

Frederick McKinley Jones

The King of Cool · 1893–1961 · ERA V: World Wars, Migration & Segregation · Inventions & Innovation

YEAR	EVENT
May 17, 1893	Born, Covington, Kentucky
1902	Mother leaves family
~1902	Sent to live with priest, St. Ann Church, Covington KY
~1904	Father dies
~1904	Runs away at age 11, finds work at auto garage, Cincinnati
1912	Settles in Hallock, Minnesota — farm mechanic
By 1913	Earns engineering license, Minnesota — self-taught
1917–1919	U.S. Army, World War I — sergeant, served in France
1920s	Builds radio transmitter, invents early portable X-ray
1927	Hired by Joseph Numero, Ultraphone Sound Systems, Minneapolis
1930s	Converts silent projectors to talking pictures
1935	Begins work on truck refrigeration system
1938	Harry Werner challenge — begins designing Model A unit
1940	Patent granted — first practical portable truck refrigeration unit
1940	Co-founds U.S. Thermo Control Company (later Thermo King)
1941	Model C unit — compact, front-mounted, vibration-resistant
WWII	Units parachuted to front lines — blood plasma, medicine, food
WWII	Units cool B-29 cockpits and field hospital air conditioning
1944	First Black American elected to American Society of Refrigeration Engineers
1949	U.S. Thermo Control Company valued at millions
1950s	Consultant — U.S. Dept. of Defense, Bureau of Standards
Feb 21, 1961	Dies of lung cancer, Minneapolis — age 67
1961	Buried, National Cemetery at Fort Snelling, Minnesota
1977	Inducted, Minnesota Inventors Hall of Fame (posthumous)
1991	National Medal of Technology — first Black American to receive it (posthumous)
1996	Thermo King Model C designated International Mechanical Engineering Landmark
2022	Technology used to transport COVID-19 vaccines worldwide

KEY FACTS	
Total patents	61
Refrigeration patents	40
Other patents	Sound, X-ray, engines, gasoline motors
Education	Self-taught beyond 8th grade
Military service	U.S. Army, WWI — Sergeant, France
Company founded	Thermo King Corporation (1940)
First Black member	American Society of Refrigeration Engineers (1944)
National Medal of Tech.	1991 — first Black American recipient
Connection to Drew	Jones's cold chain kept Drew's plasma viable in field
Legacy today	Thermo King still operates globally
COVID connection	Technology used for vaccine cold chain, 2020–2022
Buried	Fort Snelling National Cemetery, Minneapolis

THE INVENTION — How Portable Refrigeration Changed Everything

Before Jones, refrigerated transport relied on ice and salt — which melted, required layovers at power sources, and failed under the vibrations of road travel. The result was that food spoiled over long distances, perishable medicine could not be transported reliably, and blood plasma — which required sustained cold to remain viable — could not be moved to where it was needed most.

Jones's solution was a compact, automatic, shock-resistant refrigeration unit powered by its own four-cylinder engine, designed from the ground up to withstand the specific mechanical demands of road travel. He solved the vibration problem that had defeated every previous attempt. He made the unit self-starting — no stops at power sources required. He mounted it to the front of the trailer rather than underneath, solving access and maintenance problems. The patent was granted July 12, 1940.

The military applications were immediate and wide-ranging. Jones's units were adapted for trucks, trains, ships, and aircraft. During World War II they were parachuted by the U.S. military into forward combat areas inaccessible by road. They cooled field hospitals in tropical heat. They air-conditioned the cockpits of B-29 bombers. They kept blood serums viable for transfusion at the moment wounded soldiers needed them most.

After the war, Jones's technology made the modern American food system possible. Fresh produce in winter. Dairy and meat transported across hundreds of miles. The frozen food industry. Year-round access to foods previously available only by season. The refrigerated supply chain that Americans take for granted today runs on infrastructure Jones invented.

THE DREW CONNECTION — Two Men, One Blood Supply

DR. CHARLES R. DREW	FREDERICK McKINLEY JONES
Solved the science of blood plasma preservation — discovered plasma could be stored for months through separation and de-liquification. Built America's first blood bank. Trained more than half of all Black surgeons in the U.S. by 1950.	Solved the engineering of keeping plasma cold in transit — portable, automatic, shock-resistant refrigeration units that could be transported anywhere, including parachuted into forward combat areas. Founded Thermo King. 61 patents.
Resigned from Red Cross in protest of blood segregation policy. Died April 1, 1950, near Burlington, NC — driving to give free care to Black patients. Age 45.	First Black member of American Society of Refrigeration Engineers. First Black recipient of the National Medal of Technology. Died February 21, 1961, Minneapolis. Age 67.
<i>Both men were barred from the full professional institutions their work was sustaining.</i>	<i>Together, their work kept Allied soldiers alive. Neither received the full recognition they deserved in their lifetimes.</i>

THE LIFE — From Running Away at 11 to the White House Rose Garden

Frederick Jones's early life is a study in what self-determination looks like when the institutions designed to support it are unavailable. His mother left when he was young. His father sent him to a priest at age seven. His father died. He ran away at eleven with no education, no family, and no resources. He found work at a garage and started watching mechanics. That was the beginning.

What followed was not a series of lucky breaks. It was forty years of deliberate, relentless self-education. He read engineering manuals at night. He learned by taking things apart. He built a radio transmitter from scratch. He invented a portable X-ray machine without patenting it — and watched others profit from similar devices. He converted silent movie projectors to talkies using scrap metal. He secured an engineering license in Minnesota through demonstrated competence rather than formal credentials.

When Numero's associate complained about spoiling food, Jones didn't say it couldn't be done. He climbed into the truck, made his measurements, and said he thought he could fix something up. Numero himself said he expected to tell Werner it was impossible, and Jones beat him to it.

In 1991, President George H.W. Bush presented the National Medal of Technology — the nation's highest honor for technological achievement — posthumously to Jones and his business partner Numero. The ceremony was held in the White House Rose Garden. Jones's widow attended. Jones was the first Black American to receive the award. The boy who ran away at eleven with nothing received the nation's highest technology honor — thirty years after his death.

"Most engineers start at the bottom of a project and work up, but Fred takes a flying leap to the top of the mountain and then backs down, cutting steps for himself and the rest of us as he goes."

— *Saturday Evening Post* obituary, 1961

SOURCES & FURTHER READING

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