

Vacuum Tubes That Went to Court

By Joe Gruber

This author, 12 years ago, attended an auction in New York City. While no old radios or vacuum tubes were mentioned, 1 lot did have several items that I had to purchase. The items came from the long-closed law offices of Penne, Davis, Marvin and Edwards located at 165 Broadway, New York City. It was much like a time capsule of desks, file cabinets, office equipment, chairs and storage units, etc., from the late 20's would be the best guess. It looked as though the doors were closed, the lights turned off only to be opened up many years later and the space and contents sold at this auction. Apparently, this law firm handled many radio-related patent infringement, patent submittals and other such cases. The small oak file storage unit purchased contained around 150 patent submittals from such inventors as Lowenstein, Alexanderson, Harold and Fessenden. 5 vacuum tubes were also in this same cabinet with scratching's and court case numbers marked on the tube bases and boxes indicating they had been submitted as evidence. There may have been other cabinets with such evidence I did not see or the prices were too high for me to find out. See below for those most interesting tubes and boxes.



Fig. 1

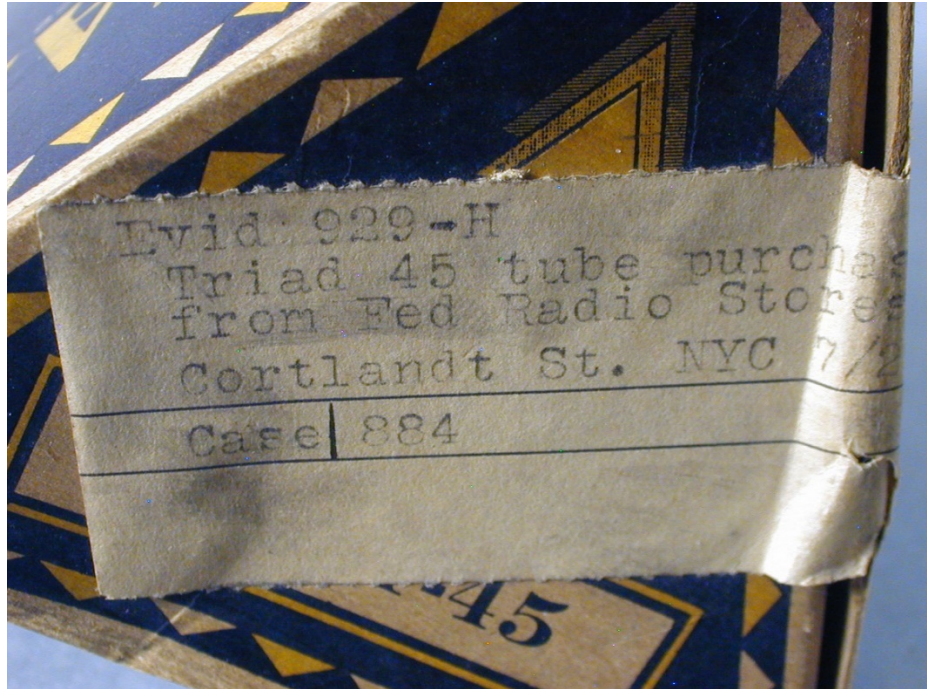


Fig. 2

As can be seen in Fig.'s 1 &2, one tube and box in the file cabinet was this Triad T-45. The T-45 appears to be new but upon testing, it had very little emission. It could be speculated that the buyer tried to return it but the seller would not refund the purchase price. It could also be that the presumed license from RCA was not in force for one reason or another. Hard to say for certain. As can be seen, a paper tag was affixed to the carton for the case- evidence #929-H and case # 884.

Interestingly, the tube was purchased from the Federal Radio Store on 88 Cortlandt Street, New York City on 7/9/30 that was located on the now famous "Radio Row". To be remembered, all the businesses in this square block were torn down to make room for the World Trade Center.



Fig. 3

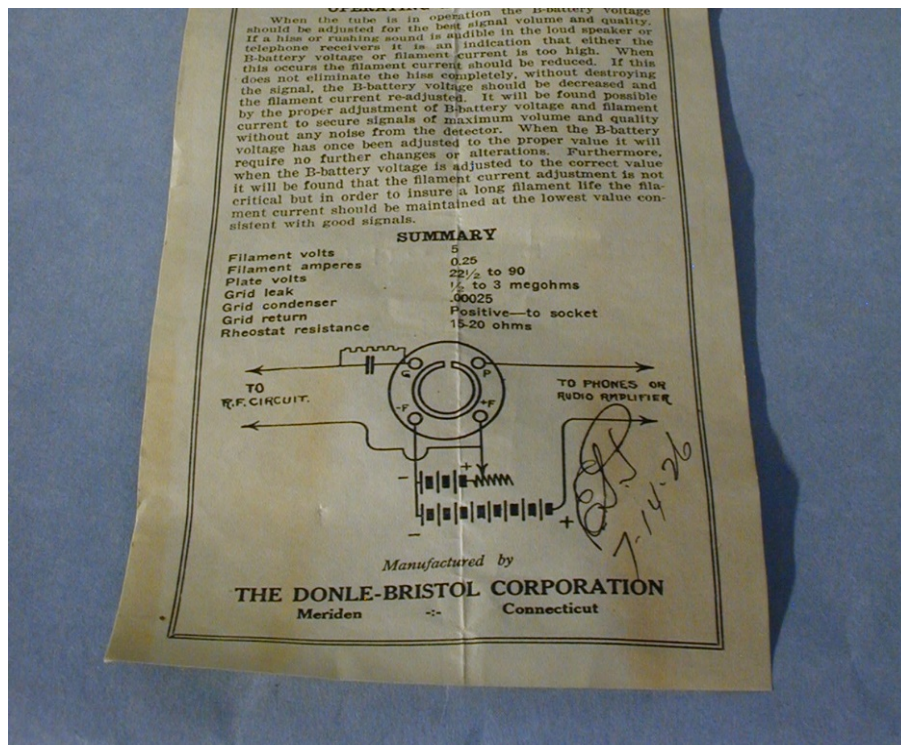


Fig. 4

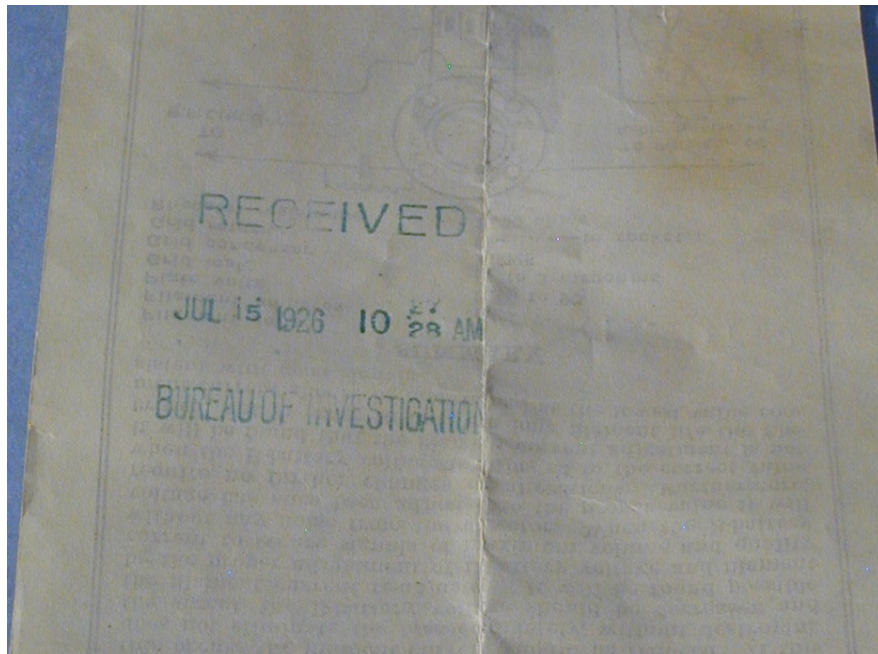


Fig. 5

The next court case tube in the file cabinet, shown in Fig's. 3, 4 & 5 is this Donle-Bristol detector type B-6 made by the Donle-Bristol Corporation, Meriden, Connecticut. The court official wrote on the box label E for evidence #694 and signed it J. He also marked and signed the instruction sheet- ESP 7-14-26. It is also marked "Received, July 15, 1926" and further marked "Bureau of Investigation" on the rear of the instruction sheet. The bakelite base of the tube has "Tested- 7-14-26" scratched onto it. This tube also appears to be new in the box.



Fig. 6

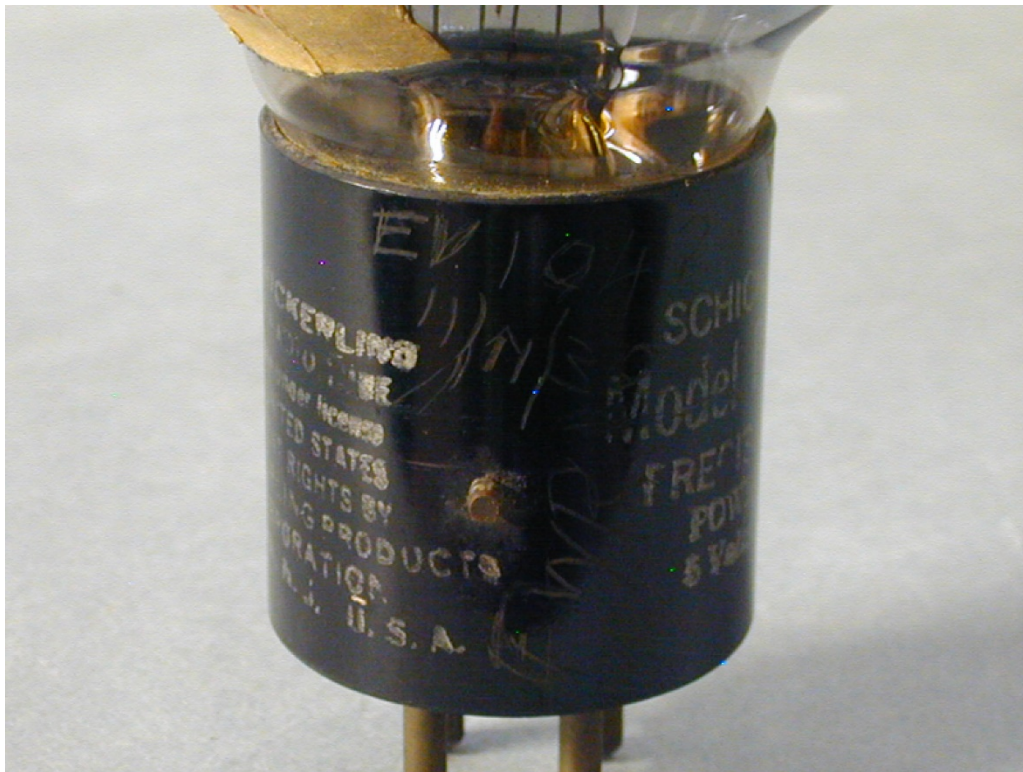


Fig. 7

The next out of the cabinet was this Schickerling PS-15 power tube shown in Fig's 6&7. The matching box has no markings but the tube has the evidence # as 1942 and the date 11-11-30 and the initials EWR scratched into the bakelite base. The instruction sheet is missing and must have been lost in the shuffle. Looks as though this tube may have only been tested as it seems brand new.



Fig. 8



Fig. 9



Fig. 10



Fig. 11

Fig.'s 8,9,10 & 11 show another Schickerling tube that went to court and was in the antique cabinet. This S-700 has a number of court markings starting with the initials BE, 2-1-26 and evidence # 659 scratched into the brass base. It also has #659 & case # 546 hand written on the inside of the top flap. It has the customary Schickerling triangular internal structure. Again, this tube appears to be un-used so one could only speculate as to why it came to court. Conrad Schickerling had a pretty bad reputation over his years in business so that may be part of it.



Fig. 12



Fig. 13

The fifth tube found was this SX-4000 shown in Fig's 12 & 13. The base has the initial M scratched on the base along with April 9th, 1927, the list and sold prices and case # 7011. Holland Radio stores is another New York City group of radio stores. CT-271 and BL-2 are there for an unknown reason.

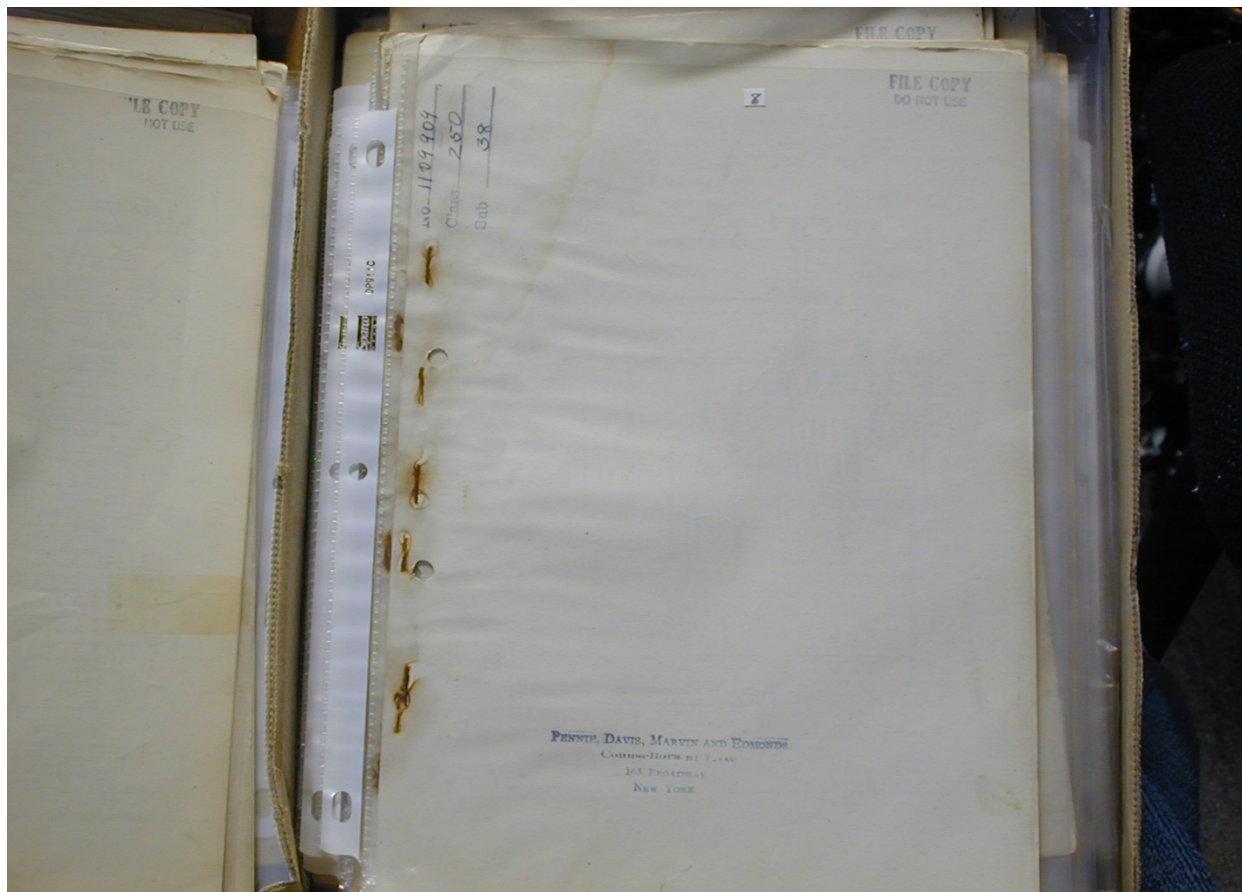


Fig. 14

C. D. HERROLD.
OSCILLATOR.
APPLICATION FILED OCT. 20, 1915.

1,222,761.

Patented Apr. 17, 1917.
2 SHEETS—SHEET 1.

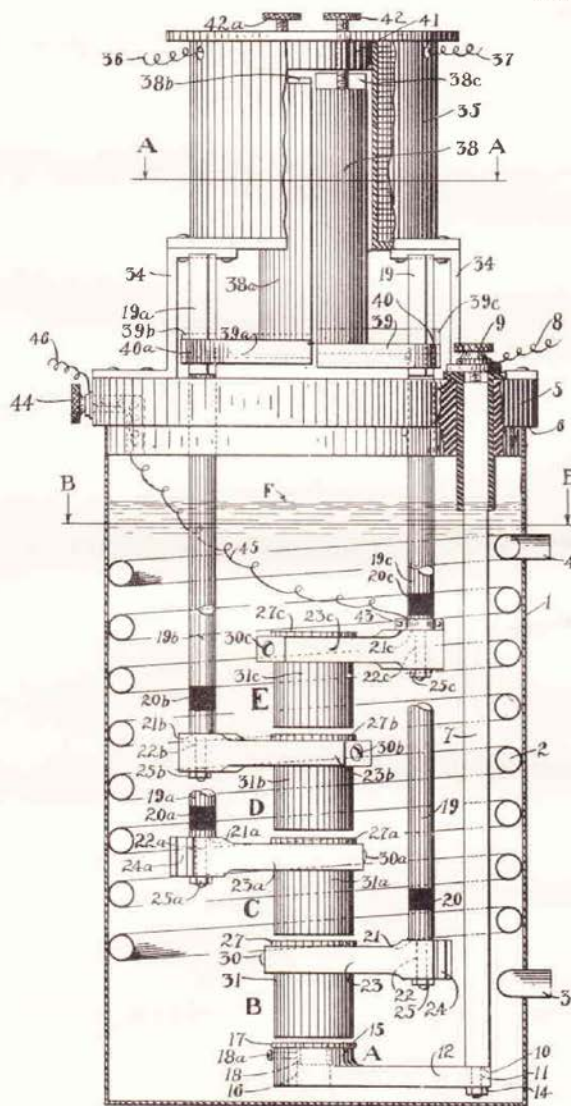


FIGURE 1

INVENTOR
Charles D. Herrold
BY *John A. Baerwith*
HIS ATTORNEY

THE NEW YORK PATENT CO. PHOTO LITHO. WASHINGTON, D. C.

Fig. 15

R. A. FESSENDEN.
ELECTRIC SIGNALING APPARATUS.
APPLICATION FILED JULY 27, 1905.

1,050,441.

Patented Jan. 14, 1913.

3 SHEETS-SHEET 1.

FIG. 1.

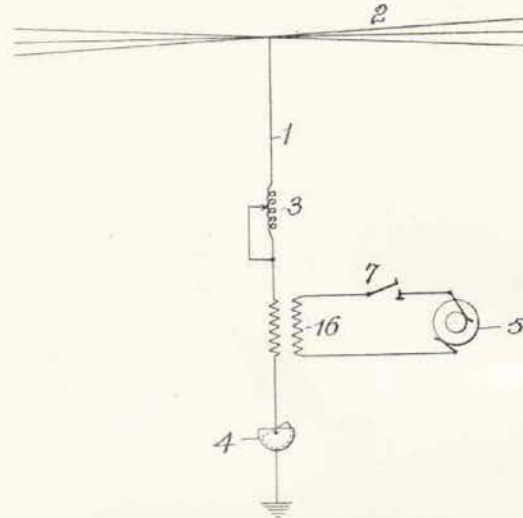
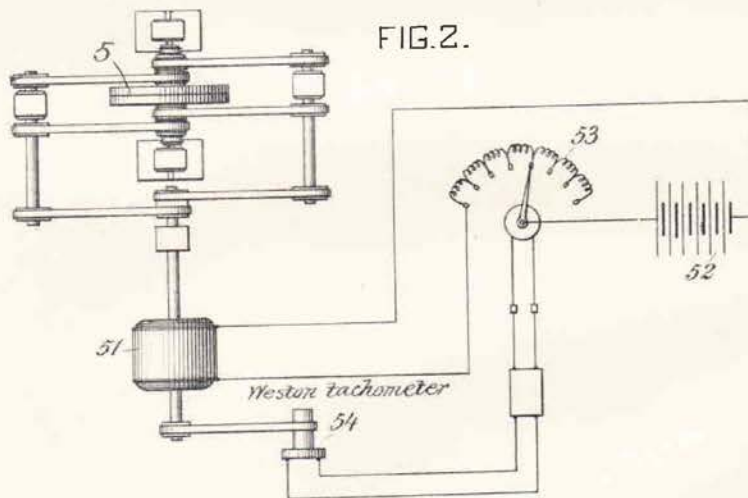


FIG. 2.



WITNESSES:
Herbert Bradley
Dwight Benton

INVENTOR
Reginald A. Fessenden
by Daniel S. Wolcott Atty

UNITED STATES PATENT OFFICE.

FRITZ LOWENSTEIN, OF BROOKLYN, NEW YORK.

SPARK-GAP DEVICE.

1,305,816.

Specification of Letters Patent.

Patented June 3, 1919.

Application filed August 25, 1914. Serial No. 858,499.

To all whom it may concern:

Be it known that I, FRITZ LOWENSTEIN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Spark-Gap Devices, of which the following is a specification.

This invention relates to spark gaps for use especially in wireless or radio signaling installations; and it has to do more particularly with spark gaps of the general type known as quenched gaps.

The principal objects of the invention are: to provide spark gap apparatus of relatively simple construction, the component parts or essential elements of which shall be individually removable and replaceable when necessity arises without disassembling the spark gap structure as a whole; to provide for easy and rapid adjustment of the spark length to suit different operating conditions; to provide a spark gap element or unit of novel form and particularly advantageous characteristics; and to insure efficient quenching and uniform length of the spark gap. Other objects of the invention will appear as the description proceeds.

In order to illustrate clearly the principles of the invention, the application thereof specifically to spark gaps for wireless telegraphy will be more particularly referred to herein, this being at present the most important use for which the invention is adapted.

In the usual types of wireless telegraph systems now in practical use, the apparatus at the sending station comprises an antenna included in what is known as the open or radiating circuit, to which circuit energy is supplied by a closed or oscillating circuit suitably supplied with alternating current from any convenient source. This oscillating circuit comprises inductance, a condenser, and a spark gap across which sparks are made to pass when it is desired to radiate signals from the antenna. The character and construction of the parts constituting this spark gap is a matter of great importance since the nature of the sparks produced, and consequently the operation of the whole sending system, are profoundly influenced thereby. The present invention is directed principally to improvements in

spark gaps adapted for use in this way in wireless telegraphy.

One of the principal requirements to be met in a spark gap device is the necessity for cooling the electrodes of the gap in order that they may be insulated from each other with the utmost rapidity after each spark discharge passing between them. Various methods of cooling the gap electrodes have been proposed heretofore, but they have not been altogether satisfactory and have generally involved more or less complicated construction of the electrodes or auxiliary parts.

In a practical form of the present invention the sparks pass between a pair or pairs of parallel cylindrical surfaces of ample area suitably insulated from each other and best formed in such manner as to favor very rapid dissipation of heat from the surfaces in question. The term cylindrical as herein employed is to be understood in a broad sense as including prismatic as well as strictly cylindrical surfaces, though right cylindrical surfaces proper are much the best in practice. Furthermore the invention in its broadest aspects contemplates the use of other types of surfaces such as conical or spherical surfaces which may be so arranged and spaced apart with substantial uniformity as to provide an air gap substantially annular in cross section; the term annular to be understood moreover as not restricted to a true circular annulus, but as applying broadly to areas included between two curves or polygons more or less concentrically arranged. A spark gap of this character is herein termed broadly a tubular spark gap.

For the sake of a concrete example and in order to explain clearly the principles of the invention thus broadly defined, an especially desirable practical embodiment thereof is illustrated in the drawings and is hereinafter described in detail, such illustrative embodiment comprising a pair of hollow right cylindrical shells or tubes arranged coaxially one within the other, and suitably spaced apart and insulated from each other to provide between adjacent surfaces an annular gap or space of uniform width.

It is also desirable in practice to divide the total requisite length of the spark gap

Fig.17

Fig.'s 14, 15, 16 & 17 show a few examples of some of the 150 or so original patents that were applied for from the law firm stated above. Much other paper was found but it was much too damaged to be saved. Water and mice took its toll. Other tubes and paper were in the other cabinets sold but the buyers refused even a quick look inside. I can only imagine.



Fig.18

Shown in Fig. 18 is the cabinet all the tubes and paper were stored in. It's a nice item in its own right.