SOME THINGS IN AND ABOUT BUFFALO N.Y.

1884

. . . Buffalo, N. Y., 1884. . . .

in and about

A Souvenir of the Annual Convention

of the

American Society of Civil Engineers

Held at Buffalo, N. Y., June 10–13.

. . . . . M.DCCC.LXXXIV. . . . . .

COMPILED under direction of the Committee of Resident Members, by WILLIAM THURSTONE, Secretary of the Buffalo Merchants' Exchange.

Committee on Reception.

His Honor The Mayor, Mr. Jonathan Scoville.

The President of the Common Council, Mr. R. R. Hefford.

The President of the Merchants' Exchange, Mr. E. L. Hedstrom.

Committee on Entertainment.

Mr. Franklin D. Locke, Mr. W. S. Bissell,
Mr. Henry W. Box, Dr. Charles Cary,
Gen. George S. Field, Mr. S. S. Guthrie,
Mr. Josiah Jewett, Mr. D. H. McMillan,
Mr. John F. Moulton, Mr. E. H. Movius,
Mr. Henry A. Richmond, Mr. B. C. Rumsey,
Mr. E. C. Sprague, Mr. Wm. Thurstone,
The Hon. R. C. Titus.

Committee on Printing.

Mr. Jas. N. Matthews, Mr. Charles W. M'Cune,
Mr. Jas. D. Warren.

Committee on Transportation.

Mr. W. S. Baldwin, Mr. J. S. Bartlett,

Mr. F. E. Merrill, Mr. J. A. Burch,

Mr. W. H. Perry, Mr. R. H. Noble,

Mr. Peter C. Doyle.

Committee of Resident Members of the American Society of Civil Engineers.

Gen. George S. Field, *Chairman.*

Mr. S. J. Field, Mr. George S. Gatchell,

Mr. Wm. A. Haven, Mr. Edmund Hayes,

Mr. Louis H. Knapp, Mr. C. Neilson,

Mr. Henry A. Richmond, Mr. B. C. Rumsey,

Mr. Edward S. Safford, Mr. William H. Starr,

Mr. T. Guilford Smith, *Secretary.*

. . . . The City and County Hall. . . . .

The City and County Hall.

GROUND was broken for the foundation of the building on the 21st day of August, 1871. The cornerstone was laid with appropriate ceremonies on the 24th day of June, 1872. The building was completed and occupied in March, 1876. . . . . .

THE total cost of the building and furniture was about $1,350,000. Appropriation authorized by the Legislature, $1,450,000. The passenger elevators were but recently placed in the building at an expense of $10,000. . . . . .

THE annual expenditure for maintenance of the building and grounds is about $30,000. The cost of building and the expense of maintenance is borne equally by the City of Buffalo and the County of Erie. . . . . .

THE building is constructed of granite from Clark's Island, Maine. The four granite statues which adorn the tower cost $22,000, and represent "Justice," "Mechanic Arts," "Agriculture" and "Commerce." . . . . .

THE great clock in the tower is one of the heaviest and best in the country, and is connected with twenty-nine electric dials, which furnish standard time throughout the building. . . . . [OVER.]

THE following gentlemen composed the Board of Commissioners under whose direction the building was erected: JAMES M. SMITH, *Chairman*, (resigned); GEORGE S. WARDWELL, *Chairman*; JAMES ADAMS, PHILIP BECKER, DENNIS BOWEN, GEORGE W. HAYWARD, ALBERT P. LANING, JOHN NICE, ALLEN POTTER, and JASPER B. YOUNGS. . . . . .

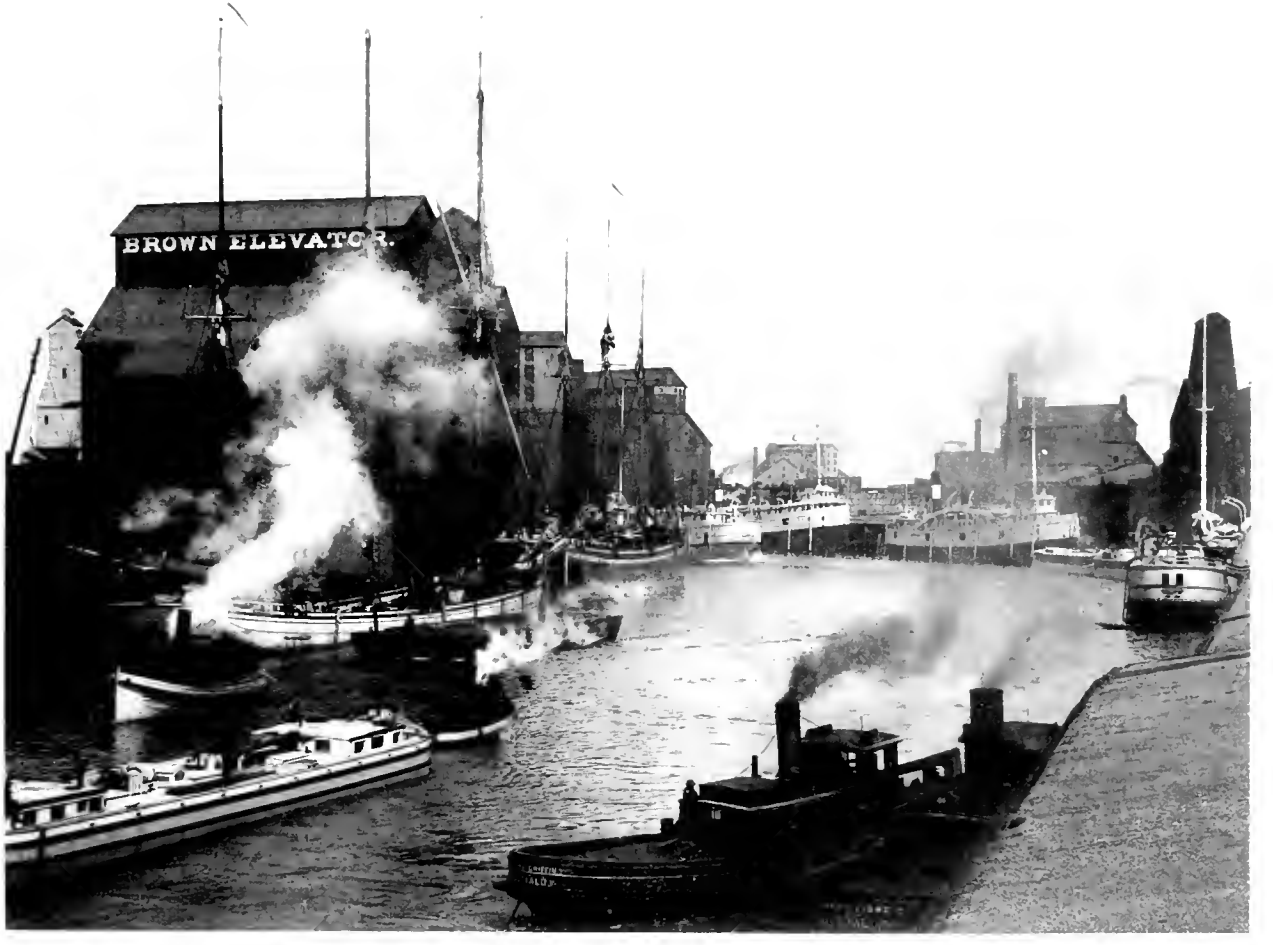
THE Board of Trustees having charge of the building at present is: PHILIP BECKER, *Chairman*; JOHN M. HUTCHINSON, ROBERT P. WILSON, Dr. F. H. JAMES, DAVID C. OATMAN and CHARLES A. SWEET. . . . . .
. . . . . BENJAMIN FOLSOM, *Clerk*.

. . . . . M.DCCC.LXXXIV. . . . . .

The HON. JONATHAN SCOVILLE, ... Mayor of the City of Buffalo.

[Of J. & N. C. Scoville, Car-Wheel Works.] [Elected Nov. 6, 1883.]

. . . . . Buffalo Harbor. . . . . .


BROWN ELEVATOR.

BUFFALO HARBOR.

BUFFALO has a water-front of six miles on the lake and Niagara River. Its harbor is one of the finest on the lakes, formed by the Buffalo River, a small stream which is navigable for over two miles from its mouth. The entrance is protected by a breakwater, which is 1,500 feet long, upon the south side of the river, and there is also another on the north side, by which a capacious harbor is made. . . . . .

IN 1869 the United States Government began the construction of an outside harbor by building a breakwater, designed to be 4,000 feet long, fronting the entrance of the river about half a mile from the shore; nearly two-thirds of the breakwater is completed. In addition, there are a large number of slips, docks and basins. The estimated available water-frontage is fully eighteen miles. Propellers of 2,800 tons burthen navigate freely. . . . . .

IN 1883 the arrivals and clearances of vessels aggregated 4,150,782 tonnage. For same year the aggregate receipts of flour and grain were 76,079,930 bushels, and 233,433,000 feet of lumber, in addition to large quantities of merchandise of all kinds. Over 1,250,000 tons of coal were exported, in addition to cement, salt, railroad iron, and miscellaneous freight. . . . . .

TIFFT FARM IMPROVEMENT.

THE great works of improvement, to cost $4,000,000, now progressing on the Tifft Farm property, belonging to the Lehigh Valley Railroad Company, commenced in 1882, will add very largely to the harbor facilities of Buffalo.

THERE will be nine miles of docks and four and one-half miles of canals, 16 feet deep and 200 feet wide; 15 miles of railroad tracks; 4,500 feet of coal stocking trestles, with storage capacity of 110,000 tons; and 1,800 feet of shipping pockets.

. . . . . St. Paul's Church. . . . . .

ST. PAUL'S CHURCH.

THIS imposing and beautiful structure, built of Medina sandstone, is considered one of the finest specimens of Early English Gothic Architecture in the United States. It is situated on the plot bounded by Erie, Church, and Pearl Streets, and has a seating capacity of 1,200. . . .

THE foundation was commenced September 3, 1849; corner-stone laid by Bishop De Lancey June 12, 1850, and the edifice consecrated by him October 22, 1851. It was fully completed about 1870, at a cost of $155,000. Length of edifice 175 feet; greatest width 94 feet. Height of tower from base line to the spire cross, 274 feet, being but little less than that of Trinity Church, New-York. Its shape is octagon, with large louver windows in the belfry. . .

A FINE chime of ten bells and a splendid single bell add to the attractiveness of this church. The chancel window is lancet triplet, filled with stained glass, as are all the other lancet windows. The roof is open timbered, supported by two rows of columns. . . . . .

A MASS of foliage which has grown over the walls of the church adds greatly to the beauty of the edifice in summer, and the loud twittering of hundreds of sparrows who have built their nests in the creeping vines attracts attention. .

THE Reverend William Shelton, D. D., was appointed Rector and preached his first sermon September 13, 1829. He celebrated the golden anniversary of his pastorate September 13, 1879. After his resignation he was made Rector Emeritus, January 11, 1881. . . . . .

ST. Paul's Church may be justly considered a fitting monument to the untiring zeal, perseverance and industry of the Reverend Dr. Shelton, who was born September 11, 1798, in Bridgeport, Conn., and died (in the house of his birth) October 11, 1883, aged 85 years. . . . . .

. . . . . Delaware Avenue. . . . . .

DELAWARE AVENUE.

BEGINNING at the Terrace, in the lower or southern portion of the city, the far-famed Delaware Avenue, the pride of Buffalo and the boast of her citizens, runs almost due north several miles, out to and beyond the park, far out into the country. . . . . .

IT is a broad and magnificent street, shaded on either side with a double row of noble trees, and adorned for miles with elegant lawns and beautiful residences, constituting the most charming homes in Buffalo, in which every visitor from abroad finds much to admire. . . . . .

IN the summer Delaware Avenue affords the favorite drive to the Park, and in the after part of the day the street is crowded with fashionable equipages, and the sidewalks are gay with pedestrians. In the winter, during the days of sleighing, it is a constant scene of great animation. . . . . .

THE view here given is taken at the Allen-Street crossing, looking down Delaware Avenue southward. Northward the view is interrupted by the rising ground, of which North Street forms the crown, and beyond which many of the finest residences in the country are to be found. . . . . .

FROM North Street southward to Virginia Street the roadway of Delaware Avenue is constructed of the famous Barber Asphalt Pavement, as shown in the view, and so well known to all who have visited the National Capital. It is the principal pavement used in the magnificent avenues of Washington. . . .

THIS pavement contributes greatly to the comfort of the residents of this and other portions of Buffalo, being perfectly smooth, easily kept clean, and repaired at the minimum of trouble and expense. Over seventy-five lineal miles of this pavement have been laid in the United States. . . . . .

THE Barber Asphalt Pavement is composed of indestructible materials, cemented together by native American asphalt obtained from Pitch Lake at La Brea, in the Island of Trinidad. . . . . .

. . . . The Board of Trade Building. . . . .

BUFFALO MERCHANTS' EXCHANGE.

THE Buffalo Merchants' Exchange, incorporated 1882, is the successor to the Board of Trade, constituted January, 1844, and incorporated March, 1857. The membership is already over 520. . . . . .

THE Exchange occupies the fourth floor in the Board of Trade building, which is a substantial fire-proof edifice, having a frontage of 132 feet on Seneca Street and 60 on Pearl, 100 feet in height, with seven stories. . . . . .

THE façade of cut stone, terra cotta, pressed brick and iron is quite elaborate. The main entrance is a handsome arched doorway eight feet wide, with granite columns supporting elaborately carved capitals on each side. . . . .

THE building contains 73 offices and is furnished with every modern convenience for the comfort of the tenants and for commercial transactions. The total cost, including land, exceeded $250,000. . . . . .

THE Merchants' Exchange Rooms were opened with appropriate ceremonies on January 1st, 1884. The grand chamber is 70 feet long, 53 feet wide, and 23 feet high, with a ladies' gallery over the east end. The furniture and fittings are handsome and appropriate. . . . . .

The Public Parks.

THE PUBLIC PARKS.

THE public pleasure grounds in Buffalo contain about 500 acres. The largest, named simply "The Park," 350 acres, is situated about 3½ miles north from the City Hall. The next in size, named "The Parade," about 2½ miles east, contains 56 acres. Another, on the west border, named "The Front," contains about 50 acres.

A PLEASING combination of wood, lawn and water, the general landscape design of "The Park," is very simple and natural. It has several native groves suitable for picnics, or for secluded shady rambles, and is adorned with great masses of flowering shrubbery. A large open sweep of undulating turf, 150 acres, is named "The Meadow." In another part is a fine ornamental lake, named "Gala Water," about 46 acres in area, diversified by deep sinuosities and projecting bluffs, half revealing half concealing the extent of the water surface. About 75 boats are kept at "The Boat-house."

HAVING a smooth, gently-sloping lawn, with a uniform even plane about 20 acres in area, "The Parade" is especially designed for military drills, parades, and all attractive out-door sports. A large refectory, called "The Parade House," adjacent to a small natural grove, affords ample opportunity for shade, rest, or refreshment, and all kinds of popular festivities.

OCCUPYING a commanding position on the summit of a steep bluff, from 40 to 60 feet above the level of Lake Erie, "The Front" affords an interesting view of the Canadian Frontier and the Niagara River, while the prospect over the blue waters of the lake extends to the distant horizon. In the summer and autumn months "The Front" is fanned by cool, refreshing, westerly breezes almost constantly blowing from the lake. A broad carriage plaza in the centre of the grounds is flanked by a small restaurant named "Lake View House," from the upper veranda of which a magnificent prospect over land and water is obtained.

A PROMINENT feature of the system are "The Park Approaches," consisting of four parkways, each 200 feet in width, and aggregating over three miles in length, uniting the three larger parks, and also tapping conveniently all the important trunk thoroughfares of the city.

NEARLY all the land now held for public grounds was acquired about fourteen years ago at a cost of about $375,000. Total cost of all improvements to this date about $900,000.

THE Park System is under the direct charge of a Board of fifteen Commissioners, who serve without pay. The executive officers are a Superintendent and Secretary.

. . . . . The Buffalo Elevators. . . . . .


NIAGARA
A
B

THE BUFFALO ELEVATORS.

THE transfer of grain cargoes from vessels into storehouses and canal-boats, prior to 1843, was done by manual and horse labor, being raised from the hold in tubs and bags. . . . . .

IN that year the first elevator ever built for elevating and storing grain was erected, with steam power attached, near the mouth of Buffalo River. It had 55,000 bushels storage and 15,000 bushels transfer capacity. Now, on the river banks are twenty-two storage elevators, ten transfer towers, and six floaters. The aggregate cost of all these elevators was over $6,500,000. . . . . .

THE combined storage capacity of this port is 9,215,000 bushels, with daily transfer capacity of about 3,000,000 bushels. That is to say, the elevators of Buffalo are capable of receiving from lake vessels and transferring to canal-boats and cars 3,000,000 bushels of grain daily, if called upon to do so. . . . . .

STATEMENT showing the quantity of grain handled in the years specified: .

1876, . .	39,553,582 bushels.	1880, . .	98,902,050 bushels.
1877, . .	56,591,019 bushels.	1881, . .	49,394,724 bushels.
1878, . .	74,364,910 bushels.	1882, . .	50,954,815 bushels.
1879, . .	75,089,768 bushels.	1883, . .	64,436,804 bushels.

SEVERAL of the elevators have machinery attached whereby 60,000 to 70,000 bushels of wet or damaged grain can be dried every twenty-four hours. . .

STORAGE ELEVATORS	Nominal Storage Capacity. Bushels.
Bennett,	600,000
Brown,	250,000
City,	600,000
C. J. Wells,	350,000
Connecting Terminal R. R.,	950,000
Erie Basin,	200,000
Evans,	250,000
Exchange,	250,000
Lyon,	100,000
Marine,	150,000
Niagara A,	650,000
Niagara B,	1,200,000
New-York, Lake Erie & Western,	650,000
Richmond,	250,000
Sternberg,	350,000
Sturges,	300,000
Swiftsure,	175,000
Tifft,	350,000
Wm. Wells,	200,000
Wheeler,	200,000
Watson,	600,000
Wilkeson,	200,000
Total Storage Capacity,	8,825,000

TRANSFER TOWERS.	Nominal Storage Capacity. Bushels.
Chicago,	. . .
Coatsworth,	40,000
Fulton,	40,000
Horton,	. . .
Kellogg & McDougall,	70,000
Merchants,	15,000
Northwest,	15,000
National Mills,	100,000
Schreck,	50,000
Union,	60,000
Total Storage Capacity,	390,000

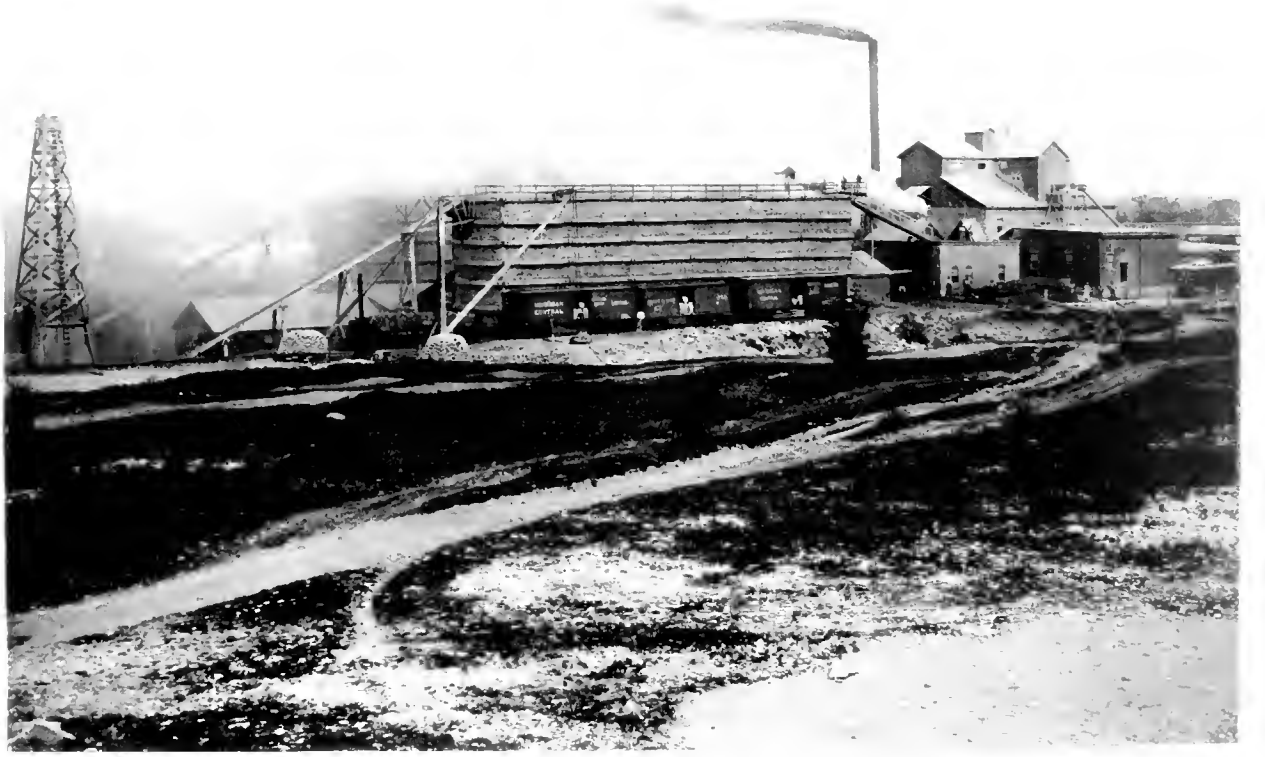
FLOATERS.
Buffalo. . .
Free Trade.
Free Canal.
I. Y. Munn.
Marquette. .
Niagara. .

RECAPITULATION.

			BUSHELS.
Storage Elevators,	22	Capacity,	8,825,000
Transfer Towers,	10	Capacity,	390,000
Floating Elevators,	6	Capacity,	. . . .
Total,	38	. . . .	9,215,000

NOTE—Of the twenty-two Storage Elevators, four are Railroad Elevators, ten have railroad connection and eight can ship by canal only. . . . . .

Buffalo Cement Company's Works.



THE GEOLOGY OF BUFFALO.

THE surroundings of Buffalo offer a splendid field for the study of Geology. From the waters of Lake Ontario, washing the shales of the Medina groups, we can trace the successive formations along the gorge of the Niagara, through the Clinton and the Niagara shales and limestones, the last of which forms the far-famed Falls. . . . . .

FROM the rapids above the Falls until we arrive at Black Rock, we meet nothing but a deep layer of bowlder clay, covering the rocks of the Onondaga Salt Group. As we travel in an east-northeasterly direction from Black Rock through the northern part of the City of Buffalo, we encounter a heavy limestone ridge, rising from sixty to seventy feet within the course of one mile. . . . .

THIS ridge is formed of the rocks of the Waterlime, Onondaga and Corniferous limestones. The latter formation underlies every part of the city, and if a solid foundation can add to the permanency of a structure the beautiful City of Buffalo must endure forever. . . . . .

GOING southerly along the lake shore we meet in succession the series of the Hamilton shales and the Portage rocks, facing the waters of Lake Erie in bold cliffs and offering a rich store of fossils in numbers of fine exposures. . .

THE Waterlime is really an impure limestone, a mixture of the clay of the Onondaga Salt Group and the succeeding limestones. It is well known that the celebrated English Portland cement is an artificial mixture of clay and lime; here, with us, Mother Nature has performed the work and we have a true cement rock, ready prepared in its proper proportions, in this waterlime group. . . .

THE fact is best illustrated by the following comparative analysis by Prof. E. T. Cox, the late State Geologist of Indiana: . . . . . .

	ENGLISH PORTLAND.	BUFFALO CEMENT.
Silicic Acid, . . .	31.43	32.86.
Alumina, . . .	10.80	10.40.
Lime and Magnesia, .	57.77	56.74.

COMPARATIVE tests of strength made at the office of the City Engineer of Cincinnati, Ohio, accord to the Buffalo product a greater tensile strain per square inch than to the imported article. . . . . .

THE above-mentioned limestone ridge, of which the waterlime forms the lowest portion, is largely covered with a deposit of clay; the fact that this has been washed away near our city gives us such fine exposures of this interesting rock, and the extensive quarries operated by the Buffalo Cement Company afford to the geologist the best opportunity to study with care this useful and important rock formation. . . . . .

. . . . The Ten Combined Locks. . . . .

THE TEN COMBINED LOCKS.

THIS massive mechanical structure on the Erie Canal at Lockport overcomes the difference in the water level between Lake Erie above and Genesee River below, and eastward at Rochester. There are five pairs of the locks, each of twelve feet lift, all constructed of massive blocks of limestone at a total cost of over half a million dollars. . . . . .

THIS great work gives to Lockport not only its name, but the magnificent water power which this difference in levels furnishes has contributed largely in making that city a thrifty manufacturing town of 15,000 inhabitants. The entire volume of water in the canal is available for power, under sixty feet head, except the comparatively small amount used in lockages of boats. . . .

THIS surplus water drawn through a race-way on one side at the head of the locks, after use as power on the wheels of the numerous manufacturing establishments which line its banks, is discharged into the canal again below.

ON the other side it is drawn through a tunnel, cut through the solid rock, 1,000 feet in length, and under the extensive factory of the Holly Manufacturing Company, a partial view of whose extensive works is seen perched upon the cliff above the locks. . . . . .

THIS company takes its name from Birdsill Holly, who has won an enviable reputation for his inventive and mechanical genius. Its chief business is the manufacture of pumping machinery, and other appliances for water-works, under what is popularly known as "The Holly System."

THE Holly Manufacturing Company have recently commenced the manufacture of a new type of Pumping Engine, from designs of its present Mechanical Engineer, Mr. Harvey F. Gaskill. It has won the meed of highest praise from eminent engineers, and bids fair to take rank with the best pumping engines in the world.

THE first engine of its kind was put in operation at Saratoga Springs, New-York, and is performing a daily duty of 105,000,000 foot pounds, for each 100 pounds of coal consumed while pumping, or less than half its maximum capacity of 4,000,000 gallons daily.

NEARLY fifty of these engines are in use or contracted for, among them one of 15,000,000 gallons capacity for the City of Buffalo, with a guaranteed duty of 100,000,000 foot pounds.

The Cantilever Bridge.

THE CANTILEVER BRIDGE.

THE plans of the Central Bridge Works, for the construction of the cantilever bridge of the Michigan Central Railroad, over Niagara River, in view of the Falls, were approved and contract awarded April 11th, 1883. Actual work began April 15th. Mr. C. C. Sneider appointed Chief Engineer April 26th. The bridge practically completed November 24th; time, 7 months and 11 days.

GENERAL Dimensions:—Elevation of base of rail above surface of water 240 feet; beton foundations 8 feet deep; masonry, 39 feet high; steel towers 130′ 6½″ high; each cantilron 395′ 2 5-16″ long between centres of end pins. Intermediate span 119′ 9″ between centres of end pins. Total length 910′ 1⅝″ between centres of end pins. River span 494′ 9″ centre to centre of towers.

MATERIAL for superstructure: open hearth steel and wrought iron. Towers and heavy compression members and all pins, steel; all tension members, wrought iron. Castings at top of towers, steel.

BRIDGE formally opened and tested December 20, 1883. The test train, aggregating in weight 1,880 tons, consisted of twenty-four locomotives, with cars loaded with gravel, and covered both tracks the entire length.

THE Central Bridge Works are located in Buffalo, and have been reorganized under the name of the "Union Bridge Company." The new organization embraces the Central Bridge Works of Buffalo; Kellogg & Maurice, of Athens, Pa.; the Delaware Bridge Co., of New-York City, and Thos. C. Clarke, formerly of Clarke, Reeves & Co., of Philadelphia. . . . . .

THIS is now the largest and most complete organization for the construction of bridges and similar work in the world. It has a capacity for turning out 26,000 tons of finished work per year. . . . . .

Music Hall.

MUSIC HALL.

THIS handsome and attractive structure was erected in 1883 by the German Young Men's Association of Buffalo. It is one of the finest buildings of the kind in the country, and is regarded with just pride by its spirited founders.

COST of the land and building, $250,000. Style of building, modern French renaissance. The front, architecturally speaking, "broken" by two towers, each 102 feet high. The capitals, belt cornices, etc., are of Ohio sandstone, arches and panels of terra cotta, and walls of red pressed brick.

A RICH effect is produced by the colors of the different materials and the stained glass over doors and windows. Entrance doors ten feet above grade level into the vestibule.

THE plot of ground on which the hall is erected, is 217 feet wide by 538 feet deep. Front of building, 200 feet; depth, 234 feet.

A SEATING capacity of over 2,200 is found in the Main Hall; the Small Hall, 800. The stage affords room for 1,000 singers and an orchestra of 80. Additional seats in the corridors of Main Hall, 600. The architect

estimates that 10,000 persons could assemble within the walls of the building without discomfort on special occasions. . . . . .

THE Main Hall is 100 feet wide; 162 feet deep, including stage; 49 feet high; galleries 16 feet wide at sides and rear; and foyer 30x60 feet. Ceiling divided into panels. Colonnades support the gallery. Interior handsomely decorated. . . . . .

CORRIDORS, 35 feet wide, run on each side of the hall, connecting therewith, if necessary, by wide doors. From the galleries the open outside balconies are reached. . . . . .

THE Small Hall, used for lecturing and other entertainments, can be added to the main hall by opening the wide doors into the rear gallery. In the building are the library and reading rooms of the Association, rehearsal and club rooms of several musical societies, cloak, bath, and dressing-rooms. . . .

The Genesee.

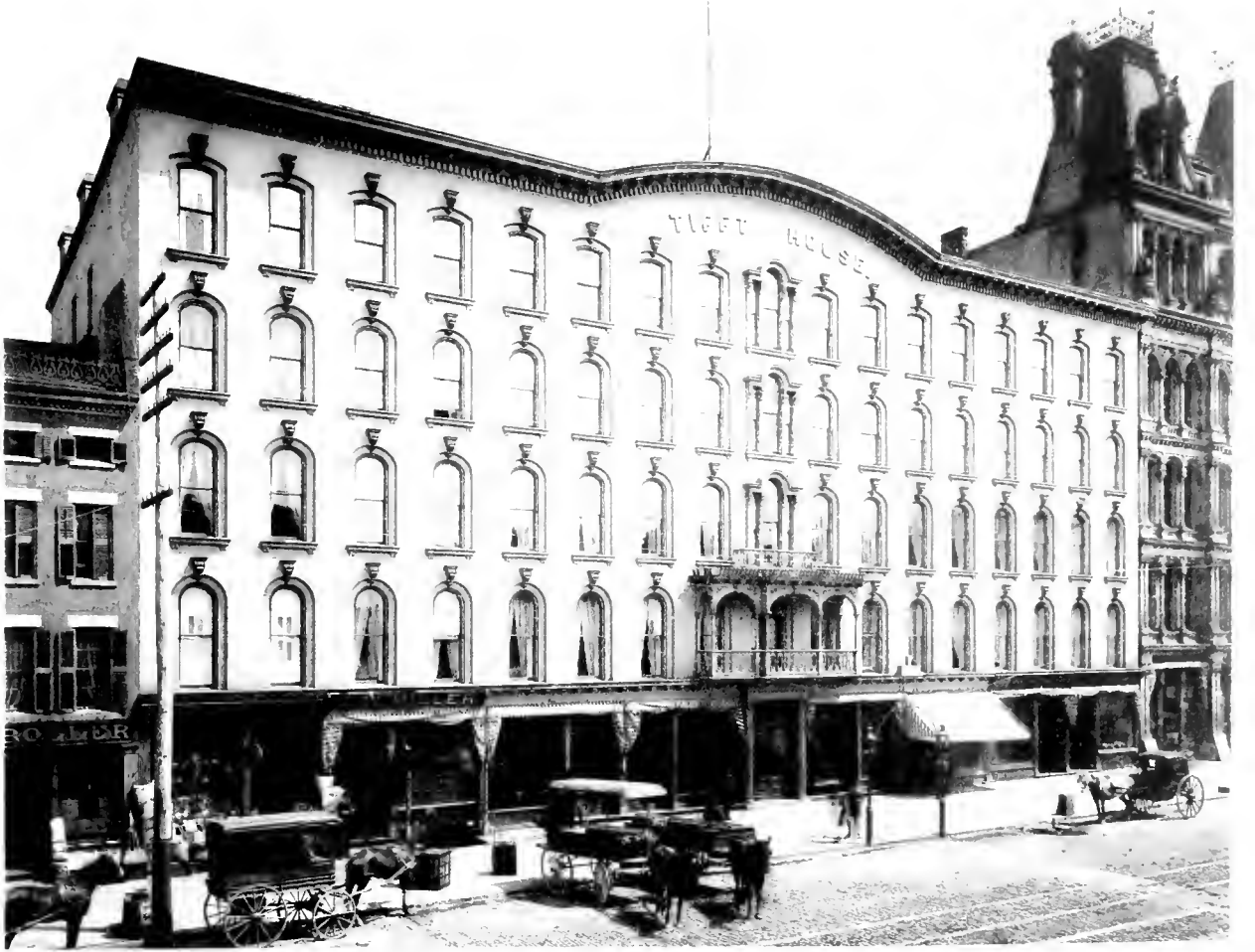
THE GENESEE.

THIS hotel is situated at the corner of Main and Genesee Streets, a commanding and central position. It occupies the site of the old Genesee House, which was a famous tavern in the days of stage-coaching. . . . . .

THE old tavern was owned by Trumbull Cary, one of the pioneers of Western New-York. The new hotel is owned by the Cary Estate, and was opened in 1882. . . . . .

THE Genesee contains three hundred rooms, and is kept on the European and American plans, at the convenience of its guests. Charles Losekam, Proprietor. . . . . .

. . . . . The Tifft House. . . . . .


TIGER HOUSE.

THE TIFFT HOUSE.

BUILT by the late George W. Tifft, on the site of the old Phenix Tavern, this house occupies nearly one-half of the block above Lafayette Park, running through from Main to Washington Street. . . . . .

LAFAYETTE Park is the site of the Soldiers' and Sailors' Monument, which is expected to be unveiled on the 4th of July, 1884, and commands a very beautiful view of Niagara River and Canada. . . . . .

THE Tifft House was opened for guests in 1865, and contains upwards of two hundred rooms. It has always been kept on the American plan. E. D. Tuthill & Son, Proprietors. . . . . .

Coal Shipping Docks and Pockets.

ANTHRACITE COAL TRADE.

THE enormous growth of the anthracite coal trade of Buffalo is shown by the following statement of receipts in the years named, being a period of twenty-two years. . . . . .

YEAR.	GROSS TONS.	YEAR.	GROSS TONS.
1862,	93,793	1873,	254,044
1863,	123,319	1874,	472,262
1864,	154,214	1875,	750,206
1865,	143,968	1876,	501,175
1866,	248,716	1877,	759,609
1867,	223,718	1878,	775,162
1868,	318,353	1879,	1,092,134
1869,	112,914	1880,	933,240
1870,	177,027	1881,	1,246,292
1871,	102,185	1882,	1,933,004
1872,	190,994	1883,	2,079,042

THE total local consumption of anthracite in 1883 was at least 285,000 tons.

The miners and shippers of anthracite coal, represented at and shipping from Buffalo, are as follows: . . . . . .

. . . . Philadelphia & Reading Coal and Iron Company. . . . . .

. . . . Lehigh Valley Coal Company. . . . . .

. . . . Delaware, Lackawanna & Western Railroad Company. . . . .

. . . . Delaware & Hudson Canal Company. . . . . [OVER.]

. . . . Pennsylvania Railroad Company.
. . . . Pennsylvania Coal Company.
. . . . Hillside Coal and Iron Company.
. . . . The Butler Colliery Company.
. . . . J. Langdon & Company.
. . . . Andrew Langdon,
. . . . A. J. Hoole & Company.
. . . . Coxe, Brothers & Company.
. . . . E. L. Hedstrom.
. . . . Frank H. Goodyear.
. . . . W. H. Davis & Company.

THE following shipping docks and coal pockets have been constructed within the last few years at this port:

NAME.	Average Shipping Capacity, daily, Tons.	Storage Capacity of Pockets, Tons.
Buffalo, New-York & Philadelphia Railroad,	2,500	4,500
Delaware & Hudson Canal Company,	2,500	5,000
Delaware & Lackawanna Railroad,	3,000	4,000
J. Langdon & Co.,	500	1,500
Lehigh Docks,	3,000	3,000
Erie Docks,	2,500	3,000
Pennsylvania Coal Company,	2,000	3,000
Totals,	16,000	24,000

Bituminous Coal Trade.

THE bituminous coal trade of Buffalo shows a progressive growth and an increase which would have been deemed incredible if prognosticated a few years since. The following statement of the receipts presents the figures in a condensed form: . . . . . .

YEAR.	GROSS TONS.	YEAR.	GROSS TONS.
1862,*	87,502	1873,	482,724
1863,*	83,774	1874,	327,467
1864,*	100,461	1875,	502,767
1865,*	110,463	1876,	374,263
1866,*	130,314	1877,	318,447
1867,*	168,232	1878,	503,327
1868,*	165,053	1879,	735,670
1869,	248,432	1880,	879,855
1870,	308,233	1881,	997,279
1871,	234,177	1882,	1,098,787
1872,	340,379	1883,	2,089,969

* From 1862 to 1868, inclusive, by canal and lake only.

THE following are the miners and shippers of bituminous coal at this port: .

. . . . Bell, Lewis & Yates. . . . . .

. . . . Bright, Dowdell & Co. . . . . .

. . . . Frank Williams & Co. . . . . .

. . . . Hamilton Coal Company. . . . . [OVER.]

Northwestern Coal and Iron Company and Fairmount Coal and Iron Company.

Powers, Brown & Co.

Pittsburg Coal and Mining Company.

Brady's Bend Mining Company.

H. C. Springer & Co.

H. K. Wick.

THE foregoing views were produced from photographs specially prepared for this work by George Barker, Niagara Falls, N. Y. . . . . .


ANNUAL CONVENTION
AMERICAN
SOCIETY
OF
CIVIL ENGINEERS
A·S·C·E
1852
AT
BUFFALO
JUNE 10TH TO 13TH 1884