334,652

PATENT SPECIFICATION

Application Date: June 29, 1929. No. 20,056/29

Complete Left: Feb. 18, 1930.

Complete Accepted: Sept. 11, 1930.

Electric Networks.

Blumlein A. D., 20, Lynchcroft Gardens, Hampstead, London.

June 29, 1929, No. 20056. [Classes 13, 40 (iii), 40 (iv), and 40 (v).]

PROVISIONAL SPECIFICATION

Improvements in Telephone and like Transmission Systems

In an electric network of Wheatstone bridge form (Fig.1 & Fig. 2), two arms comprise mutually inductive windings 1, 2, while the other two arms comprise impedances ZA, ZB which are designed and calculated to give the network desired attenuation, phase and impedance characteristics. The mathematical theory is discussed. Fig. 4 shows how two such networks are connected in series, the terminals 8 being short-circuited, and examples are given also of four and five networks in series. The two windings 1, 2 should be as tightly coupled as possible and in some cases a resistance may be added to compensate for leakage, while to balance the coil capacities, shielding may be employed or the centre point may be earthed. The windings 1, 2 may be unequal, and their ratio may be either positive or negative, as shown in Fig.11 & Fig.13. Fig. 15 shows a modification in which the impedances are interchanged with the input and output terminals, the attenuation and phase characteristics being unaltered. The invention is stated to be applicable to the design of analogous mechanical apparatus.

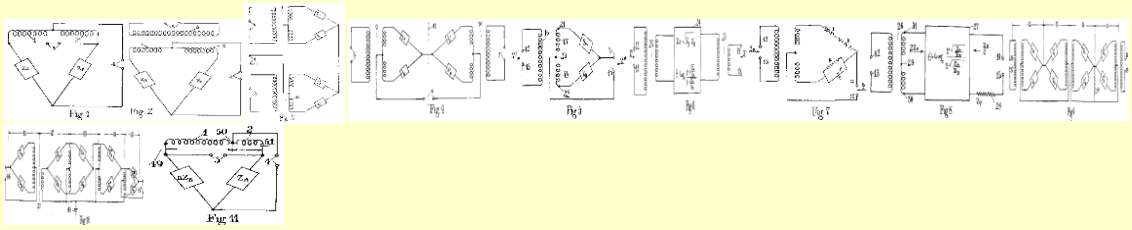

Figure 1 Figure 2 Figure 3 Figure 4 Figure 5 Figure 6 Figure 7 Figure 8 Figure 9 Figure 10 Figure 11

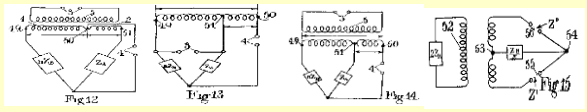

Figure 12 Figure 13 Figure 14 Figure 15