Discussion on "Line Constants and Abnormal Voltages and Currents in High-Potential Transmissions"

(Subject to final revision for the Transactions).

Frank G. Baum (by letter): The writer gave approximate rules for determining the rise in voltage, due to interrupting a given current, at a meeting of the Pacific Coast Transmission Association in 1902 and before the Electrical Congress at St. Louis in 1904. The rule given was,

$$E = 200\,I$$

where I is the actual value of the current in amperes at the time of interruption. This does not exactly agree with the rule given by Mr. Berg. The important fact shown is that the higher the voltage the smaller the excessive strains due to switching, etc. The approximate rule will undoubtedly explain many things happening on lower voltage systems that are charged to lightning, etc.

Surges or resonance occur in any transmission system independently of how the transformers are connected. The statement that certain transformer connections eliminate resonance should be qualified, as it is liable to be wrongly interpreted.