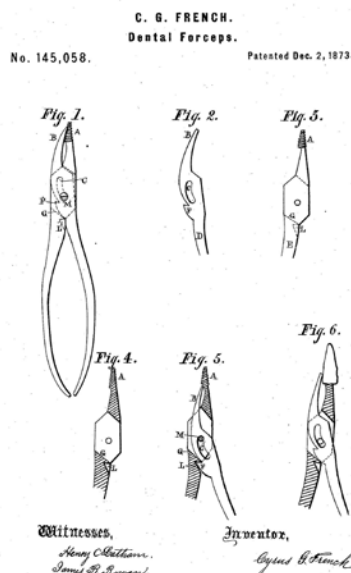
It’s not known what, if anything, resulted from that trial. But thanks to Simpson’s book, we do know that St. Louis aviator Albert. B. Lambert offered John 180 acres of land he’d leased to test his experimental plane. Today we know those acres as Lambert - St. Louis International Airport.

### Presley H. Rucker -- burglar alarm

You wouldn’t think the small central Illinois town of Pleasant Plains (located just northwest of Springfield) was a hotbed of criminal activity in 1893, but something made resident Presley H. Rucker think he needed a burglar alarm then. So he developed a multi-functional alarm, according to his May 16, 1893 patent. The device was not only “cheap, simple and effective,” but could also serve as a door-stop “to prevent the marring of the plaster and wood-work.”

### Dr. Cyrus G. French -- dental forceps

Springfield dentist Dr. Cyrus G. French got an extra Christmas present on December 25, 1877. He

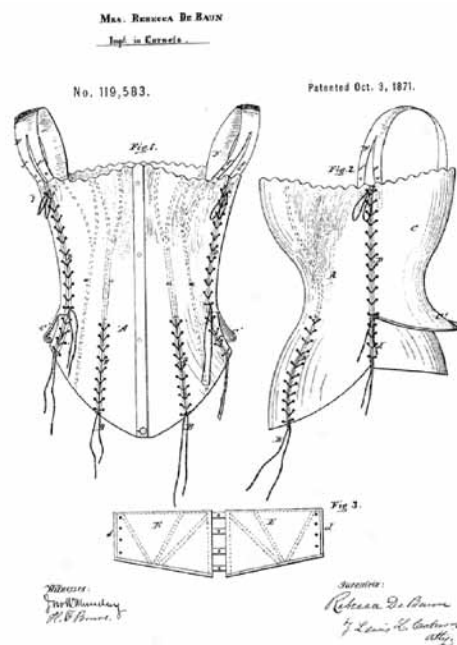


was awarded a patent for a new kind of dental forceps intended to extract “roots of teeth so frail or wasted, by decay or otherwise, that they cannot be well extracted with ordinary instruments used for that purpose without injury to the gum or alveolar bone.” The new design would allow the forceps to “seize a deeper and better hold upon the tooth... instead (as is the case with common forceps) of slipping from off the tooth,” according to his patent. Either way it sounds painful.

### Rebecca De Baun -- improved corsets

Patents granted to Illinois women in the 1700s and 1800s reflected their domestic work. Some were meant to improve the lives of those they cared for, such as the invalid bed and the baby jumper (a precursor to today’s Johnny Jump-ups which strap junior into a fabric bucket seat attached to bungee cords that let him bounce harmlessly to his heart’s delight). But other Illinois women’s early inventions, like Rebecca De Baun’s, were meant to help themselves, too.

De Baun, of Chicago, must have grown tired of those cumbersome, constricting corsets 19th century women had to wear. So she devised one that would be “easy and comfortable,” she said in her patent,



**Illinois: Land of Inventors***continued from page 3*

granted October 3, 1871. (Isn't a "comfortable corset" an oxymoron?)

It had no stiffening whale bone in the back, like most of these body vises. Her version also included a skirt support and abdominal brace. Several other Illinois women tried their hand at making corsets more bearable, too, and won patents for their efforts as well.

**Sybilla K. Troelicht -- head muffler**

Comfort was in Chicago inventor Sybilla K. Troelicht's mind when she designed an improved "head muffler" fit for Arctic dwellers. Her invention

came after several years of unusually cold Chicago winters. In her April 15, 1879 patent she said her woolen muffler could be adapted for the weather and the wearer's preferences. "They may prefer their face to be protected more or less, by leaving off the nose flap, or by shortening the chin or forehead portion, and also by omitting the collar

portion." If the wearer wanted to protect his or her eyes "a small frame with glasses can be attached to the forehead portion of the muffle."

Troelicht thought her invention would greatly help "police officers, drivers, conductors, letter-carriers, and the like, while entering the house, it is easily taken off, and can be carried in the pocket." If required, they could even wear a cap or hat on top of it.

**William J. Springer - legislative voting machine**

At a time when spittoons and gas lamps dotted many state capitols, Springfield attorney and future Illinois State Representative and Congressman William M. Springer invented a machine that could count lawmakers' votes "in less than a minute," according to his July 20, 1869 patent. While today such an inven-

tion might be called "RapidVote" or "Vote-a-Minute," inventors then seemed less creative linguistically-speaking. Springer called it the "Legislative Voting Apparatus."

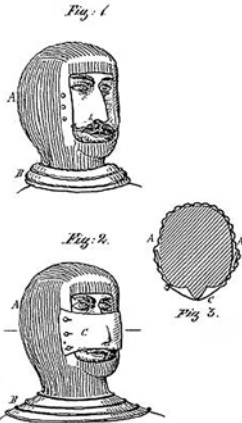
The apparatus would work somewhat like a huge typewriter. Instead of hitting alphabetical keys to make a mark, legislators would pull either a "yes" or "no" wire at their desk. The wire, which ran under the floor into a box at the clerk's desk, would cause a lever to make a mark on a piece of paper. That paper listed all lawmakers' names. So by pulling a wire, the lawmaker would mark his yea or nay vote next to his name on the list.

This enabled the clerk to make "one or ten copies" of legislators' votes immediately and "supply copies to the official reporters and to correspondents of the newspaper-press." Springer thought his invention was virtually foolproof. "It is hardly possible that mistakes should occur," he wrote in his patent.

Either Illinois didn't agree or it had other reasons for not installing Springer's system. There is no proof that Illinois constructed Springer's voting apparatus. According to Scott Kaiser, Assistant Secretary of the Illinois Senate, and a January 8, 1951 Chicago Tribune article, the Illinois House of Representatives took oral roll call votes until it installed an electronic voting system in 1951. The Illinois Senate took oral roll call votes until the late 1960s or early 1970s when it had a voting system installed.



S. K. TROELICHT.  
Head-Muffler.  
No. 214,326. Patented April 15, 1879.

**Learn More:**

Look up patents at: [www.google.com/patents](http://www.google.com/patents).

Find general information about patents, trademarks, and copyright, including related resources at the Illinois State Library: [www.cyberdriveillinois.com/departments/library/what\\_we\\_have/patents\\_and\\_trademarks/home.html](http://www.cyberdriveillinois.com/departments/library/what_we_have/patents_and_trademarks/home.html)

Read about Illinois' African-American, female, and early Asian inventors, as well as Abraham Lincoln-related patents, and much more: [www.cyberdriveillinois.com/departments/library/what\\_we\\_have/patents\\_and\\_trademarks/patentbibs.html](http://www.cyberdriveillinois.com/departments/library/what_we_have/patents_and_trademarks/patentbibs.html)



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