

REVERSE CURRENT SWITCHES.

Reverse current switches are fitted in charging circuits wherever the voltage of the supply available for charging is comparable with the voltage of the battery, i.e., where a reverse current may occur; e.g., when charging 6-volt batteries from 10-volt generator and 20-volt batteries from 20-volt mains. Clearly, no switch is necessary when charging 6, 20 or 48 volt batteries from 100 or 220-volt mains. The switch is set to cut at 10% reverse current.

Two patterns of switch are supplied:-

Pattern 6394 for charging rates up to 40 amps. (8 or 4-volt filament batteries.)

Pattern 6395 for charging rates up to 5 amps. (20-volt batteries.) (Figs. a, b & c).

As, however, the small charging rate, i.e., 5 amps., may be required for batteries of lower voltage, a resistance (1) is fitted in the shunt circuit of pattern 6395 in order that the correct shunt current may be obtained. To charge a 6-volt 1F51B battery from a 10-volt generator, pattern 6395 S.C.S. would be used with resistance shorted. The current through the series coil (2) will be the same as with 20 volt 1F51B battery but unless the resistance of shunt circuit is reduced by shorting the resistance (1) the shunt coil (3) would carry less current owing to the reduced voltage across it and so the balance between shunt and series current would be incorrect. This resistance is shorted when the battery has a voltage of 10-volts or below.

The action of the switch is fully explained in the Admiralty Handbook of W/P (1971) paragraph 131.

Figures d, e and f, show an old type of switch which is still in use. Its only difference from the new type (Figures a, b and c) is in the "ON" push, the make and break contacts of which have been strengthened.

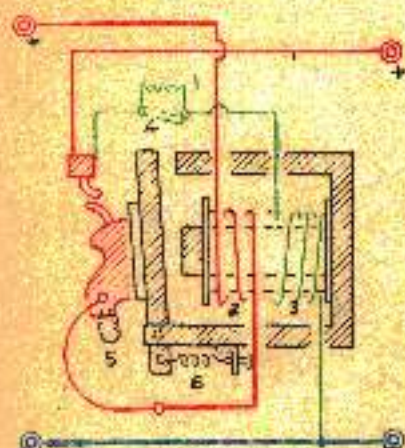


Fig. a.

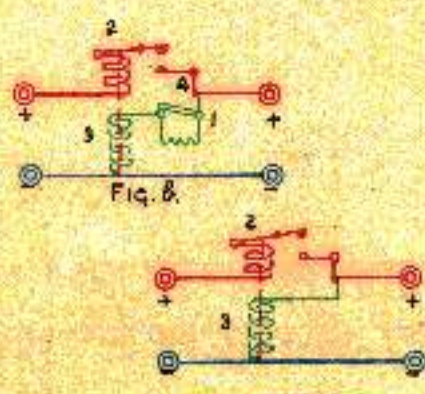


Fig. b.

Fig. e.

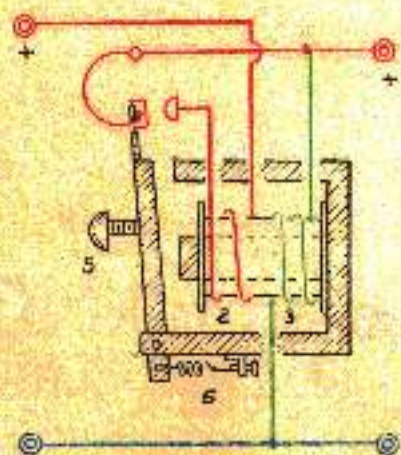


Fig. d.

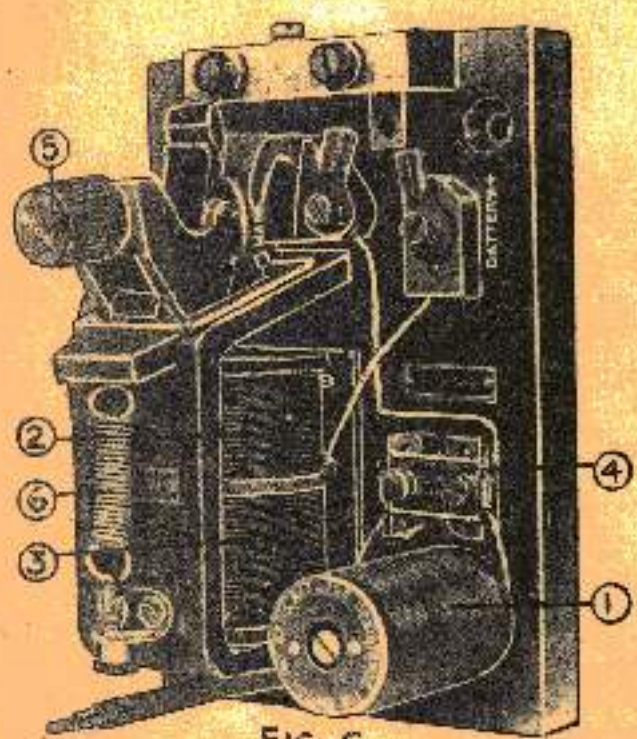


FIG. c

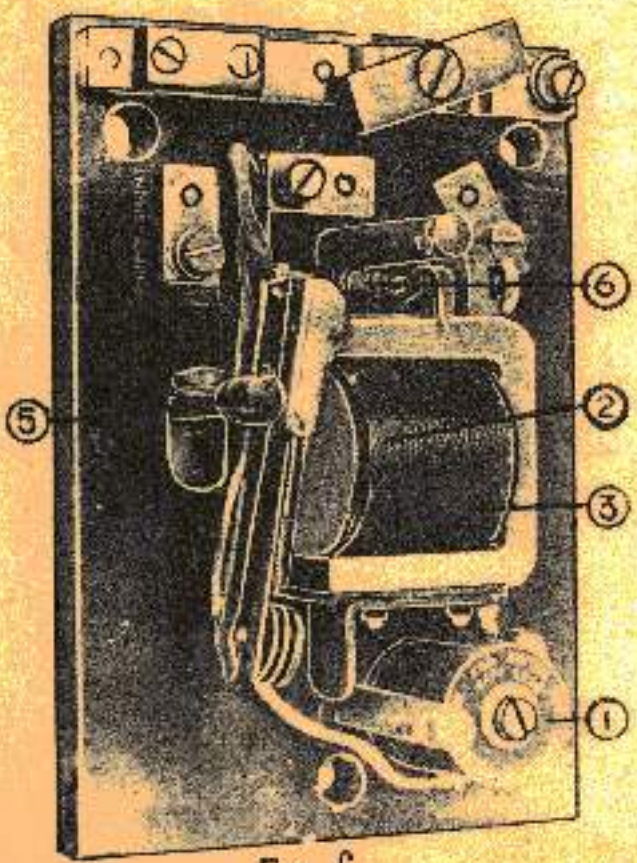


Fig. f

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