

## PRACTICAL REMARKS.

*Transmission.*—Preparatory to transmitting, the following points have to be attended to :—

1. Ascertain that power is available and the supply switch made.
2. See that the aerial is properly connected up and that the tuning adjustments for the wave to be transmitted are on the aerial coil and mutual.
3. Set the spark gap to 7 m/m (the maximum) if it is necessary to use full power (normal full spark 4 m/m), and adjust the primary coil to the required wave.
4. See that everybody is clear of the transmitting apparatus.

The motor alternator should now be started up by turning the handle of the combined starter and field regulator in a clockwise direction. As the handle is moved slowly over the various stops the motor will speed up, and the alternator field being made, the voltage and frequency of the alternator will be indicated on the instruments, and the red lamp will burn.

If, when the starter is in the "on" position, the frequency is less than 100 cycles per second ( $\sim$ ), resistance should be added to the motor shunt field by a further movement of the handle until the motor is running at the speed equivalent to 100  $\sim$  of the alternating current (3,000 r.p.m.).

The voltage of the alternator should then be adjusted to 70 by the alternator field regulator, 70 volts being the voltage necessary for normal full power.

The installation is now ready for transmitting.

The radiation meter is a guide to the operator whether the aerial is radiating properly.

NOTES.—1. Never use more power than is absolutely necessary to obtain communication at the time. Power is reduced by lowering the A.C. voltage and reducing the spark gap.

(2) If brushing takes place at the deck insulator or aloft when transmitting on full power on the longer wave-lengths, reduce the power until it ceases; as brushing from the aerial to earth is practically equivalent to earthing the aerial.

(3) If it is probable that the aerial will be kept rigged for any length of time, wipe over the deck tube with fresh water to remove the brine and so eliminate a cause of leakage.

(4) Do not transmit unless the receivers are being worn; as when the key is not pressed the aerial is connected to "receive," so a "call" may be heard between letters when sending.

(5) When the aerial is rigged, but watch is not being kept, the aerial should either be earthed or disconnected.

(6) Do not try to signal too fast, as an expert operator may not be on watch at the other end.