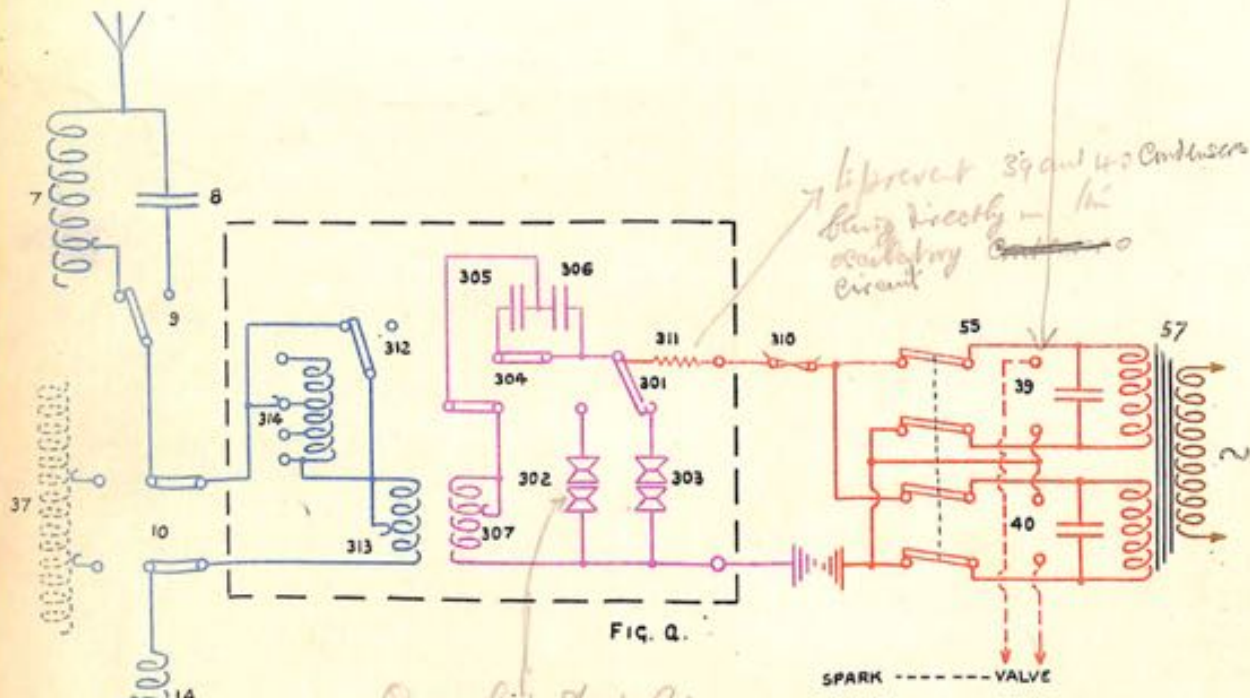


TRANSMITTER 6F

Secondary windings in parallel



to prevent 39 and 40 Condensers being directly in the oscillatory circuit

FIG. Q.

Quenched Spark Gap.
 Any energy left in aerial circuit when spark has gone out will be able to oscillate freely.
 No tendency to arc across the gaps.
 Takes damping effect i.e. resistance of spark gap out of the circuit.
 Tight coupling employed.
 Majority of wave train emitted in one frequency.

Disadvantages: - shorts on neighbouring circuits due to consistently tight coupling.
 initial radiation on two frequencies.

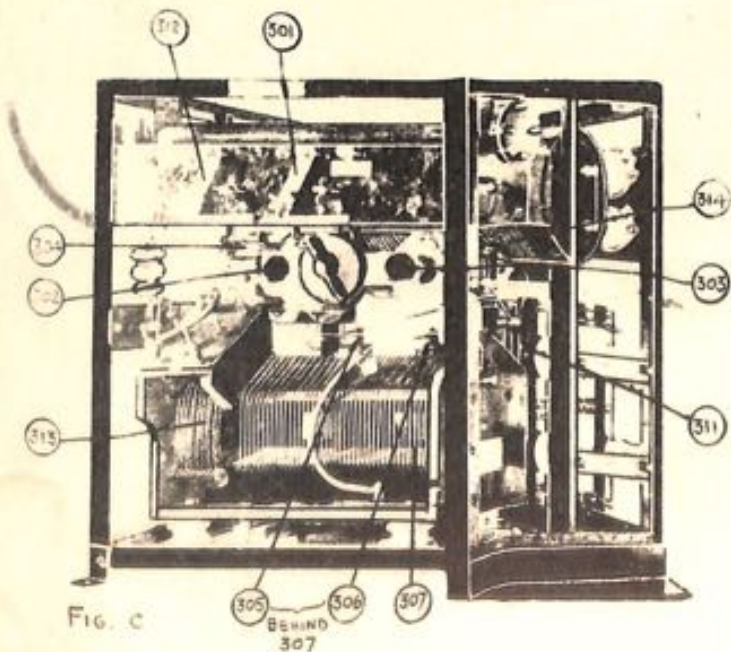


FIG. c

TRANSMITTER 6F

085

Date of design:- 1930.
 Frequency range:- 100 - 900 kc/s.
 Power supply:- Type 37 or 38.
 Associated wavemeters:- Pattern 1423B or 39.
 Approximate distance range:- 100 Miles.
 Type of circuit:- Spark transmitter.

Note:- The identity numbers given with those used in Types 37 and 38 (See Section R).

Transmitter 6F uses the same aerial and is fitted as an attachment to Types 37 and 38. 49.

The primary use of the transmitter is:-

- (a) to dry out the deck insulator if weather conditions are such that the valve set will not oscillate
- (b) as a stand-by transmitter in the event of a complete breakdown of the valves or essential components of the valve set.

The transmitter obtains its supply from the main transformer, with secondary windings in parallel as shown in figure a. A horn fuse (310) and a 600 ohm resistance (311) are connected in the H.T. lead. The resistance (311) is inserted to prevent the protecting condensers (39) (40) across the transformer secondary windings from acting as components of the primary oscillatory circuit.

The primary circuit consists of one of two $\frac{1}{2}$ Mf. quenched spark gaps (302) (303), the primary condensers (305) (306) and an adjustable primary coil (307). A blower is used to cool the spark gaps and must always be made when the set is in use. The quenched spark gap is dealt with in the Admiralty Handbook of W/T (1931) paragraph 454, but figure 222 does not illustrate the exact type of gap used in 6F.

Links are used for connecting the condensers (305) and (306) to give 5, 10 or 20 jars. The arrangement of the links is shown in Admiralty Handbook of W/T (1931) paragraph 182 figure 57, and in figure b. herein.

The aerial circuit is connected to the spark set by two links (10) fitted at the rear of the valve panels.

In the "VALVE" position the links connect the tapping coil (37) in the aerial circuit. In the "SPARK" position the tapping coil (37) is disconnected and the tuning coil (314) and aerial coupling coil (313) connected in the aerial circuit for the spark transmitter. The 1000 mic. tuning coil (314) has tapings at 100, 200 and 300 mics and is used as an aerial tuning coil instead of the tapping coil (37) when in the "SPARK" position. The tuning coil (314) is not required for frequencies between 140 and 600 kc/s. and can be short circuited by the tuning coil link (312).

Tuning. The primary circuit is tuned with reduced power and the aerial links (10) removed. The condenser links (304) are set to the appropriate position and the wavemeter coupled to the primary tuning coil (307). Adjustments are made on the tuning coil (307) to obtain the correct tuning for the required frequencies.

The aerial circuit is then connected to the transmitter by the aerial links (10) and adjustments made on the aerial coupling coil (313) and tuning coil (314) to obtain the required frequencies.

The fine tuning coil (14) of the main set can be used for fine tuning the aerial circuit of the spark set if necessary.

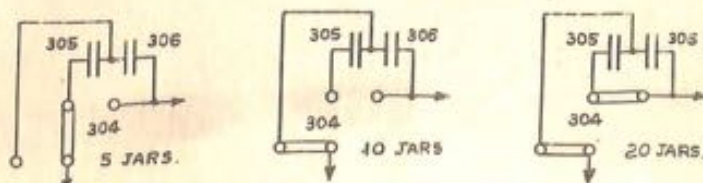


FIG. 6.

1. Plug over links.
 2. some parallel switch.