Telephony 101 – Bell's Patent November 16, 2012

Hello All,

As always, please send any questions about the reading assignment directly to me at oldtimetelephones@goeaston.net. I will bundle questions if necessary, repeat the questions, and give answers in an e-mail to the TCI List Server before moving on to the next reading assignment. This way everyone will benefit from these questions and answers. By sending questions directly to me, we will avoid unnecessary clutter on the List Server. Previous reading assignments, notes, questions, and answers are available in the TCI Library at http://www.telephonecollectors.info/telephony-101/.

Please read the rest of p. 15 and p. 16, thus finishing Chapter 1.

The inductive transmitter (Fig. 1-10) in Bell's patent application was, in principle, exactly like the gallows telephone (Fig. 1-8). There is a typographical error in the book in the description of Fig. 1-10. The lower-case letter "e" near the bottom of the page should be an upper-case "E." Please make that correction in your book. So "E" and "g" are effectively connected together because the ground acts as one big conductor, and the current can go around the circuit from one battery terminal to the other.

Bell obviously had trouble making his inductive transmitter work. In my opinion, this is neither surprising nor reduces the genius of his concept. Perhaps the piece of cork was absorbing too much of the diaphragm's movement. Perhaps the diaphragm was too thick and wouldn't vibrate enough. Perhaps the armature didn't have enough magnetic strength. There are many reasons why Bell's early devices might not have had an optimum design, and one would need near optimum conditions to make it work considering how weak sound waves are.

It must have been humiliating for Bell to have to switch to such a brute-force method of converting sounds to electricity as the liquid transmitter. He knew he could do it with a more elegant method – and without batteries. And once he got a result with the liquid transmitter, he dropped it. With regard to credits, it's important to remember that it was Bell's induction telephone that was first in commercial service and remained in service through the Williams' coffin telephones (we'll get to this in Chapter 8). A liquid transmitter was never used. In summary, Bell's understanding was brilliant, and he took his ideas into commercial service. So you can tell where I come down on the question of who invented the telephone – but my opinions are not in the book.

If there are any questions about the above – or anything in Chapter 1 – we will deal with the questions before moving on to the next reading assignment. I am not receiving many questions or comments, so I really don't know if we have many readers with us or not. Reading assignments will get longer now that don't have to deal with so many new concepts.

Ralph

Telephony 101 – Bell's Patent November 19, 2012

Hello All,

The following comment and question were received from a reader.

"When I initially read your book, I got the feeling Gray deserved more credit. It seemed to me Gray had more knowledge of electricity. With the development of the Gallows phone however, I now see why Bell deserves the credit. I gather, Gray had the right idea but his liquid transmitter was not practical, whereas Bell's inductive transmitter was more commercially viable. Even though they filed on the same day, Bell got the patent because he actually had the electrical design (Fig. 1-10 and the Gallows phone) or did he or his attorney get in the door first?"

The short answer to the question is that Bell's lawyers got in the door first. A detailed account is given in Robert Bruce's book on Bell in Chapter 16, if you want to wade through a lot of stuff (complete reference citation is on p. 260 in my book). However, arguments about who deserves credit have persisted for well over 100 years. The latest attack on Bell was by Seth Shulman in a book that I commented on in an article for the TCI newsletter in 2009. That article has been put in the Telephony-101 folder in the TCI Library for easy reference (http://www.telephonecollectors.info/telephony-101/). You might want to read this article because it parallels so much of what we have been discussing in Chapter 1.

If you have any follow-up questions, send them directly to me. We will now move on to the next reading assignment, which I will post soon.

Ralph