

VIBROPLEX

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This is the second in a series of articles by author Lou Moreau, W3WRE. Historians interested in telegraph development should read her article in the December, 1972 Bulletin titled "Historical Outline of Key Design."

To tell the story of the "bug" is to tell the story of Vibroplex because, with the two very brief exceptions, the only legally permissible semi-automatic key was the six different models produced by Horace G. Martin's Vibroplex Company for over twenty years. As early as the 1880s there were attempts to develop a telegraph key that would work on an automatic, or on a semi-automatic principle producing the code through a system of vibration of the key lever. Walter Phillips, for example had such an invention, as did several others of that time. These instruments had little or no provision for damping thus causing split dots, poor, and often indistinct characters, and on a string of dots were unable to create heavy enough impact to operate the relay when used on sluggish wires through many repeaters. Thus, although attempts were made, none were successful until after the turn of the century when the forerunner of the Vibroplex, the "Autoplex", an invention of Horace G. Martin, was granted a patent June 30, 1903 (See page 7, March, 1974, OTB).

The Autoplex was the first key to employ the method of manually made dashes, and automatic dots. This instrument was powered by a pair of dry cell batteries that activated the dot mechanism; but when switched to dashes energized a pair of magnets to hold the lever stationary so that the dashes could be made manually. The most important part of the patent for this "Telegraphic Transmitter" were the almost blanket specifications contained in those eight pages of drawings and descriptions. In it

Martin covered every form of creating dots automatically, and dashes manually so that when the patent was granted he literally slammed the door on any possibility of anyone manufacturing this type of key with just two exceptions. The Autoplex was manufactured by Martin himself in New York, and by the United Electric Manufacturing Company of Norcross, Georgia.

Walter Phillips, of United Press was assignor of one half of that first patent, but it is evident that Martin soon acquired the full patent rights from him for his name is connected only with the Autoplex of 1903, and is not with any of the Vibroplex that appeared the following year. Nor is it with the patent applied for in 1903 and granted in 1904. Mr. Elmo N. Pickerill, who knew and worked with them stated in 1958: "Phillips gave Martin a lot of encouragement while he was working on the key, and put a little of his own money in it."

Ad on opposite page from 1929 QST

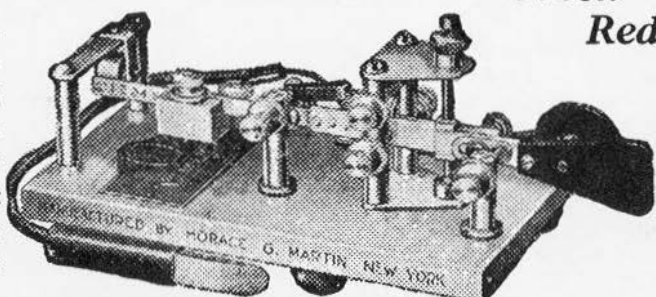
Martin improved the Autoplex design to produce a less cumbersome and lighter key. On August 9, 1904, he received a second patent for a smaller, more compact instrument that could be battery powered, or was self-activating. This self-activating key was the Vibroplex, and that name appeared for the first time on the nameplate in 1904. All these keys were custom built to order by Martin. According to operators as P. J. Faulkner, John Alcorn, and E. N. Pickerill who worked with Martin as telegraphers, the operators would see his key, order one from him and pay five dollars, and several days later he would deliver the key to them. Louis Dow, later of Dow Key, and P. J. Faulkner, demonstrated this key to Western Union, Postal Telegraph and the result was acceptance of this key for their wires, and also on the wires of the press associations.

The NEW Easy-Working VIBROPLEX No. 6

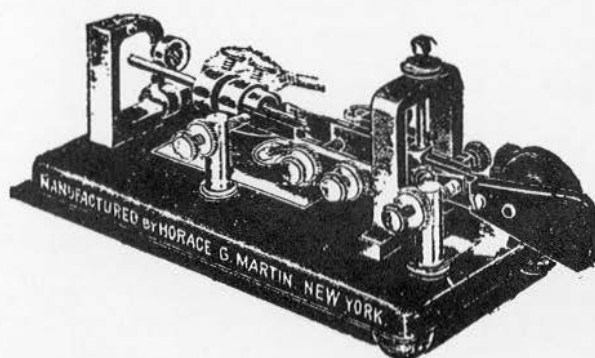
Reg. Trade Marks: Vibroplex; Bug; Lightning Bug

In Attractive Colors *Blue* *Green* *Red*

The smoothest, easiest-working bug on the market. 10 New Features. Fast or slow speed. A great bug for amateurs.



Black or Colored.....\$17 Nickel-Plated.....\$19



Famous Improved VIBROPLEX

Used by tens of thousands of operators because of its ease and perfection of sending.

Black or Colored....\$17
Nickel-Plated.....\$19

Special Radio Model Extra Large, Specially
Constructed Contact
Points for direct use without relay. Black or
Colored.....

\$25

*Your old Vibroplex accepted as part payment
Remit by Money Order or registered mail*

THE VIBROPLEX COMPANY, Inc.
825 Broadway, New York City
Cable Address: "VIBROPLEX" New York

THE VIBROPLEX KEY

In January 1907 improvements were added by a change of the mounting of the dot contact on the pendulum from a single leaf-type spring mounting to the familiar "U" style.

Although Vibroplex patents effectively prohibited all other attempts to market this key, two inventions were successfully produced commercially due to loopholes in the otherwise tight Martin specifications. In 1909, the Hulitt Transmitter, of the Hulitt Company of Topeka, Kansas, that operated by use of a spring driven action of the pendulum that was key wound, much in the same manner as winding a clock, to produce dots, and a separate lever was provided for manually made dashes. This key had a brief existence on the commercial market, and was later absorbed by Vibroplex.

The other was the Mecograph, more popularly known as the "Right-Angle Bug." This key operated on a release of spring tension principle in contrast to the Martin design that utilizes creating tension on the spring to create automatic dots. The Mecograph Company of Cleveland, Ohio, produced four models of this key, based on the Coffe, Bellows, and Behner patents, in the period from 1906 until 1914, when they were absorbed by the Vibroplex Company.

Martin continued introducing modifications, and improvements of the Vibroplex to meet special needs in the telegraph industry. In 1911 he introduced the two-lever Vibroplex that reflected the dual lever action of the Hulitt key, with a completely separate dash lever and mechanism designed to eliminate the possibility of split dots.

Although the tradename Vibroplex was used by Martin on all his instruments from 1904 on, it was not until 1911 that these keys appeared with this name as a registered Trademark, issued as Trademark Number 84356, on November 28, 1911.

1912 saw the marketing of the "Model X." This key operated on a

new principle that employed a single contact to make both dots and dashes with a stop mechanism that held the pendulum stationary while making the dashes.

From 1913 on Vibroplex was acquiring some of the Royal L. Boulter, of Los Angeles, California patents and adding his inventions for possible future use in their instruments. Probably the most interesting feature of the Boulter patents held by Vibroplex was one with a sketchy "keyboard" idea in 1916. A form of this key appeared briefly in the western United States, but none of these designs were ever made by Vibroplex.

In 1914 Martin answered the need for a smaller size, lighter key that could be carried more easily to cover remote operation at special events. The Vibroplex #4, a 3/4 size model of the original that used a "U" type damper mount appeared in 1914.

Also in 1914, following the death of Benjamin Bellows in May of that year, Vibroplex took over the Mecograph patents, and for the duration of the patents that had been a part of that company, advertized as The Martin Vibroplex and Mecograph Company of New York. At that time the J. E. Albright Company was the sole agent for these keys.

Despite Martin's tight patent hold on semi-automatic keys, there were many attempts to produce this popular instrument, and a number appeared on the commercial market, but only briefly, for only Hulitt, and Mecograph could be sold commercially without a patent infringement. However manufacturers such as Mt. Auburn Specialty Company, O. M. Thomas Electric Company, the A to Z Electric Novelty Company, the Thomas J. Dunn Company, and others, were manufacturing and selling keys of the semi-automatic style. The A to Z product, sometimes called the "ATOZ" was a particularly flagrant infringement in that it was advertized as "The Improved Vibroplex" and so named on the nameplate. It was an almost exact copy of the original Vibroplex including the black japanned base, and the gold leaf "carriage

(Continued on next page)

markings" that were associated with the Martin keys. None of these instruments lasted on the commercial market because patent infringement suits brought by Vibroplex.

However, these so-called "bootleg" semi-automatics were, in many cases excellent instruments. Operators had purchased them, and were using them despite the fact that they were not the legally approved Martin product. The Albright Company convinced the major telegraph companies that Vibroplex was the only key that could be produced legally, and that all keys not made by them were infringements on the patents with threat of legal action so that none of the "bootleg bugs" could be used. This action almost caused an operators strike since most of them preferred to work with their personal keys, and it had long been a policy of the industry to permit the operator to work with the key that suited him best and with which he could turn out the most work. So, a compromise was reached. If the key, inspected by a representative of the J. E. Albright Company, as agent for Vibroplex, was able to meet Western Union specifications, and was comparable to Vibroplex in clean sending, and no split dots, then it was possible to purchase a special license authorizing the use of the key for \$2.00. This license was a brass plate that read:

"This machine is not guaranteed
nor made but only licensed by
The J. E. Albright Company.

Each plate had a serial number. For those used at Western Union the plate was stamped "Special W. U. No.---." For those individual operators not connected with Western Union the number was designated as "Special No.---." These keys were nicknamed variously "The Legal Bug," "The Legitimate Bug," (naturally) the "Albright Bug," but most often they were called "The Bastard Bug," by the operators.

By 1917 Martin found still another need for a key for a special use, and the fifth of the Martin designs appeared for a key to be used in crowded operating conditions where space was

at a premium as on a wire chief's desk. This key using the 1912 "X" model design employed only one contact for both dots and dashes, and the entire mechanism was mounted vertically on a 2-1/2" x 3-1/2" base. Advertised as the "Upright Model," or "The Wire Chief's Key," it was nicknamed the "Vertical Bug" by the operators. Both the "X" model, and the "Wire Chief's Key" were made until 1925 when both models were discontinued.

In 1923 Martin's greatest key appeared as "Vibroplex #6," or the "Lightening Bug," and the famous, very familiar stylized version appeared on the nameplate, and was listed officially as one of the three Vibroplex trademarks.

Martin's final design for Vibroplex came in 1934 with the "Martin Junior" designed with larger contacts for amateur radio operation.

Martin left Vibroplex in the 1930s and went into business as the Martin Research and Manufacturing Corporation, producing the "Martin Flash Keys," and, in 1939, just prior to his death sold his patents and dies to the J. H. Bunnell Company.

The expiration of the exclusive manufacturing rights, and the Martin Vibroplex patents opened the commercial market to the production of semi-automatic keys from the mid-1930s.

Vibroplex continued to produce the "Original," the "#4," the "Lightening Bug," and the "Martin Junior." In 1940 John La Hiff took over the company and added his patented "jewel movement" as well as more types of semi-automatic keys: The "Original," the "Lightening Bug" (formerly #6), the "Blue Racer," (formerly #4), the "Champion," the "Zephyr," all were made with the jewel movement in the deluxe models, or plain base without the jewel movement in the less expensive models. In 1941 they brought out the "Presentation," that had a gold plated base and added adjustment to the pendulum. And, with the advent of the electronic keyers, they decided it was better to "jine 'em" than to "fight 'em"? and produced the misnamed "Vibrokeyer" a key that is used to activate the electronic keyers.