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Index to the Transactions and Journal of the New England Water Works Association

SECTION 1. 1882-1950

SECTION 2. 1950-1960

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Journal of the New England Water Works Association

INDEX TO THE TRANSACTIONS AND JOURNAL OF THE NEW ENGLAND WATER WORKS ASSOCIATION

TRANSACTIONS, 1883 TO 1885, JOURNAL VOLUMES I TO LXXIV

1886 TO 1960

Section 1. 1882-1950

Section 2. 1950-1960

FOREWORD

It was thought more practical to bring the Journal Index up to date by reproducing the 1950 Index as it was and adding a separate section for the period from 1950 to 1960, binding the two sections together. So there is no change in Section 1. In Section 2, the Index follows in general the same plan as Section 1, no new titles have been added but some old titles have been dropped or combined.

The Subject Index contains a classification of papers, topical discussions, reports of technical committees and specifications and standards of water works materials, equipment and structures. Cross references are limited to topics rather than papers. A few papers not related to water works matters are classified as "Miscellaneous."

The Author Index lists all papers published under an author's name, long and obscure titles being reworded.

Proceedings of meetings including reports of officers and standing non-technical committees, book reviews, presidential addresses unless confined to a specific technical subject are not indexed since they appear regularly in each volume.

The volume of the Journal appears in small Roman numerals, the page and year in larger Arabic numerals. The three volumes of Transactions for the three years 1883, 1884 and 1885 are identified by the abbreviation "Trans." The Journal was established in 1886 and the quarterly issues of the first two volumes were paged separately and are identified by interpolating the month of issue between volume and page number. Volumes I to XV began with the Sep-

tember issue, but in order to conform to the calendar year, later volumes were made to begin with the March issue, Volume XV (1900-1901) containing six issues, to permit this change.

KENNETH W. ROBIE

Brookline, Mass.

May 1961

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Bacteriology in the treatment and laboratory control of public water supplies. (J. J. Collins, Jr.) lxvi 253, 1952.
Limitations of standard bacteriologic methods in evaluating sanitary quality of water. (F. W. Gilcrease) lxvi 167, 1952.
CHEMICAL AND PHYSICAL:
Contamination of ground water by synthetic detergents. (I. L. Newell and F. O. A. Almquist) lxxiv 61, 1960.
Mineral characteristics of Maine public water supplies. (R. W. MacDonald) lxviii 204, 1954.
Tastes and odors in Connecticut water supplies. (R. S. Woodhull) lxix 126, 1955.
Taste and odor problems in the United States. (E. A. Sigworth) lxxiii 224, 1959.
POLLUTION, PROTECTION AND CONTROL:
Domestic and industrial water supplies face the pollution problem. (M. Pirnie) lxviii, 250, 1954.
Functions, duties and authorities of the public health service on water pollution control. (L. W. Trager) lxv 119, 1951.
Sanitary protection of surface water supplies. (W. A. Healy) lxvi 214, 1952.
Significance of the coliform test in relation to intestinal virus pollution of water. (F. W. Gilcreas and S. M. Kelly) lxviii 255, 1954.
Water supply control in retrospect—a brief review. (C. R. Cox) lxvi 290, 1952).
QUICKSAND. See PIPE LINES.
RATES. See FINANCING.
RAINFALL. See HYDROLOGY.
RECORDS. See ACCOUNTING.
RECREATION FACILITIES. See WATERSHEDS.
RED WATER. See CORROSION.
REGULATIONS OF PUBLIC UTILITIES. See MANAGEMENT.
REGULATIONS. See MANAGEMENT.
REGULATORS. See GATES, VALVES.
RELIEF VALVES. See GATES, VALVES.
RESERVOIRS.
GENERAL:
New distribution reservoir at Taunton. (F. M. Cahaly) lxxi 302, 1957.
Removal of reservoir debris while maintaining water service. (P. C. Karalekas and C. A. Manganaro) lxxiv 259, 1960.
DISTRIBUTING:
New asphalt lined reservoir for Rutland, Vt. (E. L. Tracy) lxix 314, 1955.
Wickham Hill storage reservoirs. (W. Dorenbaum) lxv 173, 1951.
See also DESCRIPTION OF VARIOUS WATER SYSTEMS AND SUPPLIES.
REVENUE. See MANAGEMENT and FINANCING.
RUN-OFF. See HYDROLOGY.
SALT WATER SUPPLIES. See FIRES.
SANITATION. See HEALTH and QUALITY.
SEDIMENTATION. See TREATMENT.
SEEPAGE. See DAMS.
SERVICE PIPES AND EQUIPMENT. See PIPE—PIPE LINES.
SEWAGE AND WASTE DISPOSAL. See HEALTH, TREATMENT.
SINKING FUNDS. See FINANCING.

SIPHONS. See PIPES.
SNOWFALL. See HYDROLOGY.
Odors and taste in public water supplies. (D. H. Turcotte). lxviii 181, 1954.
SOFTENING. See TREATMENT (SOFTENING).
SOIL CORROSION. See CORROSION.
SOURCES OF SUPPLY. See GROUND WATER, SUPPLY, DESCRIPTION, WATERSHEDS.
SPECIFICATIONS AND STANDARDS.
American standard specifications for cast iron pipe centrifugally cast in metal molds, for water or other liquids. (A. W. W. A.) lxvii Sept. appended, 1953.
American standard specifications for cast iron pipe centrifugally cast in sand lined molds, for water or other liquids. (A. W. W. A.) lxvii Sept. appended 1953.
American standard specifications for deep well vertical turbine pumps. (A. W. W. A.) lxix Dec. appended, 1955.
American standard specifications for a mechanical joint for cast iron pressure pipe and fittings. (A. W. W. A.) lxvii Juné appended, 1953.
American standard specifications for short-body cast iron fittings, 3" to 12", for 250-psi water pressure plus water hammer. lxvii March appended, 1953.
A. W. W. A. standard specifications for coal-tar enamel protective coatings for steel water pipe. lxxii Mar. appended, 1958.
Code for pressure piping. (Committee report) lxx 423, 1956.
Current specifications for cast iron pipe and how to order to specifications. (T. W. Wolfe) lxxi 130, 1957.
Deep well vertical pumps. (Committee report) lxxii 405, 1958; lxiii 384, 1959; lxxiv 364, 1960.
Gate valves for ordinary water works service. (Committee report) lxxiii 383, 1959.
Gate valve specifications. (Committee report) lxv 396, 1951; lxvi 413, 1952.
Hydrant specifications. (Committee report) lxv 395, 1951; lxvi 412, 1952; lxxiv 363, 1960.
Laying cast iron pipe. (Committee report) lxxi 376, 1957.
Laying cast iron water mains. (Committee report) lxvii 310, 1953; lxx 424, 1956.
Meter specifications. (Committee report) lxxiii 382, 1959.
Progress report of N. E. W. W. A. representatives on joint A. W. W. A.-N. E. W. W. A. committee on meters. (Committe report) lxxiv 374, 1960.
Progress report on deep well vertical pumps. (Committee report) lxviii 350, 1954.
Progress report of committee on deep-well vertical turbine pumps. (Committee report) lxix 397, 1955.
Progress report on laying cast iron water mains. (Committee report) lxviii 347, 1954.
Reinforced concrete pressure pipe. (Committee report) lxv 390, 1951; lxvii 309, 1953; lxviii 346, 1954; lxxiv 377, 1960.
Report of N. E. W. W. A. representative on A. W. W. A.-N. E. W. W. A. committee C500 on gate valves for ordinary water works service. lxxiv 375, 1960.
Revisions to steel water tank standards. lxvi appended, 1952.
Sluice gate specifications. (Committee report) lxv 397, 1951.
Specifications for cast iron pipe and fittings. (Committee report) lxv 389, 1951; lxvi 407, 1952; lxvii 308, 1953; lxviii 345, 1954; lxix 392, 1955; lxx 422, 1956; lxxi 375, 1957; lxxii 402, 1958; lxxiii 380, 1959; lxxiv 359, 1960.
Specifications for prestressed concrete water storage tanks. (Committee report) lxxiii 391, 1959; lxxiv 372, 1960.
Specifications for steel pipe. (Committee report) lxv 393, 1951; lxvi 410, 1952; lxvii 311, 1953; lxviii 348, 1954; lxix 393, 1955; lxx 426, 1956; lxxiii 393, 1959.
Standard specifications for fire hydrants for ordinary water works service. A. W. W. A., N. E. W. W. A. lxvii Sept. 1953.
Standard specifications for the installation of cast iron water mains. (Committee report) lxxiv 360, 1960.
Standardization of pipe flanges and fittings. (Committee report) lxv 394, 1951; lxvi 411, 1952; lxvii 312, 1953; lxviii 349, 1954; lxix 394, 1955; lxx 427, 1956; lxxi 377, 1957; lxxii 404, 1958; lxxiii 382, 1959; lxxiv 361, 1960.
Tentative recommended practice for painting and repainting elevated steel water storage tanks, standpipes, and reservoirs. A. W. W. A. lxvi Dec. appended, 1952.
Tentative standard specifications for asbestos-cement water pipe. A. W. W. A. lxviii June 1954.
Tentative standard specifications for cement mortar lining of water pipelines in place sizes 16" and over. lxviii Dec., 1954.
Tentative standard specifications for cast iron pressure fittings. A. W. W. A. lxvii June appended, 1953.
Tentative standard specifications for installation of cast iron water mains. A. W. W. A. lxxi June appended, 1957.
Tentative standard specifications for reinforced concrete water pipe—non cylinder type, not prestressed. A. W. W. A. lxvi Mar. appended, 1952.
Tentative standard specifications for dimensions for steel pipe fittings. A. W. W. A. lxxi Mar. appended, 1957.
Tentative standard specifications for gate valves for ordinary water works service. A. W. W. A. lxvii March appended, 1953.
SPILLWAYS. See DAMS AND RESERVOIRS.
STANDPIPES. See TANKS.
STATISTICS. See ACCOUNTING AND RECORDS.
STERILIZATION. See TREATMENT (DISINFECTION).
STORAGE. See HYDROLOGY, QUALITY, RESERVOIRS, DAMS.
STREAM FLOW. See HYDROLOGY.
SUPPLY.
GENERAL:
A water resource program for Massachusetts. (C. I. Sterling, Jr.) lxxi 313, 1957.
Conservation, development and utilization of water resources. (Committee report) lxv 400, 1951; lxvi 422, 1952; lxvii 314, 1953; lxviii 352, 1954; lxix 398, 1955; lxx 428, 1956; lxxi 380, 1957; lxxii 407, 1958; lxxiii 385, 1959; lxxiv 365, 1960.
Metropolitan district sources of water supply. (Warren A. Gentner) lxx 68, 1956.
Natural resources survey of New England and New York. (H. L. Fox) lxvi 43, 1952.
Public water supply resources of the Connecticut River Valley (A. Iantosca) lxxiv 285, 1960.
Public water supplies of Connecticut during the 1957 drought. (F. O. A. Almquist) lxxiii 1, 1959.
The experiences of New Britain with the 1957 drought. (G. W. Wood) lxxiii 15, 1959.

Water situation in New York City in 1950. (E. J. Clark) lxv 203, 1951.
MILITARY:
Portsmouth air force base water supply. (P. F. Howard) lxxii 17, 1958.
Water supplies for Army bases in Alaska. (W. L. Hyland and G. M. Reece) lxv 1, 1951.
See also DESCRIPTIONS OF VARIOUS WATER SYSTEMS AND SUPPLIES.
TANKS, STANDPIPES
Advantages of steel tanks for water storage. (J. A. Morley) lxxiii 172, 1959.
Construction of spherical and radial-cone elevated tanks. (J. E. Revelle) lxv 292, 1951.
Elevated tanks and standpipes. (Committee report) lxxiv 362, 1960.
Maintenance of steel water works tanks (G. A. Sampson) lxix 323, 1955.
Preload water tanks. (J. J. Closner) lxxii 302, 1958.
Prestressed water tanks. (F. X. Crowley) lxxii 317, 1958.
Revisions to steel water tank standards. A. W. W. A. lxix 424, 1955.
Steel standpipes and elevated tanks. (Committee report) lxix 395, 1955.
Steel storage-tank reconstruction of Sanford, Maine. (E. S. Littlefield and R. L. Meserve) lxxiii 336; 1959.
Tank-paint manufacturers' problems in the maintenance of steel water works tanks. (C. J. Gotthardt) lxix 337, 1955.
The painting contractors' problems in the maintenance of steel water works tanks. R. O. Leonard) lxix 342, 1955.
The superintendents' problems in the maintenance of steel water works tanks. (A. M. Symonds) lxix 331, 1955.
TASTES AND ODORS. See QUALITY AND TREATMENT.
THICKNESS OF PIPE. See PIPE AND SPECIFICATIONS.
TREATMENT AND PURIFICATION.
GENERAL:
Application of ultra violet ray sterilization to water treatment. (F. W. Gilcreas and L. DeLalla) lxvii 130, 1953.
Automatic control of chemical addition (R. H. Babcock) lxxiv 189, 1960.
Automation in water treatment plants (R. H. Condell) lxxiii 233, 1959.
Believe-It-or-Not experiences with chemical feeders. (R. J. Leveque) lxviii 278, 1954.
Burlington water quality and treatment plant operation. (E. L. Tracy) lxxiv 113, 1960.
Control of tastes and odors at the Billerica water treatment plant. (B. E. Hawkes) lxxiv 236, 1960.
Desalting of saline waters: Review of present status. (E. W. Moore) lxv 319, 1951.
Detergent research related to water and sewage treatment. (F. J. Coughlin) lxx 298, 1956.
Factors influencing the efficiency of activated carbon. (A. Y. Hyndshaw, H. F. Laughlin, J. G. Filicky and D. C. Colebaugh, Jr.) lxvi 36, 1952.
Guides for selection of chemical feeders. (P. A. Coffman, Jr.) lxvii 192, 1953.
How to secure maximum benefits with activated carbon. (A. Y. Hyndshaw) lxix 69, 1955.
Investigation of liquid alum flow measurement. (K. F. Knowlton and R. H. Babcock) lxxiii 159, 1959.
Manganese removal with chlorine and chlorine dioxide. (A. E. Griffin) lxxii 321, 1958.
Modern trends in sea water conversion (J. J. Campobasso) lxxiv 1, 1960.
Re-chlorination in the Hartford distribution system. (A. J. Minkus) lxxii 251, 1958.
Treating algae under the ice at Westfield, Mass. (E. A. Snow, Jr. and A. Iantosca) lxvi 47, 1952.
Water quality and treatment. (Committee report) lxvi 404, 1952; lxix 387, 1955; lxxiii 378, 1955.
DISINFECTION:
A pilot plant for water treatment and its operation at Middleton Pond, Mass. (W. B. Davis and H. J. Steinhurst) lxxiv 124, 1960.
A tentative procedure for disinfecting water mains. A. W. W. A. lxviii June, 1954.
Action of ozone on water-borne bacteria. (J. M. Dickerman, with A. O. Castraberti and J. E. Fuller) lxviii 11, 1954.
Chlorination and bacterial problems in the distribution system. (C. H. Reed) lxvi 279, 1952.
Chlorination, a ten year review. (A. E. Griffin) lxviii 97, 1954.
Chlorination experiences during the 1954 hurricanes. (T. J. Rinaldo) lxix 264, 1955.
Chlorination-theory versus practice. (V. W. Langworthy) lxix 78, 1955.
Chlorine and cylinder handling. (R. A. Knef) lxxi 281, 1957.
Microstaining and ozonation—pilot plant investigations for treating a surface water supply at Danvers, Mass. (E. T. Killam) lxxii 37, 1959.
Operating experience with chlorine dioxide. (J. C. Derby) lxix 231, 1955.
The break-point process for free residual chlorination (A. E. Griffin and R. J. Baker) lxxiii 250, 1959.
FILTRATION:
Description of installation of automatic diatomaceous-earth filters at Saratoga, California. (G. A. Pettersen) lxxiv 245, 1960.
Design and operation of an automatic filter in Winooski, Vermont. (W. C. Gilbert) lxvi 203, 1952.
Diatomaceous earth filtration. (H. N. Armbrust) lxix 287, 1955.
Economics of unit water purification systems. (C. A. Knapp) lxix 197, 1955.
Micro-straining and Its Applications. P. L. Boucher) lxx 1, 1956.
New addition to West Parish filters, Springfield, Mass. (P. C. Karalekas) lxviii 164, 1954.
New Water treatment plant for Billerica, Mass. (T. R. Camp) lxxii 47, 1958.
Operation of slow sand filters during 1955 floods. (J. P. Lynch) lxx 266, 1956.
Operation of the Lake Whitney filters and use of the DorrClone Sand Washer. (S. Jacobson) lxxiv 272, 1960.
Performance of the Billerica water treatment plant. (B. E. Hawkes) lxxii 62, 1958.
The New Britain water filtration plant. (I. L. Newell) lxviii 149, 1954.
The Greenwich Water Co. Mianus filter plant. (H. J. Carlock) lxxi 26, 1957.
Twenty-five years of water filtration progress. (K. F. Knowlton) lxxiv 289, 1960.
Vacuum type diatomite filters in water treatment. (H. N. Armbrust) lxxiv 143, 1960.

Washing slow sand filters with a lateral flow. (A. J. Minkus) lxviii 121, 1954.
Water purification in Cambridge, Mass. (D. H. Turcotte). lxix 191, 1955.
SOFTENING:
Water magic. (F. S. Gibbs) lxvii 30, 1953.
TRENCHING. See PIPE.
TUBERCULATION. See CORROSION.
TUNNELS. See AQUEDUCTS.
TYPHOID. See HEALTH.
ULTRA VIOLET RAYS. See TREATMENT (DISINFECTION).
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VALUATION. See FINANCING.
VALVES. See GATES.
VENTURI METERS. See HYDRAULICS also METERS.
WARTIME PROBLEMS (CIVIL DEFENSE)
Civil defense of New England—recent developments. (A. D. O'Connor) lxvi 135, 1952.
Civil defense in Massachusetts. (J. J. Maginnis) lxx 316, 1956.
Highlights of the defense program and controlled materials plan as affecting water works. (W. L. Picton) lxvi 129, 1952.
The civil defense of New England. (A. D. O'Connor) lxvi 55, 1952.
The water-works laboratory in civil defense. (C. C. Carson) lxvi 177, 1952.
Water supply, fire fighting and civil defense. (F. P. McNea) lxx 327, 1956.
WATER-BORNE DISEASES. See HEALTH.
WATER HAMMER. See HYDRAULICS.
WATERPROOFING. See RESERVOIRS also TANKS.
WATER POWER.
St. Lawrence power project. (W. M. Hall) lxxi 93, 1957.
WATER RESOURCES. See HYDROLOGY.
WATER RIGHTS. See LEGAL.
WATER SHEDS, FORESTATION.
Chemical methods of weed control in reservoirs. (V. Mascia) lxxiv 185, 1960.
General forestry practices. (R. C. Hawley) lxvi 100, 1952.
Forestry at Manchester water work—fact or fancy. (A. J. Christie) lxxiv 46, 1960.
Forestry operations on the Scituate reservoir watershed. (W. F. Cowen) lxvii 1, 1953.
Lake Whitney sanitary conditions in relation to certain laboratory examinations. (S. Jacobson and E. L. MacLeman) lxxiii 62, 1959.
Nursery practice and watershed planting at Quabbin Reservoir. (R. Snow) lxvi 111, 1952.
Recreational use of public water supplies. (Committee report) lxviii 355, 1954; lxx 433, 1956.
Sawmill operations and marketing of forest products. (P. A. Shaw and A. J. Christie) lxvi 104, 1952.
Sanitary protection of watersheds—are we overdoing or underdoing it? (A. D. Weston) lxv 256, 1951.
The management of forested watersheds in New England. (H. W. Lull and N. R. Tripp) lxxii 341, 1958.
The use of chemical weed killers on public water supply watershed. (D. W. Loiselle) lxvii 140, 1953.
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WELLS. See GROUND WATER also PUMPING.
YIELD OF CATCHMENT AREAS. See HYDROLOGY.