

KEY AND TELEGRAPH



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Technical and Legal History of the “Bug” Trademark

There are two meanings for the term “bug” in the history of the telegraph. One had its roots in a technical problem; the second in an affectionate nickname given to semi-automatic “transmitters.”

I will examine both meanings in this article.

During the 1870s, long before the semi-automatic key appeared, the term “bug” had a very specific meaning for telegraph engineers and inventors. It was commonly associated with false signals that were heard on Quadruplex circuits.

The Quadruplex allowed four simultaneous messages to be transmitted on a single wire — two from each direction. One of the relays used in the “Quad” was called a neutral relay. When the current was reversing polarity on the line, there was a period when there was no magnetism in the coils of the neutral relay. The armature then had a tendency to fall back on its stop, generating false and interfering signals, or breaks. This unwanted movement of the armature was considered to be the “bug.”

Thomas Edison’s early Quad designs were plagued with this problem. Unable to eliminate the cause of a problem, he came up with “an arrangement that rendered the effects insignificant.” Various electro-mechanical circuits that Edison called “Bug Traps” were designed to take care of this transition time.

Edison’s first bug trap consisted of a repeating sounder installed between the neutral relay and the local sounder. The delayed response of the repeating sounder isolated the false signals from reaching and activating the local sounder. Later, several other inventors came up with their own designs to eliminate these false signals. By 1890, the

term “bug” had evolved to generally describe a fault on telegraph multiplex systems and was used to identify the source of a problem on a circuit.

When the first semi-automatic keys appeared on the wires around 1904/1905, they were originally advertised as, and called, “transmitters.” The first telegraphers to use the transmitters were some of the best in the country. They were considered “First Class” or “A1” telegraphers and worked the important circuits where speed was necessary. Naturally with that much practice they soon mastered the new transmitters.

By 1908 the instrument began to be more widely used, even by telegraphers who worked slower speed circuits with plenty of intervals having no activity. These telegraphers were often criticized for causing many errors. Their lack of experience and misadjustment of the transmitters sometimes resulted in excessive and “clipped” dots. It was around this time that the telegraphers started to use the nickname “bug.”

In 1913 Donald McNicol, an engineer, professor, and former telegrapher, had this to say about the transmitters: “...although the sending machines at present in use have surely made for increased speed of signaling, they have, in many instances, been the cause of poorly founded reflections being cast upon the electrical efficiency of a certain class of circuits.” Telegraphers using the instruments had to learn to modify their sending technique and speed, depending on circuit conditions, in order to prevent false signals from being transmitted.

During the 1920s the contemporary meaning of “bug” and the right to use the word in trade was challenged in court. The dispute was between two of the best



Plaintiff exhibit 4, showing use of the term “bug” in a Vibroplex ad.

U. S. Dist. Court,
S. D. of N. Y.
Docket Ex. 6
MAR 17 1926
229-337

THE GHEGAN "GOLD BUG" TELEGRAPH TRANSMITTER



As the BUNNELL KEY was and still is superior to any other make, so we believe the "GHEGAN GOLD BUG" is superior to any other transmitter of this type.

SIMPLE IN CONSTRUCTION. Correct mechanically and electrically.

Made, guaranteed and sold by J. H. BUNNELL & COMPANY with a "moneyback" understanding if not satisfactory.

ADJUSTING

Set the back stop of spring weight so that spring has just enough play to work freely, and the spiral holding spring with just enough tension to hold weight against stop when not working. The dash contact should be set to hold the circuit open when key is at rest, and the dot contact to make clear firm dots at proper speed when the vibrating spring is working.

List Price - \$12.50

J. H. BUNNELL & CO., Manufacturers 32 Park Place, New York

Plaintiff exhibit 6, showing use of the term "gold bug" in a Bunnell ad.

known key manufacturers is the U.S.: The Vibroplex Co. and J.H. Bunnell & Co.

Vibroplex attempted to stop J.H. Bunnell & Co. from using the word "bug" in the name of its "Gold Bug" instrument. In an earlier lawsuit and appeal, the company had tried, and failed to stop the manufacture of the Bunnell "Gold Bug." Prior to this, Vibroplex had a very successful track record of stopping competitors in their tracks, and in some cases even preventing them from getting beyond the experimental stage.

Vibroplex felt that their only legal option was now to try and stop Bunnell from using the "Bug" name. However, in a bitter legal battle, the company lost the trademark suit in both the lower and appeal courts. Underlying the judges' opinions in both courts are some interesting details on the history and use of the name "bug" and the character of the two companies selling the instruments. I will highlight the arguments for both sides.

First the arguments by Vibroplex: Their position was that rights to a trademark derive solely from use of the term in trade, and not at all to its use in mere conversation. On or about March 1, 1919, the company adopted and began to use three new trademarks. First, the representations of a bug with conventional lightning rays radiating from it. Second, the words "Lightning Bug," and third, the word, "bug" itself. The three marks, along with the name "Vibroplex," were placed on all machines that they manufactured from that date.

The firm claimed that there was not one instance of the word "bug" having been used in trade by anyone prior to its own adoption as a trademark on March 1, 1919. Vibroplex formally applied for the three new trademarks a year later, on May 11, 1920. The company stated that over the years there were sporadic efforts by other manufacturers to introduce similar machines, possibly 10 to 12 in number. All were said to be short-lived and of "little substantial merit."

The machines mentioned included Mecograph, Autodot, Peerless, Dunduplex, Dun-

triplex, Duncushion, Coulter, Dinger. Abernethy, National and Ultimate, The word "bug" was never applied to any of these instruments by an inventor, maker or seller. Vibroplex challenged Bunnell to produce an ad that showed the term being used in describing an instrument.

Bunnell's position was that, with Vibroplex's "broad patents" about to expire, Vibroplex decided to attempt to trademark the common name "bug," well aware of the fact that it had been used for at least a dozen years previously. In 1913, six years before Vibroplex claims to have first used the name "bug," Bunnell had designed an experimental semi-automatic key of its own and named it "Gold Bug." They felt that Bunnell had the right to use the "Gold Bug" mark in trade just as Vibroplex has the right to use the "Lightning Bug" mark.

They stated that all "fluttering arm, multi-legged-appearing telegraph keys", had been known as, and called by, the common term "bug" by everyone in the telegraph art or trade. And that term was used to distinguish such instruments from the other "genus telegraph key, the Morse" which was made and sold by many manufacturers. The entire trade applied the word "bug" not only to Vibroplexes but to all other similar instruments known to telegraphers.

In the Appeal case, Bunnell cited the lower court's decision by Judge Francis Winslow who stated: "This vibrating or fluttering arm, because of its aptness, probably suggested the name "bug." Bunnell argued that Vibroplex would have more of a case if Bunnell were calling their instruments Bunnell Vibroplexes, but instead thought Vibroplex was trying to take a public word and turn it into a private monopoly. "The case is precisely the same as if a plaintiff piano-maker were seeking exclusive trade-mark to the name "piano."

During the lower court case, Bunnell's lawyer, Philip Farnsworth grilled Vibroplex President James Albright on the stand. Here is a brief, yet amazing, sample in which Farnsworth is trying to get a reluctant Albright to name the machines produced by its competitors in the past:

Farnsworth: "You know that there were a number of machines, six, or eight, or ten machines; what were their names before 1920, give us a list; you were president of this concern?"

Albright: "I do not remember."

Farnsworth: "Do you remember the "Mecograph" bug?"

Albright: "Oh, yes."

Farnsworth: "Do you remember the "Auto-Dot" bug?"

Albright: "Yes"

And one by one Farnsworth asked Albright for the names, each time framing his questions with to include the term "bug," until it was finally objected to by Vibroplex's attorney, Murray Corrington—but overruled. Judge Winslow asked Albright if there was any relationship between the fact that his trade mark applications were filed in May of 1920 one month before the first of their four primary patents was going to expire and wanted to know if there was any significance in that. Albright's answer: "None that I know of."

In January of 1928 the U.S. Circuit Court of Appeals upheld the lower court's decision in favor of J.H. Bunnell & Co. The three circuit judges in their Opinion stated: "a mark is less likely to signify origin when it is accompanied by others than if it stands alone." All this legal activity obviously had little effect on Vibroplex's popularity. The Bunnell Gold Bug was short

lived and quickly faded.

The Vibroplex Bug is admired today just as it was when Horace Martin first introduced it almost a hundred years ago. Ironically, during all this legal activity, J.H. Bunnell & Co. was an active dealer for Vibroplex and had been selling Vibroplex Bugs continuously since around 1912. Today if you hear one on the air it is usually very recognizable, because it simply sounds like a "bug." ☐

SOURCES

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VACUUM TUBE, continued from page 49

yielded to 70°, 90°, and then 110°. The arrival of color, with the need to power three electron guns, aggravated the need. Thus sweep tubes of postwar design grew in dissipation rating:

6AU5GT (1949, 8 W)

6BQ6GT (1949, 10 W)

6DQ6 (1955, 15 W)

6DQ5 (1957, 24 W)

6KD6 (1965, 33 W)

Further multiplication of sweep types came from the tendency to release a given design with and without a top cap (e. g., 6GT5 vs. 6GJ5). Other types were derived from conventional designs, but with the suppressor grid pinned-out separately for use with a bias circuit that suppressed "snivet" oscillation in the picture.

A further source of new types was the rise of Japanese exports of TV sets and tubes in the early '60s. From far-away places, these had "strange-sounding names" like 6G-B3A, 6R-HH2, or 12G-K17. Many were dual-numbered with EIA identifiers; some were not. As the replacement market grew, some U.S. tubemakers like Raytheon distributed these types themselves.

The above suggests that most of the proliferation in tube types can be ascribed to (read:

"blamed on") the TV industry. By contrast, makers of communication gear and hi-fi systems were very conservative, sticking for decades to familiar tubes like the 6BA6. Only late in the game did they make much use of the new types that had been developed for TV use.

Proliferation of types in the TV field came down upon the poor service technician, of course. In 1950 the typical serviceman's tube caddy held about 100 types. By 1970 caddies had grown to capacities of 400 or so tubes, and it was not unknown to carry two caddies on the service truck!

Tube Collectors Association Celebrates Fifth

In closing, it is timely to note that the TCA has completed five years of service to the historian-user-collector community. Founded in 1999 at the suggestion of serious collector Al Jones, W1ITX, the group closed 2003 with 350+ members in 18 countries. The Association has focused strongly on publishing tube literature, and has brought out a good deal of previously unknown history. For details, interested readers are welcome to contact the writer at (new address) tube-lore@jeffnet.org, or on (541) 855-5207. ☐