

H. P. Donle



References:

The website www.bill01a.com/ of Bill Condon

The book: Saga of the Vacuum Tube by Gerald F. Tyne

Own Collection.

Most of the tube pictures came from Bill Condon's website. I asked permission to use them by email but the emailaddress on his website is an invalid one. So I have no means to contact him.

Donle H. P.

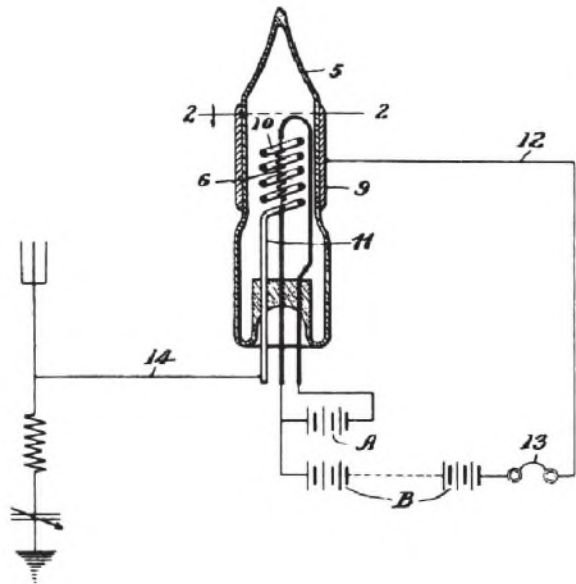
Donle was chief engineer of the "Connecticut Telephone & Electric Co.", Meriden, Connecticut. For a number of years he developed tubes that avoided violation of the Fleming and DeForest patents.

1. Donle type A 1919



The Donle type A is a DC detector triode with an external anode.

Early specimens of this type had an extra glass cover to prevent excess cooling, but it proved to be unnecessary.



Drawing in the American patent nr. 1.291.441

The grid and filament are placed inside the glass envelope. The anode current is supposed to go through the glass envelope.

2. Donle type C 1919

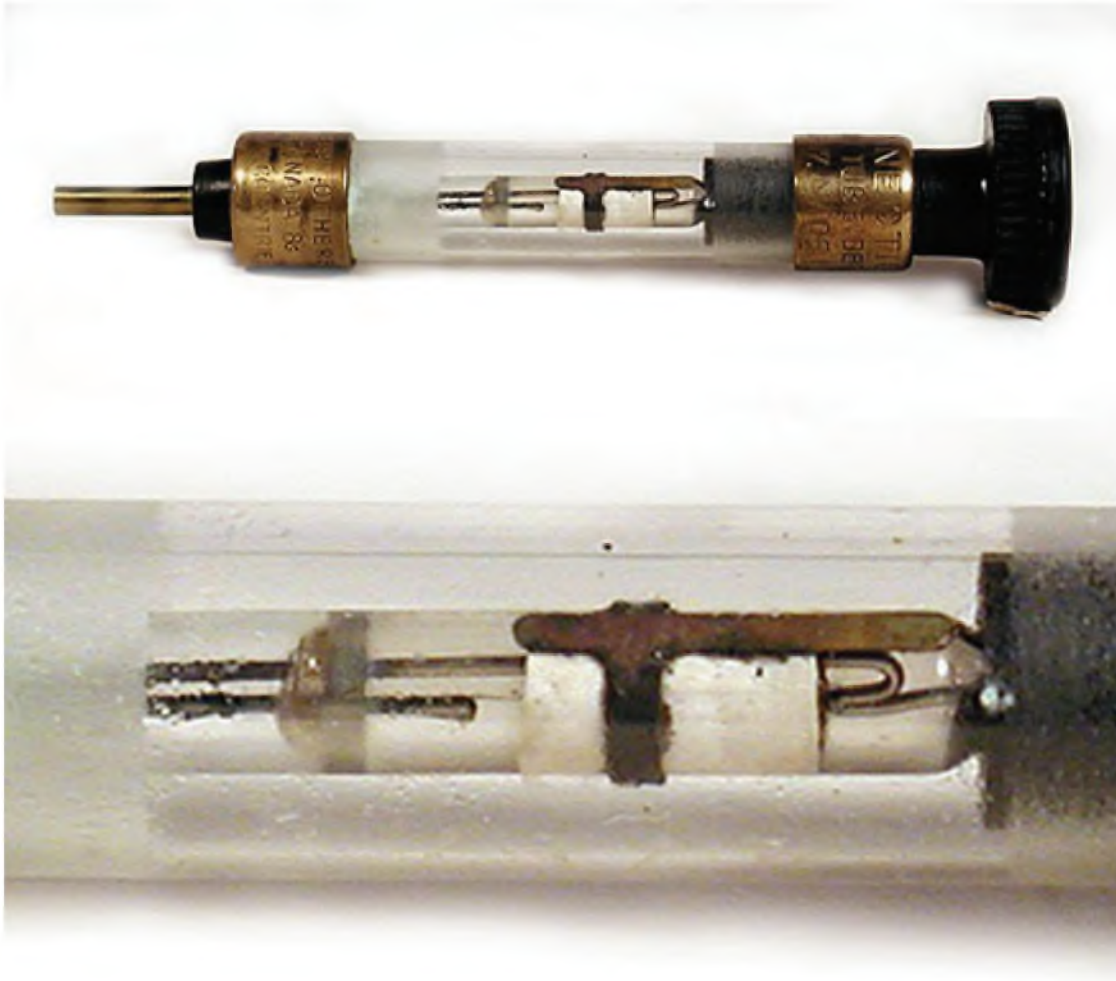


The type C is of the same construction: only bigger.

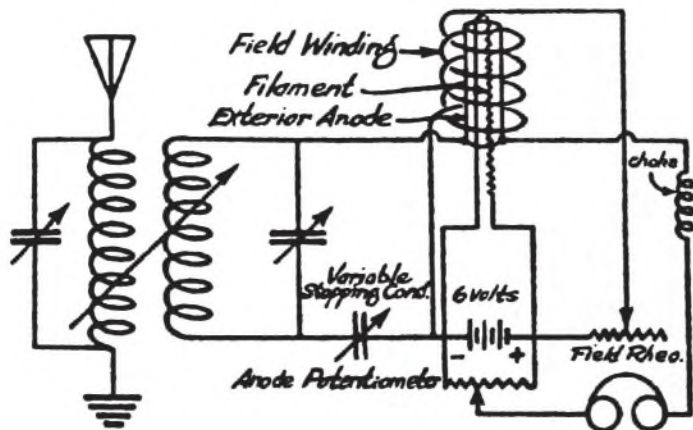
On the base you can read the date: Jan. 14-1919

This example has the extra glass cover.

3. Connecticut J-171 DC detector 1921



The way this detector is to be used is explained in an article in QST from October 1921.

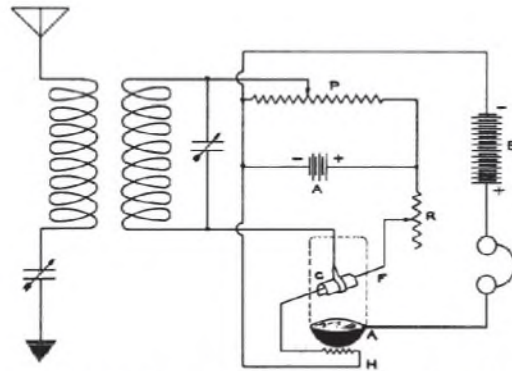
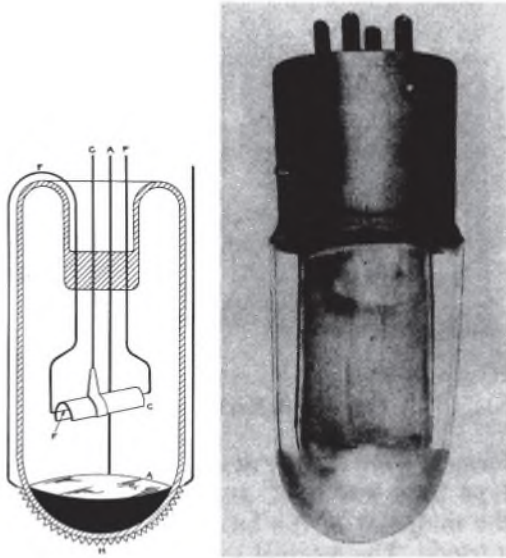


The filament is connected to a 6 V accumulator. The J-171 detector has to be placed inside a coil, which is fed by a DC current. For tuning you not only have to adjust the variable condensers en coils, but you also have to vary the current through the field winding or adjust how far the tube is inserted into the field winding. This was too difficult for the amateur and most J-171 detectors were returned as not usable.

4. Sodion detector 1922

On Dec. 22, 1922, Donle held a lecture for the "Institute of Radio Engineers" (I.R.E), entitled "New Non-Interfering Detector". The anode is liquid sodium and therefore the detector has to be mounted upside down. The "grid" or control element is not located between filament and anode.

I do not know the type number.



Circuit in which early Sodion tube was used as a detector.
(Reproduced from *Proc. I.R.E.*, Apr., 1923.)

Text and pictures from Tyne's book: "Saga of the Vacuum Tube".

5. Sodion S-11 1923



The Sodion S-11 DC detector had an atmosphere of sodium gas. The "grid" is not located between filament and anode. The base is a Shaw UV base.

6. Sodion S 13 1923

On Oct., 10, 1923 Donle held a lecture for the "Institute of Radio Engineers" (I.R.E), entitled "New Applications of the Sodion Detector". He described the S-13, an improved version of the S-11.



The outside envelope is protection. Inside this envelope the real tube is mounted and it has an atmosphere of sodium gas. The spiral around the inside glass is a heating spiral (picture on the right) and is connected in parallel with the filament. The base is a non standard base.

Filament 3,6 Volt (max) / 0,24 amp. Anode voltage 16,5 – 22,5 volt



7. Sodion S-14 1923



The Sodion S-14 has the same electrical data as the S-13, but has a standard UV base. The tube also has an atmosphere of sodium gas and a spiral heating element.

8. Sodium D-21 1924



The D-21 is like the S14 but the shapes of grid and anode are different.

The filament rating is 5 Volt / 0,24 amp including heating spiral.

The D-21 has a tantalium filament instead of tungsten. The transconductance was around 260 micromhos, with an internal resistance of 51,000 ohms and an amplification factor of 22.

The D-21 can be used as an oscillator, which the S-13 and S-14 cannot.

According articles from that period, the D-21 was considered a good detector but a poor amplifier.

H. P Donle left the "Connecticut Telephone & Electric Co." in 1925 and founded the Donle-Bristol Corporation.
Donle-Bristol Corp. (1926)
Tremont Street (1926)
54 Cambridge street (1927)
Meriden, Connecticut, USA
Renamed:
Warford Electric Corp. (1927)

According to Tyne, the following types were available in 1927: DR-1V, DP-10, DP-11 B6 and B8. He refers to an advertisement of "Warford Electric Co. in Popular Radio, Sept. 1927, p. 173.

9. Donle-Bristol detector type B-6 1926



The B-6 is a gaseous triode. The envelope, filament, grid and anode are of the conventional type; however, a spiral heating element is mounted in the base.

10. Donle-Bristol type DA2 1927 DC amplifying triode



11. Donle-Bristol type DA-4

1927



This tube is described as an amplifier with an amplification factor of 19. It is specially designed for "Truphonic" (brand) amplifiers.

12. Donle DP71

1927



The DP71 is an output tube, similar to the UX-171.

On the label:
Type: Donle DP71 and
Warford Electric Inc.