

KEY AND TELEGRAPH

EDITED BY **JOHN CASALE**, W2NI, 35 PICKERING LANE, TROY, NY 12180, casalejj@yahoo.com
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Horace G. Martin: Electrical and Mechanical Specialties

Although Horace Martin is best known as a telegrapher and the inventor of the Vibroplex “bug,” he spent most of his career as a manufacturer and experimenter. The bulk of his manufacturing work was in the production of the various Vibroplex models he designed. But he was also involved in producing some other lesser known products.

Martin lived in Rutherford and East Rutherford, N.J. during the years 1905, 1907 and 1911-1920. While he was living in New Jersey, he designed and/or patented several new Vibroplex models including his Model X, Blue Racer, Upright (Vertical), Midget and “Patent 457 Vibroplex¹.” It was also during this time, in Rutherford, that he filed patents for other inventions such as a portable electric light, a key-holder and a design for spring binding posts.

For several years, Martin operated a shop that was independent from the Vibroplex Company and set up as a separate entity. He operated his shop at a few different locations in New York City, but his primary address for the years 1915 through 1925 was at 51 Cliff Street. It was not until after 1925 that the shop was located at one of J.E. Albright & Co./Vibroplex Company store locations.

The Gem Set

One product that Martin produced for a number of years was his Gem Key and Sounder set. It seems to have come about to satisfy a need to provide telegraphers with an instrument to use when practicing with a Vibroplex. It helped them make the transition from a straight key to the semi-automatic operation of a Vibroplex.

The earliest ad that I have seen that mentions a GEM Set was in the July 20, 1906 issue of the *Journal of the Telegraph*. At that time, Martin was the vice president and in charge of manufacturing for the United Electrical Manufacturing Co. The store and his shop were located at 53 Vesey Street.



Though it did include a straight key, the Martin Gem Set seems to have been developed as an instrument for practicing with a Vibroplex “bug.” Note faint Western Union identification. Martin identification on bottom shown in a separate picture.

The ad promoting the Vibroplex stated that “For one dollar we will send for the next 30 days one of our Gem Key and Sounder outfits postage prepaid. This outfit is carefully designed and excellently made. With one dry cell it gives a loud, clear signal. Just the thing for home practice on the Vibroplex.”

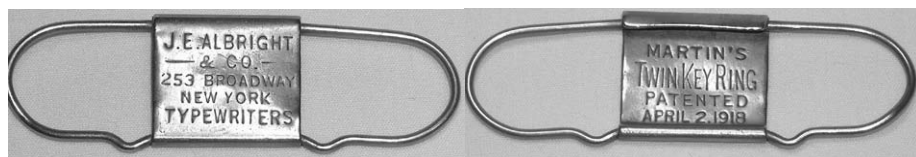
I own two of these sets and both have Western Union Telegraph Company markings. Only one of them, though, has Horace G. Martin’s mark.



This view of the bottom of the Gem Set shows the barely decipherable Martin markings.



A second Gem Set in my possession has this much clearer Western Union identification, but no Martin markings.



Both sides of the Martin key holder. J.E. Albright, whose typewriter company is advertised in this example, operated his Vibroplex firm at the same location.

The wording faintly engraved into the bottom of the wooden base reads: Horace G. Martin, 51 Cliff St., New York, N.Y. USA. The coil resistance on the two units I have are 2.5 and 3.3 ohms and the base dimensions are identical at $4\frac{1}{2}'' \times 3\frac{3}{8}''$. The keys have a very nice feel to them and the sounders produce a crisp yet soft sound.

The 51 Cliff St. address on my marked set dates it as later than the early Vibroplex ads, so it is possible Martin was also supplying them to Western Union as simple, inexpensive practice sets. There was no patent protection for this design as there was for the Vibroplex. Other manufacturers were free to compete for this business, which might explain some of the unmarked examples.

The Crystal Detector Stand

Martin spent a lot of time experimenting with crystal sets with attempts to introduce various wireless products. But it does not appear he had much commercial success. Some of his experiments were conducted with his eldest son, Horace Martin, Jr. For the years 1915 and 1916, Horace Jr. was actually listed as being the "Manager" of his father's 51 Cliff St. shop.

In the 1912 ad for the crystal detector stand shown in this article Martin is described as a "manufacturer of electrical and mechanical apparatus." It is interesting that for several years during the teens, Martin's shop is listed in New York City directories (sometimes in bold print) as: "Horace G. Martin: Electrical and Mechanical Specialties."

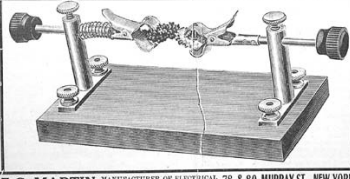
Key Ring

One Martin "key-related" piece that is probably missing from most collections is the Martin Key Ring. On June 29, 1916, Martin filed a patent for a "Key-Holder." At first glance at the patent title you would think it had something to do with a telegraph key. But it was just a simple design to hold conventional keys used for locks "constructed of a single piece of wire bent in an appropriate manner."

I was not aware of this Martin invention until I had spoken to a few of his grandchildren a

number of years ago. One of Horace Martin's grandsons, Allan Goldston, described it this way: "I remember he made a key chain which is best described as two square safety pins butted together in the middle with a metal clip that contained space for an advertisement. Very simple, worked fine and was sold throughout the U.S." In photos I have seen of two examples owned by Martin's grandchildren, one has a picture of an unknown baseball player on it and the other has an advertisement for Lily Cups.

As soon as I learned of the existence of the Martin key holder, I began searching for an example at various antique stores. But it was not until this past year that I found one—on eBay. It was offered by a seller located in Australia, of all places.

HEAR YE! HEAR YE! \$2.00—OPPORTUNITY—\$1.00 \$2 is the regular price of this excellent Detector Stand, but as an advertisement for the next sixty days ONE DOLLAR will make you the owner of one of these useful and economical trouble-savers. And please remember—don't forget—I am the manufacturer of the VIBROPLEX transmitter, the sending machine of world-wide fame. Naturally all of my wireless instruments embody the same perfection of design and construction as the VIBROPLEX and the Detector Stand here shown is no exception in this regard. The clamps have an eccentric as well as a longitudinal movement, affording a wide range of adjustment.	
PRICE: 1 FOR SIXTY DAYS ONE DOLLAR POSTAGE 20 Cents EXTRA Always Register Letters that Contain Money	 NO Minerals or Crystals are Supplied with this Instrument If you want a Tuning Coil that is in a Class by itself I have it.
HORACE G. MARTIN MANUFACTURER OF ELECTRICAL AND MECHANICAL APPARATUS 78 & 80 MURRAY ST., NEW YORK, N. Y., U.S.A.	

Martin took a flyer into the promising wireless field with the unusual crystal detector stand shown in this 1912 advertisement.

Not only that, but it carried the markings of J.E. Albright & Co., a typewriter/office supply store that operated at 253 Broadway until 1921. This was also the first address of the Vibroplex Company, which was established by James E. Albright in 1915. The J.E. Albright & Company and the Vibroplex Company operated as separate businesses. But they occupied the same building and shared the same storefront at various New York City addresses, through 1978.

Since his early days with United Electrical Manufacturing, Martin also advertised that he was available for contract and royalty work. So I would not be surprised if there are other obscure Martin-manufactured products to be found

in the years ahead.



NOTES

¹ A name given by collectors to Martin's rare, un-named Vibroplex from his patent, #1,042,457.

SOURCES

Journal of the Telegraph, July 20, 1906

Modern Electrics, June 1912

The OTB, May 2003, "Horace G. Martin,"

Sources Parts 1-3.

U.S. Patents: 871,352, 1,261,148, 1,318,400

VACUUM TUBE, continued from p. 16

small a sales opportunity for these. RCA distributed lots of other eye tubes (2E5, 6AL7GT, and several miniatures) to the replacement market, but these were bought-in.

Power Tubes. Having copied the Eitel-McCullough 150T as its 806, RCA reached higher with the A2133, a glass power triode in a GT40 globe-tubular bulb on the "giant" four-pin base, with grid brought the side on a pin, 12 $\frac{3}{4}$ " high overall. Its drawings look remarkably like the Eimac 450T, down to Eimac's prewar three-wire anode support. The design dates from 1940—when demand for 450Ts was blooming—but was "recalled" in 1942.

The 832 dual tetrode, familiar today with its "septar" seven-pin base, started out instead as the A324, a giant acorn construction (2 $\frac{1}{4}$ " dia.), with radial pins. It originally lacked a center tap on the heater.

There were several external-anode power tubes developed in the '30s. Examples are these:

- A228, a metal-body triode from 1934 with shell in a cylinder-taper-cylinder form, with pressed glass stem on a four-pin base. The filament was 7.5 volts at 3.25 amps, the same as in RCA's 800 of the same period.

- A498B, a 1934 tetrode with a tubular glass bulb of pressed-stem design sealed to a metal anode, on a five-pin base. The anode had a vertical-finned radiator with a binding post on top. The radiator was about 1 $\frac{1}{2}$ " in diameter and 2" high, coated with a silicate-graphite composition for good heat emission. The tube stood 6 $\frac{1}{2}$ " high overall. The filament was the same as in the 800, suggesting ability to emit the same current of 80 mA or so, but with plate voltage and power dissipation higher than the 800's 35 watts.

- A2063, a triode looking like a scaled-down 829R, with a radiator of about 1 $\frac{1}{2}$ " diameter and 1 $\frac{1}{4}$ " high, with eight large pins for the leads, from 1940.

- A4247, a super-power duotriode with 8" body and 31 $\frac{1}{2}$ " long overall, with bolted flanges of 9 $\frac{1}{4}$ " diameter at the ends. This bruiser was internally water-cooled, with inlet and outlet water lines for each of the plate, grid, and filament seals, yielding something of a "plumber's delight." No electrical specifications are available, but a guess at the dissipation rating might be 200 kW. This device was of 1941 vintage, long before RCA's "super-power" program. ☑

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then earned a Ph.D. degree in Interdisciplinary Studies at the School of Engineering of University of New York (Buffalo). After graduating he moved to Southern California, working at Gulf General Atomic for several years before joining Jaycor, a defense company in Southern California, where he spent most of his career. Beginning as an engineer, he later became President and Chief Executive Officer.

Upon his retirement in 2002, Eric set out to research the early days of wireless and document interesting historical vignettes using original materials. He has written articles for the *AWA Re-*

view and *Antique Radio Classified*, and has recently published a critically acclaimed book, *RCA: The Golden Age of Radiola, 1919-1929* covering the early history of RCA—including the formative years of the Marconi Telegraph Company of America. For this work he received the AWA Houck Award for Documentation in 2007. He is a past member of the American Physical Society, and a current member of the IEEE and the Antique Wireless Association. Dr. Wenaas resides in Southern California and continues to enjoy collecting and displaying radios and researching the early days of wireless. ☑