
AMERICAN EXPERIENCE

Edison: From the Telephone and Telegraph Comes the Phonograph

TRANSCRIPT

Title Card: 1876, Centennial Exposition, Philadelphia

Narrator: It was an age of marvels, as any of the nearly nine million visitors to the Centennial Exposition could attest. Of all the wonders in evidence that spring of 1876, none was more astonishing than Alexander Graham Bell's telephone — a revolutionary device that converted sound waves into an electrical signal, and promised to replace the telegrapher's dots and dashes with the sound of the human voice.

Robert Rosenberg, Thomas Edison Papers: When Bell unveils his invention, Western Union turns to Edison and says, "This is important, we'd like you to look into this."

Narrator: It would take Edison and his team mere months to design a device that trumped Bell's — a so-called "carbon button transmitter" that carried sound over much longer distances and turned the telephone into a commercially viable device. In the process, Edison stumbled upon the invention that would change his life forever.

Robert Rosenberg, Thomas Edison Papers: Edison had worked on a telegraph technology that made marks on a paper. So Edison was trying to figure out a way to do that for the telephone. How can I record this thing?

He had the basic idea of the vibrating diaphragm from the telephone and he thought, "Oh, I'll put a needle in the middle of that and then I will take a strip of paper and I will pull that under this needle. And, as you speak, it will make impressions in this paper. And then you can pull it back through later and listen to it."

Narrator: Initial experiments quickly gave rise to sketches for a crude machine Edison called a phonograph — from the ancient Greek, meaning "writer of sound." The device was then refined in fits and starts, with Edison turning out drawings and his machinist John Kreusi creating models to test. Finally, they settled on a design in which a sheet of foil was mounted on a hand-cranked cylinder.

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John Staudenmaier, Historian: They're working on a thing. They were fooling around, "This is damn interesting. Let's see if we can do something with it. I don't know whether anybody will ever use it, but let's see what we can do."

Narrator: When the machine was finished, the men in the shop gathered round, breathless as Edison recited into the diaphragm the classic nursery rhyme, Mary Had a Little Lamb.

Archival audio: Mary had a little lamb, its fleece was white as snow.

Narrator: Then, he moved the needle to the beginning to see if the rhyme would play back.

Archival audio: Mary had a little lamb, its fleece was white as snow. And everywhere that Mary went, the lamb was sure to go.

Robert Rosenberg, Thomas Edison Papers: Nobody had ever recorded anything before. And it just changes the way you think about the world, if you can play something back again.

Nathan Myhrvold, Inventor and Entrepreneur: There was a miracle to it that I think goes beyond most of the things that we would currently experience. Sound was the most ephemeral thing we had, and Edison took it from being ephemeral, to being concrete and something that would exist for the ages.