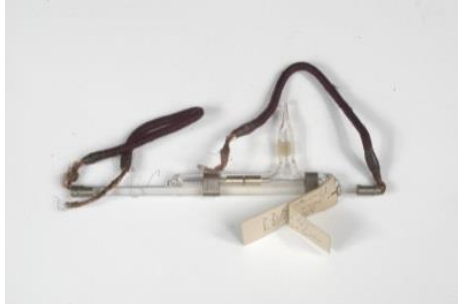


# TUNED IN

**Ken Taylor**, Museum volunteer and member of Oxford and District Amateur Radio Society (ODARS), explores how objects in the Marconi Collection worked.

## Coherer



**Origin:** Chelmsford, Essex, England

**Date Created:** c. 1899

**Provenance:** Presented by the Marconi Corporation

**Materials:** Glass, copper, nickel, silver, assorted metals

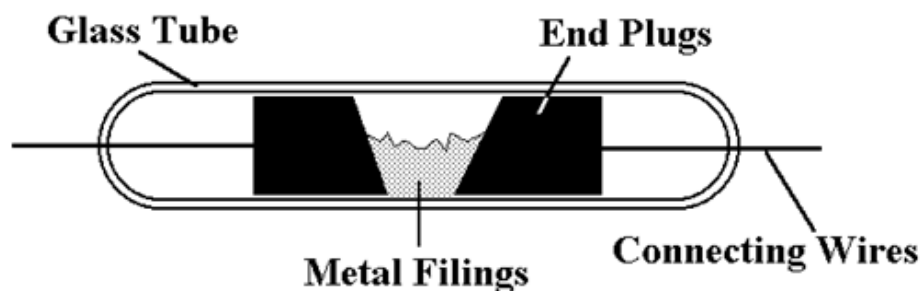
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This glass tube encloses a small quantity of metal filings between two silver pole pieces separated by about half a millimetre.

After being filled, the air was evacuated and the tube sealed to create a vacuum. Platinum wires lead out from the pole pieces through the ends of the tube. The filings were a mixture of 95% nickel and 5% silver and the pole pieces were wetted with mercury.

It would show a high electrical resistance until affected by a radio wave, when the filings would stick together (cohere) and the resistance would drop to a much lower level.

A basic coherer for wireless telegraphy was first developed by French physicist Edouard Branly and was later developed by Oliver Lodge for his 1894 Oxford demonstration.



*A Branly-Lodge coherer*

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Marconi used a Branly-type coherer in his early wireless telegraphy experiments in Italy. Although Marconi's version performed better than earlier designs, it was still insensitive and unreliable, and from 1902 was replaced by a magnetic detector.