

CITY EXPENSES.

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Mrs. W. M. Mackay, H. J. Eaton's lot, repairs	\$3.00
John C. Blake, care	1.00
Mrs. J. McCarty (Mrs. Morrow), burial .	3.00
Rev. E. O. Jameson, burial	4.00
C. A. Herbert, care	1.00
W. H. Rogers, G. F. Weeks's burial . . .	3.00
W. P. Paul's estate, burial	3.00
Mrs. Fred Pearson's estate, burial . . .	3.00
George Connell, care	2.00
Mrs. Abbott, Burbank lot, care	1.75
Miss Sarah Sanborn, care	1.50
S. N. Jackman estate, care	2.00
Mrs. H. B. Tibbetts estate, burial . . .	10.00
H. H. Hussey's estate, burial	3.00
H. A. Kimball, care	1.50
C. W. Spaulding, use of tomb	1.00
Zelotus Stevens, burial	4.00
Mrs. Fifield, use of tomb	1.00
Miss Lindquist, single grave and burial .	8.00
Mrs. Warren Clark, care	2.50
C. M. Saltmarsh, care	1.00
Mrs. C. B. Lawrence, care	2.00
Mr. Pennington, burial	3.00
Dr. Chancey Adams, care	2.00
Mrs. Sargent estate lot, repairs	10.00
N. H. Asylum (John Miller), burial . .	3.50
N. H. Asylum (Stephen Plant), burial .	3.50
Ellen M. Bixby, repairs	5.00
Mr. Ahlstrom, burial	1.00
Cummings Brothers, posts	1.50
Mr. Estey, burial . . . . .	.50
Miss J. Duncklee, care	2.00
F. D. Abbot, care	1.50
Mrs. May H. Beckett, single grave . . .	5.00
Mrs. May H. Beckett, burial . . . . .	.50
H. J. Crippen estate . . . . .	.28
F. E. Clark, burial	3.00
Cummings Brothers, posts	1.00

Mary A. Page, care	\$5.50
Mrs. N. G. Mead, care	2.00
R. A. Marshall, burial	3.00
W. H. Johns, burial	3.00
Mrs. G. Grant, removal . . . . .	.50
Fred. Bacon, burial	1.00
George W. Waters, burial . . . . .	.50
George W. Hall, use of tomb	1.00
F. E. Cogswell estate, burial	3.00
W. C. Batchelder, burial	3.00
D. Courser, care	2.50
A. B. Farnum, use of tomb . . . . .	.50
Geo. J. Barney estate, burial	3.00
F. H. Clement, burial	3.00
Vases sold . . . . .	.40
J. F. Hill, single grave	5.00
J. F. Hill, burial	3.00
G. W. Whittredge, dressing . . . . .	.36
Mrs. Abbott, use of tomb	1.00
A. P. Sherburne, shrubs . . . . .	.50
Clapp and Rolfe, care	2.50
Mrs. W. Bates, care	2.00
Miss C. Wyatt, labor . . . . .	.25
W. H. Hurd, care	2.00
C. W. Ash, care of plants	4.00
Geo. A. Blanchard estate, burial	3.00
Frank Swasey, removal	3.00
L. P. Durgin, burial and repairs	5.50
Moses D. French estate, burial	3.00
A. Martin, repairs . . . . .	.75
Mrs. W. Stevenson, care	1.00
Geo. G. Hatch, care	1.50
Mrs. Mary A. Franklin, burial	3.00
Gordon and Edgerly, care	2.00
C. P. Virgin, care	2.00
J. A. Moore, care and repairs	2.50
Benevolent Society, care and repairs	2.00
Mrs. J. E. Rines, removal	3.00
Mrs. J. E. Sargent estate, burial and care	9.75

CITY EXPENSES.

153

H. W. Matthews estate, burial and care .	\$10.00
Fred Sawyer, burial	1.00
Benj. I. Poore estate, burial	3.00
J. T. Welch, burial	1.00
W. Tonkins, burial	3.00
Mrs. W. E. Norton, care	1.50
Mrs. Keyes and Miss Seavey, repairs .	4.00
J. J. Wyman estate, burial	3.00
Mrs. N. T. Smith estate, burial	3.00
Geo. W. Waters, burial	1.00
John McCauley estate, burial	4.00
Mr. Hemphill, burial . . . . .	.50
James Hazelton, burial	3.00
A. G. Estabrook, care	1.50
Everson & Co., foundation	3.50
Rev. R. S. Mitchell, care	1.50
Nahum Robinson estate, repairs	9.15
Waldo Emerson, burial	1.50
Geo. H. Whitman, burial	3.00
Geo. H. Rider, burial	1.00
F. H. Ellis, burial	3.00
L. E. Boswell, burial	3.00
Mrs. Geo. H. Hutchins, burial	8.00
C. W. Harrington, burial	3.00
F. Cummings, removal	3.00
G. L. Crowell, burial . . . . .	.50
J. B. Cutha, burial	3.00
W. F. Hannaford, burial	3.00
Mrs. R. Adams, care	2.00
Mrs. A. W. Kimball, repairs	2.00
A. A. Grant, repairs	1.00
S. T. Ford, repairs	1.00
Mrs. B. M. Locke estate, burial and care	5.50
Mrs. Fernald, repairs . . . . .	.75
J. M. Duncklee, care	1.00
Mrs. Newhall, repairs	4.00
M. A. Trivette, burial	3.00
Horace Plummer, removals and box . .	5.00
C. E. Burnside, care	2.00

Betsey Hadley, burial	\$3.00
Josiah Batchelder, burial	3.00
Fred Proctor, burial	1.50
Jeremiah Smith, burial	3.00
W. G. Shaw, burial	3.00
W. W. Storrs, burial	3.00
C. A. Wasto, burial	3.00
Miss E. Sedgley, repairs and care . .	12.00
L. W. Glysson, care and repairs . .	2.00
H. W. Marcy (Jackson lot), repairs .	16.00
Zelotus Stevens, repairs	1.00
Mr. Beard, labor	1.50
Geo. F. Bond, foundation	6.00
C. A. Hutchins, burial	8.00
John Lugg, burial and labor	2.50
Sylvester Dana, burial and repairs .	4.00
William Yeaton estate, burial . . .	3.00
David Moses, burial	3.00
William Ladd, care. . . .	2.00
Mrs. Nancy Hill estate, burial . . .	8.00
Mrs. Sarah E. Bickford estate, burial	3.00
George A. Berry, care	1.50
Norman G. Carr, care	2.00
N. H. Shattuck, care	1.50
R. F. Robinson, care	2.00
J. C. Badger, care	2.00
A. P. Sherburne, care	1.50
Samuel F. Morrill, care	2.00
F. Mosely & Sons, care	2.50
Frederick Booth, burial	3.00
Harry D. Hammond, care	2.00
Mrs. C. J. Whitney, care	1.00
John C. French, care one-half lot . .	.75
George H. Russ, care	4.00
W. E. Baker, care	1.00
John Connell estate, care and repairs	3.00
Charles W. Clarke, care	1.00
Mrs. J. Morgan estate, care	3.00
Miss E. Sturtevant, care	1.00

Woodbridge Odlin, care and burial . . .	\$10.00
Cyrus Sargent, care and burial . . .	1.75
Herman C. Jewell, burial . . .	3.00
Mrs. A. C. Heath, care . . .	2.00
Frank Coffin, care . . .	2.00
James Minot (Pickering lot), care . . .	1.50
James Minot (Burleigh lot), care . . .	2.00
Charles F. Batchelder, care . . .	2.00
Mrs. George E. Jenks, care . . .	2.00
William L. Foster estate, burial . . .	3.00
George H. Marston, care . . .	2.00
William P. Ford, " . . .	1.00
Mrs. H. E. Perkins, " . . .	2.00
Mrs. G. L. Nutter, " . . .	2.00
John P. Nutter, " . . .	1.00
S. C. Eastman, " . . .	1.00
William E. Chandler, plants and care . . .	6.00
Seth R. Dole, care . . .	1.00
Frank P. Mace, care . . .	2.00
Fred S. Johnson, care . . .	2.75
J. Connelly estate, burial . . .	3.00
H. R. Hood, burial . . .	2.50
Allan Blodgett, burial . . .	1.00
Horse sold . . .	20.00
Collar sold . . .	1.00
George F. Page, care . . .	3.00
Mrs. G. H. H. Silsby, care . . .	2.00
F. J. Batchelder, " . . .	1.50
W. D. Thompson, " . . .	1.50
N. T. Smith estate, " . . .	1.00
J. W. Drew, " . . .	3.00
Mrs. Dearborn (Stevens lot), care . . .	2.00
Mrs. John A. West, " . . .	2.00
C. J. Smith, " . . .	2.00
N. H. Asylum (Kent lot), " . . .	3.00
H. B. Tebbetts, repairs and care . . .	3.75
Fred W. Boardman, care . . .	1.50
Joseph Palmer estate, care . . .	2.00
E. O. Jameson, care . . .	2.00

Charles S. Mellen, care	\$5.00
W. K. Day estate, burial and care	5.00
Mrs. L. J. Uffenheimer, care	2.00
Daniel Holden, care	2.00
Frank P. Jones, burial	3.00
Mrs. G. Bullock, care	1.00
Mrs. A. S. White, care	25.00
Mrs. J. H. Chase, care and plants	6.25
Benjamin I. Poor's estate, care	1.00
John W. Wardwell, care	2.00
John M. Runals, care	2.00
Mr. Heath, burial	3.00
P. S. Smith, care	1.50
C. P. Bancroft, care	2.00
Mrs. George H. Adams, care	2.00
Mrs. Loran Clough, care	1.50
Rev. C. W. Bradlee, care	1.50
D. B. Dow, burial	1.00
George B. Davis, burial	3.00
Miss Mary Perley, care	3.00
O. S. Snell, care	1.00
Mrs. R. V. Merrill, care	1.00
Charles O. Stearns, care	5.00
William M. Chase, care	2.00
Randall Burt estate, care	2.00
Charles E. Palmer, care	1.25
G. B. Emmons, care	2.00
Henry McFarland, care	3.00
Charles A. Dole, care	2.50
Mrs. G. A. Holt, care	5.00
George L. Lincoln, care and burial	4.50
Annah J. Kimball, care	2.00
Joseph Wentworth, burial	8.00
J. Stephen Abbot estate, plants and care	17.85
Gerald Wyman, burial	1.50
Edson J. Hill, care	8.00
Charles Joy, care	1.50
Bert E. Manley, care and plants	3.00
Dr. E. Morrill, care	1.00

CITY EXPENSES.

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William Badger, care	\$2.00
Mrs. Coleman, care	1.00
William Murdock, removal	1.50
E. C. Eastman, care	2.00
H. A. Dodge, care	3.00
A. T. Whittemore, care	1.00
L. A. Smith, care	2.00
Charles L. Gilmore, care	2.00
J. W. Robinson, burial	3.00
H. C. Brown, care	2.00
William B. Durgin, care	2.50
S. Blaney, care	2.00
F. L. Sanders, care	2.00
J. T. Batchelder, care	2.50
E. W. Brooks, burial	1.50
J. C. Easton, care	1.00
Mrs. R. M. Morgan, care	2.00
Dr. E. H. Foster estate, use of tomb	1.00
Miss Maria Woods, care and repairs.	3.00
Mrs. E. Dow, "	1.50
Underhill Brothers, "	2.00
Mrs. A. Bunker, "	1.50
J. E. Dwight, "	2.00
H. E. Sturtevant, "	1.50
W. H. Horner, "	1 25
Thomas Young estate, "	1.50
John F. Webster, "	2.00
E. E. Brown, "	1.50
George L. Stratton, "	3.00
Miss M. Martin, "	1.50
George F. Buswell, "	1.50
C. C. Danforth, "	3.00
George L. Brown, "	2.00
S. N. Jackman estate, "	2.00
Clara Edgerly, "	1.00
Mrs. Donovan (Patterson lot), care and plants	2.00
E. B. Hutchinson, care and plants	7.50
Jonathan Brown, care	2.00
E. H. Randall, care	1.50

W. E. Hood, care and burial	\$10.00
J. T. Sleeper, care	1.00
W. A. Russell, care	2.00
Mrs. I. D. Huntley, care	1.50
Mrs. A. W. Hevenor, care	1.50
Mrs. W. Emerson, care	2.50
Mrs. E. Adams (Sanborn lot), care	2.00
Mrs. George E. Todd, care	3.00
Mrs. L. F. Lund, care	5.00
C. W. Lane, care	1.50
C. C. Webster, care	2.00
J. G. Leighton, care	1.00
George D. Waldron, burial	1.50
Mrs. J. E. Sargent estate, care	1.75
David Young, care.	1.50
Mrs. R. H. Emerson, care	1.50
Mrs. George Kellom, care	1.00
Mrs. F. B. Underhill, care	2.00
Mrs. C. L. Eastman, care	2.00
Mrs. T. A. Freeman, care	1.50
Morey and Whitney, care	2.00
W. I. Leighton, care	1.75
Mrs. C. L. George, care and plants	6.50
Mrs. Waldron, care	1.00
Daniel Spline, foundation	4.00
Mrs. J. L. Pickering, care	2.00
Mrs. J. Rounsefel, care	3.00
Miss M. A. Abbott, care	1.00
Mrs. J. B. Sanborn, care	1.50
H. E. Richardson, dressing	2.00
Abba Woods, care	2.00
Byron Moore, care	2.00
William E. McQuillin, burial	3.00
W. Bates, care	2.00
Converse Smith, foundation	7.00
F. E. Currier, care	2.00
Don Aldrich, labor . . . . .	.50
Grenville Buzzell, care	1.00
Hiram Gerrish, care and burial	9.75

CITY EXPENSES.

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F. K. Jones,	care	.	.	.	\$3.00
J. P. Kittredge,	"	.	.	.	2.00
L. H. Carroll,	"	.	.	.	2.00
Mrs. Poor,	"	.	.	.	2.00
B. W. Couch,	"	.	.	.	2.00
H. W. Ranlet,	"	.	.	.	2.00
Mrs. W. Wright,	"	.	.	.	1.00
Mrs. A. A. Currier,	"	.	.	.	1.50
H. A. Rowell,	"	.	.	.	2.00
H. E. Conant,	"	.	.	.	1.50
L. K. Peacock,	"	.	.	.	2.00
A. C. Hardy,	"	.	.	.	2.00
H. B. Bartlett,	"	.	.	.	1.00
B. Billsborough,	"	.	.	.	1.00
G. D. B. Prescott,	"	.	.	.	1.00
Mrs. J. M. Jones,	"	.	.	.	1.50
J. Frank Hoit,	"	.	.	.	1.00
Mrs. L. J. Trask,	"	.	.	.	1.50
Mrs. C. H. Ordway,	"	.	.	.	1.00
J. E. Hutchinson,	"	.	.	.	1.00
C. M. Brown,	"	.	.	.	1.00
Mrs. T. W. Young estate, burial	.	.	.	.	3.00
Mrs. J. S. R. Sanborn, care and plants	.	.	.	.	1.50
A. C. Ferrin, care and plants	.	.	.	.	1.50
B. C. White, plants	.	.	.	.	1.75
A. J. Souza, care	.	.	.	.	1.50
J. E. Robertson, labor and care	.	.	.	.	25.00
W. F. Thayer, care	.	.	.	.	4.75
Miss H. Dame, care	.	.	.	.	3.00
Mrs. Hannah Young estate, burial	.	.	.	.	3.00
Gordon and Ederly, care	.	.	.	.	2.00
E. M. Howe estate, burial	.	.	.	.	3.00
H. E. Chandler, care	.	.	.	.	1.50
Mrs. Charlotte Morrill, care	.	.	.	.	2.00
Mrs. H. E. Webster, care	.	.	.	.	1.50
Dr. W. H. Allison, care	.	.	.	.	2.00
Mrs. A. S. Marshall,	care	.	.	.	2.00
Mrs. J. Neville,	"	.	.	.	1.00
J. A. Cochrane,	"	.	.	.	2.00

Mrs. S. Webster,	care	. . .	\$1.50
Mrs. C. H. Adams,	"	. . .	1.00
Samuel K. Gill,	"	. . .	2.00
Mrs. S. Wardner,	"	. . .	2.00
Mrs. J. C. Ordway, Adams estate,	care	. . .	1.00
B. F. Virgin, care	. . .	. . .	1.50
Fitch and Colby, care	. . .	. . .	2.00
Mrs. A. W. Gale, care	. . .	. . .	1.50
C. L. Fellows, care	. . .	. . .	2.00
A. M. Follett, care	. . .	. . .	1.50
J. E. Rand, care	. . .	. . .	1.00
W. E. Green, care	. . .	. . .	2.00
Merrimack County, burials	. . .	. . .	16.00
J. B. Green, care	. . .	. . .	1.50
J. S. Hubbard, care	. . .	. . .	1.00
Miss P. Eaton, care	. . .	. . .	1.00
Mrs. N. G. Mead, care	. . .	. . .	1.50
Dr. J. H. Gallinger, care	. . .	. . .	2.50
Mrs. H. O. Flanders estate, burial	. . .	. . .	3.00
Nelson Abbott, care	. . .	. . .	1.00
D. C. Allen, care	. . .	. . .	1.50
J. H. Lamprey, care	. . .	. . .	1.00
George C. Roy, care	. . .	. . .	2.00
William P. Fiske, care	. . .	. . .	2.50
First Congregational Society (Merrill lot), care	. . .	. . .	1.00
Mrs. E. N. Shepard estate, care and burial	. . .	. . .	5.50
F. E. Quimby, care	. . .	. . .	2.00
F. E. Brown, care	. . .	. . .	1.50
C. W. Lynam, care	. . .	. . .	1.00
Mrs. R. R. Shaw, two years' care	. . .	. . .	4.00
Hiram A. Brown, care	. . .	. . .	1.50
C. E. Smith, burial	. . .	. . .	3.00
R. G. Smith, burial	. . .	. . .	3.00
H. N. Sargent, care	. . .	. . .	1.00
John M. Hill, two lots, care	. . .	. . .	5.00
C. A. Herbert, care	. . .	. . .	1.50
Mrs. T. H. Ford, care	2.50
Mrs. James Lauder,	"	. . .	1.50
Mrs. J. M. Stewart,	"	. . .	6.00

CITY EXPENSES.

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Amos Blanchard,	care	.	.	.	\$2.00
J. R. H. Davis,	"	.	.	.	1.50
W. G. C. Kimball,	"	.	.	.	2.00
Charles Baker,	"	.	.	.	1.50
W. Carpenter,	"	.	.	.	1.00
C. A. Lockerby,	"	.	.	.	1.50
Miss Morse,	"	.	.	.	1.50
Fred U. Lane,	"	.	.	.	1.50
Laura Roby estate,	"	.	.	.	3.00
Mrs. J. Y. Mugridge,	"	.	.	.	2.00
Mrs. E. S. Schultz,	"	.	.	.	9.00
Mrs. C. H. Jones,	"	.	.	.	1.00
Nathan Mansur,	"	.	.	.	1.00
Mrs. S. A. Staniels,	"	.	.	.	1.50
Mrs. S. Edmunds,	"	.	.	.	1.00
Mrs. J. T. Barker,	"	.	.	.	1.50
Mrs. A. J. Langley,	"	.	.	.	1.00
D. J. Rolfe,	"	.	.	.	1.00
A. A. Chesley,	"	.	.	.	2.75
R. E. Pecker lot,	"	.	.	.	2.00
Dr. Quimby,	"	.	.	.	2.00
Mary Pecker lot,	"	.	.	.	1.00
F. H. Clement, repairs	.	.	.	.	7.00
E. A. Ordway, repairs	.	.	.	.	2.00
A. S. Sprague, care	.	.	.	.	1.50
C. G. Blanchard, care	.	.	.	.	2.00
D. G. Lowell, care	.	.	.	.	1.00
G. F. Sleeper, single grave, burial	.	.	.	.	8.00
B. G. Carter, care	.	.	.	.	1.50
Sturtevant Post, G. A. R., care	.	.	.	.	5.00
S. J. Leaver,	"	.	.	.	2.00
C. P. Smith,	"	.	.	.	1.00
F. J. Young,	"	.	.	.	2.00
H. N. Sinclair,	"	.	.	.	2.00
Mrs. Abbott (Burbank lot),	"	.	.	.	1.00
C. H. Abbott,	"	.	.	.	2.00
H. A. Church,	"	.	.	.	2.00
Miss S. C. Sargent,	"	.	.	.	2.00
Collins and George,	"	.	.	.	1.50

S. S. Kimball,	care	.	.	\$2.50
Mrs. E. G. Carter,	"	.	.	1.50
D. O. Smith estate, burial	.	.	.	3.00
Mrs. J. J. Wyman, care	.	.	.	1.50
Mrs. I. W. Hammond, care	.	.	.	1.50
Rollins Young, care	.	.	.	2.00
				\$1,330.29

Income From Trust Funds.

Robert Woodruff,	.	.	.	.	\$3.00
Mary Williams,	.	.	.	.	1.50
E. W. Upham,	.	.	.	.	4.50
Mary E. Walker,	.	.	.	.	4.50
George Whitridge,	.	.	.	.	3.00
J. C. Thorne,	.	.	.	.	3.00
Thomas Stewart,	.	.	.	.	2.00
H. Southmaid,	.	.	.	.	1.50
Mary A. Shaw,	.	.	.	.	2.00
John B. Sargent,	.	.	.	.	4.00
Jonathan Sanborn,	.	.	.	.	3.00
Moses W. Russell,	.	.	.	.	2.75
George S. Reed,	.	.	.	.	2.25
Judith A. Richardson,	.	.	.	.	3.00
E. H. Rollins,	.	.	.	.	5.00
S. L. Pixley,	.	.	.	.	1.50
W. H. Pitman,	.	.	.	.	3.00
H. E. Phipps,	.	.	.	.	1.50
S. M. K. Adams,	.	.	.	.	21.00
M. B. Allison,	.	.	.	.	1.00
A. L. S. Bailey,	.	.	.	.	3.00
E. W. Woodward,	.	.	.	.	3.00
Matilda Benson,	.	.	.	.	1.25
E. C. Bixby,	.	.	.	.	3.00
J. D. Blaisdell,	.	.	.	.	3.50
Dr. Nathaniel Bouton,	12.50
M. N. P. Buntin,	3.00
H. W. Butters,	2.75
N. F. Carter,	3.00
S. M. Chesley,	3 00

CITY EXPENSES.

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Caroline Clark,	\$2.00
Frederick Clough,	2.25
N. P. Clough,	1.00
A. L. Colburn,	1.00
Josiah Cooper,	1.50
Mary Crow,	4.00
Mrs. L. F. Edgerly,	3.25
G. P. Ela,	3.00
L. A. Farley,	3.00
Mary M. Farnum,	2.00
George G. Fogg,	4.00
Asa Fowler,	15.00
John Gear,	1.00
Glover and Osgood,	1.00
George M. Harding,	1.00
Betsey Hadley,	3.50
Mary D. Hart,	10.50
S. E. Irish,	2.00
J. and B. A. Kimball,	6.00
E. L. Knowlton,	16.75
J. L. Lincoln,	1.00
J. W. and E. J. Little,	3.00
John McCauley, . . . . .	.75
G. and E. McQuesten,	3.00
James McQuesten,	5.00
S. F. Merrill,	3.00
J. B. Merrill,	3.00
C. H. Newhall,	4.50
E. S. Nutter,	3.00
E. A. Ordway,	1.50
C. W. Paige,	4.00
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	\$226.50
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	\$3,395.48

Expenditures.

Silsby & Son, journal	\$3.37
P. C. Whittier, manure	25.00
George W. Bullock, manure	33.00
M. L. Partch,	4.65

R. P. Sanborn, posts	\$1.80
Danforth, Forrest & Morgan,	7.45
Republican Press Association,	3.00
Republican Press Association,	1.20
Trip to Forest Hills, Robertson & Andrews,	5.50
C. Barker, ashes	2.36
W. M. Colby, shrubs	2.00
M. L. Partch,	7.51
W. F. Thayer, treasurer	1,300.00
M. L. Partch, provisions	4.28
Caleb P. Little, turf	8.25
H. A. Kendall, box	3.00
E. B. Hutchinson & Co., stakes	5.50
William King, repairs on mowers	3.25
Arthur N. Day, grain	2.25
Concord Water Works,	80.00
H. A. Kendall, box	1.50
A. N. Day, grain	2.40
A. N. Day, grain	1.70
A. N. Day,	1.70
Daniel Crowley, shoeing	8.00
Silsby & Son, books	5.75
Frank J. Batchelder, printing	4.50
Thompson & Hoague, shovel	1.25
Holt Brothers,	1.95
William S. Wilson, flowers	6.00
James Hart, services	2.50
Danforth, Forrest & Morgan, lumber	2.68
Dame & Jones, services	1.00
F. H. George, watering-pot . . . . .	.90
G. J. Benedict, plants	6.25
C. H. Martin & Co., plants	12.68
C. F. Swain, grass seed	6.84
A. H. Britton & Co., tools	8.15
William S. Wilson, plants	15.20
J. E. Robertson, dressing	60.00
A. G. McAlpine & Co., labor	4.70
E. B. Hanchay, sharpening tools	1.40
J. H. Coburn, dressing	10.50

CITY EXPENSES.

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E. A. Moulton, sundries	\$4.18	
W. F. Thayer, treasurer	1,239.51	
Pay-rolls,	66.12	
F. P. Andrews, treasurer, salary	25.00	
W. F. Thayer, treasurer	389.75	
		\$3,395.48

OLD NORTH CEMETERY.

Unexpended balance, 1896	\$14.14
Regular appropriation	350.00
Special appropriation from income of trust funds, care of lots, etc.	128.85
Balance of income unappropriated	99.80
	<u>\$592.79</u>

Paid as follows :

W. F. Thayer, treasurer, pay-rolls	\$478.85
Unexpended balance	113.94
	<u>\$592.79</u>

The Treasurer of the Cemetery Commission accounts for funds coming into his hands as follows :

Receipts.

Balance from 1896	\$14.14
Mrs. Wm. Butterfield estate, burial	\$8.00
Mrs. N. Carter, care	1.50
Mrs. E. M. Richards, repairs	5.00
C. A. Hardy	2.00
Mrs. Albert Johnson, repairs	2.00
Fred Leighton, burial and repairs	6.00
W. C. Prescott, N. Curtis estate, repairs	18.40
N. Curtis estate, burial	3.00
F. A. Tenney estate, "	4.00
Mrs. W. A. Knight, "	5.00
Emma E. Brown, "	3.00
Abbie King estate, "	3.00

Joseph B. Smart estate, burial . . .	\$3.00
Wm. Wadleigh, " . . .	1.00
Walter Gage estate, " . . .	3.00
Mrs. E. R. Walker estate, " . . .	3.00
Mrs. D. G. Fuller " " . . .	3.00
George Ripley, " . . .	3.00
J. E. Hoyt, labor . . .	2.25
L. B. Flanders, burial . . .	3.00
Mrs. S. N. Farnsworth, " . . .	3.00
Horace Paul, " . . .	2.50
Calvin Smart estate, " . . .	3.00
Wm. Nichols " " . . .	3.00
J. C. Clough " " . . .	3.00
Oliver Whidden, foundation . . .	4.00
John H. Saben, burial . . .	3.00
Henry Walker, repairs . . .	5.00
Mrs. M. A. Pratt estate, burial . . .	3.00
Josiah Minot, repairs . . .	.75
Posts sold . . .	2.00
Sally Lovering estate, burial . . .	3.00
John F. Wilson, care . . .	1.00
Joseph Stickney, " . . .	5.00
Hopkins lot, " . . .	1.00
Oliver Hart estate, burial . . .	4.00
Mrs. Ira Philbrick, " . . .	3.00
John A. Tuck, " . . .	3.00
Geo. L. French estate, " . . .	3.00
Ira C. Evans, repairs . . .	2.00
J. F. Webster, care . . .	.50
Mrs. N. Carter (Flanders lot), care . . .	1.50
Miss Farnsworth, care . . .	.75
Daniel Spline, foundation . . .	3.00
Mrs. S. F. Cushing, care . . .	2.00
Cummings Bros., posts . . .	4.00
Dr. J. C. W. Moore estate, burial . . .	3.00
Mrs. Farrar, care . . .	1.00
	<hr/>
	\$155.15

Income from Trust Funds :

Paul Wentworth	\$16.00	
Wm. Abbott	4.00	
F. K. Blaisdell	4.00	
John F. Chaffin	1.50	
Seth Eastman	1.75	
Theodore French	4.00	
H. J. Gilbert	1.00	
W. T. Locke	4.00	
L. and D. L. Morrill	4.00	
True Osgood	3.00	
E. A. Pecker	5.50	
Hiram Richardson	11.25	
Nathan Stickney	2.50	
T. and A. B. Walker	6.00	
Abigail Sweetser	5.00	
		\$73.50
		\$242.79

Expenditures.

Pay-rolls	\$12.03	
Concord Water Works	10.00	
Thompson & Hoague, scythe	1.00	
C. G. Coffin & Co., grass seed	3.40	
J. W. Rankin, labor	4.00	
J. H. Coburn, dressing	3.00	
Cummings Bros.	4.00	
W. F. Thayer, treasurer	130.86	
W. F. Thayer, treasurer	74.50	
		\$242.79

WEST CONCORD CEMETERY.

Regular appropriation	\$100.00
Special appropriation	54.30
	\$154.30

Paid as follows :

W. F. Thayer, treasurer, pay-rolls	\$140.08	
Concord Water Works, water	6.00	
J. A. Crossman, labor	3.75	
C. H. Martin & Co., supplies	4.47	
		\$154.30

OLD FORT CEMETERY.

Appropriation	\$300.00
Special appropriations	184.00
	\$484.00

Paid as follows :

Thomas Nawn, as per contract	\$484.00
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MILLVILLE CEMETERY.

Appropriation	\$100.00
Paid Isaac N. Abbott, treasurer	100.00

HORSE HILL CEMETERY.

Appropriation	\$50.00
From sale of hearse and hearse-house	20.00
	\$70.00

Paid as follows :

W. F. Thayer, treasurer, pay-roll, labor	\$36.50	
C. M. & A. W. Rolfe, lumber	13.50	
R. W. Hoyt, posts . . . . .	.72	
Foote, Brown & Co., supplies	19.28	
		\$70.00

PENACOOK SEWERAGE PRECINCT.

Unexpended balance of 1896	\$312.49
Appropriation for sinking fund	500.00
" " interest on bonds	960.00
Receipts for 1897	24.80
	<hr/>
	\$1,797.29

Paid as follows :

Henry Morrill, labor	\$11.55
C. H. Sanders, cash advanced on pay-rolls	89.14
C. H. Sanders, freight . . . . .	.35
" rubber boots	4.00
Perrin, Seamens & Co., hose and couplings	32.00
W. F. Thayer, treasurer, sinking fund	500.00
Interest on bonds	940.00
Foote, Brown & Co., cement	1.71
Unexpended balance	218.54
	<hr/>
	\$1,797.29

WEST CONCORD SEWERAGE PRECINCT.

Unexpended balance of 1896	\$1,205.01
Rent of pumps, 1896	11.00
" " 1897	7.50
Appropriation for sinking fund	500.00
" " interest on bonds	680.00
	<hr/>
	\$2,403.51

Paid as follows :

W. F. Thayer, treasurer, pay-roll	\$13.83
" sinking fund	500.00
Interest on bonds	700.00
Unexpended balance	1,189.68
	<hr/>
	\$2,403.51

EAST CONCORD SEWERAGE PRECINCT.

Unexpended balance of 1896 . . .	\$164.51	
Appropriation for sinking fund, . . .	100.00	
“ “ interest on bonds . . .	70.00	
“ “ payment of note . . .	250.00	
“ “ “ of interest on note . . .	8.75	
	<hr/>	\$593.26

Paid as follows :

W. F. Thayer, treasurer, sinking fund,	\$100.00	
Interest on bonds	70.00	
Note paid	250.00	
Interest on note	14.36	
Unexpended balance	158.90	
	<hr/>	\$593.26

LIGHTING STREETS, PENACOOK.

Appropriation,	\$1,400.00
Paid W. H. Bell, treasurer . . .	\$1,050.00
Alfred E. Emery, treasurers . .	350.00
	<hr/>
	\$1,400.00

OPEN AIR CONCERTS.

Appropriation	\$300.00
Paid C. H. Burgum, account order A. F. Nevers,	300.00

CITY HISTORY.

Unexpended balance	\$2,569.20
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Paid as follows :

* F. L. Sanders, record books . . .	\$3.75
Republican Press Association, prospec- tuses	93.00

* Included in payments of 1896 by mistake.

CITY EXPENSES.

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Republican Press Association, letter- heads and envelopes	\$35.50	
Ira C. Evans, canvass books	26.50	
Geo. E. Carter, canvassing	226.80	
Edward A. Jenks, writing "Bench and Bar"	200.00	
Frances M. Abbott, writing "Social History"	200.00	
Blanche Newhall, services	196.00	
Unexpended balance	1,587.65	
		<u>\$2,569.20</u>

RECAPITULATION.

State tax	\$34,705.00
County tax	33,769.77
Interest	3,906.31
City poor	741.01
Aid to dependent soldiers and families	391.09
Fire department	20,336.95
Incidentals and land damage	4,915.86
Roads and bridges	36,190.87
Street sprinkling	3,538.51
Police and watch	11,840.05
Printing and stationery	2,423.95
Legal expenses	96.18
Board of health	1,330.55
Committee service	1,410.00
Schools	54,178.78
Precinct	16,389.59
Water precinct	6,000.00
Salaries	11,106.69
White Park	3,344.58
Rollins Park	983.84
Penacook Park	103.72
Parks and commons	218.73
Public Library	5,563.61
Memorial Day	345.00

Margaret Pillsbury Hospital . . .	\$2,000.00	
Engineering department . . .	2,983.97	
Blossom Hill Cemetery . . .	5,630.97	
Old North Cemetery . . .	478.85	
West Concord Cemetery . . .	154.30	
Old Fort Cemetery . . .	484.00	
Millville Cemetery . . .	100.00	
Horse Hill Cemetery . . .	70.00	
Penacook Sewerage Precinct . . .	1,578.75	
West Concord Sewerage Precinct . . .	1,213.83	
East Concord Sewerage Precinct . . .	434.36	
Lighting streets, Penacook . . .	1,400.00	
Open air concerts . . .	300.00	
City history . . .	981.55	
		\$271,641.22

SCHOOL DISTRICT NO. 20.

Appropriation for payment of interest	\$60.00	
Appropriation for payment of bonds .	500.00	
		\$560.00
Interest paid	\$60.00	
Bonds paid	500.00	
		\$560.00

DOG LICENSES.

Received from dog licenses.		\$1,426.94
Paid as follows :		
Geo. McC. Sanborn, sheep killed . . .	\$5.00	
H. B. Hammond, sheep killed . . .	19.00	
John B. Sanborn, sheep killed . . .	4.00	
Geo. E. Runnels, sheep killed . . .	2.50	
		\$30.50
Balance carried to school fund		1,396.44
		\$1,426.94

LIQUOR AGENCY.

Received from sale of liquors	\$1,975.00
Appropriation to cover deficit	289.99

\$2,264.99

Paid as follows:

Moses Ladd, agent, salary	\$600.00
Moses Ladd, cash paid	17.88
Concord Coal Co., coal	18.72
Concord Light and Power Co., gas	5.55
U. S. License	25.00
Joseph Stickney, rent	283.00
Adams, Taylor & Co., liquors	1,058.60
D. T. Mills & Co., alcohol	246.64
Fisher & Co., liquors	9.60

\$2,264.99

STONE QUARRIES.

G. M. Davis, rent of quarries	\$25.00
Crowley & Quinn, rent of quarries	150.00
Geo. W. Waters, rent of land	25.00

\$200.00

DEPARTMENT REPORTS.

CITY OF CONCORD, N. H.

WATER DEPARTMENT.

1897.

BOARD OF WATER COMMISSIONERS.

ALBERT B. WOODWORTH, Mayor, *ex officio*.

SOLON A. CARTER..... to March 31, 1901.
FRANK D. ABBOT..... to March 31, 1901.
JOHN WHITAKER..... to March 31, 1900.
EBENEZER B. HUTCHINSON..... to March 31, 1900.
WILLIAM M. MASON..... to March 31, 1899.
EDSON J. HILL..... to March 31, 1899.
WILLIAM P. FISKE..... to March 31, 1898.
WILLIAM E. HOOD..... to March 31, 1898.

FRANK D. ABBOT, Clerk.

OFFICERS.

WILLIAM P. FISKE, President.

V. C. HASTINGS, Superintendent.

ALICE G. COCHRAN, Clerk at Water Office.

HENRY A. ROWELL, Engineer at Pumping Station.

CONCORD WATER BOARD.

Date of election and length of service of members.

Abraham G. Jones, <i>ex officio</i>	. 1872—three months.
John M. Hill	1872-1878.
Benjamin A. Kimball	1872-1878.
Josiah Minot*	1872. Resigned Jan. 10, 1874.
David A. Warde*	1872-1874.
Edward L. Knowlton*	1872. Resigned Sept. 25, 1875.
Benjamin S. Warren*	1872-1873.
John Kimball, <i>ex officio</i>	. 1872-1876.
John Abbott*	1873-1876.
John S. Russ*	1874-1877.
Abel B. Holt*	1874-1877.
Samuel S. Kimball	1875. Resigned July 1, 1891.
George A. Pillsbury, <i>ex officio</i>	1876-1878.
Luther P. Durgin	1876-1885.
John Kimball	1877. Resigned July 1, 1891.
William M. Chase	1877. Resigned July 1, 1891.
Horace A. Brown, <i>ex officio</i>	. 1878-1880.
James L. Mason	1878-1893.
James R. Hill*	1878. Died 1884.
Geo. A. Cummings, <i>ex officio</i>	1880-1883.
Edgar H. Woodman, <i>ex officio</i> *	1883-1887.
Joseph H. Abbot*	1884-1893.
George A. Young	1885-1894.
John E. Robertson, <i>ex officio</i>	. 1887-1889.
Stillman Humphrey, <i>ex officio</i> *	1889-1891.
Henry W. Clapp, <i>ex officio</i> *	. 1891-1893.
Willis D. Thompson	1891-1895.
William P. Fiske	1891. Now in office.
James H. Chase*	1891. Died 1893.
John Whitaker	1892. Now in office.

* Deceased.

Henry E. Conant 1892. Resigned Jan. 8, 1895.
 Parsons B. Cogswell, *ex officio** 1893-1895.
 Solon A. Carter 1893. Now in office.
 Frank D. Abbot 1893. Now in office.
 William M. Mason 1893. Now in office.
 William E. Hood 1894. Now in office.
 Ebenezer B. Hutchinson . 1895. Now in office.
 Edson J. Hill 1895. Now in office.

PRESIDENTS OF THE BOARD.

Josiah Minot* 1872. Resigned Jan. 10, 1894.
 Benjamin A. Kimball . . . 1874-1875.
 Edward L. Knowlton* . . . 1875. Resigned Sept. 25, 1875
 John Kimball 1875-1876.
 Benjamin A. Kimball . . . 1876-1878.
 John Kimball 1878. Resigned July 1, 1891.
 William P. Fiske 1891. Now in office.

* Deceased.

SUMMARY STATISTICS.

CONCORD, NEW HAMPSHIRE, WATER-WORKS.

Population of the city by census of 1890..... 17,004

Population of that portion of the city included within
the water precinct, estimated..... 15,000

Date of construction, 1872; additions since.

Works are owned by the city.

Source of supply, Penacook lake, a natural body of water containing 265 acres, situated about three miles and a half from the state house, and about 125 feet higher than Main street in front of the state house.

Mode of supply, gravity and pumping to reservoir.

FINANCIAL.

MAINTENANCE.

Receipts.	Expenditures.
From consumers (mostly for domestic uses) . . . \$55,202.25	For management and re- pairs \$3,419.40
From rents 90.00	For new distribution pipes 9,482.01
From pipe sold, etc. . . . 61.54	For new service pipes . . 967.19
	For maintenance of pump- ing station 2,163.54
	For inspection 600.00
	For reservoir grounds . . 68.00
	For meter account . . . 1,979.08
	For work at and near the outlet of Penacook lake 2,637.87
	For incidentals 511.19
	For abatements 197.37
	<u>\$22,025.65</u>
	Amount required to pay interest on bonded in- debtedness 27,025.00
	Balance 6,303.14
<u>\$55,353.79</u>	<u>\$55,353.79</u>

CONSTRUCTION.

Cost of land damages, flowage, and water rights :

Paid B. F. & D. Holden, for water rights	\$60,000.00
Concord Manufacturing Co., for water rights	83,000.00
W. P. Cooledge, for mill privilege and land	5,500.00
Humphrey & Farnum, for kit-shop privilege	5,000.00
Flowage rights around Penacook lake	4,375.61
W. P. Cooledge, Hutchins house and lot	2,250.00
Mary C. Rowell, for land.....	1,500.00
Moses H. Bradley, "	5,000.00
Joseph B. Walker, "	2,214.00
John G. Hook, "	370.00
A. S. Ranney, "	1,350.00
Alfred Roberts, "	1,275.00
Charles E. Ballard, "	2,500.00
Mary G. Carter, "	1,250.00
Elizabeth Widmer, "	1,564.50
A. L. Proctor, "	450.00
Robert Crowley, "	3,000.00
Miles Hodgdon, "	2,200.00
Coffin & Little, "	800.00
O. F. Richardson, "	100.00
C. H. Amsden, water and flowage rights	5,000.00
Cost of property and rights of Torrent Aqueduct Association ...	20,000.00
dam, gate-house, and appurtenances	30,756.17
conduit and gate-houses	29,484.05

Cost of mains (low service main and pump main from the dam to Penacook street, force main from the pump to the reservoir, fire-main through North and South Main and Turnpike streets, and supply main from near the dam to Stark street)	\$154,960.92	
distribution pipe	280,431.38	
service pipe	41,489.95	
reservoir	42,460.09	
pumping station, shop, stable, and storehouse	22,000.00	
pumping machinery	10,215.00	
engineering and superintendence	14,913.12	
incidentals	6,531.19	
Cost of the works, January 1, 1898, ...		\$841,940.98

Bonds of the city have been issued to pay a part of said cost as follows:

When due.	Rate.	Amount.
Nov. 1, 1898,	4,	\$10,000.00
Nov. 1, 1899,	4,	10,000.00
Nov. 1, 1900,	3½,	15,000.00
Jan. 1, 1901,	4,	10,000.00
Jan. 1, 1902,	4,	10,000.00
Jan. 1, 1903,	4,	10,000.00
Jan. 1, 1904,	4,	10,000.00
Jan. 1, 1905,	4,	10,000.00
Jan. 1, 1906,	4,	10,000.00
Jan. 1, 1907,	4,	10,000.00
Jan. 1, 1908,	4,	10,000.00
Jan. 1, 1909,	4,	10,000.00
Jan. 1, 1910,	4,	5,000.00
Jan. 1, 1911,	4,	5,000.00
Oct. 1, 1912,	4,	45,000.00

When due.	Rate.	Amount.
Jan. 1, 1913,	4,	\$10,000.00
Jan. 1, 1914,	4,	10,000.00
Jan. 1, 1915,	4,	10,000.00
Jan. 1, 1916,	4,	10,000.00
Jan. 1, 1917,	4,	10,000.00
Jan. 1, 1918,	4,	10,000.00
Jan. 1, 1919,	4,	10,000.00
Mar. 1, 1922,	3½,	20,000.00
Jan. 1, 1923,	4,	400,000.00
		<hr/>
		\$670,000.00

REPORT OF WATER COMMISSIONERS.

To the City Council:

The Commissioners present herewith their annual report and would respectfully call your attention to the report of the Superintendent, which is made a part of this report.

In many ways the last year marks one of the most interesting years in the history of the water works. Never before has the water stood as high as during the year. In June we were visited by very heavy rains, and especially the night of the 9th, which was almost unprecedented, showing a fall of nearly six inches of water during twenty-four hours. This necessarily brought the lake to a very high point, and much solicitude was manifested as to the ability of controlling the water. However, the difficulty was successfully coped with. This experience led to an examination of the natural water-ways from the lake, and resulted in the expansion of culverts and passage-ways, thus enabling a free flow of water to the river.

Another matter was carefully looked into, the raising of the height of the different points at the outlet of the lake by a permanent core wall, which will demonstrate the ability to hold back a larger amount of water than we have yet had to deal with.

The long-anticipated beginning of a new pipe to the pond has resulted in the laying of 1,780 feet of 20-inch pipe, and it is the policy of the Board to still continue this from year to year.

As will be seen from the Superintendent's report, various extensions of both the high and low service, and the re-laying of pipe in certain streets where the old pipe had proved not only insufficient, but unsatisfactory, has aggregated a mile and three quarters, and the time will not be far distant before other connecting lines at the South end will be needed to meet the growth of that part of the city.

The high service system has proved its efficiency during the

past year and the pumping station and reservoir we find to be in excellent condition.

Satisfactory analyses of the water have been made during the past year, still showing the excellent quality. The Commissioners have considered the matter of moving the cottage at the lake and doing away with all the barns and outhouses, thus removing any possibility of contamination from that source. It will be the policy of the Board to prevent any possible pollution of the water from sources surrounding the lake.

Bonds maturing November 1st, 1897, to the amount of \$10,000, were paid from the income of the works.

We bear testimony to the efficient work of the Superintendent and his assistants in the unusual and trying periods during the year.

Respectfully submitted,

SOLON A. CARTER,
FRANK D. ABBOT,
JOHN WHITAKER,
EBENEZER B. HUTCHINSON,
WILLIAM M. MASON,
EDSON J. HILL,
WILLIAM P. FISKE,
WILLIAM E. HOOD,
ALBERT B. WOODWORTH, *ex officio*.
Water Commissioners.

REPORT OF THE SUPERINTENDENT.

To the Board of Water Commissioners:

I herewith present to you the twenty-sixth annual report of the operations of this department, showing the receipts, expenditures, and abatements, together with a statement of extensions and improvements made during the year ending December 31, 1897.

RECEIPTS.

For water from consumers by fixed rates	\$34,773.17
water from consumers by meter rates	20,178.70
From delinquents	81.60
For water used for building purposes..	166.78
rents	90.00
shutting off and turning on water..	2.00
pipe and stock sold, etc	61.54
	\$55,353.79
Deduct abatements	197.37
Total receipts for 1897	\$55,156.42

EXPENDITURES.

GENERAL EXPENSES.

Paid V. C. Hastings, salary as superintendent,	\$1,800.00
Pay-rolls, salaries, and labor,	5,902.12
Nath'l White, Jr., rent of office....	300.00
S. G. Sanborn, rent of shop in Penacook	24.00
Ira C. Evans, stamped envelopes and printing	116.30
Republican Press Assn., printing.	6.90

Stockbridge & Sanders, books, etc.	2.75
F. L. Sanders, " "	5.10
Silsby & Son, stationery, etc.	11.44
Concord Land & Water Power Co., electric lights.	22.60
Concord Light & Power Co., gas.	6.90
New England Telephone & Tele- graph Co., telephones.	131.68
J. M. Stewart & Sons Co., supplies	2.45
Stevens & Duncklee, " "	5.55
Humphrey-Dodge Co., hardware.	51.02
Thompson & Hoague, " "	66.63
Batchelder & Co., oil, etc.	13.48
Arthur N. Day, grain and straw. . .	53.79
Frank Coffin & Co., straw.	2.05
A. Perley Fitch & Co., lead, oil, etc.	3.70
C. H. Martin & Co., " "	2.04
H. O. Marsh & Co., wood.	9.40
C. H. Stevens & Co., "	1.50
Woodworth & Co., cement.	232.45
Dickerman & Co., "	50.15
John T. Fiske & Co., dynamite, etc.	4.50
Fitz, Dana & Co., sheet-iron. . . .	9.51
Sewall & Day Cordage Co., manil- la rope.	6.51
M. J. Drummond, cast-iron pipe. .	2,445.54
R. D. Wood & Co., " " and hydrants.	2,083.66
Warren Foundry & Machine Co., cast-iron pipe.	487.80
Builders Iron Foundry, castings.	24.17
Ford & Kimball, " "	23.99
Concord Foundry Co., " "	3.85
Ludlow Valve Mfg. Co., gates. . . .	359.92
Hays Mfg. Co., service-boxes. . . .	67.50
Chadwick Lead Works, pig lead and lead pipe.	161.29
John Walker, pig lead.	5.76

J. H. Cunningham Co., pipe and fittings	82.97
E. H. Randall, fittings.....	1.00
Walworth Mfg. Co., tools and fittings	35.33
Perrin, Seamans & Co., tools and wire rope	20.02
Waldo Bros., pipe cutter.....	30.00
Smith & Anthony, repair bands..	4.80
L. M. Ham & Co., steel beams....	53.37
Union Water Meter Co., meters..	833.50
National Meter Co., " ..	579.20
Henry R. Worthington, " ..	166.43
T. M. Harrison & Co., use of derrick	5.00
John Swenson, granite.....	158.00
New England Granite Works, grout	48.00
Abbot-Downing Co., repairs.....	35.00
Huntley & Tenney, "	27.00
J. D. Johnson & Son, "	19.75
Chandler Eastman & Sons, repairs	7.50
Chapman Valve Mfg. Co., " ..	3.82
E. B. Hanchay, smith-work.....	79.17
J. M. Crossman, "	59.77
Ross W. Cate, "	21.40
Rowell & Plummer, mason-work.	69.75
Holt Bros. Mfg. Co., sawing lumber	2.34
George Abbott, Jr., painting.....	31.93
B. Bilsborough, "	17.06
N. A. Dunklee, livery.....	5.00
O. F. Richardson & Son, team-work and labor.....	288.48
Geo. L. Theobald, team-work....	202.85
Cavis G. Brown, "	70.80
C. P. Little, "	38.40

C. R. Farnum, team work.....	22.00	
C. H. Farnum, ".....	16.00	
Simeon Partridge, ".....	12.00	
J. H. Rowell & Co., concreting...	447.34	
E. S. Barrett, bags.....	34.00	
Stratton & Co., ".....	11.24	
Smith & Savage, ".....	2.82	
D. W. Wilcox, ".....	2.50	
J. J. T. Searles, ".....	1.90	
H. W. Brickett, ".....	.90	
Lyman Sawyer, damages at time of high water.....	15.00	
Boston & Maine Railroad, freight	991.48	
Engineering News.....	5.00	
Morrill & Danforth, insurance...	14.25	
Eastman & Merrill, "...	7.50	
E. R. Angell, water analyses.....	9.00	
V. C. Hastings, cash paid out....	97.75	
incidentals.....	323.11	
town of Webster, taxes.....	145.31	
		<u>\$19,664.74</u>

PUMPING STATION EXPENSES.

Paid pay-rolls, engineer and fireman..	\$1,421.65
C. H. Stevens & Co., coal.....	419.30
labor, unloading coal.....	15.75
H. O. Marsh & Co., coal.....	4.00
E. A. Boutwell & Son, wood.....	77.50
A. W. Harris & Co., oil.....	32.25
Thompson & Hoague, packing and hardware.....	4.65
Humphrey-Dodge Co., packing and hardware.....	4.62
R. F. Clifford & Co., packing.....	15.19
A. P. Fitch & Co., supplies.....	4.04
C. H. Martin & Co., ".....	3.00
Locke Regulator Co., valve.....	1.55
Walworth Mfg. Co., ".....	5.76

Henry R. Worthington, valve springs	5.56	
The Fairbanks Co., repairing valve	3.00	
E. H. Randall & Co., supplies....	3.57	
Concord Foundry Co., castings..	1.50	
Putnam Machine Co., combination chuck	17.00	
Geo. Abbott, Jr., painting.....	4.70	
Rowell & Plummer, mason-work.	7.00	
J. H. Rowell & Co., repairing con- crete	2.00	
Concord Light & Power Co., gas.	9.30	
Boston & Maine Railroad, freight	.65	
Hartford Steam Boiler Inspection and Insurance Co., insurance	100.00	
		\$2,163.54
Total expenditures for 1897.....		\$21,828.28

The expenses are divided as follows:

GENERAL EXPENSES.

For management and repairs.....	\$3,419.40	
new service pipes.....	967.19	
new distribution pipes.....	9,482.01	
inspection	600.00	
reservoir grounds	68.00	
meter account.....	1,979.08	
work at and near the outlet of Penacook Lake	2,637.87	
incidentals	511.19	
		\$19,664.74

PUMPING STATION EXPENSES.

For salaries, engineer and fireman....	\$1,421.65	
fuel used	516.55	
oil, packing and other supplies....	225.34	
		\$2,163.54

EXTENSIONS AND IMPROVEMENTS.

Main and distribution pipes have been laid and hydrants set during the year as follows:

- In North State street,
north from near the pumping station to a little north of the cemetery gate, 1,769 feet 20-inch pipe.
- In North State street,
to make connection at the pumping station, 36 feet 18-inch pipe.
- In North State street,
on connection between the mains at cemetery gate, 40 feet 14-inch pipe.
- In Turnpike street,
south from near West street to junction South State street, 1,026 feet 14-inch pipe and 2 hydrants.
- In Turnpike street,
south from junction of South State street to Langdon street, 1,193 feet 12-inch pipe and 1 hydrant.
- In Langdon street,
east from Turnpike street, 360 feet 10-inch pipe.
- In Pleasant street,
west from Spring street to Pine street, 1,230 feet 10-inch pipe and 2 hydrants.
- In Merrimack street,
to make connection with Pleasant street pipe, 6 feet 6-inch pipe.
- In High street,
north from Valley street to Chestnut street, 982 feet 6-inch pipe.
- In Penacook street,
east from near Pettingill's Crossing, 933 feet 6-inch pipe.
- In Rockingham street,
east from South street, 314 feet 6-inch pipe.
- In Ridge Road,
extended north, 307 feet 6-inch pipe.

- In Broadway,
extended south, 154 feet 6-inch pipe.
- In Odd Fellows avenue,
south from Warren street, 201 feet 4-inch pipe.
- In Centre street at Ridge Road,
1 hydrant.
- On hydrant branches,
140 feet 6-inch pipe.
- Also 308 feet 1-inch and 74 feet 3-4-inch pipe.
- Main and distribution pipes have been discontinued during
the year, as follows:
- In North State street,
north from near the pumping station to a little north of
the cemetery gate, 1,789 feet 14-inch cement-lined pipe.
- In Pleasant street,
west from Rumford street to Pine street, 900 feet 6-inch
cement-lined pipe.
- In High street,
south from Chestnut street, 502 feet 6-inch cement-lined
pipe.
- In Penacook street,
east from near Pettingill's Crossing, 773 feet 6-inch and
160 feet 4-inch cement-lined pipe.
- In Rumford street,
south from School street to Pleasant street, 1,203 feet 4-
inch cement-lined pipe.
- On hydrant branches,
72 feet 6-inch cement-lined pipe.
- Also 306 feet 1-inch pipe.

Summary of the Foregoing.

NEW PIPES, HYDRANTS, AND STOP-GATES.

<i>Pipes.</i>	<i>Hydrants.</i>	<i>Stop-Gates.</i>
1-in., 382 feet.	Pleasant street, 2	4-in., 2
4-in., 201 "	Turnpike street, 3	6-in., 10
6-in., 2,836 "	Centre street, 1	10-in., 1
10-in., 1,590 "		14-in., 2
12-in., 1,193 "		20-in., 1
14-in., 1,066 "		
18-in., 36 "		
20-in., 1,769 "		
<hr/>		
9,073 feet, equal to 1.71 miles.	<hr/> 6	<hr/> 16

PIPES AND STOP-GATES DISCONTINUED.

<i>Pipes.</i>	<i>Stop-Gates.</i>
1-in., 306 feet.	4-in., 2
4-in., 1,363 "	6-in., 1
6-in., 2,247 "	
14-in., 1,789 "	
<hr/>	
5,705 feet, equal to 1.08 miles.	<hr/> 3

Total length of main and distribution pipes now in use, 303,050 feet, equal to 57.39 miles.

Total number of hydrants now in use, 252.

Total number of gates now in use, 701.

SERVICE-PIPE.

There have been laid during the year and connected with the main pipes, 58 service pipes, consisting of 58 3-4-inch, 1,389 feet in length.

Number discontinued during the year, 1; whole number in use at the present time, 3,173; total length of service pipes, 74,520 feet or 14.11 miles.

All the water rents for the year have been collected; one supply was shut off to enforce the payment, which was soon made with the fine.

We have set 132 meters during the year; 2 have been taken out, making the total number now in use, 632.

The following table shows the height of water in Penacook Lake on the first day of each month:

January . . .	180.35	July . . .	184.90
February . . .	180.40	August . . .	185.00
March . . .	180.70	September . . .	184.40
April . . .	182.50	October . . .	184.10
May . . .	184.50	November . . .	183.65
June . . .	185.25	December . . .	184.20

The lowest point reached was January 13, being 180.20; the highest was June 10, 186.25; mean height, 183.33, which was 4.37 feet higher than the mean height for the year 1896.

At its highest record, the water stood 11.94 feet above the lowest record of 1896, and 5.15 feet above the highest point of that year; and comparing this highest record of June 10, with all previous records of the height of water, it stood 18.20 feet higher than the lowest point ever reached, and 1.65 feet higher than the highest point ever reached, since 1872.

The water has been running over the overflow one hundred and seven days during the year. The continued high water prevented us from undertaking any extended repairs and improvements around the outlet until quite late in the season. However, nearly all the work was completed which you proposed in this direction.

A core-wall two feet thick and varying from one to four feet in depth, was built from the north line of the Hopkinton road to the overflow, a distance of 152 feet; also commencing at the overflow, passing around the rear of the cottage and buildings, into the road and across the dam, a distance of 670 feet. This now makes the top of the core-wall on a level with the top of the stone work at each end of the overflow, and 28 inches above the overflow.

A water-way was constructed from the overflow to the culvert under the road, about 180 feet in length. At the overflow, it is 40 feet wide, the entire width of the overflow, and then it narrows down to 25 feet; it has a concave bottom, concreted, and curbing rising 10 inches above the concrete, making the depth 22 inches from the top of the curbing to the centre of the channel. In the construction, the hard pan was removed three or four feet in depth, the entire length, and replaced by 18 inches of sand, to protect the concrete from frost. The earth thus excavated was used to raise the road leading around the lake, which is now of such height that probably the water will never flow over it again.

A new culvert was built to replace the one destroyed by high water in June; it is 7 by 12 feet and 25 feet long; the stone work was done by the day by M.H. Johnson, and like all work done by Mr. Johnson, is a fine piece of masonry, thoroughly constructed. The brick arch covering it was not completed, owing to the lateness of the season. The present cost of the culvert is \$671.95.

From the culvert, a water-way was cut leading down through the woods to near the city culvert at Quaker street, thus completing a clear channel from the overflow through the water-works land, and I believe that the present arrangement for carrying for high water is equal to any probable emergency. When the culvert is finished, this will complete the work which you directed to be done this season, with the exception of the grading of the road from the cottage to the Hopkinton road.

The most serious break of the year was on the main line near M. H. Farnum's; the culvert at this place was inadequate to care for the large amount of water occasioned by a heavy rain on July 14, and the water washed out the road, undermining and breaking one of the main pipes. We re-laid the cement-lined pipe with cast-iron, and also repaired the road, over thirty loads of grade being required to fill the washout.

We commenced this year an important work in the beginning of a new main to replace the original 14-inch cement-lined pipe, laid in 1872. A 20-inch pipe was laid from the pumping sta-

tion to a little north of the cemetery gate; and I would urgently recommend that this new main be continued from year to year as circumstances will allow, until the old 14-inch pipe may be discarded.

I would also recommend that Monroe street be re-laid with 6-inch cast-iron pipe in place of 4-inch cement-lined, as we have had a number of leaks on that street from the old pipe; also that the Broadway pipe be extended from the north gate of Rollins Park to McKinley street, and through McKinley street to Turnpike street.

In January last, John St. Lawrence, foreman of the street work for nearly three years, died very suddenly. He had worked for the department about six years, and his faithfulness and increasing efficiency made him a valuable and trustworthy employee.

Respectfully submitted,

V. C. HASTINGS, Superintendent.

TREASURER'S REPORT.

W. F. Thayer, Treasurer,

In account with Concord Water-Works.

RECEIPTS.

Balance on hand January 1, 1897.....	\$14,928.69	
Income of water-works.....	55,156.42	
	\$70,085.11	

EXPENDITURES.

Interest on water-works bonds.....	\$27,064.00	
Bonds	10,000.00	
Maintenance and extension	21,828.28	
Balance on hand January 1, 1898.....	11,192.83	
	\$70,085.11	

AUDITOR'S REPORT.

I have examined the foregoing accounts of the Superintendent of the Water-Works and City Treasurer and find them to be correct.

JAMES O. LYFORD,
City Auditor.

SANITARY ANALYSIS OF WATER.

SAMPLE FROM OVER INTAKE, PENACOOK LAKE.

Water is a mineral substance, composed of two elements. Hydrogen forms one ninth of its weight, and oxygen, eight ninths. This is water chemically pure, or pure water. As found in nature, it always contains other substances. Water sanitarly pure need not be chemically pure. Water sanitarly impure, designated as polluted, or contaminated, contains substances or organisms injurious to health; animal matter, vegetable material, disease germs, poisonous metals, as lead, zinc, copper, manganese, etc.

The figures in the analysis represent parts per 100,000. To convert into parts per million, multiply by 10; into parts per United States gallon, by 0.583722; into parts per English gallon, by 0.7.

ODOR.—Slight.

COLOR.—Slight yellowish tint.

TRANSPARENCY.—Clear.

Pure water is odorless, colorless, clear, and tasteless. Water sanitarly pure may have one or all of these properties. Polluted water may be free from some or all of them.

BEHAVIOR DURING EVAPORATION.—Some foamy.

APPEARANCE OF RESIDUE.—Little yellowish; some circles.

Water containing vegetable juices is a thin syrup. Such water foams during evaporation. Circles and irregular figures are marked on the dish where the last bubbles break in drying away. Animal matter seldom causes water to behave in this manner.

TOTAL SOLIDS.—3.4.

The amount of solids in water, sanitarly pure, varies greatly. Good well water in this state seldom contains more than 15 parts. Good pond water contains less than half of this quantity.

IGNITION OF RESIDUE.—It blackens.

The residue blackens in proportion to the amount of organic carbon present, provided there is no excess of nitrates. Nitrates are present excessively more often in animal polluted waters; hence the residue of such waters blackens less than that of vegetable contaminated waters, both because animal matter contains less carbon as a rule, and because the nitrates supply oxygen to consume it quickly. Vegetable carbon often blackens intensely and the blackening persists.

LOSS ON IGNITION OF RESIDUE.—1.5.

This consists of the combustible and volatile portion of the organic matter, and volatile mineral substances,—carbonic acid, nitric acid, water of crystallization, zinc, and other volatile metals. The proportion of mineral solids is larger in well water than in pond water, because well water settling through the earth has come in contact with more soluble minerals. On the other hand, pond water contains more organic solids, because the soluble organic matter received from the surface of the ground has not been removed by the filtering action of earthy strata. It is seldom that the character and quantity of natural, mineral solids condemn a water. Vegetable matter is less harmful than animal matter. Both are more harmful in well water than in pond water, because light and sunshine tend to destroy deadly germs.

HARDNESS.—1.5.

ALKALINITY.—1.0.

The figures are given in terms of carbonate of lime, *i. e.*, so many parts of carbonate of lime would give the same figures. Hardness and alkalinity give considerable information about the mineral constitution of water and often

concerning its sanitary condition. Hardness is due chiefly to the salts of lime and magnesia, most often, their carbonates and sulphates. Alkalinity is caused only by their carbonates, or by the carbonates of potash, soda, ammonia, or some other alkali. Water hard from the salts of lime and magnesia, other than their carbonates, shows no alkalinity, unless the substances last named above are present. The carbonates of lime, or magnesia give nearly the same degree of hardness and alkalinity, lime especially. Sewage increases the alkalinity which then becomes an indication of pollution.

FREE CARBONIC ACID.—1.98.

COMBINED AND BICARBONATE CARBONIC ACID.—.88.

As the largest part of organic matter is carbon, so the largest product of decay is carbonic acid. Natural waters are weak solutions of carbonic acid. Through its agency the carbonates of lime, magnesia, iron, lead, and zinc, are dissolved and kept in solution in water. Expel the carbonic acid by boiling and these carbonates precipitate, rendering the water turbid and forming a scale on the kettle. Water which contains much decaying organic matter, contains much carbonic acid; hence polluted water attacks lead pipe more freely than pure water. Combined carbonic acid is that which is united with a metallic base, forming a carbonate; bicarbonate carbonic acid holds the carbonate in solution; the free carbonic acid is that which is simply dissolved in water.

FREE AMMONIA.—0.0024.

ALBUMINOID AMMONIA.—0.014.

Ammonia results from the decomposition of organic matter; the free, is that which the natural process of decay has produced, and points to what extent decay has been going on in the water; the albuminoid, results from the artificial decomposition of organic matter during analysis and points to the quantity of organic matter actually present. In good well water the albuminoid ammonia should not exceed 0.009 part, and in good pond water 0.015 part. In neither should the free ammonia exceed 0.005 part.

CHLORINE.—0.2.

Chlorine is a constituent of common salt. Sewage is rich in salt, hence the value of chlorine as an indication of pollution. Good water should not contain more than 0.5 part of it, unless the locality is near the sea coast, or is naturally rich in salt.

NITRIC ACID.—Trace.

This is a constituent of saltpetre which is produced by the fermentation of manures and sewage. Good well water should not contain more than 0.5 part of it, and pond water not more than 0.02. Excess of chlorine, or nitric acid in water always indicates either actual contamination, or dangerous proximity to sources of filth. In this case, the water contains filtered sewage. Nitric acid often results from the oxidation of ammonia, or vegetable matter. If the quantity of chlorine is normal while the nitric acid is excessive, the water is probably contaminated with vegetable matter, unless other results deny it.

NITROUS ACID.—None.

This is a lower oxide of nitrogen than nitric acid. It is a transition product between ammonia, or organic matter, and nitric acid. Its presence shows that the source of pollution is so near that time enough has not elapsed for the complete oxidation of its nitrogen in its progress toward the water supply. Good water should contain none of it, or but a mere trace.

OXYGEN CONSUMED IN OXIDATION.—0.142.

Good well water should require less than 0.1 part of oxygen, and good pond water less than 0.2 for the oxidation of its dissolved organic matter. In no case should it exceed 0.4. Some bad waters may require less than 0.05 part. Vegetable material, comparatively richer in carbon than animal substances, requires more oxygen for oxidation; while animal substances, being richer in nitrogen, yield more ammonia and other nitrogen compounds.