

OIL-SWITCHES FOR HIGH PRESSURES.

BY E. M. HEWLETT.

This paper naturally compares the oil-break switch with the air-break switch. In treating this subject the following points appear to be the main points for consideration:

1—Abnormal Rise in Pressure: owing to the fact that in oil-switches the circuit is opened at the zero point of the wave, the rise of pressure found in the air-break switch is not experienced. This point is of particular importance in high-pressure, long-distance lines, and in cables carrying considerable energy.

2—Capacity: experience has proved that oil-switches may be designed to break circuits of practically unlimited capacity.

3—Length of Arc: owing to the smothering action of the oil on the arc the length of arc under oil is only a fraction of its length in air.

4—Insulation: the insulating qualities of the oil decrease the distance required to prevent leakage and arcing.

5—Size of Switch: owing to the fact that the arc length is materially decreased and the value of the oil as an insulation reduces the creeping surface, an oil-switch can be made very much more compact than an air-switch.

6—Remote Control: the design of the oil-switch lends itself readily to operation by control from a distance.

7—Arc Confined: the fact that the arc is ruptured under the oil within the switch has two advantages; 1st. switches can be placed close together without danger of short circuit; 2d. in case of emergency, confusion is avoided as there is no visible arc to disconcert the attendant.

8—Station Arrangement: the flexibility of the oil-switch places no limitations on the station arrangement, permitting the circuits and bus-bars to be arranged in the most advantageous manner.

9—Isolation of Phases: the possibility of complete isolation of the phases in a reasonable space is easily secured by the use of oil-switches
