

# Inventors

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DIGEST

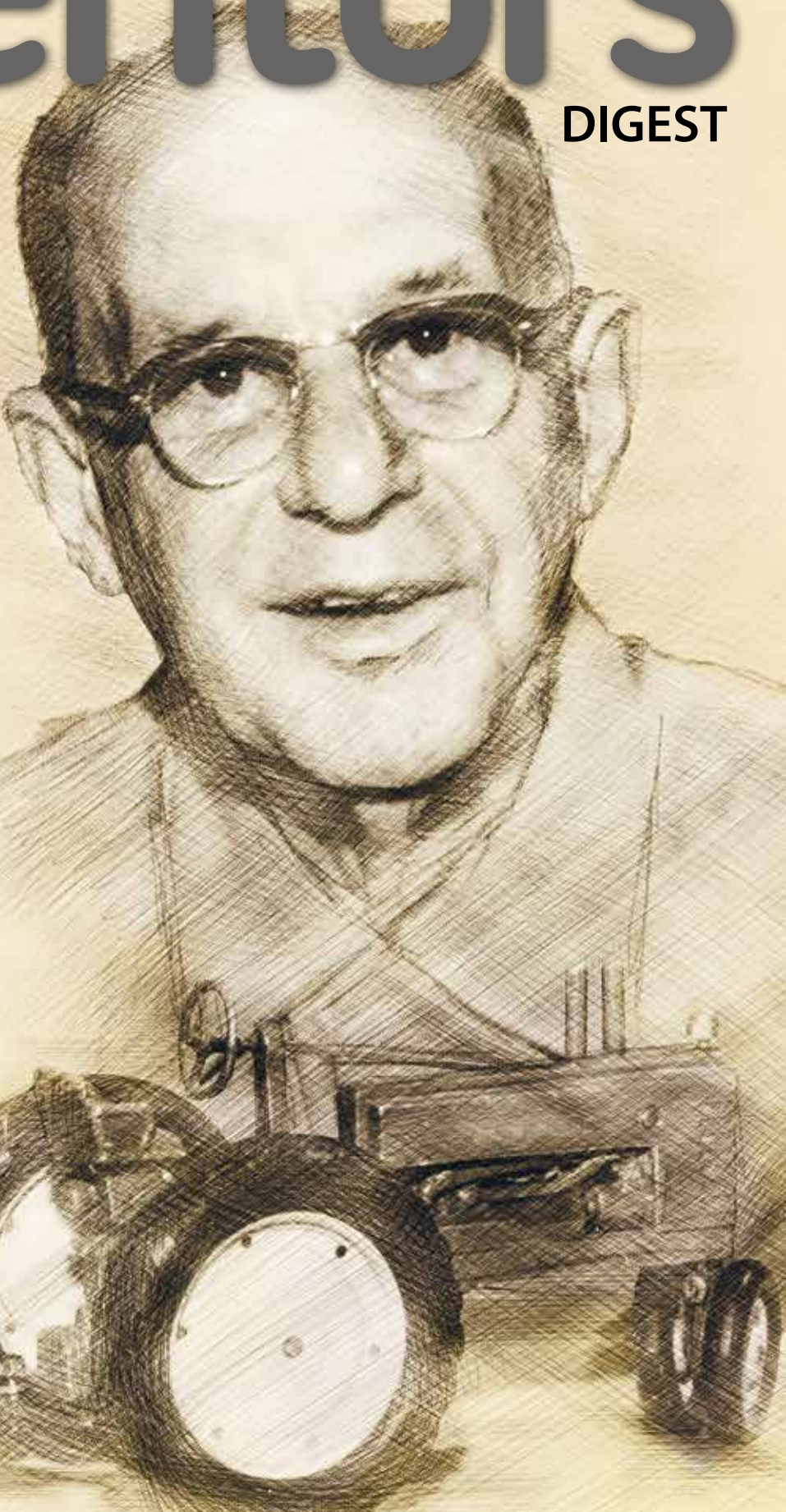
## Claim to Fame

THE PROLIFIC, COLORFUL LEGACY OF INVENTOR LLOYD COPEMAN

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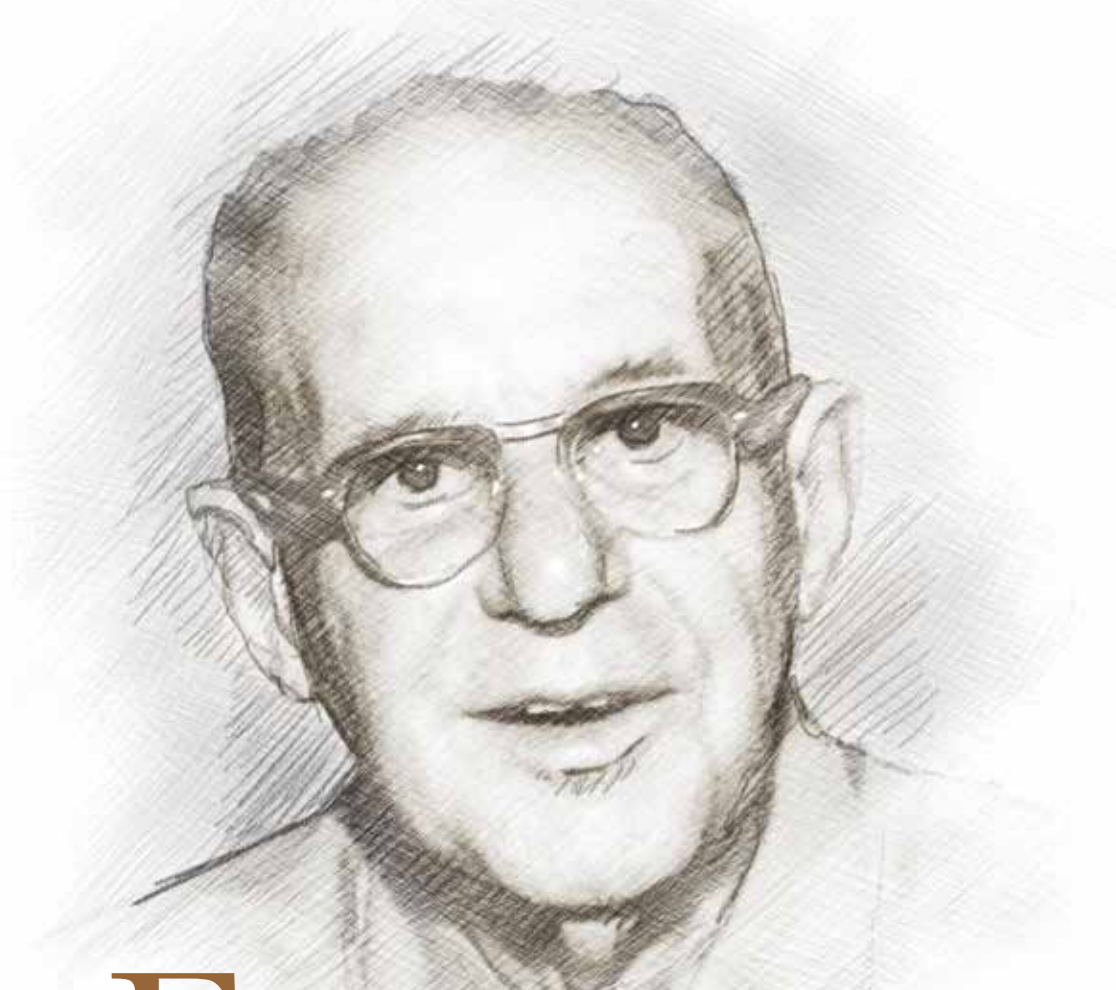
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# Forgotten Genius

LLOYD COPEMAN HAD A SLEW OF IMPACTFUL INNOVATIONS AMONG HIS 650-PLUS PATENTS BUT IS NOT IN THE NATIONAL INVENTORS HALL OF FAME

BY REID CREAGER

**I**NTELLING the unceasingly unconventional story of Lloyd Copeman, it's fitting to start at the end. Relatively anonymous despite numerous impactful inventions during the first half of the 20th century, he was such a prolific innovator that some of his patents were approved after he died in 1956.

Best known among Copeman's 650-700 patents are the heat-regulated electric stove, flexible ice cube tray and an automatic electric toaster. At one point he was a millionaire—a highly rare distinction in the first half of the 1900s—ran his own companies,

lived on a large estate, and reportedly knew Thomas Edison and Henry Ford.

But as the middle of the century approached, income from his patents had dried up. He had sold his sprawling family farm east of Flint, Michigan, and faced having to apply for Social Security benefits. Worst of all, his childhood sweetheart and wife of more than four decades was seriously ill.

So much had changed, but so much was not going to change. Copeman kept brainstorming and creating. To help comfort his bedridden Hazel at their



rural home, where residential air-conditioning was not commonly available, he mounted sprinklers on the roof of the house and pumped cold water through them to cool the shingles and lower the temperature in the room where she rested. Then he designed a system of pipes in her room for cold water to run through.

Hazel Copeman was as comfortable as possible until her death in 1950. Lloyd Copeman was always as comfortable as possible doing what he loved the most, with uncanny precision and vision. Few inventors in American history—including many who are in the National Inventors Hall of Fame—have accomplished more.

### Early breakthroughs

Kent Copeman vividly recalls some wide-eyed days in his grandfather's basement workshop in the tiny village of Farmers Creek, Michigan. Once he turned 10, Kent would frequently bicycle the four miles from his Hadley home to the large estate, marveling at the possibilities and finished works downstairs.

"One time I was there and he said, 'You need tools,' recalled Kent, now 82. "He found me a tool case that had his initials, LGC, on it. He filled it with tools for me from his bench and his racks and gave it to me."

By the time of these educational mid-1940s afternoons, Lloyd Copeman had long since been a big

deal who was making big deals. He told his grandson that he could walk into any store and see some of his inventions. It didn't happen overnight.

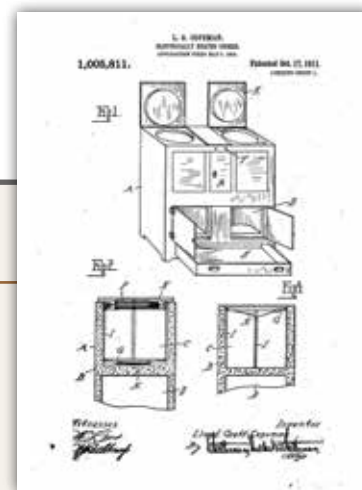
After growing up on the family farm, he attended Michigan Agricultural College (now Michigan State University). He was an information sponge at the many companies he worked for in rapid succession: Baldwin Locomotive Works, the Philadelphia Edison Electrical Co., the Washington Power Co. of Spokane, the Detroit Edison Co., and Consumers Power Co. (The Spokane job came after he had moved to Washington state and married Hazel Berger. They moved back to Michigan a few years later.)

His inventing breakthrough came in the early 1900s: a thermostat that gave a warning when transformer stations for high-tension wires were ready to burn out. His electro-thermostatic heat regulator, which controlled the amount of heat generated by a heating element, became U.S. Patent No. 932,966 in 1909.

When Copeman told Flint businessman Josiah Dallas Dort about his idea for an electric



Lloyd Copeman's idea for an electric stove led to a Michigan-based group raising a half-million dollars to form the Copeman Electric Stove Co. in 1912.



## Infinite Impact

This excerpt of patents issued to Lloyd Copeman by the United States Patent Office (now the United States Patent and Trademark Office) merely scratches the surface in terms of his total number of patents—said to be more than 650, including those in other countries.

### 1909 — 1911

**Electro thermostatic heat regulator**  
No. 932,966  
August 31

**Electrically heated cooker**  
No. 1,005,811  
October 17

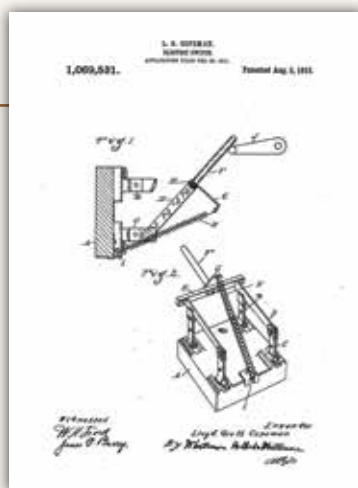
### 1913

**Electrically heated oven construction**  
No. 1,050,105  
January 14

**Electric cooker**  
No. 1,053,280  
February 18

**Thermostat and thermometer**  
No. 1,055,446  
March 11

**Electric switch**  
No. 1,069,531  
August 5



### 1914 — 1915 — 1920

**Toast turner**  
No. 1,108,552  
August 25  
(Assignor  
– Hazel B.  
Copeman)

**Electric stove**  
No. 1,141,175  
June 1

**Electrically heated oven**  
No. 1,141,176  
June 1

**Tool holder**  
No. 1,361,021  
December 7



**The Last Word in Toasters**

**THE COPEMAN AUTOMATIC**  
The Toaster that Turns the Toast  
and Toasts it to a Turn



The Copeman electric toaster was spawned by an idea from his wife, Hazel, who is named on the 1914 patent.

Copeman profited handsomely from sales of his invention rights but went through money quickly, usually in search of other discoveries.

stove, Dort and 22 stockholders raised a half-million dollars to form the Copeman Electric Stove Co. in 1912. The stove—invented in 1915 and promoted as “the fireless cooker”—featured removable round hot plates that were plugged into outlets on the top and inside the ovens.

Another signature invention available from the stove company was a joint effort which, according to family history, was spawned by a comment made by his wife when the couple saw an electric toaster displayed in a show window. At that point, the way a toaster

worked was that bread was put on a rack facing the heating coils, then turned over by hand for toasting on the other side. Hazel asked her husband if he could invent a toaster “that would automatically turn the toast.”

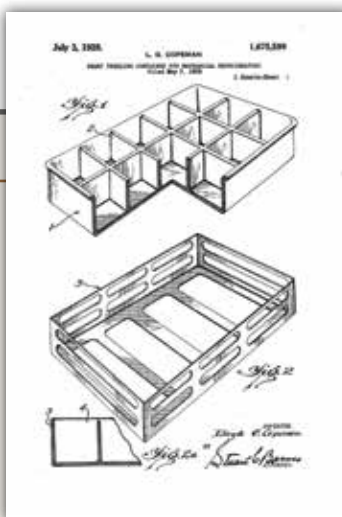
Family sources also say that she made a prototype using hairpins. Eventually, the first toaster that allowed the toast to be “turned” without touching the bread was complete; Hazel received the patent in 1914; and rival companies wanting to make toasters had to pay royalties to Copeman or find another way to turn the toast until the pop-up toaster came along later.

Appliance behemoth Westinghouse absorbed Copeman’s company in 1918. He also profited handsomely by selling the rights to his rubber ice cube tray to General Motors Corp., not long after that 1928 invention.

Per lloydcopeman.com, a website compiled by family members: “While he was out collecting maple sap in the sugar bush one cold February day, the ice and slush began to collect and freeze on Copeman’s rubber boots. He sat down and contemplatively worked the toe of his rubber boots.

“He watched somewhat disinterestedly at first as the ice cracked and flew off the boots. ‘Oh, my God, a rubber ice tray,’ exclaimed Copeman.” The result was the biggest money-making patent of Copeman’s career

(royalties alone netted more than \$1 million).



**1928**  
Method of table top construction  
No. 1,656,422  
January 17

**1921**  
Refrigeration apparatus  
No. 1,396,996  
November 15

**1925**  
Wall construction  
No. 1,526,965  
February 17

**1927**  
Drinking water supply for refrigerators  
No. 1,618,514  
February 22

Cabinet construction and the method of building the same  
No. 1,644,988  
October 11

**1934**  
Method of reating fruit or other growing vegetable matter  
No. 1,955,950  
April 24

**Waterproof and punctureproof paper**  
No. 1,976,329  
October 9

**1935**  
Method of and apparatus for cooling beer  
No. 2,010,060  
August 6

**Protective coatings and process of applying and removing**  
No. 2,020,256  
November 5

**1937**  
Bucket and bucket protector  
No. 2,071,112  
February 16

**Dispensing device for sheet rubber deposited from an aqueous dispersion of rubber and the process of forming and using same**  
No. 2,075,178  
March 30

## Creating and sharing

Among several hundred other inventions by Copeman was an automobile lubrication system that greased automobile bearings and other mechanical equipment for a quicker, easier and cleaner process. He eventually sold the Copeman Lubricating System or Copeman Lubri-Caps to Alemite Corp., which further refined it. One of his later inventions, the Flexo-Line travel clothesline (1943), is still manufactured and currently celebrating its 75th anniversary.

Copeman had a strong interest in rubber latex for many years. According to the family, that obsession resulted in inventions that included non-run silk stockings; tamper-proof and water-proof envelopes and packages, and rust-proofing automobiles. He patented all of those but the car rust-proofing.

As with most inventors, part of his story are the ideas and dreams that never advanced past that stage. “He had money but went through it pretty fast,” Kent Copeman said. “North of where he lived, he drilled for oil in 1935. He sunk \$60,000 in that oil well. ... He leased a lot of land around Michigan hoping to find oil.”

He loved sharing his creations, even the ones for which he was not known: “They built a large pool on his property that held 100,000 gallons of water. It was the first concrete pool in this part of Michigan. It’s still there. It was built in 1929 and used every day. It still does not leak. This was before anybody had pools in their yard.

“We used to go over there and swim. At one point he built a very tall swing, I would say 25 foot in the air. You could get on that swing and start to be pushed and you would jump off and you would just about reach the other end of the pool when you jumped off that swing, way up in the air.”

It didn’t take long for Kent to develop a close bond with his grandfather. He went to Florida with him a couple times when Copeman visited relatives. “He built my mother a beauty shop. He raised turkeys and gave them out to people at Christmastime during the Depression. He was concerned about the way the town was going. At that particular time, all that was there was a gas station.”

An avid outdoorsman, Copeman loved animals—“dogs, horses, even an owl that he kept in the middle of this big, circular building. One time he had a raccoon. This raccoon would sit on his lap and drive his car when he’d go down the road. The raccoon had his little paws on the steering wheel, just driving along.”



Copeman’s electric stove—called “the fireless cooker”—featured removable round hot plates that were plugged into outlets on the top and inside the ovens.

## Growing exposure

Given Copeman’s resume and impact on American life, The Flexo-Line Co. co-owner Andrea Perchotte is proud to help drive the campaign for his induction into the National Inventors Hall of Fame.

**Method and apparatus for accelerating setting of stone castings**  
No. 1,656,423  
January 17

**Method of making match plate patterns**  
No. 1,667,720  
May 1

**Stone mold**  
No. 1,667,721  
May 1

**Sharp freezing container for mechanical refrigerators**  
No. 1,675,599  
July 3

**1929**  
**Storage compartments for ice cream cabinets or the like**  
No. 1,711,722  
May 7

**Balloon construction**  
No. 1,714,079  
May 21

**1933**  
**Method of old construction for reproducing patterns in rubber**  
No. 1,913,747  
June 13

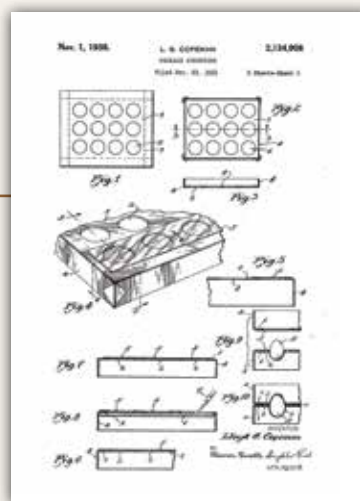
**Clothespin**  
No. 1,916,856  
July 4

**Closure member and method of forming and applying**  
No. 1,916,857  
July 4

**1937**  
**Protective coating and process of applying and removing**  
No. 2,082,791  
June 8

**Device for making and storing ice**  
No. 2,088,840  
August 3

**1938**  
**Concrete or cement structure**  
No. 2,112,452  
March 29



**Method of protecting and forming prefinished metal**  
No. 2,120,461  
June 14

**Package structure**  
No. 2,134,908  
November 1





“He was a genius not just in the ideas he came up with, but how to make so many different things in so many different facets of life.” —KENT COPEMAN, GRANDSON OF LLOYD COPEMAN

“The progressive inventions of Lloyd Groff Copeman have revolutionized the daily lives of the American people and helped foster the early technological revolution at the turn of the 20th century that forever changed the United States,” she said. “Considered one of the most prolific American inventors, Mr. Copeman was always asking himself, ‘How could life be made better for the housewife, the farmer or the industrialist?’

“His inventions have been indispensable to them and the general public in the United States and around the world. Forward-thinking and passionate about inventing, Mr. Copeman persevered to develop innovative products that would benefit others and reshape the future. His goal was not to accumulate wealth

but rather to continually invest his money into developing new ideas.

“Despite the significant impact Mr. Copeman has had on the lives of Americans and those around the world, he’s long been forgotten. Bestowing on him the prestigious honor of being an inductee into the National Inventors Hall of Fame would serve to challenge and inspire current and future generations of American inventors to persevere and develop well-designed products that contribute positively to society and the economy.”

DesignWanted named Copeman among the 10 most influential product designers of all time. His story and accomplishments have been featured in numerous publications that can be found at [flexo-line.com/about/](http://flexo-line.com/about/).

Kent Copeman said the family-created website—which includes a list of all of his known U.S.



1939

**Bird shelter**  
No. 2,151,010  
March 21

**Mounting bracket**  
No. 2,184,633  
December 26

1940

**Bird feeding station**  
No. 2,216,511  
October 1

**Cigarette and process of treating same**  
No. 2,185,293  
January 2

1941

**Suet cake container**  
No. 2,235,959  
March 25

**Container for confections**  
No. 2,248,963  
July 15

**Flour sifter combination**  
No. 2,252,701  
August 19

1949

**Cream separator**  
No. 2,477,863  
August 2

1950

**Hand tool for agriculture implements**  
No. 2,528,947  
November 7

1951

**Method and apparatus for the manufacture of cigarettes**  
No. 2,543,277  
February 27

1952

**Spill guard and ice tray**  
No. 2,593,106  
April 15

1953

**Tractor hitch**  
No. 2,627,423  
February 3

**Bottle closure**  
No. 2,634,012  
April 7



patents—has been instrumental in publicizing his grandfather's accomplishments. Now that many of those family members now in their 80s and older, they want to see Lloyd Copeman get his deserved recognition while they are still alive.

"He was a genius not just in the ideas he came up with, but how to make so many different things in so many different facets of life," said Kent Copeman, still living four miles from his beloved mentor's former property. "He was devoted to helping people and making life better for them, especially his family. He was definitely a different kind of person." 🍷



Copeman demonstrates how he was inspired to create the rubber ice cube tray.



## Different Drum

LINDA RONSTADT REMEMBERS HER GRANDFATHER AS A 'CHARACTER'

About 15 years ago, my best friend scored tickets for a classical concert by Linda Ronstadt at our alma mater, Michigan State University. Along with my wife and youngest daughter, we sat mesmerized as the 11-time Grammy winner soared through vocally challenging pieces and entertained us with banter during short breaks.

Ronstadt explained that she had a family connection to Michigan State: Her grandfather, Lloyd Copeman, briefly attended MSU before being expelled.

Ronstadt is the daughter of Ruth Mary (Copeman) Ronstadt, who died in 1982. Born and raised in Flint, Michigan, the elder Ronstadt was one of Lloyd Copeman's three children. Kent Copeland is Linda's cousin.

During her brief remarks about her grandfather, the singer said she didn't know why he was expelled but recalled him as a "character." She also mentioned him in her 2013 autobiography, "Simple Dreams":

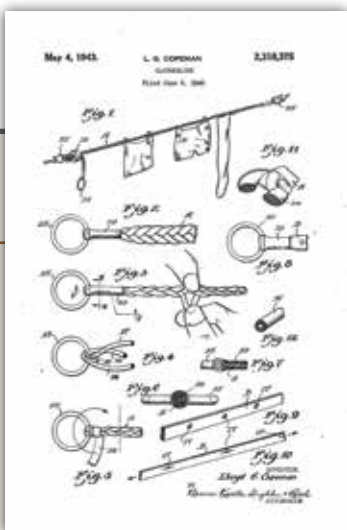
"He used to demonstrate one of his inventions, a 1918 version of the microwave oven that he called 'cold heat,' by frying an egg through a newspaper. Thinking that the oven was too expensive to manufacture, he never patented it.

"He worked closely with Charles Stewart Mott, then chairman of the board of General Motors, and developed a great deal of what was then state-of-the-art equipment in the Buick factory in Flint, Michigan."



According to Betty (Elizabeth Jane) Copeman Gerlach—Ronstadt's aunt and Copeman's youngest daughter—the inventor's troubles in school weren't limited to Michigan State, where he studied mechanical engineering. She said on lloydcopeman.com that he was also expelled from the one-room school he attended in the village of Farmers Creek, Michigan, as well as from Lapeer Senior High School.

She added that after Copeman had become an established inventor, MSU offered him an honorary doctorate but that he refused, saying: "When the degree would have done me some good, you wouldn't give it to me. Now I have little desire to accept it." —Reid Creager



1943

Method of dispensing and using rubber

No. 2,307,020  
January 5

Clothesline

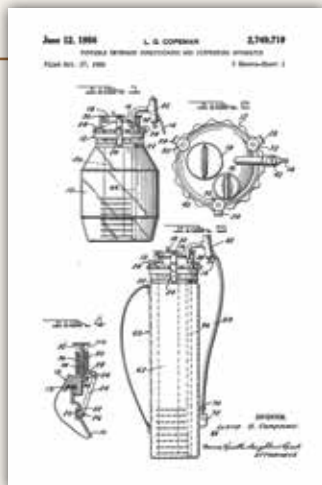
No. 2,318,375  
May 4

1956

Copeman, Lloyd Groff deceased; Elizabeth Jane (Betty), Gerlach, executrix

Portable beverage conditioning and dispensing apparatus

No. 2,749,719  
June 12



1957

Moisture impervious container

No. 2,781,159  
February 12