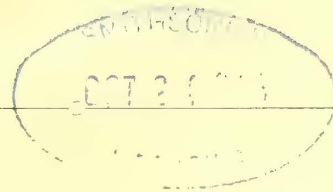


TF  
701  
5915  
NMAH

THE

# Street Railway Journal.



INDEX TO VOLUME XXXI.

January to May, 1908.

McGraw Publishing Company,  
239 West 39th Street,  
New York.

87327

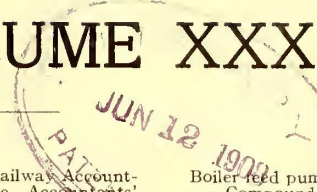
TF

701

.T75

CONFIDENTIAL  
MAR 21 1954  
U.S. DEPARTMENT OF THE ARMY

# INDEX TO VOLUME XXXI.



## A

Accident claims, Fraudulent:  
 —Baltimore bulletin, 625  
 —New York City, 233  
 —Washington, 153  
 Accidents:  
 —Canadian railways, 166  
 —Chicago elevated railway, \*639  
 —Chicago, on all roads, in 1907, 95  
 —Cost of, 839  
 —Great Britain, 187  
 —Indiana, 835  
 —Instruction on, Connecticut Co., 752  
 —New York City, 97, 300, 470  
 —Omaha, Neb., Campaign against, 210  
 Accountants' Association, Committees, 465  
 Accounting:  
 —Car mileage for car maintenance, New York Interborough, 512  
 —Depreciation in electric railway accounting [Royse], 687; Discussion, 731  
 —Depreciation of public utility properties [Duffy], 169  
 —Freight and express, Birmingham, \*816  
 —Interstate Commerce classification: Comments, 361, 671, 840  
 —Conference at Washington, 840, 860  
 —Discussion [Brookway], 427; [Tingley], 455, c785; [Wallis], 459; [May], c613; [Lawton], c691; [Kochersperger], c729; [Wight], 736  
 —Replies to circular [Swenson], c396; [Harries and Ham], c467; 618  
 —Report, Brooklyn, Interborough, N. Y. City Ry., L. I. R. R., 786  
 —Report, Central Electric Railway Association, 738  
 —Report, Milwaukee Electric Railway & Light Co., 614  
 —Report, New York Street Railway Association, 868  
 —Lighting companies, Classification proposed in New York State, 635, 671  
 —Memphis, Tenn., 819  
 —Overhead and storage battery, Anderson, Ind., \*637  
 —Park reports, 118  
 —Power station, Birmingham, \*887  
 —Records of construction costs, Value of, 670  
 —Repair shop:  
 —Anderson, Ind., \*538  
 —Boston, \*554  
 —New York Interborough, 512  
 —New York & Queens County Ry., \*552  
 Adding machine (See Calculating machine)  
 Advertising for traffic:  
 —Discussion at Central Electric Railway Association, 173  
 —Transfers, Advertising on, 392  
 —Trolley express service, Lancaster, Pa., \*791  
 Advertising lost articles in Boston, 791  
 Air brakes (See Brakes, Air)  
 Air compressor for shops (N. B. & E. Co.), \*574  
 Albany, N. Y.:  
 —Cars, \*75  
 —Report of United Traction Co., 795  
 Albany & Hudson R. R., Electric Park at Kinderhook Lake, \*326  
 Allentown, Pa.:  
 —Annual report of Leigh Valley Transit Co., 147  
 —Increase in fares, 440  
 Alternators:  
 —New type (E. C. Co.), 755  
 —Remedying defects in parallel operation of, 51  
 Amarillo, Texas, Cars, \*93  
 American and British street railway practice, Differences in, 684  
 American Institute of Electrical Engineers:  
 —Banquet, 352  
 —Chicago meeting, 504  
 —Engineering education, 198  
 —Ithaca meetings, 358, 503, 835  
 —Schenectady meetings, 358, 441  
 American Light & Traction Co., Annual report, 146, 226  
 American Museum of Safety Devices:  
 —Decorations for officers, 100  
 —Exposition in New York, 268, 623, 643  
 American Railways Co., Earnings, 912  
 American Society of Mechanical Engineers, Meeting on preservation of natural resources, 644, 708  
 American Street & Interurban Railway Association:  
 —Associate membership, 620  
 —Booklet, 503  
 —Committees, 465  
 —Convention Committee visits Denver, 827  
 —Executive committee meeting, 216

American Street & Interurban Railway Accountants' Association (See Accountants' Association)  
 American Street & Interurban Railway Claim Agents' Association (See Claim Agents' Association)  
 American Street & Interurban Railway Engineering Association:  
 —Committees, 19, 434  
 —Data sheets on inspection and maintenance practice, 874  
 —Maintenance of Way Committee meeting, 560  
 —Standardization Committee meeting, 827  
 —Standardization data sheet, 913  
 American Street & Interurban Railway Transportation and Traffic Association:  
 —Call for, 66, 89  
 —Committees, 465  
 —Executive committee meeting, 218  
 —Organization and constitution, 217  
 Anderson, Albert, 473  
 Anderson, Ind.:  
 —Changing transformer connections in emergencies, 343  
 —I. U. T. System Magazine, 666  
 —Maintenance of overhead lines and electrical equipment, 636  
 —Repair shop practice, 285, \*647  
 —Repair shops, \*539  
 —Strike, 57, 99, 356  
 Appraisals of electric railway property, 446  
 Arizona, Warren-Bisbee Ry. of., \*780  
 Armature coil press Hot, \*73  
 Armature disk-cutting press (Bliss), \*753  
 Armature field coil tester, \*73  
 Armatures, Rewinding cost, 857  
 —(See also Repair shop practice)  
 Arresters (See Lightning arresters)  
 Atlanta, Ga.:  
 —Effect of storm, 301  
 —Employees' benefit association, 553  
 —Interurban road, New, 354  
 —Laboratory, 498  
 Atlantic City-Philadelphia trolley proposed, 878  
 Aurora, Elgin & Chicago Ry., Examination of trainmen, 611  
 Australasian Tramway Officers' Association, 209  
 Australia:  
 —Labor unions and municipal ownership, 22  
 —Melbourne, Proposed electrification, 186  
 Austria:  
 —Statistics for 1905, 24  
 —Trieste-Monfalcone Ry., 799  
 —Virgl railway in Southern Tyrol, \*384  
 Austrian Street Railway Association, Maintenance regulations proposed, 745  
 Automobile cars (See Gasoline motor cars)  
 Automobile truck, Trolley express, New Haven, Conn., \*91  
 Axle bearings and collars, Maintenance of [Hewes], 529

## B

Baggage checking system, Ft. Wayne & Wabash Valley Ry., 336  
 Baker, C. F., 803  
 Baking oven for repair shops, 73  
 —(See also Repair shop practice)  
 Baltimore, Md.:  
 —Annual report of United Railways, 659, 660  
 —Bulletins:  
 —Accidents and ambulance chasers, 625  
 —"Rush problem," 410  
 —Summary of bulletins, 800  
 —Taxation and public service, 467  
 —Financial plan, 299  
 —Guide books in cars, 910  
 —Reconstruction of power system, \*770  
 —Comments, 767  
 —Transfers, Advertising on, 392  
 —Transfers in campaign against disease, 93  
 —Terminal station of Baltimore, Washington & Annapolis Ry., \*241  
 Bangor, Me., Cars, \*223  
 Bavarian State Railway electrification, 420  
 Bearings, Axle, Maintenance [Hewes], 529  
 Berlin, Germany, Annual report, 761  
 Birmingham, Ala.:  
 —Electric express service, \*815  
 —Power plant, \*884  
 Block signal system:  
 —[Button], 140, 175  
 —Chicago South Side Elevated, \*421  
 —Hudson River tunnels, 402  
 —Los Angeles, Cal., 496  
 —Massachusetts report, 57  
 —New York subway. Report by B. J. Arnold 463  
 —Single-phase railway signals (Blake) \*348  
 —Terre Haute, Ind. \*612  
 —Uniformity in signals, 272

Boiler feed pumps:  
 —Compound, Use of, 711  
 —Special design, \*525  
 Boiler inquiries in Great Britain, 403  
 Boiler-tube cleaner (Lagonda), \*753  
 Boilers, High-temperature and high-pressure steam, 363  
 Boston:  
 —Advertisement concerning children, 253  
 —Advertising lost articles, 791  
 —Annual report of Boston Elevated Ry., 60, 95  
 —Baldwin prize essay on Boston railways, 826  
 —Boston Transit Commission, Report of, 433  
 —Cambridge "L" extension, \*262, 472, 914  
 —Cambridge subway and through transit, 763, 835, 914  
 —Car defect record system, 554  
 —Charlestown lines, Increased service denied, 873  
 —Consolidation of Elevated and West End companies, 621  
 —Engineering department, Changes in, 98  
 —Forest Hills extension, 472  
 —Generators, Commutating pole, \*221  
 —Loading and dispatching cars, 860  
 —Medford extension, 876  
 —Middlesex Falls extension, 171  
 —Parcel storage, Washington street subway, 462  
 —Railway merger bill in Legislature, 442  
 —Schedules of night cars, 566  
 —Rewards for employees, 24  
 —Subway:  
 —Bids delayed, 192  
 —Cambridge, 763, 835, 914  
 —Riverbank route, 301  
 —Washington Street, 433, 462  
 —Traffic statistics for one year, 61  
 Boston & Eastern Electric R. R., Hearings, 12, 470, 706, 877, 916  
 Boston & Worcester Electric Ry.:  
 —Car house, \*431  
 —Earnings increase, 659  
 —Retirement of J. F. Shaw, 408  
 —(See also Framingham, Mass.)  
 Brake rigging, Report, Central Electric Railway Association [Taylor], 177  
 —Discussion, 175, c181  
 Brake-shoes for 1906, Brooklyn statistics, 545  
 Brakes, Air:  
 —Cock interlock on Chicago cars, 91  
 —G. E. emergency, straight-air, \*8  
 —German automatic, \*401  
 —Inspection of, Interborough Rapid Transit Co., \*515  
 Brakes, Track, Tests in Leeds, England, \*13  
 Branch line service and trunk line congestion, 631  
 Brazilian Northwest R. R., 867  
 Bridge terminal (See New York City, Williamsburg)  
 Bridges:  
 —Concrete [Stark], 734  
 —Illinois Traction Co., St. Louis, \*15  
 —Portland, Ore., \*790  
 Bridgeport, Conn., Improvements in, 93  
 Brill, J. G., Co.:  
 —Annual report, 355  
 —Purchase of Danville Car Co., 696  
 Brill, John A., \*586  
 British Westinghouse Co., Annual Report, 856  
 Brockton & Plymouth Street Ry., Park conditions, 164  
 Brooklyn:  
 —Brake-shoe statistics, 545  
 —Car record prints, \*220  
 —Cars for elevated, Semi-convertible, "1400," \*213  
 —Coney Island & Brooklyn R. R.:  
 —Bond issue, 641  
 —Cost of Coney Island traffic, 795, 888, 917  
 —Comment, 881  
 —Earnings, July-Dec., 1907, 666  
 —Fire insurance department, 489  
 —Improvements proposed, 583  
 —Interstate Commerce classification, Reply to, 786  
 Brooklyn Bridge, Report by W. H. Burr, 622  
 Bruce, Peebles & Co., London, Suspension, 303, 406  
 Brush, M. C., \*586  
 Brushes for generators, Pneumatic pressure for, 529  
 Buffalo:  
 —Clark joint [Clark], 396  
 —Pay-as-you-enter cars, \*47, 703  
 —Operating notes, 167  
 —Report of International Traction Co., 500, 502  
 Buffalo, Lockport & Rochester Electric Ry., 704  
 Buffalo, Rochester & Eastern R. R., Hearing on extension to Troy, 226  
 Buffers, Non-climbing (Hedley), \*425  
 Business situation, 507  
 Buttenheim, Harold S., 473

## C

Cable railway in Southern Tyrol, \*384  
 Cairo, Egypt, turbine plant for, 572  
 Calculating machine used by South Chicago City Ry., \*694  
 Calibration of instruments, Necessity for periodic, 199  
 California railway development, 192  
 Camden & Trenton Ry., Receivership, 354, 500  
 Canada:  
 —Accidents for 1907, 166  
 —Fort Erie Ferry Ry., Electrification, 762  
 —Single-phase railway, First [DeWitt], \*38  
 —Statistics of electric railways [Payne], 165  
 —Street railway defined, 146  
 Canadian Crocker-Wheeler Co., 753  
 Canal haulage, Electric, 446  
 Car cleaner, Vacuum (N. V. C. Co.), \*698  
 Car cleaning:  
 —Labor costs, New York, 486  
 —Methods and costs, Interborough Rapid Transit Co., 522  
 Car defects (See Maintenance of rolling stock)  
 Car design:  
 —Brooklyn Elevated semi-convertible cars, \*213  
 —Center sill car, Troy, N. Y., \*76  
 —Chicago elevated railway, \*845  
 —Comparison of dimensions of typical cars, 210  
 —New York subway, type "3600," \*423  
 —New York subway. Report by B. J. Arnold, \*337  
 —Discussion, 849  
 —Pay-as-you-enter cars, \*256, \*793  
 —Pay-as-you-leave, \*87  
 —Semi-convertible cars, Cleveland, \*258  
 Car equipments, Testing at Worcester Polytechnic Institute, \*254  
 Car houses:  
 —Camden, N. J., \*722  
 —Chattanooga, Tenn., \*632  
 —Chicago City Ry., \*597  
 —Framingham, Mass., \*431  
 —Grand Rapids, Mich., \*45  
 —Montreal, De Fleurmont St., \*208  
 —New York City Railway Co., \*205  
 —Pit construction:  
 —Camden, N. J., \*723  
 —Chattanooga, \*633  
 —York, Pa., \*684  
 —Scranton, Pa., \*451  
 —Standard construction and fire protection, Report of N. F. P. A., 912  
 Car lift, Hydraulic, employing cables, \*51  
 Car mileage, accounting for maintenance, New York Interborough, 512  
 Car record prints, Brooklyn, \*220  
 Car wheels (See Wheels)  
 Car wiring:  
 —Cost, on Metropolitan Elevated, Chicago, 826  
 —Pay-as-you-enter cars, New York City, \*256  
 —St. Louis, Steel underframe, 43  
 Cars, Closed:  
 —Bangor, Me., \*223  
 —Chicago & Northwestern Elevated, \*844  
 —Indianapolis, Crawfordsville & Western Traction Co., \*851  
 —Indianapolis & Louisville Ry., \*5  
 —Lackawanna & Wyoming Valley Ry., \*26  
 —Mexico-Electric Tramways Co., \*224  
 —Parral, Mexico, \*184  
 —Richmond & Chesapeake Bay Ry., \*366  
 —St. Louis, \*42  
 —Topeka, Kan., Screen gates, \*185  
 —Troy, N. Y., \*75  
 —Warren, Arizona, \*781  
 —Watertown, N. Y., Square end, \*201  
 —Windsor, Essex & Lake Shore Rapid Ry., \*38  
 Cars, Combination:  
 —San Diego, Cal., \*419  
 —Scranton, Pa., \*453  
 Cars, Construction. (See Work cars)  
 Cars, Freight:  
 —Birmingham, Ala., \*817  
 —Indianapolis, \*851  
 Cars, Funeral, Milan, Italy, \*10  
 Cars, Gasoline (See Gasoline motor cars)  
 Cars, Gondola, Side-dumping, Birmingham, \*617  
 Cars, Mail, Cleveland, \*619  
 Cars, Milk and express, Scranton, Pa., \*454  
 Cars, Pay-as-you-enter:  
 —Buffalo, N. Y., \*47  
 —Chicago, 301, 497  
 —Cleveland, 566  
 —Des Moines, Ia., \*746  
 —Door-opening device \*617  
 —[Jewett] \*793  
 —New York City, \*256, 468, 490  
 —Newark, N. J., \*648, 873  
 —Operative aspects, \*3  
 Cars, Pay-as-you-leave, \*87  
 Cars, Semi-convertible:  
 —Amarillo, Texas, \*93  
 —Brooklyn Elevated, \*213  
 —Cleveland, \*258  
 —Clinton, Iowa, \*144  
 —Houston, Texas, \*496  
 —Visalia, Cal., \*287  
 —Winston-Salem, N. C., \*52  
 Cars, Semi-steel:  
 —Amarillo, Texas, \*93  
 —St. Louis, \*42  
 Cars, Steel, New York subway, \*422  
 Catenary construction:  
 —Bridges, Syracuse, L. S., & No. R. R., \*251  
 —Equipment for (E. P. Morris Co.), \*222  
 —N. Y., N. H. & H. Ry., Single catenary, \*81  
 —Ontario, \*39

Catenary construction: (Continued)  
 —Richmond & Chesapeake Bay Ry., \*369, \*370  
 —Sag diagram [Coombs], 24  
 —Washington, Baltimore & Annapolis Ry., \*245  
 —(See also Overhead construction)  
 Central Electric Railway Association:  
 —Annual meeting, Dayton, Ohio, 59, 97, 173  
 —Committees for 1908, 303  
 —Interstate Commerce classification, Report on, 738  
 —March meeting, 471, 560  
 —May meeting, 831, 905  
 —Presidential address [Nicholl], 178  
 —Work of the Association [Nicholl], 178  
 Central Electric Traffic Association, Organization, 142, 176, 907  
 —Comment, 158  
 Chattanooga, Tenn., Car house and shops, \*632  
 Chelsea, Mass., Fire, 759  
 Chemistry and street railways [Walker], 430  
 Chicago:  
 —Accidents, 95, \*639  
 —Consolidation of elevated companies, proposed, 623, 830  
 —Electrification of steam roads, 622  
 —Elevated loop:  
 —Report by Ford, Bacon & Davis, 392  
 —Comment, 303, 362  
 —Report by George Weston, 758  
 —Expenditures for 1908, 707  
 —Plans for, 799  
 —Through routes for surface cars, 464  
 —Traffic figures on elevated lines, 54, 439, 623  
 —Transfers, Special, \*404  
 —Water Chutes Park, \*130  
 Chicago City Ry.:  
 —Annual report, 350, 407, 662  
 —Car house, \*597  
 —Fender, Shear-guard, \*435  
 Chicago Metropolitan West Side Elevated Ry.:  
 —Car wiring costs, 826  
 —Reports, 227  
 Chicago & Milwaukee Electric Ry.:  
 —Financing, 830  
 —Receivership, 267  
 Chicago & New York Air Line [Manledoram], 907  
 Chicago Northwestern Elevated Ry.:  
 —Extension to Evanston, Ill., \*842  
 —Wheel flange wear, 791  
 Chicago & Oak Park Elevated R. R., Annual report, 265  
 Chicago Railways Co.:  
 —Air brakes, 744  
 —Finances, 231, 409  
 —Instruction to employees, 303  
 —Pay-as-you-enter cars, 301, 497  
 —Reorganization, 62  
 —Strike threatened, 834, 918  
 Chicago South Side Elevated Ry.:  
 —Block signals, \*421  
 —Report, 228  
 —Stock yards extension, \*376  
 Chicago Southern Street Ry., Progress, 232  
 Chicago Subway Co., Locomotive, Electric, \*646  
 Chicago Union Traction Co.:  
 —Receiver's report, 834  
 —Sale of, 193  
 China:  
 —Extensions to Mukden Ry., 144  
 —Hongkong Electric Traction, Report, 825  
 —Shanghai electric railways, 495  
 Cincinnati:  
 —Children's entertainment, 26  
 —Terminal, Proposed, 152  
 Circuit breakers, Experiments with (Von Zweigbergk), 223  
 Claim Agents' Association, Committees, 465  
 Claim department:  
 —Advertisement concerning children, Boston, 253  
 —Co-operation with maintenance department, 509  
 —Methods of handling claims [Gross], 735  
 Clark, A. F., 920  
 Cleveland:  
 —Mail car, \*619  
 —Municipal operation of railway, 796, 833  
 —Pay-as-you-enter cars, 566  
 —Publicity bureau, 836  
 —Rail bond tests, 402, 465  
 —Semi-convertible cars, \*258  
 —Situation, 28, 62, 96, 98, 152, 230, 266, 302, 353, 406, 441, 469, 503, 504, 582, 624, 663, 706, 760  
 —Stock valuations, 616  
 —Strike on municipal lines, 875, 918  
 Cleveland, Brooklyn & Elyria Ry., Extensions, 467  
 Cleveland Lake Shore Electric Ry., Annual report, 229  
 Cleveland, Painesville & Ashtabula R. R., Annual report, 231  
 Cleveland, Southwestern & Columbus Ry.:  
 —Annual report, 189  
 —Line car, \*725  
 —Shops at Elyria, \*724  
 Clinton, Iowa, Semi-convertible cars, \*144  
 Club houses:  
 —Grand Rapids, Mich., \*45  
 —St. Louis, Mo., \*263  
 Coal:  
 —Government requirements, 283  
 —Selection of, 239; [Bailey], 283  
 —Specifications Interborough Rapid Transit Co., 284  
 —(See also Fuel)  
 Coil insulation by vacuum system at Marshall shops, Brooklyn, \*577  
 Columbus, Ohio, Rail controversy, 584, 665

Columbus, Delaware & Marion Ry., Extension 143  
 Columbus Railway & Light Co., Annual meeting, 229  
 Commutator groover, \*73  
 Commutators, Truing up, on rotary [Greer], \*545  
 Concrete beam track construction [Weber], \*85  
 Concrete mixer, Newark, N. J., \*719  
 Condenser speed regulation, 629  
 Conduit construction, London County Council, \*172  
 Coney Island & Brooklyn R. R. (See Brooklyn)  
 Connecticut Railroad Commissioners, Report, 189  
 Connecticut Railway & Lighting Co.:  
 —Annual meeting, 666  
 —Instruction on accidents, 752  
 Connellsville, Pa.:  
 —Hydraulic car lift, \*51  
 —Power station, \*524  
 —Repair shop practice of West Penn Rys., \*73  
 Conservation (See Natural resources)  
 Contractors, Independent, Legal decision in Penn., 288  
 Controller rack, in repair shop, \*208  
 Controllers:  
 —(General Electric), New, 89  
 —Richmond, Va., a.c.-d.c. multiple unit, \*365  
 —600-1200 volt, 7  
 —Westinghouse No. 451, \*40  
 Copenhagen, Decision against municipal ownership, 386  
 Coupler heights, Variation in, 882  
 Crafts, P. P., \*764  
 Crane on electric work car, Newark, N. J., \*716  
 Creosotes, Analysis and grading of, 747  
 —(See also Timber preservation)  
 Culverts:  
 —Concrete, \*683  
 —Corrugated galvanized metal (C. C. Co.), \*186  
 Curtain fixture (C. S. Co.), \*436

## D

Dallas, Texas Traction Co., Completion of line, 762  
 Dayton & Xenia Transit Co., Receivership, 468  
 Decatur, Ill., Terminal station, \*641  
 Decatur, Ind., Earnings for 1907, 665  
 Delaware & Hudson R. R.:  
 —Gasoline-electric motor car, \*135  
 —Steam turbine power station, \*783  
 Depreciation, Resolution at Iowa convention, 789  
 Depreciation in electric railway accounting [Royse], 687; Discussion, 731  
 Depreciation of public utility properties in Wisconsin [Duffy], 169  
 —(See also Accounting)  
 Des Moines, Ia.:  
 —Annual Statement, 357  
 —Pay-as-you-enter cars, \*746  
 —Rooke system, 646  
 Detroit, Mich.:  
 —Franchise, 148  
 —Injunction against low fare, 659  
 —T-rail recommended, 99  
 Detroit, Flint & Saginaw Ry., Sale of, 871  
 Detroit River tunnel, N. Y. Central R. R., Locomotive, \*494  
 Detroit United Railways, Annual report, 266  
 Direct current, high-voltage, Experiments, 223  
 Doors:  
 —Opening device for pay-as-you-enter cars, \*617  
 —Pneumatic operating device, \*847  
 Dublin United Tramways Co., Annual Report, 405  
 Dubuque, Ia., Union Park [Mathes], \*310  
 Dunlop, G. T., 269

## E

Easton, Pa.:  
 —Bushkill Park, \*116  
 —Island Park, \*604  
 —Northampton Traction Co., \*160  
 —Trip sheet and transfer envelope for conductors, 385  
 Egypt, Demand for electric supplies, 779  
 Electrolysis, Peoria suit, 469  
 Employees:  
 —Benefit association at Atlanta, Ga., 553  
 —Benefit association at Fort Wayne, 497, 902  
 —Club rooms:  
 —Grand Rapids, \*45  
 —St. Louis, \*263  
 —Conductor's daily report, Easton, Pa., 385  
 —Cost of labor at inspection shops, New York, 483, 486  
 —Examination of trainmen by Aurora, Elgin & Chicago Ry., 611  
 —Filling vacancies by bidding in, Hartford, 465  
 —Instructions, Chicago Railways Co., 303  
 —Instructions for conductors, Easton, Pa., 385  
 —Labor unions and municipal ownership in Australia, 22  
 —Medical outfits, Oakland [Brown], \*171  
 —Merit system of discipline Fort Wayne & Wabash Valley Traction Co., 191; [Hardy], 904, 906  
 —Reports of Buffalo, 168  
 —Shop Foremen's Association, Newark, N. J., 50  
 —Topic talks at Ft. Wayne, 743  
 —Trainmen and shop for interchange of ideas between, 105  
 —Wage dispute in Pittsburgh, 871  
 —Wages of car house employees, New York, 521

Employees' Mutual Benefit Association of the Ft. Wayne & Wabash Valley Traction Co., 497; [Vordermark], 902  
 Engine failures in Great Britain, 744  
 Engineering education, 198  
 Europe, Status of high-tension d.c. and a.c. railways in, \*727  
 Evanston, Ill., Extension of Northwestern Elevated R. R., \*842  
 Exeter, Hampton & Amesbury Street Railway, Sale of, 442  
 Exhauster, Ball-bearing (M. F. Co.), \*699  
 Export trade, 711  
 Express (See Freight and express)

**F**

Fairmont, W. Va., Additions to system, \*808  
 Fare collection:  
 —Indianapolis & Cincinnati Traction Co., 381  
 —Interurban railways [Crafts], 685; Discussion 732  
 —Pittsburg experiment of pay-as-you-enter, 29, 35  
 Fare registration:  
 —Coleman fare box system at Ogdensburg, N. Y., 224  
 —Norfolk, Va., Cash fare receipt, \*211  
 —Pay-as-you-enter car (D. T. E. Co.), \*25  
 —Rooke system, 186, 646  
 —Scranton, Pa., City and interurban fares, 453  
 Fares:  
 —Allentown, Pa., Increase, 440  
 —Central States, 179  
 —Detroit, Mich., Injunction against low fare 659  
 —Massachusetts:  
 Higher fares, 357, 468, 596, 644, 832, 914  
 Statistics, 261, 272  
 —Special fare to park, Right to make, Indiana, 150  
 Feed-water heater, Steam, Economy test, 895  
 Feeder sectionalization systems and the N. Y., N. H. & H. R. R. [Murray], \*77  
 —Comments, 65  
 —Discussion, 83  
 Fenders:  
 —Massachusetts, report, 56  
 —Shear-guard, Chicago, \*435  
 Financial:  
 —Canada, 165  
 —Cost of operation per passenger mile, Coney Island R. R., 888  
 —Earnings of Maine roads for 1907, 204  
 —Illinois, 461  
 —Indiana, 91, 502, 664  
 —Massachusetts, 55  
 —Michigan, 916  
 —New Hampshire, 232  
 —New Jersey, 644  
 —New York, 64  
 —Ohio, 48  
 —Ontario, 785  
 —Pennsylvania, 98, 702  
 —Replacement costs, New York, 470  
 Findlay, Ohio, Work car on Western Ohio Ry., \*559  
 Fire extinguishers:  
 —(Childs), \*576  
 —Mounted on truck (Badger), \*578  
 Fire insurance, changes in rules, 440  
 Fire insurance department of the Brooklyn Rapid Transit Co., 489  
 Fire prevention:  
 —Car houses and shops, 590  
 —Substation, 807  
 Fire protection, Discussion by N. E. Street Railway Club, 737  
 Fires, Chelsea, Mass., 759  
 Floods in the Central States, 302  
 Flues, Reinforced concrete, 527  
 Fonda, Johnstown & Gloversville R. R., Sacandaga Park, \*316  
 Fort Smith, Ark., Park operation, \*114  
 Ft. Wayne & Wabash Valley Ry.:  
 —Baggage checking system, 336  
 —Employees' Mutual Benefit Association, 497; [Vordermark], 902  
 —Meeting of general managers of McAfee properties, 832  
 —Meetings of Maintenance of Way Department, 743  
 —Merit system of discipline, 191 [Hardy], 904, 906  
 —Track construction, \*85; [Weber], \*534  
 Fort Worth, Texas, Improvements, 781  
 Framingham, Mass.:  
 —Car house, \*431  
 —Freight rights, 875  
 Franchises, Valuation method [Floy], 662  
 Freight and express:  
 —Birmingham, Ala., \*815  
 —Easton, Pa., Package transportation, 164  
 —Forms used in freight handling, 816  
 —Framingham, Mass., Railway rights, 875  
 —Illinois Traction Co., United States Express Co., 612  
 —Indiana, Ruling of Railroad Commission, 835  
 —Lancaster, Pa., Trolley as moving van, \*791  
 —Massachusetts situation, 212  
 —New Haven, Conn., Trolley express truck, \*91  
 —Rates for transporting milk and cream, Scranton, Pa., 454  
 —Rates, Joint, with steam, Iowa, 621  
 —Truck, Trolley, New Haven, \*91  
 Freight stations, Birmingham and Ensley, Ala., \*815

Fuel:  
 —Alcohol and gasoline, Relative value of, 682  
 —Tests of various grades of fuel, U. S. Geological Survey, 642  
 —(See also Coal)  
 Funeral trains, Electric, Milan, Italy, \*10

**G**

Gages, Truck for different, \*23  
 Gaining machine for car and bridge construction (Fay & Egan), \*144  
 Gas engines:  
 —Failures in Great Britain, 744  
 —Maintenance [Ryerson], 50, c396; [Marburg], c182  
 —(Mesta), 828  
 —Milwaukee & Northern Ry., Experience during storm, 186  
 —Operation of, by steam engineers, 841  
 —Producer gas for engine use: its manufacture and characteristics [Tuttle], 824  
 —2000-K W. gas-electric set for Bessemer works, \*749  
 Gasoline motor cars:  
 —Gasoline-electric:  
 Delaware & Hudson R. R., \*135 (Strang), \*435, 544  
 —Small Western roads, 249  
 —Southern Pacific R. R., 612  
 Gates, Car, Screen, Topeka, \*185  
 Gear cutting tool, on axle (Osmer), \*497  
 General Electric Co.:  
 —Annual report, 800  
 —Curtis turbine business, 705  
 General Managers' Association of McAfee properties, Meeting, 832  
 Generators:  
 —Commutating pole, 2700k.w. (G.E.), \*221  
 —London County Council (Dick, Kerr & Co.), \*400  
 —Motor generator vs. rotary converter in railway service, 273, \*278  
 Germany:  
 —Statistics, 730  
 —Trackless trolley lines, 249  
 Glasgow, Municipal control, 395  
 Glenn, T. K., \*194, 236  
 Glenn, W. H., \*236  
 Grand Rapids, Mich., Car house and club rooms, \*45  
 Grant, H. F., 668  
 Great Britain, Statistics, 299

**H**

Hamilton Street Ry., Financial Matters, 500  
 Hapgood, Richard, 305  
 Hartford, Conn., Bidding system of filling vacancies, 465  
 Havana Electric Railway Co., Annual meeting, 409  
 Heaters for vestibules (Peter Smith), 144  
 Heating, Massachusetts report, 56  
 —(See also Ventilation)  
 Henry, Frank R., \*506  
 High-tension direct current:  
 —Experiments with 4000 volts, 223  
 —Indianapolis and Louisville Ry. [Hewett], \*4; [Murdock], 501  
 —Comments, 1  
 —Railways in Europe, \*727  
 Hoists in repair shops, 630  
 Holland-American Construction Co., Dissolution of, 895  
 Houston, Texas, Semi-convertible cars, \*496  
 Huff, S. W., \*305

**I**

Ice leveler, Flanged teeth (Gifford-Wood), \*287  
 Illinois Railroad Commission, Annual report, 461  
 Illinois Traction Co.:  
 —Bridge at St. Louis, Mo., \*15  
 —Express service, 612  
 —Merchants' excursions, 849  
 —(See also Decatur, Ill.)  
 Impostor, Plausible, 835  
 Incandescent lamp testing meter (Johns-Manville), 24  
 India, Surface contact system for Benares, \*754  
 Indiana:  
 —Accidents, 835  
 —Earnings of companies, 502  
 —Express companies and ruling of Railroad Commission, 835  
 —Fares, Right to make special, 150  
 —Merger with Kentucky lines, 912  
 —Operating rules discussed by railway representatives before Railroad Commission, 345  
 —Railroad Commission, Annual report, 91, 664  
 —Railway situation [Nicholl], 178  
 —Railway statistics, 141  
 —Taxation of interurban lines, 759  
 Indiana Engineering Society, Annual convention, 141  
 Indianapolis, Tolls on interurbans, 229  
 Indianapolis & Cincinnati Traction Co.:  
 —Ticket system, \*381  
 —Track laying, \*90  
 Indianapolis, Crawfordsville & Western Traction Co.:  
 —Car tests, 181  
 —Details of system, \*850

Indianapolis & Louisville Traction Co., 1200-volt direct current line [Hewett], \*4; [Murdock], 561  
 —Comments, 1  
 Inspection and maintenance practice, Data sheets of A. S. & I. R. E. A., 874  
 Inspection by mileage, Costs of, compared with time-interval system, 483  
 Inspection of rolling stock, Interborough Rapid Transit Co., \*480, \*511  
 Institution of Civil Engineers, Annual Meeting, 876  
 Insulation of high tension transmission lines [Dennee], \*899  
 Insulators:  
 —High voltage lines [Locke], \*571  
 —Section insulator (Ohio Brass Co.), \*143  
 International Electrical Exposition at Marseilles, France, 153  
 Interstate Commerce Commission, Classification of accounts. (See Accounting)  
 Interurban railways:  
 —Car intervals, Determining proper, 37  
 —Fares, Handling [Crafts], 685; Discussion, 732  
 —Publicity for, 309  
 Iowa, Joint freight rates required, 621  
 Iowa Street & Interurban Railway Association:  
 —Convention, 353, 666, 731  
 —Depreciation and publicity, Resolution on, 789  
 Italy, Proposed railway development, 869

**J**

Jackson, Miss., Power station, \*278  
 Japan:  
 —Statistics of railways, 386  
 —Tokio hydro-electric plant, 220  
 —Tokio municipal bonds, 253  
 Joliet, Ill., Dellwood Park, \*118  
 Journal bearings, Cost of renewal, New York, 681  
 Journal boxes, Proper packing of, \*517

**L**

Laboratory of the Georgia Railway & Electric Co., Atlanta, 498  
 Lackawanna & Wyoming Valley Ry., Cars, \*26  
 Lake Shore Electric Ry., Annual report, 229  
 Lamp socket, Key-locking (G.E.), 618  
 Lancaster, Pa.:  
 —Fare receipts, \*383  
 —Trolley express, \*791  
 Leeds, England, Track brake tests, \*13  
 Legal decisions:  
 —Canada definition of street railway, 146  
 —Charters, franchises and ordinances, 292  
 —Fare, Special, Indiana, 150  
 —Independent contractors, 288  
 —Coupler heights, 882  
 —Joint rates, steam road and electric, Iowa, 621  
 —Negligence, Liability for, 288, 649  
 —Passengers, Constructive acceptance of, 649  
 —Pennsylvania's two-cent law unconstitutional, 150  
 —Sanitary condition of cars, Indiana, 488  
 Lewiston, Augusta & Waterville Street Ry., Extensions, 462  
 Lexington & Interurban Ry., Organization, 190  
 Lighting, Electric, Linolite System, 184  
 Lighting of cars, Improvements suggested, 415  
 Lightning arresters:  
 —Aluminum cell (G.E.), \*792  
 —Choke coil, with discharge rod (Lord), \*573  
 —Condensers used for, Watertown, N. Y., 201  
 —Electrolytic (Westinghouse), \*618  
 —Horn, Indianapolis, \*853  
 —Horn (Siemens-Schuckert), \*575  
 Lima, Ohio, Promotion of traffic by Western Ohio Ry. [Price], 138  
 Line cars. (See Tower car; Work cars)  
 Liverpool, Annual report, 762  
 Locker, Metal (Darby), \*223  
 Locomotives, Electric:  
 —Chicago tunnel, \*646  
 —Comparative tests of steam and electric, N. Y. Central R. R., 393  
 —Comparison of single-phase and three-phase, [Valatin], \*16  
 —Detroit River tunnel, \*494  
 —Spokane & Inland Ry., 491  
 —Locomotive, Steam, Discussion on passing of, 346  
 London:  
 —Conduit construction, \*172  
 —Surface contact system, \*569  
 —Underground railways, Finances, 253, 703, 761  
 London letters, 27, 187, 404, 579, 756  
 Long Island Railroad Co.:  
 —Annual report, 704  
 —Reply to Circular of Interstate Commerce Commission, 786  
 —Los Angeles, Cal.:  
 —Huntington denies Harriman purchase, 621  
 —Interlocking switch and signal system for Pacific Electric Ry., 496  
 Louisville, Ky.:  
 —Proposed consolidation, \*912  
 —Strikes in 1907 [Funk], 20  
 —Transfers, 818  
 Louisville Railway Co., Annual report, 353  
 Lubrication:  
 —Interborough Rapid Transit Co., \*516  
 —Large plants, Lubrication in [Davis], 752  
 —Motor oil box, Integral, \*74  
 —New York & Queens County cars, 551

(Abbreviations: \* Illustrated. c Correspondence.)

## M

- MacGovern, Archer & Co., 584  
 Maine, Earnings for 1907, 204  
 Maintenance department: Co-operation with claim department, 509, 806  
 Maintenance of overhead lines. (See Overhead construction)  
 Maintenance of rolling stock:  
 —Anderson, Ind., 538  
 —Car defect record system, Boston, 554  
 —Interborough Rapid Transit Co., \*672, \*857  
 —(See also Repair shop practice)  
 Maintenance of track. (See Track construction)  
 Manchester, England, Park, the "White City," \*112  
 Manchester, N. H., Pine Island Park, \*606  
 Maps:  
 —Boston Elevated extension, 262  
 —Easton, Pa., and interurban lines, 160  
 —Fairmont & Clarksburg Traction Co., 808  
 —Indianapolis & Louisville Traction Co., 4  
 —London County Council tramways, 756  
 —Manhattan and Bronx boroughs showing subway and elevated systems, 479  
 —New Jersey, Public Service Ry., 715  
 —Northern Electric Street Railway, Scranton Pa., 448  
 —Northwestern Elevated R. R. extension to Evanston, Ill., \*842  
 —Porto Rico, 274  
 —Richmond & Chesapeake Bay Ry., 364  
 —Sacandaga Park, 316  
 —San Diego, Cal., 418  
 —Washington, Baltimore & Annapolis Ry., 240  
 Marseilles International Electrical Exposition, 153, 406, 470  
 Martin, T. Commerford, decorated by French Republic, 100  
 Massachusetts:  
 —Dividend-paying street railways, 231  
 —Electric railway properties of N. Y., N. H. & H. R. R., 831  
 —Fares:  
 Higher, 357, 468, 596, 644, 797, 832, 914  
 Statistics concerning, [Sullivan], 261.  
 Comments on, 272  
 —Freight and express situation, 212  
 —Interurban railway condition, 95, 234, 670  
 —Legislation matters, 191, 267  
 —Public utilities bill, 151  
 —Railroad Commission, Report, 55  
 —Temporary railway locations, 582  
 Massachusetts Electric Co.:  
 —Earnings, 795  
 —Report for 1907, 54  
 Mathes, L. D., \*764  
 Measuring instruments, Milli-voltmeter and shunt ammeter (Bristol), \*92  
 Medical outfits for employees, Oakland [Brown], \*171  
 Memphis, Tenn.:  
 —Accounting system, 819  
 —Reconstruction of railway system, \*530  
 —Street railway Y. M. C. A., 498  
 —Wrecking car, 399  
 Mercury arc rectifiers for moving-picture machines, \*699  
 Metcr, Incandescent lamp testing (Johns-Manville), 24  
 Mexico:  
 —Cars for Parral, \*184  
 —Notes from, 300, 358, 471  
 Mexico City:  
 —Cars, \*224  
 —"Seeing Mexico" parlor car service, 166  
 Michigan, Statistics, 91c  
 Milan, Italy, Electric funeral trains, \*10  
 Mileage book, Central Electric Traffic Association, 905  
 Millen, Thomas, \*413  
 Milwaukee Electric Railway & Light Co., Interstate Commerce Classification, Reply to circular, 614  
 Minneapolis:  
 —Big Island Park and Lake Minnetonka [Warnock], \*106  
 —Earnings, 235, 351, 798  
 Minnesota Railroad Commission, Proposed jurisdiction over electric, 408  
 Montreal, Car house, De Fleurmont St., \*208  
 Montreal Street Railway Co., Increase in capital, 154  
 Motor cars, Gasoline. (See Gasoline motor cars)  
 Motor oil box, Integral, \*74  
 Motors, Electric:  
 —Commutating pole, G.E. 205, \*9  
 —G.E. A-603, 247  
 —G.E. A-603A, \*365  
 —Series repulsion railway motor (G.E.), \*82, 83  
 —Siemens-Schuckert interpole, \*183  
 —Comments, 198  
 —Westinghouse No. 300, \*215  
 Moscow tramway purchase rumored, 191  
 Mullaney, T. F., \*837  
 Municipal ownership in Copenhagen, Decision against, 386

## N

- Natick & Cochituate Street Ry. Co., Financial statement, 357  
 National Amusement Park Association, Aims and objects, 129  
 National Fire Protection Association, Report on standard construction for car houses, 912  
 Natural gas, Cost, Fairmont & [Clarkson] Traction Co., \*810

- Natural resources, Conservation of:  
 —Meeting, American Society of Mechanical Engineers, 644, 708  
 —National conference at Washington, 840  
 New England Street Railway Club, 440, 471, 582, 737, 876  
 New Hampshire Railroad Commission Report, 232  
 New Haven, Conn.:  
 —Park proposed for Lighthouse Point, \*123  
 —Trolley express truck, \*91  
 —(See also Connecticut Company: New York, New Haven & Hartford R. R.)  
 New Jersey:  
 —Governor's message on the railroads, 98, 150  
 —Operating reports of railway companies, 644  
 —Public Service Ry. (See Newark, N. J.)  
 New Jersey Short Line R. R., Receivership, 354  
 New Orleans:  
 —Car blockades, 192  
 —Changes in personnel, 617  
 —Condenser speed regulation, 629  
 —Curtis turbines, Tests, 789  
 —Transfer system, New, 151  
 —Waiting stations, \*257  
 New Orleans Railway & Light Co., Annual meeting and reports, 438, 703, 707  
 New publications, 32, 359, 411, 472, 918  
 New South Wales, Finances, 226  
 New York Central R. R., Electrification:  
 —Financial matters [Wilgus], 393  
 —Locomotive order, 501  
 —Savings, Estimated, 491  
 —Storage battery house ventilation, \*495  
 —Third rail shoes, Telltale clearance, 9  
 New York City:  
 —Accidents, 97, 300, 470  
 —Earnings of New York City companies, 360  
 —Franchise tax assessments, 569  
 —Hudson & Manhattan R. R.:  
 Financing of companies, 190  
 First train, \*49, 190  
 Inspection of upper tunnel, 299  
 Opening, 307, \*329, 356  
 Signal system, 402  
 Third-rail construction, \*330  
 —Interborough Metropolitan Ry.:  
 Finances, Statement by President Shonts, 351  
 —Interborough Rapid Transit Ry.:  
 Bond issue, 439, 468  
 Car cleaning methods and costs, 522  
 Car equipment department, 476, \*478, \*510, \*672, \*857  
 Coal specifications, 284  
 Contact shoe data, \*858  
 Delay records, 483  
 East River tunnel:  
 Effect on Brooklyn traffic, 152  
 Opening, 50, 58, \*88  
 Train dispatching, \*492  
 Elevated road, Legality of third track, 468  
 Financial statement, 409, 438  
 Labor cost at inspection shops, 483, 486  
 Ninety-sixth street track changes, \*253, \*343  
 Organization chart of car equipment department, 478  
 Reply to Circular of Interstate Commerce Commission, 786  
 Steel cars, \*422  
 Subway reports:  
 Capacity, Arnold report, 882, 889  
 Car design, Report by B. J. Arnold, \*337, 849, 889  
 Signal system, Report by B. J. Arnold, 463  
 Third-rail construction in tunnels, \*330  
 Ventilation system, \*645  
 —New York City Ry.:  
 Car house construction, \*205  
 Cars, Pay-as-you-enter, \*256, 468, 490  
 Changes in organization, 356  
 Consulting engineers to the receivers, 616  
 Financial statement, 501  
 Fire loss, 408  
 Health campaign by means of transfers, 396  
 Railway officials exonerated, 669  
 Replacement costs, 470  
 Reply to Circular of Interstate Commerce Commission, 786  
 Transfer decision, 876  
 —New York & Queens County R. R.:  
 Current collection in tunnel, \*492  
 Proposed sale of tunnel to city, 58, 408  
 —Notes, 30, 58, 97, 190, 233, 300, 355, 408, 439, 468, 501, 583, 622, 659, 705, 761, 802, 833, 877, 915  
 —Pennsylvania R. R., Tunnels, Progress, 410  
 —Public Service Commission:  
 Brooklyn service, Recommendations, 300  
 Investigation, Results of, 692, 797  
 Rapid Transit Act, Proposed changes in, 97  
 Recommendations by Gov. Hughes, 31  
 Report for first six months, 149  
 —Subways, New Plans for, 30, 226, 266, 664, 839, 917  
 —Third Avenue Lines:  
 Finances, 190, 233  
 Improvements, 913  
 Receivership, 58  
 Report of Receiver, 872  
 —Transfer matters, 581, 876  
 —Williamsburg Bridge underground terminal for Brooklyn cars, \*592

- New York City Club:  
 —Discussion of traction affairs, 470  
 —Transit exhibit, \*10  
 New York, New Haven & Hartford R. R.:  
 —Earnings, 299, 876  
 —Electric locomotive guarantees, 133  
 —Electrical equipment, Notes on, 153  
 —Electrification out of Boston, 665  
 —Freight and express business in Massachusetts, 212  
 —Multiple unit a.c.-d.c. cars, 496  
 —New Canaan branch, Single-phase to be adopted, 20  
 —New York and Port Chester, Plans for line between, 59  
 —Park circuit, \*321  
 —Single-phase distribution with special reference to sectionalization [Murray], \*77  
 Comments, 65  
 Discussion, 83  
 —Trolley purchases, Legal status of, 407, 831  
 —(See also Connecticut Co.; New Haven)  
 New York Railroad Club:  
 —Dinner to H. H. Vreeland, 268  
 —Electrical night, 491  
 New York State:  
 —Legislation matters, 300  
 —Street railway statistics, 64  
 New York State Public Service Commission:  
 —Classification of accounts for lighting companies, 635, 671  
 —Report for first six months, 149  
 New York State Street Railway Association:  
 —Executive session, 462  
 —Statement concerning Interstate Commerce classification, 868  
 New Zealand, Tramway law, Proposed new, 142  
 Newark, N. J.:  
 —Pay-as-you-enter car, \*648, 873  
 —Public Service Corporation:  
 Bond issue, 796  
 Earnings, 584  
 Maintenance of Way department [Schreiber], \*714  
 —Shop Foremen's Association, 50  
 Newcastle-on-Tyne, Special work, \*400  
 Norfolk, Va., Cash fare receipt, \*211  
 Norfolk & Portsmouth Traction Co., Annual report, 916  
 North American Co.:  
 —Annual report, 148  
 —Bond issue, 762  
 Northampton, Pa., Traction Co., Construction and operation, \*160  
 Northern Ohio Traction & Light Co., Annual report, 188

## O

- Oakland, Cal., Medical outfits [Brown], \*171  
 Ogdensburg, N. Y., Coleman fare box, 224  
 Ohio:  
 —Excursion rates, Right to make, 350  
 —Legislation, 150, 173, 234, 267, 302, 409, 440, 467, 469, 501, 580, 625, 663, 704  
 —Railroad Commission Report for 1907, 48  
 —Railway situation [Nicholl], 178  
 —Tax suit test, 299  
 Ohio Electric Ry., Speed record, 828  
 Ohio G. A. R., Special electric railway rates, 828  
 Oil cup, West Penn Co., 523  
 Oil filter, \*520  
 Oil house, New York Interborough, \*521  
 Omaha, Neb.:  
 —Campaign against accidents, 210  
 —Method of handling claims [Gross], 735  
 Ontario, Earnings, 785  
 Organization diagrams:  
 —New York Interborough R. T., Mechanical Department, 478  
 —Public Service Corporation, Maintenance of Way Department, 715  
 Ottawa Electric Railway Co., Annual report, 227  
 Overhead construction:  
 —Flexible hangers for contact wires [Mayer], \*697  
 —Maintenance, Indiana Union Traction Co, 636  
 —Memphis, Tenn., \*531  
 —Richmond & Chesapeake Bay Ry., \*369, \*370  
 —Safety device for splicing sleeve, \*252  
 —Sag adjuster, 24  
 —Scranton, Pa., Northern Electric Street Ry., \*450  
 —Standards in Austria, 745  
 —Tangential suspension for trolley wire, \*570  
 —Twelve hundred volts d.c., \*8  
 —(See also Catenary construction)

## P

- Painting of wooden cars, New York, Costs, 858  
 Paris underground railways, 895  
 Parks and pleasure resorts:  
 —Amusements:  
 Contractors for attractions, 134, 347  
 Moving pictures and their possibilities, 325  
 New entertainments, \*131  
 Roller skating, \*109  
 Vaudeville in parks [Hulse], \*124  
 —Brockton & Plymouth Street Railway, 164  
 —Chicago Water Chutes Park, \*130  
 —Contoocook River Park, Boston & Maine R. R., \*608  
 —Design:  
 Evolution of the modern park [Cope-land], \*122  
 Park for all kinds of weather [Hulse], \*319

Parks and pleasure resorts: (Continued)  
 —Dubuque, Ia., Union Electric Company's experience [Mathes], \*310  
 —Easton, Pa., \*116, \*604  
 —Fort Smith, Ark., \*114  
 —Joliet, Ill., \*118  
 —Kinderhook Lake, Albany & Hudson R. R., \*326  
 —Management:  
     Accounting and collecting receipts, Joliet, Ill., 118  
     Creating enthusiasm, Hinston, 110  
 —Manchester, England. The "White City," \*112  
 —Manchester, N. H., Pine Island Park, \*606  
 —Minneapolis, at Big Island Park and Lake Minnetonka [Warnock], \*106  
 —New Haven, Conn., Proposed park, \*123  
 —N. Y., N. H. & H. R. R. Co.'s park circuit, \*321  
 —Norumbega, Newtonville, Mass., 131, 460  
 —Pine Bluff, Ark., Forest Park, \*605  
 —Sacandaga Park in the Adirondacks, \*316  
 —St. John, N. B., Rockwood Park, \*313  
 —Schenectady Ry. Co., Forest Park, \*314  
 —Troy, N. Y., New Rensselaer Park, \*324  
 Passenger-mile cost of railway operation, 888  
 Passengers, Limiting in New York, 589  
 Pay rolls, Machine for printing, \*694  
 Pennsylvania:  
     Independent contractor, Legal decision, 288  
     Railroad Commissioners, 98  
     Railway data for 1907, 702  
     Two-cent law unconstitutional, 150  
 Pennsylvania R. R., Annual report, 410  
 Pennsylvania Street Railway Association, Meeting of executive committee, 31  
 Peoria, Ill., Electrolysis suit, 469  
 Peru, Railway notes, 15, 348  
 Philadelphia, American Railways Co., Earnings, 912  
 Piles, Reinforced concrete, 867  
 Pine Bluff, Ark., Forest Park, \*605  
 Pipe bending machine, Pneumatic (Underwood), \*52  
 Pit construction. (See Car houses)  
 Pittsburg:  
     Car with side rods, 827  
     Pay-as-you-enter-car experiment, 29, 35, 61  
     Philadelphia Co., Report, 798  
     Steam turbines at Brunot Island power plant, \*908  
     Wage dispute, 871  
 Pittsburg & Allegheny Valley Ry., Reorganization of, 702  
 Poles:  
     Combined use of, by railway, telephone and lighting companies, \*530  
     Consumption in 1906, 260  
     Galvanized steel, for transmission lines (Milliken), \*436  
     Metal (P. P. & F. Co.), \*403  
     Preservation. (See Timber preservation)  
     Specifications, Northwestern Cedarmen's Association, 866  
 Polyphase railways in Europe, 728  
 Portland, Ore.:  
     Bridges, \*790  
     Extensions, 757  
     Increase in travel, 430  
 Porto Rico, Tramway and power developments, in, \*274  
 Pottsville, Pa., Eastern Pennsylvania Railways, Extension, 412  
 Power station practice:  
     Alternators, Remedying defects in parallel operation of, 51  
     Auxiliaries, 36, 883  
     Fuel. (See Coal)  
     High-pressure, and high-temperature steam, 363  
     Inspection records, Value of, 768  
     Pilot lamps in power stations, 447  
     Raising the load factor, 768  
     Working conditions in small plants, 238  
 Power station records: Fuel records and station outputs, 445  
 Power stations:  
     Baltimore, Reconstruction, \*770  
     Bay Shore Park, Baltimore, \*776  
     Birmingham, Ala., \*884  
     Brunot Island, Pittsburg, \*908  
     Combined railway, lighting and exhaust-steam plant [Boughton], 640  
     Connellsville, Pa., Original devices, \*524  
     Crawfordsville, Ind., \*850  
     Fall River, Mass., Auxiliary equipment, 36  
     Jackson, Miss., \*278  
     Mechanicsville, N. Y., \*783  
     Watertown, N. Y., No attendants, \*700  
     Windsor, Essex & Lake Shore Rapid Ry., \*40  
     (See also Substations)  
 Power transmission, Progress in, 713  
 Preston, England, Truck, Compensating, \*23  
 Pretoria, S. A., Contemplated changes, 746  
 Producer gas. (See Gas engines)  
 Providence, R. I., Operating department, changes in, 154  
 Pumps, Boiler feed, of special design, \*525

**Q**

Question box of Southwestern Electrical & Gas Association, 865

**R**

Rail bender for heavy rails (P. P. & F. Co.), \*576  
 Rail joints:  
     Brazed, Tests, 402  
     Clark joint in Buffalo [Clark], c396

—Clark, Tests in Cleveland, 465  
 Rails, T:  
     Controversy in Columbus, 584, 665  
     Recommended for Detroit, 99  
 Register cards on cars, 723  
 Reinforced concrete:  
     Electric railway construction [Stark], 733  
     Piles and ties, \*867  
     Progress in construction, 417  
     Viaduct of Richmond & Chesapeake Bay Ry., \*374  
 Repair shop practice:  
     Anderson, Ind., 285, \*647  
     Boring wheel with lathe, \*726  
     Chicago City Ry., \*597  
     Keeping track of distantly located shops, 67  
     Lifting apparatus necessary, 881  
     New York Interborough Rapid Transit Co., \*478, \*510, \*672, \*857  
     New York & Queens County Ry., \*546  
     Ordering of parts, Brooklyn, \*259  
     Planning for the future, 1  
     Tool lists, Importance of keeping, 308  
     Tool locations in shops, 57  
     Welding of motor cases by thermit process, \*647  
     West Penn Rys., \*73  
     Wheel grinder, \*286  
     (See also Maintenance of rolling stock)  
 Repair shop records, Purposes of, 591  
 Repair shops:  
     Anderson, Ind., \*539  
     Chatanooga, Tenn., \*632  
     Chicago City Ry., \*598  
     Elyria, Ohio, \*724  
     Marshall, Brooklyn, Coil insulation, \*577  
     New York & Queens County Ry., \*546  
     St. Louis, \*487  
     Washington, Baltimore & Annapolis Ry., \*246, 248  
 Repair wagons. (See Tower wagons; Tower car; Work cars)  
 Rhode Island Railroad Commission, Report of, 504  
 Richmond & Chesapeake Bay Ry., Single-phase system [Hewett], \*364  
 Road Congress, International, at Paris, 726  
 Rotary converters, Truing up commutators [Greer], \*545  
 Rutland Railway, Light & Power Co., Annual report, 701

**S**

Safety devices. (See American Museum of Safety Devices)  
 St. John, N. B., Rockwood Park, \*313  
 St. Louis, Mo.:  
     Bridge of Illinois Traction Co., \*15  
     Cars, Pay-as-you-enter, 355  
     Cars with steel underframe, \*42  
     Club rooms for employees, \*263  
     Earnings of the United Railways, 59, 354, 503, 661, 701, 703, 912  
     Repair shops, Addition, \*487  
     Statistics of operation, 391  
     Tax on street railways, 878, 917  
     Tower car with pneumatic hoist, \*52  
     Trouble wagons, \*17, \*22  
 St. Paul, Minn., Twin City Rapid Transit Co. (See Minneapolis)  
 San Diego, Cal., Street railway system, \*418  
 San Francisco:  
     Earnings, 759, 798  
     Extension to San Jose, 913  
     Financial conditions, 232  
     Ocean Shore Ry., 44, 169  
     Terminal station for steam and electric lines, 301  
     Track reconstruction, \*68  
     Western Pacific R. R., Electricity for, 266  
 Sand box for continuous and intermittent flow, Preston, Eng., \*26  
 Sand drier of Public Service Ry., \*716  
 Sao Paulo Tramway, Light & Power Co., Annual report, 830  
 Saw, Band rip (Pay & Egan), \*224  
 Schedules:  
     Analysis of, 159  
     Boston night chart, 566  
 Schenectady Railway Co., Forest Park, \*314  
 School tickets in New Jersey, 52  
 Scranton, Pa.:  
     Cars, \*452  
     Lackawanna & Wyoming Valley R. R., Avoca substation, \*812  
     Northern Electric Street Railway Co., \*448  
 Seattle, Wash., Fake claim, 875  
 Shanghai Tramways, Construction notes, \*18  
 Shop Foremen's Association, Newark, N. J., 50  
 Shreveport, La., Safety device for splicing sleeve, \*252  
 Signals. (See Block signal system)  
 Signs:  
     Indicator for run numbers, \*696  
     Suggestions, 66  
 Signs, Electric:  
     Electric kaleidoscope, 618  
     Porcelain signs (Colonial), \*619  
 Simplon tunnel railway, \*727  
 Single-phase railways:  
     Europe, Notes, 728  
     Richmond & Chesapeake Bay Ry. [Hewett] \*364  
     Status [McClellan], 282  
     Switzerland, 826  
     Washington, Baltimore & Annapolis Ry., \*240  
     Windsor, Essex & Lake Shore Rapid Ry. [DeWitt], \*38  
     York, Pa., \*683

Snow plow (Wilder), \*572  
 Snow sweeper, Watertown, N. Y., 201  
 South America:  
     Guayaquil Tramway Co., 252  
     Western, Electrical conditions in, 232  
 Southwestern Electrical & Gas Association:  
     Convention at El Paso, Texas, 821, 863, 865  
     May meeting, 471  
     Meeting of Executive Committee, 99  
 Spokane, Wash., Theater train service on the Inland Empire, 166, 207  
 Springfield, Ill., Interurban traffic, 827  
 Springfield, Mass., Extensions, 707  
 Standardization of accounts. (See Accountants' Association; Accounting, Interstate Commerce Classification)  
 Standardization data sheet of American Street & Interurban Railway Engineering Association, 913  
 Standardization of trolley wheels, harps and poles [Cole], 561  
 Statistics:  
     Austria, 1905, 24  
     Boston traffic, 61  
     Canadian electric railways [Payne], 165  
     Chicago L traffic, 54  
     Earnings of New York City street railway companies, 360  
     Great Britain, 299  
     Massachusetts, 1898-1907, 56  
     Pole consumption in 1906, 260  
     (See also Financial)  
 Steam separator, Horizontal, \*525  
 Steam turbines. (See Turbines, Steam)  
 Step, Folding, Troy, N. Y., \*76  
 Steubenville & East Liverpool Railway & Light Co., Extensions, 375  
 Stoker, Underfeed (Taylor), \*397  
 Stone crushers, Newark, N. J., \*719, \*720  
 Storage batteries:  
     Correction of troubles, 869  
     Unit principle (S. E. A. Co.), \*185  
 Storage battery houses:  
     Concrete house, \*162  
     Ventilation on the N. Y. Central R. R., \*495  
 Stores department, Economy in, 806  
 Street Railway Journal combined with Electric Railway Review, 805  
 Street scrapers and wheels (Nuttall), \*143  
 Strikes:  
     Chester, Pa., 665, 707  
     Chicago, threatened, 834  
     Cleveland municipal lines, 875  
     Indiana Union Traction Co., 57, 99, 356  
     Louisville, Ky., in 1907 [Funk], 20  
     Pensacola, Fla., 665, 707  
 Substations:  
     Avoca substation of Lackawanna & Wyoming Valley R. R., \*812  
     Baltimore system, \*774  
     Chicago & Northwestern Elevated R. R., \*843  
     Construction costs, Reducing, 590  
     Fires in, 807  
     Indianapolis, Crawfordsville & Western Traction Co., \*855  
     Richmond & Chesapeake Bay Ry., \*372  
     Washington, Baltimore & Annapolis Ry., 248  
 Surface contact system:  
     Benares, \*754  
     London, \*569  
 Swiss report on American electric railways, 895  
 Switzerland, Second single-phase railway, 826  
 Switchboards, Continuous-current, Types of, 348  
 Switches, Electric, Car passing from 600 to 1200 volts, \*9  
 Switches, Track, Three-way (Allen), \*19  
 Syracuse, Lake Shore & Northern R. R., Construction details [Wharf], \*250

**T**

Taxation and public service in Baltimore, 467  
 Terminal of Williamsburg Bridge, \*592  
 Terminal stations:  
     Baltimore, \*241  
     Decatur, Ill., \*641  
     Richmond & Chesapeake Bay Ry., \*373  
     San Francisco union terminal proposed, 301  
 Terre Haute, Indianapolis & Eastern Ry., Semaphore switch signals, \*612  
 Testing plant for cars at Worcester Polytechnic Institute, \*254  
 Tests:  
     Fuel tests by U. S. Geological Survey, 642  
     Tests of cars by Purdue students on Indianapolis, Crawfordsville & Western Ry., 181  
 Texas floods, 914  
 Theater at Celaron Park, Lake Chautauqua, \*125  
 Theater train service developed in Spokane, Wash., 207  
 Thermit welding of motor cases, Anderson, Ind., \*647  
 Third-rail:  
     Belgium, Under-running, 346  
     Chicago, South Side, \*380  
     Contact shoe data, Interborough Rapid Transit, \*858  
     East River tunnel, N. Y., & O. C. R. R., \*492  
     Hudson River tunnels, \*330  
     Shoe fuses in New York, \*514  
     Telltale for clearance of shoes, 9  
 Through routes in city service, 271  
 Tickets:  
     Cash fare receipt, Norfolk, Va., \*211  
     Cleveland, Aluminum 3-cent disks, \*898  
     Indianapolis & Cincinnati Traction Co., \*381  
     Mileage book, Central Electric Traffic Association, 905  
     Milk tickets, Scranton, Pa., \*454

(Abbreviations: \* Illustrated. c Correspondence.)

- Tickets (Continued.)  
 —School tickets in New Jersey, 52  
 —Tickets as a fare medium for street and inter-urban railway traffic [Ohmer], 896  
 —(See also Fares; Transfers)
- Ties:  
 —Preservation. (See Timber preservation)  
 —Reinforced concrete, \*867  
 —Renovals, 743
- Timber preservation:  
 —Circular, U. S. Forest Service, 436  
 —Cresotes, Analysis and grading of, 747  
 —Directions for using *Avenarius carbolineum*, \*734  
 —Open tank treatment for ties and cross-arms, \*567  
 —Review of present practice and economics [Schoch], 821
- Time-table impostor, 410, 434
- Toledo, Ohio, Railway merger, 918
- Toledo, Fostoria & Findlay Ry., Completion, 153
- Toledo & Indiana Ry., Receivership, 603
- Toledo Railways & Light Co.:  
 —Agreement with city, 871  
 —Earnings, 147, 265, 502  
 —Finances, 832
- Topeka, Kan., Cars with screen gates, \*185
- Tower car with pneumatic hoist St. Louis, \*52
- Tower wagons, St. Louis:  
 —Automobile wagon, \*22  
 —Transportation cars, \*17
- Track construction:  
 —City construction for interurban cars [McMath], 141  
 —Cost of concrete beam track [Weber], \*85  
 —Indianapolis & Cincinnati Traction Co., \*90  
 —Location of electric railways [Baldwin], 782  
 —Maintenance of track on new grade [Smith], 907  
 —Memphis, Tenn., \*530  
 —Proper construction and maintenance [Weber], \*534  
 —Public Service Ry., New Jersey [Schreiber], \*714; \*720  
 —San Francisco reconstruction, \*68  
 —Standards in Austria, 745  
 —T-rail construction in paved streets [Lowd], \*864
- Trackless trolleys in Germany, 249
- Traffic, Promotion of [Price], 138
- Transfers:  
 —Advertising on, Baltimore, 392  
 —Audit of, 629  
 —Baltimore, Used in campaign against disease, 93  
 —Chicago, Special, \*464  
 —Health campaign in New York, 396  
 —Limitation of, New York City, 876  
 —Louisville, Ky., 818  
 —New Orleans, 151  
 —New York City, Discontinuance of certain transfers, 581
- Transformers:  
 —Changing transformer connections in emergencies, 343  
 —Portable set for park lighting, 609
- Transportation department, Buffalo, 167
- Trenton & New Brunswick R. R., Receivership, 354
- Trolley base (Bayonet), \*574
- Trolley bushing, Rifled (Ives), \*578
- Trolley catcher (Lord), \*578
- Trolley car (Dyer), \*576
- Trolley harps:  
 —Balanced spring (U. C. F. Co.), \*646  
 —(R. F. R. Co.), \*573
- Trolley pole, Tension indicator for (C. A. Co.), \*755
- Trolley wheels and sleet scrapers (Nuttall), \*143
- Trolley wheels, harps and poles, Standardization of [Cole], 561
- Trolley wires, Wear of, with sliding contact, 154
- Trouble wagons. (See Tower wagons; Tower car; Work cars)
- Troy, N. Y., New Kensselaer Park, \*324
- Trucks:  
 —Chicago & Northwestern Elevated R. R., \*848  
 —Design of [Vauclain], \*562  
 —(Preston), for different gages, \*23  
 —Storage battery (Westinghouse), \*23  
 —Watertown, N. Y., \*202, \*203
- Tunnels. (See names of railways under New York City)
- Turbines, Steam:  
 —Cairo, Egypt, 572  
 —Comparison of Parsons and Curtis turbines [Emmet], 21, 432; [Bibbins], 332  
 —Curtis, Tests at New Orleans, 789  
 —Double-flow, Brunot Island power plant, Pittsburg, \*908  
 —Exhaust elbow and valve box, \*526  
 —"Mixed pressure" (Williams & Robinson), 403  
 —Westinghouse-Parsons, Statistics, 504
- Turnstile for street cars, \*648
- U**
- Underwriters' National Electric Association, Proposed changes in rules, 440
- Unit, Value of a [Carver], 537
- Utica & Mohawk Valley Ry., Symbol for, 191
- V**
- Ventilation:  
 —Instruction to conductors, 104  
 —New York subway, \*645  
 —Watertown cars, N. Y., 202
- Vesuvius Railway, 698
- Viaduct, Reinforced concrete, Richmond & Chesapeake Bay Ry., \*369, \*372, 374
- Visalia, Cal., Semi-convertible cars, \*287
- Vreeland, H. H., Dinner to, by New York Railroad Club, 268
- W**
- Wagons. (See Tower wagons)
- Waiting stations:  
 —New Orleans, \*257  
 —York & Hanover Ry., \*683  
 —(See also Terminal stations)
- Wallis, R. N., \*506
- Washington, D. C., Capital Traction Co., Report of, 228
- Washington, D. C., Railway & Electric Co.:  
 —Annual report, 834  
 —Attempt to defraud, 153  
 —Directors, 146
- Washington, Baltimore & Annapolis Ry., Single-phase system, \*240
- Washington:  
 —Chehalis & Centralia Railway & Power Co., 193  
 —Power development in the Inland Empire, 57
- Watertown, N. Y.:  
 —Black River Traction Co. [Lefevre], \*200  
 —Car and truck work proposed, 300
- West Jersey & Seashore Ry., Plan for leasing, 762
- Westboro & Hopkinton Street Ry. Co., Financial statement, 357
- Westinghouse Electric & Manufacturing Co.:  
 —Bond plan, 154  
 —Finances, 664  
 —Reorganization, 757, 799
- Westinghouse Machine Co., Changes, 623
- Weston, C. V., \*63
- Weston, George, 101
- Wheel grinder (Remelius), \*286
- Wheels:  
 —Boring with lathe, \*726  
 —Flange wear, Chicago elevated, 791  
 —Inspection, New York Interborough, 515  
 —Investigation of steel and cast iron wheels [Flower], 32  
 —Renewal cost, New York, 857  
 —Standards in Austria, 745
- Williamsburg bridge terminal. (See New York City)
- Windsor, Essex & Lake Shore Rapid Ry., Single-phase equipment [DeWitt], \*38
- Winnipeg Electric Street R. R., Annual report, 191, 438
- Winnipeg purchases railway and light properties, 584
- Winston-Salem, N. C., Semi-convertible cars, \*52
- Wisconsin. Public utility law and depreciation accounts, 169
- Wisconsin Electric & Interurban Railway Association, Meeting, 153
- Worcester, Mass., Grade crossings, 878
- Worcester Polytechnic Institute, Electric car-testing plant, \*254
- Work cars:  
 —Design of, 399  
 —Line car, Cleveland, Southwestern & Columbus Ry., \*725  
 —Line car on Western Ohio Ry., \*559  
 —Lisbon, Portugal (Brill), 87  
 —Public Service Ry., \*717, \*718
- Y**
- York, Pa., Single-phase railway, \*683
- Y. M. C. A. work, Memphis, Tenn., street railway, 498
- Youngstown & Southern Ry., 9

## AUTHOR INDEX

- A**
- Alexanderson, E. F. New single-phase railway motor \*82
- Arnold, B. J. Report on subway car design in New York, \*337
- Report on subway signal system, New York City, 463
- B**
- Baldwin, R. H. Economic location of electric railways, 782
- Bibbins, J. R. Turbine economies, 332
- Boughton, J. H. Combined railway, lighting and exhaust-steam plant, \*640
- Brockway, W. B. The small company and the new classification of accounts, 427
- Brown, J. Q. First aid to injured employees, \*171
- Button, C. P. Signal systems for electric railways, 140
- C**
- Carver, D. F. The value of a unit, 537
- Clark, C. H. The Clark joint in Buffalo, 396
- Cole, Adam. Standardization of trolley wheels, harps and poles, 561
- Copland, H. L. Evolution of the modern amusement park, \*122
- Crafts, P. P. Handling fares on interurban railways, 685
- D**
- Denneen, F. S. Insulation of high tension transmission lines, \*899
- De Witt, S. C. Single-phase equipment of the Windsor, Essex & Lake Shore Rapid Ry., \*38
- E**
- Emmet, W. L. R. Turbine economies, 21, 432
- F**
- Funk, J. T. Louisville strikes, 20
- G**
- Greer, C. L. Truing up rotary commutators, \*545
- Gross, A. W. Methods of handling claims by electric railways, 735
- H**
- Hardy, Frank. Merit system of discipline, 904
- Hewes, John. Axle bearings and collars, 1209
- Hewett, J. R. Indianapolis & Louisville 1200-volt direct current line, \*4
- Richmond & Chesapeake Bay single-phase railway, \*364
- Hulse, E. P. Preparing a street railway park for all kinds of weather, \*319
- Vaudeville in electric railway parks, \*124
- K**
- Kochersperger, H. M. The Interstate Commerce classification, 729
- L**
- Lawton, W. H. The Interstate Commerce Commission's classification, 691
- Lefevre, A. H. Black River Traction Company of Watertown, N. Y., \*200
- Locke, F. M. Insulators for extremely high voltage lines, \*571
- Lowd, Mark. Track construction, \*864
- M**
- Mapledoram, B. A. Chicago and New York Air Line, 907
- Marburg, L. C. Gas engine maintenance, 182
- Mathes, L. D. Park experience of the Union Electric Company, Dubuque, Ia., \*310
- May, W. W. Interstate Commerce Classification of accounts, 613
- Mayer, Joseph. Flexible hangers for the overhead contact wires of electric railways, \*697
- Murdock, H. D. 1200-volt d.c. system of the Indianapolis & Louisville Traction Co., 561
- Murray, W. S. New Haven system of single-phase distribution with special reference to sectionalization, \*77
- N**
- Nicholl, H. A. Electric railway situation in the Central States, 178
- O**
- Ohmer, J. F. Tickets as a fare medium for street and interurban railway traffic, 896
- P**
- Payne, J. L. Electric railways in Canada, 165
- Price, C. F. Promotion of traffic, 138
- R**
- Royse, Daniel. Depreciation in electric railway accounting, 687
- Ryerson, W. N. Gas engine maintenance, 50, 396
- S**
- Schoch, E. P. Review of the present practice and economics of timber preservation, 821
- Schreiber, Martin. Way department of the Public Service Railway Company, \*714
- Smith, William. How best to maintain track on a new grade, 907
- Stark, N. M. Reinforced concrete in electric railway construction, 733
- T**
- Taylor, R. C. Fundamental brake rigging for high speed electric railway cars, 177
- Tingley, C. L. S. Interstate Commerce Commission's proposed classification of accounts, 455, 785
- Tuttle, W. B. Producer gas for engine use: its manufacture and characteristics, 824
- V**
- Valatin, Bela. Large electric locomotives for heavy service, \*16
- Vauclain, A. C. Electric motor and trailer trucks \*562
- Vordermark, H. E. Employees' mutual benefit association, 902
- W**
- Wallis, R. N. Interstate classification and the small railway, 459
- Warnock, A. W. Big Island Park and Lake Minnetonka, \*106
- Weber, H. L. Proper construction and maintenance of tracks in electric railway service, \*534  
 —The permanent way, \*85
- Wharf, E. M. Syracuse, Lake Shore & Northern R. R., \*250
- Wight, C. L. Interstate Commission statistics and accounts, 736