



CUTTING & WASHINGTON

History of a pioneer radio company

by Alan Douglas



Though the name of Cutting & Washington is familiar to radio collectors, details of their activities and products are sadly lacking. The following story is less complete than I would like, but if we waited for all mysteries to be cleared up before publishing, very little would ever see print.

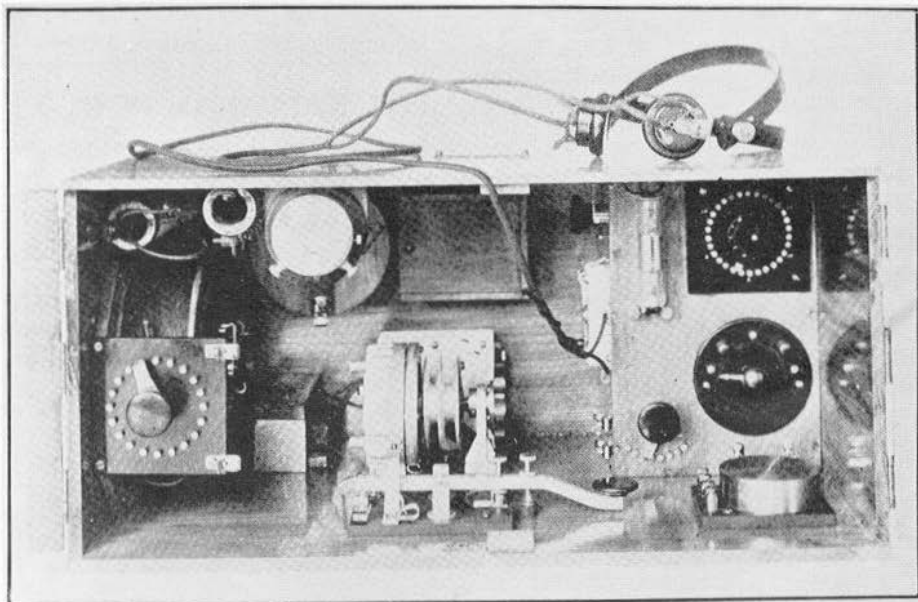
Fulton Cutting, born in New York City December 27, 1886, seems to have come from a wealthy family descended from Robert Fulton of steamboat fame. From their New York address of 32 Nassau Street, I presume his family were financiers. Cutting received his AB from Harvard in 1910, followed by an MA, MEE, and PhD in short order. In April 1916 he had already contributed an article to the *IRE Proceedings*, a highly-technical and thorough treatment of power transformer design for spark transmitters. He served as vice-president of the IRE in 1921 and president in 1922.

Bowden Washington was born on July 7, 1892 at Bar Harbor, Maine, and attended the Browning School, NY and spent two years studying electrical engineering at Columbia.

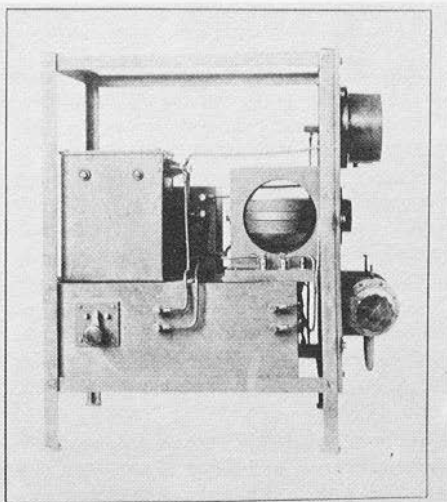
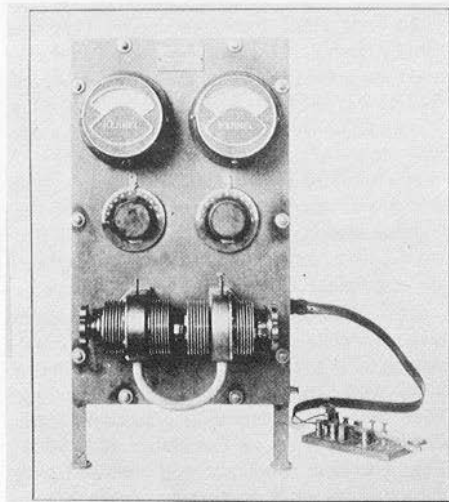
He built his first transmitter and receiver in 1903, was listed in the *Modern Electrics* "Blue Book" in 1908 as "BW," and twice had photographs of his station published in *Modern Electrics* in 1909. He was assistant engineer at Clapp-Eastham in 1913-14, then became a radio engineer at Harvard in 1915 where he assisted G. W. Pierce in equipping Cruft Laboratory, and where he met Fulton Cutting.

During 1915 Washington and Cutting worked at Cruft to develop wireless telegraph equipment which they could manufacture with Cutting family backing. Losing no opportunities for free publicity, Washington wrote a descriptive article for the *IRE Proceedings* in February 1916 (published in August). On July 4, 1916 E. Leon Chaffee (also with Cruft Labs) received perhaps his most important patent, on a form of quenched spark gap, and promptly assigned it to Fulton Cutting. About this time, the partnership of Cutting & Washington was formed, under which a very limited amount of radio equipment was manufactured.

In April 1917 the firm of Cutting & Wash-



1916 experimental aeroplane receiver/transmitter. Note Audio Tron tube on upper right panel.



1/4 Kw. panel set. Note Chaffe spark gap. (1916)

ington, Inc. of Cambridge, Massachusetts was incorporated in New York with a capital of \$200,000; the three incorporators all being Cuttings. They developed a production model (4A) of their "impact excitation" transmitter and sold the government 1000 of them at \$750 apiece. They also made a number of light-weight airplane transmitters, also using the Chaffee gap. Some of this gear was described by Washington in another *IRE Proceedings* article in December 1918.

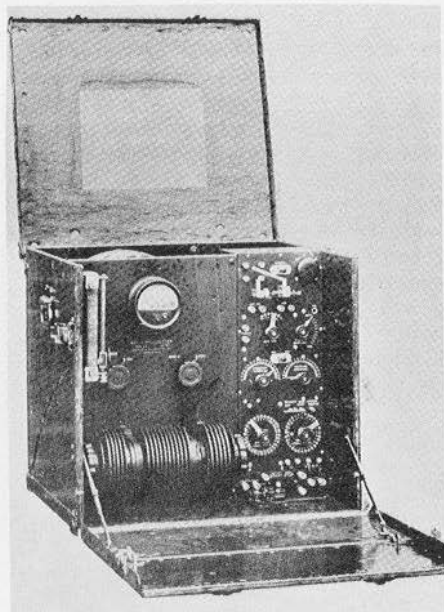
In June of 1919 C&W moved to 6&8 West 48th Street, New York City, re-incorporating as the Cutting & Washington Radio Corporation, capital \$36,750. They advertised commercial radio gear regularly in the *IRE Proceedings*, and maintained their own coastal radio station WSA in Easthampton for commercial traffic.

C&W received their Armstrong license on July 7, 1920. In addition to the usual provisions to sell to radio amateurs, experimenters and scientific schools, their license had a third clause: "to purchasers in the US for use in their own non-commercial land radio stations" which pretty well implies broadcast reception by the public. As far as I know, however, their first broadcast receiver was the model 11 introduced in early 1922. At least, if it dates before that, it was a well-kept secret and was never advertised.

The model 11, for all its mystique among modern collectors, is a rather unsophisticated radio. Controls were simplified to the point of

including fixed antenna coupling rather than variable, for instance, and its construction quality can't compare to that of Grebe or Kennedy.

C&W never had a manufacturing plant, but



C&W Mod. 4A transmitter with variant of Nesco CN-113 receiver. A similar WW1 (1918) set may be seen in the AWA Museum.

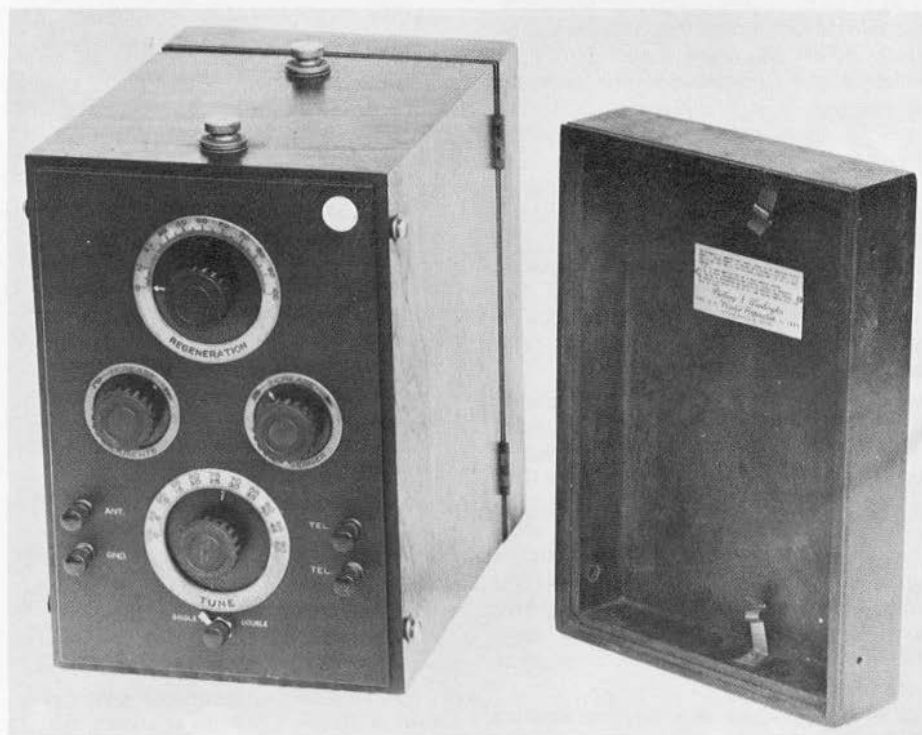
[Continued from previous page]

subcontracted this work to others. They were said to have had poor relations with their New York manufacturer, whoever he was, and this trouble, together with an insatiable demand for their receiver in the boom of early 1922, must have prompted them to look for a larger manufacturer who wanted to get into radio but needed their Armstrong license. They found it, in the Minneapolis Heat Regulator Company (later Minneapolis Honeywell) and about September 1922 they moved to Minneapolis. One of their first actions was to take over station WLAG which had begun operating on September 4, 1922.

Unfortunately C&W's arrival coincided with the "radio bust" and they had problems with their new bedfellow too. Luckily there was a second manufacturer in Minneapolis to turn to, well-equipped to make precision radio gear, but having no interest in that market themselves: Automatic Electric Company, makers of telephone equipment. But it took six months to get production going.

In June 1923 their new model 11A was finally ready.... too late. Summer was always the slow season for radio. But they persevered. In October and November came the 11B, 12A, 15, and a console model. The 11B was a dry-cell version of the 11A, using 99 tubes; the 12A was a two-tube portable; while the 15 was their low-priced one-tuber. Things were at last beginning to look up; they had a good model line-up, a healthy advertising budget, and they were in time for the Christmas season for once.

Then Westinghouse, the Armstrong patent owner, stepped in. In one of their periodic lawsuits against their licensees who were running away with "their" radio business, Westinghouse won a decision in the Second Circuit Court of Appeals on December 10, 1923. Failing to have subcontracting outlawed, they did nearly as much damage by convincing the court to outlaw sales through jobbers, distributors or dealers, forcing C&W to sell directly to customers. One circuit judge dissented from this curious opinion, but so far as I know, it was not appealed further. It must have put quite a damper on C&W activities.



Model 12-A (2-tube receiver) John Caperton collection

In April 1924 C&W announced their entry in the dyne-a-month sweepstakes ("March of Dynes"?) with the "Teledyne." It looked just like the 11A and 11B but had four 99 tubes instead of three, the fourth one being used as an RF amplifier tube to prevent regenerative radiation. All very well, but, again, at the wrong time. By August 16, 1924, Cutting & Washington was in receivership. WLAG closed down, but was soon reopened with the backing of Washburn-Crosby Company, makers of Gold Medal flour; they asked only that the station identify itself as the "Gold Medal station" and change its call letters to WCCO.

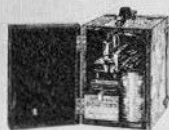
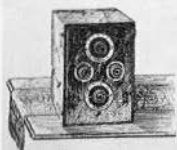
Messrs. Cutting and Washington moved to Long Island and formed a new company before the year was out: Colonial Radio. By this time, TRF radios had superseded regeneratives, and an Armstrong license was no longer a necessity for survival. Colonial absorbed Valley Appliance in March 1930, and in September consolidated its manufacturing plants at Rochester, leaving only a sales office in Long Island City. They are said to have absorbed King of Buffalo in 1931. Cutting remained with Colonial until it was taken over by Sylvania in 1944.

Reference (in addition to listings in text):

1. *Electrical World*, April 21, 1917 p. 780; June 14, 1919 p. 1305 (incorporation notices)
2. *RADIO*, November 1921 p. 149 (WSA, Easthampton)
3. *Who's Who in Engineering*, 1922-23 (Washington biography)

"Town and Country" Set

By Dr. Fulton Cutting and Mr. Bowden Washington



For more than 10 years Dr. Fulton Cutting and Mr. Bowden Washington have been working on the latest type of portable radio receiver. It is a 2-tube, single circuit, portable set—ready to operate on any sort of temporary antenna—a wire around the top of your car—stretched along a tent top—or across the room in the home of a friend.

At last, a successful all-purpose receiver. Out of the years of experience of Dr. Cutting and Mr. Washington has come this "Town and Country" model—a portable that you can carry with you when and where you wish—yet the perfect set for your home.

In your home, without the carrying hassle, "Town and Country" is a handsome 2-tube, double circuit cabinet set, highly selective, range up to 1200 miles, for local or near-by stations.

and then, at a turn of a switch—

it becomes a 2-tube, single circuit portable set—ready to operate on any sort of temporary antenna—a wire around the top of your car—stretched along a tent top—or across the room in the home of a friend.

It's the complete all-purpose set—no compromise. Self-contained—uses dry batteries—LARGE dry batteries that last. It's complete with Bendix Broadcast ready for antennae and ground wires when you get it—ready to give you "what's in the air." Price, \$97.50. See it at a C & W Dealer—or write for literature.

Cutting & Washington Radio Corp.
Minneapolis Operating Station W.L.S.A. Miami

Cutting and Washington
Standard of Excellence in Radio Since 1914

Ad for 12A (from *Popular Radio*, Jan., 1924)

4. *Radio Digest*, Chicago, June 3, 1922 (type 11) October 14, 1922; August 16, 1924 (WLAG)
5. *Federal Reporter* 294 F 671 (vol. 294, p. 671). (Circuit Court decision).
6. *Popular Radio*, June 1923 and following (C&W ads on cover pages)
7. *Radio Broadcast*, May 1924 (Washington biography)

(Continued on next page)



Model 11 3-tube receiver (John Drake collection)

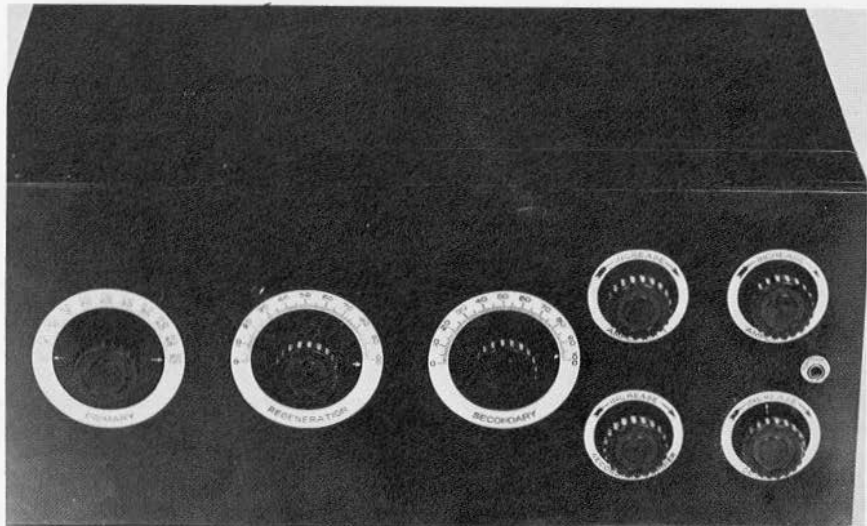
(Continued From previous page.)

8. *Electrical Merchandising*, December 1924 pp. 4804, 4809 (Colonial)
9. *Radio In The Home*, October 1925 (WCCO)
10. *Radio Retailing*, March 1930 p.54, April 1930 pp. 62-3, September 1930 pp. 80-1 (Colonial)
11. *Proceedings of the Institute of Radio Engineers*, September 1947 p. 948. (Cutting biography)
12. *AWA OTB* 19-2. September 1978 (Colonial, King, Sylvania history)

Patents issued to Cutting and Washington

(jointly):

- 1,345,352 July 6, 1920. Wireless Telegraphy.
- 1,366,311 January 18, 1921. Production of high-frequency oscillations.
- 1,377,059 May 3, 1921. Production of electrical-current pulses.
- 1,435,813 November 14, 1922. AC generator.
- Chaffee's patent was 1,189,791 July 4, 1916. Apparatus for and method of exciting electrical oscillations.



Teledyne using 4 '99s. (John Drake collection)

