Powel Crosley, Jr.: How his Blind Ambition Promoted Competition in the Wake of RCA's Radio Monopoly

By Jackie Neff

Despite failing out of engineering school, Powel Crosley, Jr. went on to become one of the most successful "engineers" in the broadcasting business.[1] Undeterred by his educational failure, Crosley blindly followed his ambition wherever it drew him. He spent his college summers selling securities to businessmen and developed marketing skills.[2] Confident in his salesmanship, Crosley charmed investors into backing several failed automobile sales ventures.[3] Lucky for Crosley, the wireless industry surfaced and radio began to blossom presenting endless opportunities for a driven young entrepreneur like Crosley.[4]

In 1921, Crosley's son, Powel Crosley III, told him about this great wireless set that he had seen at a friend's house, and Crosley took his son to purchase a similar model at a department store.[5] The store clerk informed him that the least expensive model was $130, 1/3 the price of a Model T at the time![6] Crosley was puzzled by the staggering price and refused to believe that radio production could possibly be so expensive.[7] Instead of a radio, Crosley purchased a pamphlet entitled "The A.B.C. of Radio."[8] He

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[1] Rusty McClure et al., *Crosley: Two Brothers and a Business Empire that Transformed the Nation* 50 (2006).
[2] *Id.* at 53.
[3] *Id.* at 52-56, 75-80.
[4] *Id.* at 63.
[5] *Id.* at 121.
[6] *Id.* at 124.
[7] *Id.*
[8] *Id.* at 125.

successfully built a functioning radio with materials costing less than $35.[9] Crosley saw a business opportunity and quickly sought willing investors.[10] Thereafter, Crosley made some modifications to suggested radio parts, lowering the manufacturing cost.[11] Before attempting to manufacture his own radios for distribution, Crosley gauged interest in his products by selling the less expensive, more promising parts to existing manufacturers such as Grebe.[12] Of particular interest were his porcelain socket set, cheaper than the alternative molded composite and yet more durable, and his improved dialing knob.[13]

It is unclear whether Crosley ignored the potential legal consequences of his decision or whether he was ignorant of them. However, the high price of radios at the time was a reflection of RCA's monopoly of the industry arising out of its exclusive patent rights on necessary parts.[14] In 1919, the U.S. government strongly feared a British monopoly of the airwaves.[15] To secure American participation in, and eventual domination of, the radio industry, the government accepted General Electric's proposal to allow the three controlling companies to consolidate and purchase the foreign threat.[16] As such, the companies were consolidated to form RCA.[17] The behemoth held all valid radio patents in the U.S., including the exclusive rights to manufacture vacuum tubes and filaments.[18]

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[9] *Id.*; *Crosley Radio: A Brief History*, available at http://www.maisonconnoisseur.com/crosley_radio_history.html
[10] *Supra*, note 1 at 127.
[11] *Id.* at 125.
[12] *Id.*
[13] *Id.*
[14] *Id.*
[15] Robert Sears McMahon, *Federal Regulation of the Radio and Television Broadcasting Industry in the United States, 1927-1959* 15 (1979).
[16] *Id.*
[17] *Id.*
[18] Leonard S. Reich, *Research, Patents and the Struggle to Control Radio: A Study of Big Business and the Uses of Industrial Research*, 51 Bus. Hist. Rev. 208, 215-16 (Summer, 1977).

Whether he was unaware or turned a blind eye, the possibility of a patent infringement suit did not deter Crosley. After accumulating enough capital to set his vision in motion, Crosley recruited two young engineers from the nearby Cincinnati University to bring his ideas to life.[19] The result was the historic "Harko" crystal radio set which went on the market in 1921 for seven dollars per set (minus accessory equipment).[20]

Crosley's decision was not unwise. He became known as the "Henry Ford" of radio because he delivered radios to the masses at an affordable price.[21] Crosley's secret was his swiftness. RCA was a corporate giant, three distinct companies attempting to mesh talent, ideas, material and personnel.[22] Essentially, RCA was an umbrella organization formed as an outlet for the individual companies' sales.[23] The companies agreed to a common licensing pact, each allowing the others rights to any individual radio patents.[24] However, each separate company was responsible for its own production.[25] The separation of sales and production was disastrous creating substantial lag time between each step of the manufacturing process from design to final sale.[26] The corporate giant reacted far too slowly to the market and to patent infringement.[27] By the time RCA was prepared to tackle a patent infringement suit, Crosley was still a new competitor and not the only manufacturer infringing on RCA's patents.[28] Therefore,

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[19] *Supra*, note 1 at 127.
[20] *Id.*
[21] *Crosley Radio: A Brief History*, available at http://www.maisonconnoisseur.com/crosley_radio_history.html.
[22] *Supra,* note 18 at 217.
[23] *Supra,* note 15 at 25.
[24] *Id.* at 25-26.
[25] *Id.*
[26] *Id.* at 26.
[27] *Id.*
[28] *Id; Supra*, note 1 at 125.

Crosley escaped RCA's ire in its 1923 suit, and RCA targeted the more established Grebe Radio Corporation.[29]

However, by that time, Crosley had sold thousands of radios and had finally achieved the success he had been searching for. By 1922, he had become the world's largest radio seller.[30] He also made an imprint in history that survived even his grandchildren's time.

[29] *Id.* The adversary in this 1923 case received community support which ultimately culminated in a counter-suit by the FTC against RCA for monopolization of the radio industry. Therefore, even if Crosley had suffered the unlucky fate of legal prosecution, the business would likely have survived.
[30] *Crosley Radio History*, available at http://www.crosley.com/history.html.

RCA Formation

At the start of the War, patent litigation surrounding the vacuum tube stymied U.S. radio technology growth. Bensman at 11. This was an obstacle for the Navy, which sought better radio technology and equipment during the War. Id. On April 7, 1917, a presidential proclamation broke the patent impasse by handing over all commercial radio to the Navy, motivating research and development by offering indemnity for patent infringements. Id.; Douglas at 278. Three companies – General Electric, Westinghouse, and Western Electric – made the most technological contributions. Bensman at 12.

By the end of the War, nationalist sentiment was high. Douglas at 279. Many sensitive technological developments had been made under the Navy's stewardship. Id. The Navy had long endured tense relations with the British-owned Marconi Company,[1] of which it had increasing suspicion. Id. Accordingly, the Navy sought governmental control of radio. Id. In 1918, Congressman J.W. Alexander proposed a bill that would put wireless under the Navy's control. Id. at 282. The public, however, disliked the idea of government ownership of a previously private industry. Id. When by 1917 Congress did not agree to establish government control, the Navy urged General Electric to buy out the Marconi Company. Bensman at 13.

Before the War, G.E. had been negotiating to sell Alexanderson alternators to American Marconi. Douglas at 285. When the War ended, and it was clear that the Navy would not retain control over radio, G.E. and Marconi resumed negotiations in February 1919. Id. Marconi not only wanted a large order of alternators, but sought exclusive rights to the equipment. Archer at 160. A letter from the Navy, [no specific date

[1] A decade earlier the Marconi Company had embittered the U.S. and many other governments by refusing to relay other companies' radio signals. Douglas at 119-24; Bensman at 4.

available], however, requesting that G.E. provide a report about a high-frequency alternator that had been installed at one of its stations, complicated G.E.'s sale of the alternator. Id. Owen Young wrote to Franklin D. Roosevelt, then Acting Secretary of the Navy, explaining that G.E. would like to cooperate with the government's request, but it was negotiating with the British and American Marconi Companies over licensing rights to the alternators. Id. at 161. Young's March 29, 1919 letter was forwarded to Captain Sanford Hooper who, along with Commander George C. Sweet, urged Admiral W.H.G. Bullard to persuade G.E. about the importance of having an American company retain the rights to the alternator. Id. at 161-62. That same day, April 3, 1919, Hooper called G.E. to set up a meeting between the Navy and the company. And on April 4, Roosevelt wrote to G.E., explaining that, "Due to the various ramifications of this subject, it is requested that before reaching any final agreement with the Marconi Companies, you confer with representatives of the [Navy] department." Id. at 163.

On April 8, 1919, Hooper, Bullard and Roosevelt[2] met in New York with G.E. representatives Edwin W. Rice, Jr., President, Owen D. Young, Albert G. Davis, Charles W. Stone, and Edward P. Edwards. Douglas at 285; Archer at 165. They expressed their desire to keep American technology out of foreign control, and Bullard suggested that an American company could be formed to buy out American Marconi. Douglas at 285; Archer at 166-67. The Navy officials also assured the G.E. representatives that, if such a company were formed, the Navy would cooperate with it. Id. Accepting the importance of protecting sensitive technological developments from foreign-owned companies, and seeing that creating a wireless communications company could improve their business opportunities as electrical equipment manufacturers, General Electric agreed. Douglas at

[2] Correct about FDR? Archer doesn't list FDR as attending

286; Archer 167 [No source cited, but see Dec. 9, 1929 testimony of Owen Young before interstate commerce committee]. On April 9, G.E. broke off negotiations with Marconi over the alternator, leading the way to the formation of RCA. Douglas at 286; Bensman at 14.

Young recognized that creating a strong American communications company posed a significant challenge. Once the government reinstated patent rights to their owners, no single manufacturer had rights to a complete radio system. Archer at 168.

In May, Young met with E.J. Nally of American Marconi to discuss creating an all-American company. Douglas at 286. They reached an agreement over the summer leaving G.E. to negotiate further details with British Marconi. And in October, 1919, RCA was incorporated.

Patent Pooling

Between 1920 and 1921, RCA reached cross-licensing agreements with General Electric, AT&T, AT&T's subsidiary Western Electric, and Westinghouse concerning 1200 patents, effectively ending the radio patent war. Bensman at 15; Starr at 226; Barnouw at 60. Captain Hooper, the individual who had urged the Navy to suspend patent rights during the War so that needed technology could be manufactured, similarly urged RCA to enter cross-licensing agreements as a way to continue the patent moratorium. Archer at 180, 185. At Hooper's suggestion, the Navy had signed a patent release to get radio equipment built since neither the companies nor the Navy knew who owned which patents. Archer at 185 (citing Hooper's testimony before the Senate Committee on Interstate Commerce in December, 1929). Hooper knew that a patent

release wouldn't work after the War, so he contacted G.E. and AT&T by a letter dated January 5, 1920 "appeal[ing] to them to get together and make some arrangement, so that the Navy could buy radio equipment without having to take the patent responsibility." Id.

The first agreement was between RCA and G.E. when RCA was formed. They licensed their patents to each other November 20, 1919. Douglas at 289. RCA and AT&T signed a cross-licensing agreement concerning the vacuum tube on July 1, 1920. Sobel at 32; **Douglas at 289**; Archer 194-95. And RCA and Westinghouse reached a cross-licensing agreement involving International Radio on June 21, 1920. Sobel at 34-35; Archer at 210. Then, in March 1921, RCA and Westinghouse reached a cross-licensing agreement. Douglas at 290. The RCA board was restructured with four members from the former American Marconi – Edward J. Nally, James R. Sheffield, Edward W. Harden, and John W. Griggs – four from G.E. – Edwin W. Rice, Jr., Owen D. Young, Albert G. Davis, and Gordon Abbott – three from Westinghouse-International Radio, two from AT&T, and one from United Fruit. Sobel at 35; Archer at 179-80 [no names of other companies' board members].

These cross-licensing agreements gave RCA the rights to the Marconi patents, the Alexanderson alternator, the de Forest patents on the triode valve, the Westinghouse Fessenden and Armstrong patents relating to heterodyne, regeneration and feedback, and the United Fruit Company patents regarding crystals and other detectors. W.J. Baker at 181. These agreements enabled all three companies to manufacture the vacuum tube without worrying about infringement. Bensman at 15. Under the terms agreed to by the Radio Group, GE would manufacture 60 percent of RCA radio sets and Westinghouse the other 40 percent. Starr at 226-27. RCA would distribute them and provide

radiotelegraph services, and AT&T would have exclusive rights to wired and wireless telephone service and to interconnection of wired and wireless systems. Id.