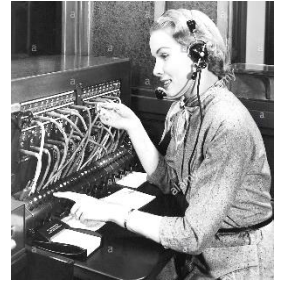


Plastic Cable Sheath

The material

- Until 1950, telephone cables were coated with a lead-based material.
 - costly, as well as toxic
- This was replaced with polyethylene, introduced after World War II by the British
 - However, these early plastic coatings quickly became brittle and breakable in sunlight.
- In 1956, Walter Hawkins, along with partner Victor Lanza invented a plastic that contained a chemical additive
 - prevented the material from breaking down, even in severely hot or cold weather conditions - known as "plastic cable sheath"
- New material went into production in the 1960s and became widely used as a cheap, durable, and safe coating for telecommunications wire



How it helped us

- The new plastic could last up to seventy years, so saved costly replacements.
- The new coating did not use expensive lead - saved billions of dollars
- Cheaper cost enabled the expansion of telephone service around America and the rest of the world
- An affordable phone service was available to thousands of people in rural countryside areas
- The plastic coating continues to be used today – telephone cables/computer cables/electrical wires etc.



The inventor

- Walter Lincoln Hawkins was born on March 21, 1911, in Washington, D.C.
- His father was a lawyer and his mother was a science teacher
- He was the grandson of a slave
- When he was young, Hawkins was fascinated with how things worked. For example, he would often take apart one toy and reassemble it to make another one
- He once built a working radio so he could listen to baseball games.
- He attended the all-black Dunbar High School, where he showed promise in maths and science
- He developed a sense of self-confidence that drove him toward his dreams
- Hawkins gained a degree in chemical engineering in New York, in 1932
- He went on to complete two more degrees – specialising in chemistry
- In 1942, he was offered a position at AT&T's Bell Laboratories in Murray Hill, New Jersey, where he became the first African American scientist on staff
- Over the course of his 34-year career at Bell Labs, Hawkins developed over 140 new materials
- He also became an expert in recycling plastics
- Before he died in 1992, he was honoured with a National Medal of Technology, at least five honorary degrees, and in 1975, he became the first black engineer to be welcomed into the National Academy of Engineering.
- In 2010, eighteen years after his death, Hawkins was honoured by his inclusion in the National Inventors Hall of Fame

