

Edison's Recollection of Phonograph

The following is a transcription of relevant portions of a typescript titled "Mr. Edison's notes in Book No. 2," probably prepared by William Meadowcroft in 1908 or 1909.

[24] In 1877, I invented the phonograph. The invention was brought about in this way. I was experimenting on an automatic method of recording telegraph messages on a disk of paper laid on a revolving platten, exactly the same as the disk talking machine of today. The platten had a volute spiral groove on its surface, like the disk. Over this was placed a circular disk of paper, an electromagnet with an embossing point connected to an arm travelled over the disk and any signals given the magnets was embossed on the disk of paper. If this disk was removed from the machine, and put on another similar machine provided with a contact point, the embossed record would cause the signals to be repeated into another wire. The ordinary speed of telegraphic signals is 35 to 40 words a minute, but with this machine several hundred words were possible. From my experiments on the telephone I knew of the power of a diaphragm to take up sound vibrations, as I had made a little toy which when you recited loudly in the funnel would work a pawl connected to the diaphragm and this engaging in a ratchet wheel served to give continuous rotation to a pulley. This pulley was connected by a cord to a little paper toy representing a man sawing wood. Hence, if one shouted Mary had a little lamb, etc., the paper man would start sawing wood I reached the conclusion that if I could record the movements of the diaphragm properly I could cause such record to reproduce the original movements imparted to the diaphragm by the voice and thus succeed in recording and reproducing the human voice.

[25] Instead of using a disk, I designed a little machine using a cylinder provided with grooves around the surface. Over this was to be placed tin-foil, which easily received and recorded the movements of the diaphragm. A sketch was made and the piece work price \$18. was marked on the sketch. I was in the habit of marking the price I would pay on each sketch. If the workman lost, I would pay his regular wages; if he made more than the wages he kept it. The workman who got the sketch was John Kreuzi, who in after years became Chief Engineer of the General Electric Company. I didn't have much faith that it would work, expecting that I might possibly hear a word or so that would give hope of a future for the idea. Kreuzi, when he had nearly finished it, asked what it was for. I told him that I was going to record talking, and then have the machine talk back. He thought it absurd. However, it was finished, the foil put on; I then shouted Mary had a little lamb, etc. I adjusted the reproducer and the machine reproduced it perfectly. I never was so taken back in my life. Everybody was astonished. I was always afraid of things that worked the first time. Long experiments proved that there was great drawbacks generally found before they could be got commercial, but here was something that there was no doubt of.

[26] I worked at it all night and we fixed it up to get the best results. That morning I took it over to N.Y. and walked into the office of the Scientific American, walked up to Mr. Beech's desk and said I had something new to show him. He asked what it was. I told him I had a machine that would record and reproduce the human voice. I opened the package set up the machine and recited Mary, etc., then I reproduced it so it could be heard all over the room. They kept me at it until the crowds got so great that Mr. Beech was afraid the floor would collapse and we were compelled to stop. The papers next morning contained columns. None of the writers seemed to understand how it was done. I tried to explain it was so very very simple, but the results were so surprising that they probably made up their mind beforehand that they could never understand it, and they didn't.