



Name: _____ Class: _____

The History of the Cylinder Phonograph

By The Library of Congress
2016

Thomas Edison (1847-1931), an American inventor and businessman, is often described as America's greatest inventor. While Edison is arguably best known for his invention of the lightbulb, his invention of the phonograph also had a great influence on life around the world. As you read, take notes on how Edison continues to improve upon his invention.

[1] The phonograph was developed as a result of Thomas Edison's work on two other inventions, the telegraph¹ and the telephone. In 1877, Edison was working on a machine that would transcribe telegraphic messages through indentations on paper tape, which could later be sent over the telegraph repeatedly. This development led Edison to speculate that a telephone message could also be recorded in a similar fashion. He experimented with a diaphragm² which had an embossing³ point and was held against rapidly-moving paraffin paper.⁴ The speaking vibrations made indentations in the paper. Edison later changed the paper to a metal cylinder with tin foil wrapped around it. The machine had two diaphragm-and-needle units, one for recording, and one for playback. When one would speak into a mouthpiece, the sound vibrations would be indented onto the cylinder by the recording needle in a vertical (or hill and dale)⁵ groove patten. Edison gave a sketch of the machine to his mechanic, John Kruesi, to build, which Kruesi supposedly did within 30 hours. Edison immediately tested the machine by speaking the nursery rhyme into the mouthpiece, "Mary had a little lamb." To his amazement, the machine played his words back to him.



"Edison and phonograph" by Levin C. Handy is in the public domain.

1. a system for transmitting messages from a distance along a wire
2. a thin sheet of material creating a division
3. creating a mold or stamp of a design on a surface
4. wax paper
5. A dale is a valley.

Although it was later stated that the date for this event was on August 12, 1877, some historians believe that it probably happened several months later, since Edison did not file for a patent⁶ until December 24, 1877. Also, the diary of one of Edison's aides, Charles Batchelor, seems to confirm that the phonograph was not constructed until December 4, and finished two days later. The patent on the phonograph was issued on February 19, 1878. The invention was highly original. The only other recorded evidence of such an invention was in a paper by French scientist Charles Cros, written on April 18, 1877. There were some differences, however, between the two men's ideas, and Cros's work remained only theory, since he did not produce a working model of it.

Edison took his new invention to the offices of Scientific American in New York City and showed it to staff there. As the December 22, 1877, issue reported, "Mr. Thomas A. Edison recently came into this office, placed a little machine on our desk, turned a crank, and the machine inquired as to our health, asked how we liked the phonograph, informed us that it was very well, and bid us a cordial⁷ good night." Interest was great, and the invention was reported in several New York newspapers, and later in other American newspapers and magazines.

The Edison Speaking Phonograph Company was established on January 24, 1878, to exploit the new machine by exhibiting it. Edison received \$10,000 for the manufacturing and sales rights and 20% of the profits. As a novelty, the machine was an instant success, but was difficult to operate except by experts, and the tin foil would last for only a few playings.

[5] Ever practical and visionary,⁸ Edison offered the following possible future uses for the phonograph in North American Review in June 1878:

1. Letter writing and all kinds of dictation⁹ without the aid of a stenographer.¹⁰
2. Phonographic books, which will speak to blind people without effort on their part.
3. The teaching of elocution.¹¹
4. Reproduction of music.

[10] 5. The "Family Record" – a registry of sayings, reminiscences, etc., by members of a family in their own voices, and of the last words of dying persons.

6. Music-boxes and toys.
7. Clocks that should announce in articulate speech the time for going home, going to meals, etc.
8. The preservation of languages by exact reproduction of the manner of pronouncing.

6. the right granted by the government to an inventor to create, use, or sell an invention

7. warm and friendly

8. **Visionary (adjective):** having or showing clear ideas about what should happen or be done in the future

9. the action of saying words aloud to be written down

10. a person employed to write

11. the skill of clear and expressive speech

9. Educational purposes; such as preserving the explanations made by a teacher, so that the pupil can refer to them at any moment, and spelling or other lessons placed upon the phonograph for convenience in committing to memory.

- [15] 10. Connection with the telephone, so as to make that instrument an auxiliary¹² in the transmission of permanent and invaluable records, instead of being the recipient of momentary and fleeting communication.

Eventually, the novelty of the invention wore off for the public, and Edison did no further work on the phonograph for a while, concentrating instead on inventing the incandescent¹³ light bulb.

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12. a thing providing additional help or support

13. emitting light as a result of being heated

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: In paragraph 4, what is the meaning of the word “exploit”?
 - A. research
 - B. promote
 - C. improve
 - D. defend

2. PART B: What phrase from paragraph 4 supports the answer to Part A?
 - A. “machine was an instant success.”
 - B. “difficult to operate”
 - C. “except by experts”
 - D. “last for only a few playings”

3. PART A: Which part of the invention process was most likely the key step for securing the patent?
 - A. testing the machine
 - B. improving the machine’s parts
 - C. constructing the original machine
 - D. demonstrating the machine to the public

4. PART B: Which statement from the passage supports the answer to Part A?
 - A. “Edison later changed the paper to a metal cylinder with tin foil wrapped around it.” (Paragraph 1)
 - B. “To his amazement, the machine played his words back to him.” (Paragraph 1)
 - C. “and Croc’s work remained only a theory, since he did not produce a working model of it.” (Paragraph 2)
 - D. “Interest was great, and the invention was reported in several New York newspapers” (Paragraph 3)

Discussion Questions

Directions: *Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.*

1. What are examples of a modern phonograph? How do you benefit from Thomas Edison's invention today?
2. In the context of the text, what are the costs and benefits of technology? How did Thomas Edison's invention contribute to society? What are some possible disadvantages to Edison's development of this technology? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.
3. In the context of the text, why do people succeed? How did Thomas Edison ensure that his invention was a success? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.