

CONTENTS

PART III

REPRINTED SCIENTIFIC WRITINGS

| | PAGE |
|--|------|
| I. STATE MEDICINE | 3 |
| HENRY I. BOWDITCH, 1870 | |
| II. THE PUBLIC HEALTH | 9 |
| CIRCULAR LETTER, 1870 | |
| III. INTEMPERANCE IN THE LIGHT OF THE COSMIC LAW . . | 12 |
| HENRY I. BOWDITCH, 1872 | |
| IV. PREVENTIVE MEDICINE AND THE PHYSICIAN OF THE FUTURE | 17 |
| HENRY I. BOWDITCH, 1874 | |
| V. THE FILTRATION OF POTABLE WATER | 26 |
| WM. RIPLEY NICHOLS, 1873 | |
| VI. ON SOME IMPURITIES OF DRINKING-WATER CAUSED BY VEGETABLE GROWTHS | 39 |
| WM. G. FARLOW, 1879 | |
| VII. A STUDY OF THE RELATIVE POISONOUS EFFECTS OF COAL AND WATER GAS | 47 |
| WM. T. SEDGWICK and WM. RIPLEY NICHOLS, 1884 | |
| VIII. REPORT OF A COMMISSION TO CONSIDER A GENERAL SYSTEM OF DRAINAGE FOR THE VALLEYS OF THE MYSTIC, BLACK- STONE AND CHARLES RIVERS | 58 |
| HENRY P. WALCOTT, 1886 | |
| IX. MICRO-ORGANISMS IN THE AIR OF THE BOSTON CITY HOS- PITAL. | 65 |
| GREENLEAF R. TUCKER, 1888 | |
| X. POLLUTION OF ICE SUPPLIES | 77 |
| STATE BOARD OF HEALTH, ¹ 1889 | |
| XI. REPORT OF THE STATE BOARD OF HEALTH UPON THE SEW- ERAGE OF THE MYSTIC AND CHARLES RIVER VALLEYS | 86 |
| STATE BOARD OF HEALTH, ¹ 1889 | |
| XII. SUGGESTIONS AS TO THE SELECTION OF SOURCES OF WATER SUPPLY | 106 |
| FREDERIC P. STEARNS, 1890 | |
| XIII. THE GROWTH OF CHILDREN STUDIED BY GALTON'S METHOD OF PERCENTILE GRADES | 119 |
| H. P. BOWDITCH, 1890 | |
| XIV. TYPHOID FEVER IN ITS RELATION TO WATER SUPPLIES . . | 131 |
| HIRAM F. MILLS, 1890 | |
| XV. A CLASSIFICATION OF THE DRINKING-WATERS OF THE STATE | 139 |
| STATE BOARD OF HEALTH, ¹ 1890 | |

¹ The reports of the State Board of Health were almost invariably written by the Chairman, Dr. Henry P. Walcott.

| | |
|--|-----|
| XVI. THE EFFECT OF STORAGE UPON THE TASTE AND ODOR OF SURFACE WATERS | 144 |
| FREDERIC P. STEARNS and THOMAS M. DROWN, 1890 | |
| XVII. THE POLLUTION OF STREAMS | 156 |
| FREDERIC P. STEARNS, 1890 | |
| XVIII. THE FILTRATION OF SEWAGE, A GENERAL VIEW OF RE- SULTS OF EXPERIMENTS AT THE LAWRENCE EXPERIMENT STATION. | 172 |
| HIRAM F. MILLS, 1890 | |
| XIX. THE CHEMICAL PRECIPITATION OF SEWAGE | 188 |
| ALLEN HAZEN, 1890 | |
| XX. MICROSCOPICAL ANALYSIS | 192 |
| WM. T. SEDGWICK, 1890 | |
| XXI. INVESTIGATIONS UPON NITRIFICATION AND THE NITRIFYING ORGANISM | 208 |
| EDWIN O. JORDAN and MRS. ELLEN H. RICHARDS, 1890 | |
| XXII. THE INTERPRETATION OF WATER ANALYSES | 218 |
| THOMAS M. DROWN, 1892 | |
| XXIII. SOME PHYSICAL PROPERTIES OF SANDS AND GRAVELS, WITH SPECIAL REFERENCE TO THEIR USE IN FILTRATION. | 232 |
| ALLEN HAZEN, 1892 | |
| XXIV. REPORT OF THE JOINT BOARD UPON THE IMPROVEMENT OF CHARLES RIVER | 249 |
| METROPOLITAN PARK COMMISSION and STATE BOARD OF HEALTH, 1894 | |
| XXV. REPORT OF THE STATE BOARD OF HEALTH UPON A MET- ROPOLITAN WATER SUPPLY | 260 |
| STATE BOARD OF HEALTH, ¹ 1895 | |
| XXVI. A COMPARATIVE STUDY OF THE TOXIN PRODUCTION OF DIPHThERIA BACILLI | 274 |
| THEOBALD SMITH and ERNEST L. WALKER, 1896 | |
| XXVII. SANITARY CONDITION AND IMPROVEMENT OF THE NEPON- SET MEADOWS | 293 |
| STATE BOARD OF HEALTH, ¹ 1897 | |
| XXVIII. A MASSACHUSETTS LIFE TABLE FOR THE FIVE YEARS 1893-97 | 300 |
| SAMUEL W. ABBOTT, 1898 | |
| XXIX. REPORT OF THE STATE BOARD OF HEALTH UPON THE GEN- ERAL SUBJECT OF THE DISCHARGE OF SEWAGE INTO BOSTON HARBOR | 317 |
| STATE BOARD OF HEALTH, ¹ 1900 | |
| XXX. EXAMINATION OF SEWER OUTLETS IN BOSTON HARBOR AND OF TIDAL WATERS AND FLATS FROM WHICH SHELLFISH ARE TAKEN FOR FOOD | 322 |
| X. H. GOODNOUGH, 1905 | |
| XXXI. INSPECTION OF DAIRIES | 333 |
| CHARLES W. HARRINGTON, 1905 | |

¹ The reports of the State Board of Health were almost invariably written by the Chairman, Dr. Henry P. Walcott.

CONTENTS

vii

| | |
|--|-----|
| XXXII. A REVIEW OF TWENTY-ONE YEARS' EXPERIMENTS UPON THE PURIFICATION OF SEWAGE AT THE LAWRENCE EX- PERIMENT STATION. | 341 |
| H. W. CLARK and STEPHEN DE M. GAGE, 1908 | |
| XXXIII. THE OCCURRENCE OF INFANTILE PARALYSIS IN MASSA- CHUSETTS, 1907-12 | 350 |
| MARK W. RICHARDSON, 1912 | |
| XXXIV. FOOD AND DRUG INSPECTION OF THE MASSACHUSETTS STATE BOARD OF HEALTH | 366 |
| HERMANN C. LYTHERGEE, 1914 | |

PART IV

ABSTRACTS OF SCIENTIFIC ARTICLES AND REPORTS

| | |
|--|-----|
| STATE BOARD OF HEALTH; ANNUAL REPORTS: | |
| First, 1870 | 377 |
| Second, 1871 | 377 |
| Third, 1872 | 380 |
| Fourth, 1873 | 382 |
| Fifth, 1874 | 384 |
| Sixth, 1875 | 387 |
| Seventh, 1876 | 388 |
| Eighth, 1877 | 391 |
| Ninth, 1878 | 393 |
| Tenth, 1879 | 395 |
| Eleventh, 1879 | 396 |
| STATE BOARD OF HEALTH, LUNACY AND CHARITY; SUPPLEMENTS TO ANNUAL REPORTS: | |
| First, 1879 | 396 |
| Second, 1880 | 397 |
| Third, 1881 | 398 |
| Fourth, 1882 | 399 |
| Fifth, 1883 | 400 |
| Sixth, 1884 | 400 |
| Seventh, 1885 | 401 |
| STATE BOARD OF HEALTH; ANNUAL REPORTS: | |
| Eighteenth, 1886 | 402 |
| Nineteenth, 1887 | 402 |
| Twentieth, 1888 | 403 |
| Twenty-first, 1889 | 403 |
| Twenty-second, 1890 | 404 |
| STATE BOARD OF HEALTH; SPECIAL REPORTS ON WATER SUPPLY AND SEWERAGE: | |
| Part I, 1890 | 405 |
| Part II, 1890 | 407 |
| STATE BOARD OF HEALTH; ANNUAL REPORTS: | |
| Twenty-third, 1891 | 410 |
| Twenty-fourth, 1892 | 412 |

STATE BOARD OF HEALTH; ANNUAL REPORTS — *continued*

| | |
|--------------------------------|-----|
| Twenty-fifth, 1893 | 414 |
| Twenty-sixth, 1894 | 415 |
| Twenty-seventh, 1895 | 416 |
| Twenty-eighth, 1896 | 416 |
| Twenty-ninth, 1897 | 417 |
| Thirtieth, 1898 | 417 |
| Thirty-first, 1899 | 418 |
| Thirty-second, 1900 | 418 |
| Thirty-third, 1901 | 419 |
| Thirty-fourth, 1902 | 420 |
| Thirty-fifth, 1903 | 421 |
| Thirty-sixth, 1904 | 421 |
| Thirty-seventh, 1905 | 421 |
| Thirty-eighth, 1906 | 422 |
| Thirty-ninth, 1907 | 423 |
| Fortieth, 1908 | 425 |
| Forty-first, 1909 | 425 |
| Forty-second, 1910 | 426 |
| Forty-third, 1911 | 426 |
| Forty-fourth, 1912 | 426 |
| Forty-fifth, 1913 | 427 |
| Forty-sixth, 1914 | 427 |

STATE BOARD OF HEALTH; SPECIAL REPORTS:

| | |
|--|-----|
| Sewerage of the Mystic and Charles River Valleys, 1889 | 429 |
| Improvement of Charles River, 1894 | 430 |
| Metropolitan Water Supply, 1895 | 430 |
| Improvement of Upper Charles River, 1896 | 432 |
| Improvement of Neponset River, 1897 | 433 |
| Cerebro-spinal Meningitis, 1898 | 433 |
| Restoration of Green Harbor, 1898 | 434 |
| Sewerage of Salem and Peabody, 1898 | 434 |
| Discharge of Sewage into Boston Harbor, 1900 | 435 |
| Sanitary Condition of Sudbury and Concord Rivers, 1901 | 435 |
| Undertaking and Embalming, 1904 | 436 |
| Dumping Garbage into Harbors, 1904 | 436 |
| Mystic River and Alewife Brook, 1906 | 436 |
| Water Supply of Lynn, 1907 | 437 |
| Sanitary Condition of Merrimack River, 1908 | 437 |
| Pollution of Boston Harbor, 1908 | 438 |
| Green Harbor, 1909 | 438 |
| Lake Quannapowitt, 1909 | 438 |
| Sewage Disposal for Worcester Insane Hospital, 1909 | 439 |
| Water Supply of Salem, Beverly and Peabody, 1911 | 439 |
| Sanitary Condition of Merrimack River, 1913 | 439 |
| Danvers River and its Estuaries, 1913 | 440 |
| Dorchester Bay, 1913 | 440 |
| Sewerage of Reading, 1914 | 441 |

| | |
|-----------------|-----|
| INDEX | 443 |
|-----------------|-----|