

Garrett Morgan

Paris, Kentucky · Cincinnati · Cleveland

In Sixty Seconds

Origins. Born March 4, 1877, in Paris, Kentucky, the seventh of eleven children. His father, Sydney Morgan, had been enslaved. His mother, Elizabeth Reed, was the daughter of a Baptist minister. He left school after the sixth grade to work, at fourteen moved north to Cincinnati, and soon after to Cleveland, where he spent the rest of his life.

Work. He started as a handyman and a sewing-machine repairman, then built his own shops and companies. He invented, and patented, devices that kept people alive: a breathing hood in 1914, a three-position traffic signal in 1923. He sold the traffic signal rights to General Electric for forty thousand dollars, a sum worth roughly three-quarters of a million dollars today.

Impact. His Safety Hood was used by the U.S. Army in the First World War and by fire departments across the country. It was the predecessor of the modern gas mask. His traffic signal introduced the "caution" phase we still use at every intersection on the continent. Cleveland's Waterworks tunnel rescue in 1916 saved the lives of trapped workers who would otherwise have suffocated underground.

Legacy. The Garrett Augustus Morgan Cleveland School of Science is named after him. The U.S. Department of Transportation's Garrett A. Morgan Technology and Transportation Education Program was named in his honor in 1997. The street in Cleveland where he lived is now Garrett Morgan Boulevard. The National Inventors Hall of Fame inducted him in 2005.

The Network

Frank Morgan

Brother. Put on the Safety Hood and went down into the Cleveland Waterworks tunnel with Garrett on July 25, 1916, during the rescue. Together they carried two survivors to the surface and recovered the bodies of others.

General Electric

Patent acquirer. Bought the rights to his three-position traffic signal (U.S. Patent 1,475,024) in 1923 for \$40,000, a sum equivalent to roughly \$750,000 today. The signal became the industry standard across North America within a decade.

Mary Anne Hasek

Wife and partner. White, Czech-American seamstress whom he married in 1908, a match Cleveland society treated as a scandal. She ran his sewing machine and tailoring businesses while he experimented in the back rooms on what would become the Safety Hood and the traffic signal.

U.S. Army

Wartime customer. Adopted a variant of his 1914 Safety Hood as a combat gas mask during the First World War, deployed to American troops in 1918.

For Discussion

1. Morgan had a sixth-grade formal education and filed more than forty patents in his lifetime. What explains the gap between formal credentialing and productive invention, and which areas of American technical work still reward that kind of autodidact path?
2. Southern fire departments canceled Safety Hood orders after learning Morgan was Black. Morgan hired a white actor to play the inventor in demonstrations. What does that workaround tell you about how inventors of the period had to package their work, and where does a similar packaging discipline still appear in contemporary product marketing?
3. The Cleveland Call was founded because the 1916 Waterworks rescue had been miscredited in the white press. What relationship between ownership of the story and ownership of the invention does Morgan's founding of the Call illustrate, and which contemporary Black founders have followed that same two-track pattern?
4. General Electric paid Morgan forty thousand dollars in 1923 for the traffic-signal patent. Every intersection in North America now runs a descendant of that patent. What would a fair price have looked like in 1923, and what is the fair distribution of returns when a single patent becomes standard-essential infrastructure for an entire continent?
5. Morgan lost most of his eyesight to glaucoma in his sixties and continued inventing with family assistance until age eighty-three. What supports are required for inventors to keep working through late-life disability, and how should a national innovation policy account for those supports?

Primary Sources

1. U.S. Patent and Trademark Office. Patent 1,090,936 (Safety Hood, 1914) and Patent 1,475,024 (Traffic Signal, 1923).
2. Western Reserve Historical Society. Garrett A. Morgan Papers, Cleveland, Ohio.
3. Smithsonian National Museum of American History. Garrett Morgan gas mask and traffic signal collections.
4. National Inventors Hall of Fame induction file: Garrett Morgan, class of 2005.
5. Cleveland Plain Dealer archive coverage of the Waterworks tunnel explosion and rescue, July 1916.
<https://ledger.newspapers.com/1156/garrett-morgan>

