

15. CONTROL, REGULATION AND SWITCHING

ELECTRIC MOTOR REGULATION

Francis B. Crocker

Vol. iv—1889, pp. 237-252

Comprehensive review of different methods of regulating the speed of direct current motors for operation with constant e. m. f. and with constant current. Circuit diagrams.

Discussion, pp. 252-263, by Messrs. Townsend Wolcott, Francis B. Crocker, Edward Weston, S. S. Wheeler, Joseph Wetzler, C. O. Mailloux, E. P. Roberts, E. L. Nichols and Elihu Thomson.

General remarks on speed control of d. c. motors. Suggested control by periodically short circuiting field winding and varying the period. Methods of controlling constant current motors.

SOME METHODS OF REGULATING ACCUMULATORS IN ELECTRIC LIGHTING

George B. Prescott, Jr.

Vol. iv—1889, pp. 439-475

Discussion of the uses of storage batteries in connection with lighting plants to help out the constant load factor and to save distribution copper. Description of typical installation, showing the use of overload and underload circuit breakers and counter e. m. f. cells with automatic end cell switches. Circuit diagrams.

Discussion, pp. 476-485, by Messrs. George B. Prescott, Jr., Townsend Wolcott, T. C. Martin, John W. Howell, R. W. Pope, Joseph Wetzler and Elihu Thomson.

Description of method of automatically maintaining constant e. m. f. at battery terminals.

METHODS OF ELECTRICALLY CONTROLLING STREET CAR MOTORS

H. F. Parshall

Vol. ix—1892, pp. 137-149

Description of series parallel platform controller and rheostat. Construction drawings.

Discussion, pp. 149-166, by Messrs. Thomas D. Lockwood, Charles Hewitt, Townsend Wolcott, Charles P. Steinmetz, Thorburn Reid, C. G. Curtis, F. B. Crocker and D. C. Jackson.

Relative advantages and efficiency of various types of motor connections. Eickemeyer railroad motor.

VOLTS VS. OHMS

Speed Regulation of Electric Motors

H. Ward Leonard

Vol. xiii—1896, pp. 377-386

Description of various e. m. f. systems of motor speed control invented by the author.

Discussion, pp. 387-399, by Messrs. G. S. Dunn, C. T. Hutchinson, F. A. Pattison, James Burke, C. P. Steinmetz, R. T. Lozier, William Elmer, Jr., H. Ward Leonard and E. R. Carichoff.

General remarks on the efficiency and economics of the Ward Leonard system of motor control.

64 15. CONTROL, REGULATION AND SWITCHING

**ELEMENTS OF DESIGN FAVORABLE TO SPEED REGULATION IN PLANTS
DRIVEN BY WATER POWER**

Allan V. Garratt

Vol. xvi—1899, pp. 361-394

Outline of the fundamental theory of water turbine regulation. Consideration of the effect of the design of the different elements in a turbine installation upon speed regulation, including penstocks, flumes, draft tubes, turbine gates, fly-wheels, etc.

Discussion, pp. 395-405, by Messrs. C. F. Hopewell, A. V. Garratt, W. S. Aldrich, C. W. Rice, C. P. Steinmetz, Louis Bell, W. E. Goldsborough, H. Ward Leonard, W. J. Hammer and S. L. G. Knox.

General remarks on turbine installation.

•

MOTOR SPEED REGULATION

Alton D. Adams

Vol. xvi—1899, pp. 443-445

Attention called to inefficiency of armature resistance method and desirability of controlling the speed by varying the strength of magnetic field.

Discussion, pp. 446-447, by Messrs. J. B. Blood and C. A. Adams.

Advantages of e. m. f. method of speed control.