



VALUABLE APPLICATIONS OF THIS INVENTION
 AS CITED IN OUR UNITED STATES PATENT.

ILLUSTRATION HERE shows outfit representing wireless telephone equipment for the Tennessee river, from Paducah, Kentucky to Florence, Alabama, and the equipment, mounted on board the steamer, or other water craft, for the transmission of messages and communication telephonically with other craft. Illustrations are for other applications that may be made by this invention.

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Nathan Stubblefield Wireless Telephone

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This Desk Telephone is movable, may be placed in your Office, Parlor, or Flying Car, or Auto, Airship, or Water Craft, or Other Vehicle.

THIS INVENTION IS THE TRIUMPH OF THE AGE, AND IS WORTH A SHIPLOAD OF GOLD

Did Nathan B. Stubblefield Invent Radio?

Why Do People Insist That He, Not Marconi, Invented Radio?

BY JOSH MORGAN, KKY4WS

Agrowing chorus of voices continues to insist the true inventor of radio was someone by the name of Nathan B. Stubblefield. Stubblefield's own descendants are included in this chorus demanding what they feel is the credit due him for his work. As these voices grow louder and more demanding, let's see who Nathan Bowman Stubblefield was, and what he did.

Stubblefield hailed from Murray, a community of 14,000 souls located in the tobacco-growing area of southwestern Kentucky. He was born in the summer of 1860, and resided in Murray all of his 68 years. He was known as the town's resident eccentric experimenter. Yes, he had a small vegetable farm with which he supported his family, but he spent all of his free time chasing a dream. His dream consisted of the concept that people could converse with one another at a distance, and that it could be done without the need for wires to link their locations together.

Mostly he worked in secret, fearing the theft of his apparatus, notes, and ideas. His workshop was in back of his residence, a humble shack on the outskirts of Murray. It was ringed by an overgrown hedge. His security system included a shotgun, just in case the remoteness of his shack and the dense foliage didn't give visitors the message that they weren't invited. When he went into town, he was the center of curiosity.

Unfortunately, Stubblefield's obsession with secrecy may have been a major contributing factor in his works having gone virtually unrecognized while others who came after him garnered all of the laurels, glory, and money. It does appear that Stubblefield did do pioneering work in telecommunications, but his unwillingness to allow others to use his ideas worked against him.

To put this into a time perspective, Stubblefield was probably working on his concepts about the same time that Alexander Graham Bell was developing the telephone (patented 1876), and the formulas relating to radio waves published by Maxwell in 1865 and 1873. In 1888, Hertz proved that radio waves existed. Marconi's early telegraphic experiments were in 1894, with his radio telegraph device patent issued in June, 1896. Marconi's first telegraph transmission across the Atlantic took place in December of 1901.

With this in mind, know that Stubblefield had success transmitting the human voice over what he called a Vibrating Telephone, a wireless circuit in 1885! Not long after this experiment, he told a local friend, Duncan Holt, "Duncan, I've done it. I've been able to talk without wires . . . all of two hundred yards . . . and it will work anywhere." Holt never saw the apparatus, however.

The first record of anybody actually seeing Stubblefield's wireless apparatus was in 1892. He showed it to Dr. Rainey T. Wells, who was a prominent educator, and who also happened to be an attorney. Wells wrote of this years later, "One day Stubble-

field invited me to his farm for a demonstration of some kind of wireless outfit. Mind you, this was in the days when telephones were rare.

"He had a shack about four feet square near his house, from which he took an ordinary telephone receiver such as we have today, but entirely without wires. Handing me this, he asked me to walk some distance away and listen. I had already reached my post which happened to be in an apple orchard when I heard, 'Hello, Rainey' come booming out of the receiver.

"I jumped a foot and said to myself, 'This fellow is fooling me. He has wires someplace.' I moved to the side about twenty feet but all the while he kept talking to me. I talked back and he answered me as a human voice sounds over a telephone today. But there were no wires."

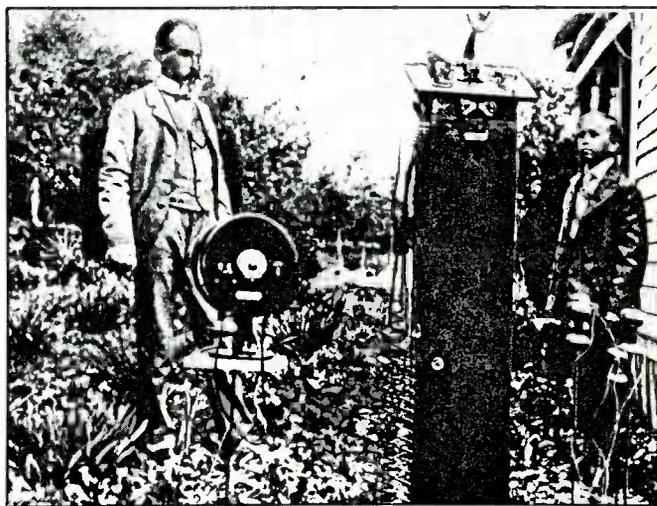
Sometimes, after that, he would allow certain carefully selected persons to witness private demonstrations of his system. Stubblefield's family physician told of being given a private demonstration that included Nathan talking and playing the harmonica.

Also, in 1892, he began giving public demonstrations of his apparatus in the Murray town square. Hundreds of people came from miles around to watch as Stubblefield set up one set near the courthouse, and the other set about 250 feet away without any wires between the devices. The crowd startled at watching Stubblefield speak into one unit in a normal tone of voice, and hearing his voice emerge clearly from the distant apparatus.



Nathan B. Stubblefield shown posing with his invention around the turn of the century. The loop is apparently the antenna for what may have been an induction-type system.

Nathan (left) and his son, Bernard, shown with two pieces of his communications equipment around 1905. Hard to see in this old photo, but Bernard is standing next to two rods driven into the ground.



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Perhaps these people scarcely realized the significance of Stubblefield's device. But remember, that he was considered by local residents as merely the strange and eccentric inventor who lived on the outskirts of town. They didn't know what to make of Stubblefield. It's doubtful that they took him very seriously, or his invention either. That didn't discourage Stubblefield at all.

In March of 1902, Stubblefield loaded his wireless telephone aboard the steam launch *Bartholdi* on the Potomac River. As the vessel made its way upriver from Washington, Stubblefield showed his radio at work by transmitting his voice to a group of scientists standing on the bank of the river.

The prestigious *Washington Post* quickly recognized that the reclusive inventor had developed something their readers would like to know more about. On March 21, 1902, the newspaper published an interview containing just about the only words Stubblefield ever had to divulge to the public regarding his device. He still wasn't divulging much, but it was amazingly perceptive, and more than he had said until then.

"My invention ... is capable of sending simultaneous messages from a central distribution station over a very wide territory. For instance, anyone having a receiving instrument, which would consist merely of a telephone receiver and a few feet of wire, and a signaling gong could, upon being signaled by a transmitting station ... be informed of weather news. My apparatus is capable of sending out a gong signal as well as voice messages. Eventually it will be used for the general transmission of news of every description.

"I have as yet devised no method whereby it can be used with privacy. Wherever there is a receiving station, the signal and the receiving message may be heard simultaneously. Eventually I, or someone, will discover a method of tuning the transmitting and receiving instruments so that each will answer its own mate.

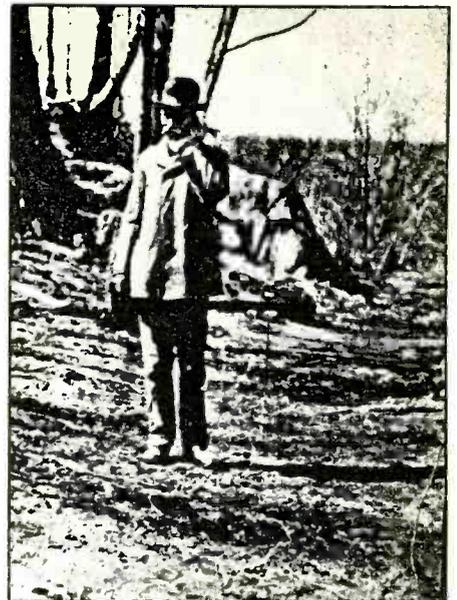
"The system can be developed until messages by voice can be sent and heard all over the country, to Europe, all over the world."

This didn't tell anything of the theory or design of his device, which he was reticent to discuss. His son, Bernard, who was born around 1890, was perhaps the only person ever to be present when he was working.

In 1930, after Stubblefield's death two years earlier, *The New York Sun* offered a vague description of the apparatus.

"His transmitting apparatus was placed in a box four feet high and six inches in width. A coil of heavy wire was at one end and led to the ground. Stubblefield made the startling statement that the earth's electrical waves furnished the power by which an ordinary power transmitter was operated. About a quarter of a mile away another box was fastened to a stump. There were wires leading to the ground and a pair of telephone receivers on top.

"Examination showed that the wires terminated in each case at steel rods topped



Nathan Stubblefield using one of his wireless telephones during the 1902 demonstrations in Washington, DC.

with a ball of iron which was nickel-plated.

"Stubblefield claimed that the earth and all about it is charged with electrical power, part of which he was harnessing—and that in time spoken messages could be sent without wires thousands of miles.

"He admitted that he had developed a radio-frequency current through a battery of his own arrangement, and an earth battery, following which he devised a system of modulation and an adjustment for tuning. The detector was a receiving coil, tapped for adjustable inductance."

From a vantage point of more than sixty years after this description, we still can't get much of an insight into what Stubblefield was really doing except to guess that it may have relied upon induction. Undoubtedly the telephone equipment itself was standard, but had been adapted for wireless operation. The transmitter he designed most likely included in its components some tuning coils, some type of amplifier, and a ground battery cell system. The use of rods placed in the earth could suggest a sub-strata communications system, but the knobs atop the rods could have meant they were antennas. And we don't know if the distance separating the placement of the rods was critical.

For years, many friends told him to patent his invention, but Stubblefield refused. He said it needed more work to get it perfected. One patent, No. 887357, issued on May 12, 1908, was given to Stubblefield for a radiotelephone device.

You may question why Stubblefield failed to attain general recognition for his work and become widely known as radio's inventor. He certainly appeared to be standing on the threshold of destiny when he gave his 1902 demonstrations on the Potomac.

Somehow, though, after that he seemed to fade from the public eye.

A probable contributing factor was his long-standing fear of permitting anyone to buy into his invention, which would have provided sufficient funds to develop and market the device. It wasn't that nobody wanted to invest. Many big city investors traveled to Murray to entice Stubblefield after the St. Louis Dispatch carried a story about him on January 10, 1902. He turned them all away, including (friends said) one attempting to give him a check for \$40,000. It's said that he once turned down an offer for \$500,000 for his invention, declaring it was worth double that amount.

But there are rumors. One story says that he took the device with him in a trunk when he visited Washington in 1912. When he returned from Washington, nobody saw the device. Had it been stolen? Stubblefield became embittered and disillusioned.

Apparently, the facts seem to be that in order to raise funds, Stubblefield had been persuaded to exchange all of his secrets, rights, and equipment for a half-million shares in a company called The Wireless Telephone Company of America. The company was a fraud, its stock was totally worthless. Wireless Telephone had no interest in developing and marketing his invention, only in selling more of its worthless shares to gullible suckers. He had been swindled.

Not long after, Stubblefield's house had been taken by creditors. He left his wife and nine children, moving to nearby Alamo, KY. There he built and moved into a crude tin hut insulated with corn husks. The house in which the family resided later burned down under mysterious circumstances. In complete isolation and obscurity, Stubblefield became a recluse and continued to work secretly on his inventions for years from his little shack. Neighbors reported hearing strange disembodied wireless voices resulting from his experiments, and they also described wireless electric lights in the trees near his shanty. But then, they had always expected the unusual from Nathan. On March 28, 1928, he died of starvation and, some said, a broken heart. He was laid to rest in an unmarked grave at Bowman's Cemetery, near Murray. A tragic end to a true eccentric genius.

In 1930, the New York Supreme Court ruled that Stubblefield's heirs had proven all of the details in their claim for patent rights, but that the statute of limitations had voided their claims regarding royalties.

Murray, KY honors Stubblefield as the inventor of radio. In 1930, they put up a memorial to Stubblefield on the campus of Murray State University. In 1948, twenty years after Stubblefield's death, a broadcast station in Murray went on the air, taking the call letters WNBS to pay homage to Stubblefield. Some books do offer passing mention to Stubblefield, but usually little information is given.

Stubblefield's descendants continue to

proclaim the invention of radio by their esteemed ancestor, and press for appropriate recognition to be given to him. Many historians feel that these claims have merit, but they do wish that old Nathan had been less secretive and reclusive.

The author wishes to thank Christopher Adams, of Murray, KY, and also Steve Cole, of New York, NY for the information

they provided in conjunction with this story. A lengthy, and excellent story about Stubblefield was called "The Man History Overheard," by Harvey Geller. It was included in "Circular," Vol. 7, No. 34, of December 8, 1975, published by Warner-Reprise Records. Another story about Stubblefield appeared in the July, 1961 issue of *Electronics Illustrated*.

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