PIONEER PRESS

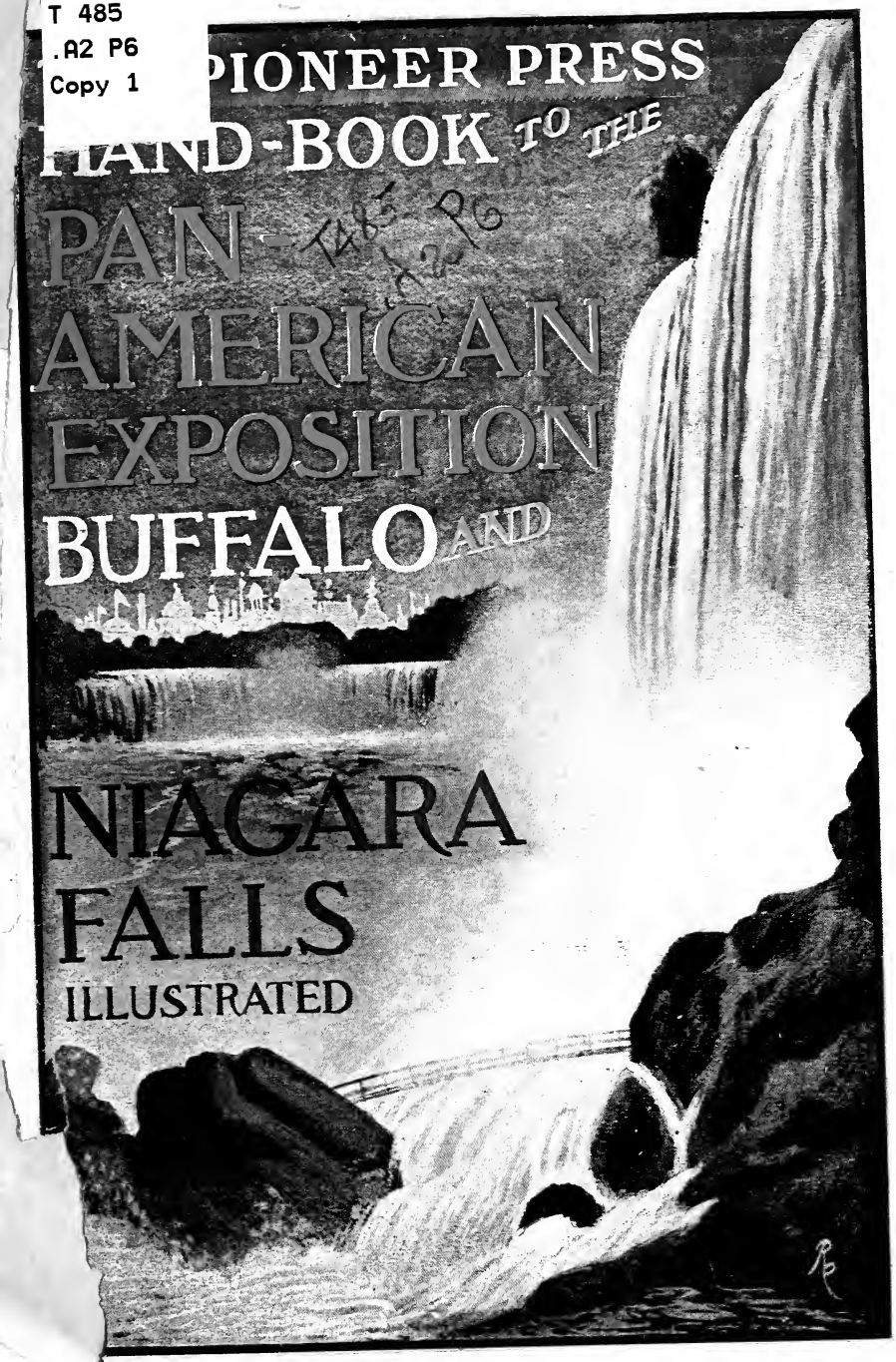
HAND-BOOK TO THE

PAN-AMERICAN EXPOSITION

BUFFALO AND

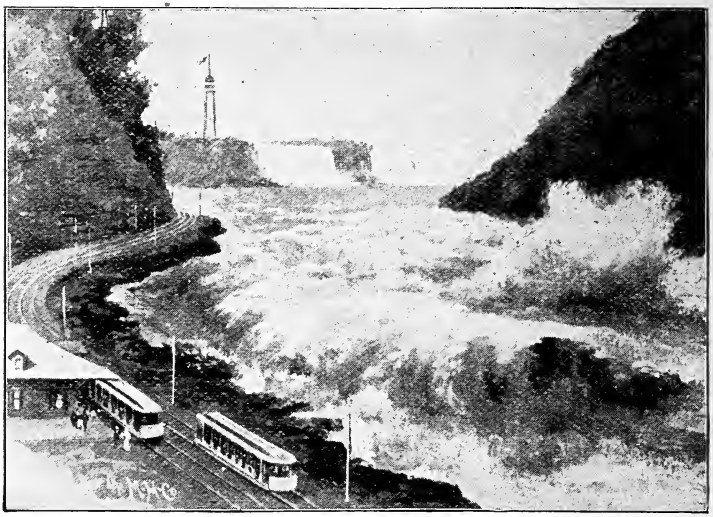
NIAGARA FALLS

ILLUSTRATED



GREAT GORGE ROUTE

THE MOST MAGNIFICENT SCENIC ROUTE
IN THE WORLD



Running through the Grand Cañon of Niagara close to the water's edge at the foot of towering cliffs. The only way to see the Great Niagara Gorge, the wonderful Whirlpool Rapids, the Grand Whirlpool, the picturesque Devil's Hole Rapids, and the whole series of magnificent pictures in Niagara's wonderland below the Falls.

"One always experiences a vivid emotion from the sight of the Rapids, no matter how often one sees them. * * * I had schooled myself for great impressions, but I had not counted upon the Rapids taking me by the throat, as it were, and making my heart stop. I still think that the Rapids are the most striking part of the spectacle."

—*William Dean Howells.*

Cars leave Prospect Park, Niagara Falls, every fifteen minutes, passing all the principal hotels, and railroad stations for Lewiston, where connections are made with Niagara River Line Steamers for Toronto and all Canadian points.

GODFREY MORGAN, General Manager, *WM. KELLY, Jr., General Pass'r Agent,*
NIAGARA FALLS, N. Y.

Ellicott Square Building.

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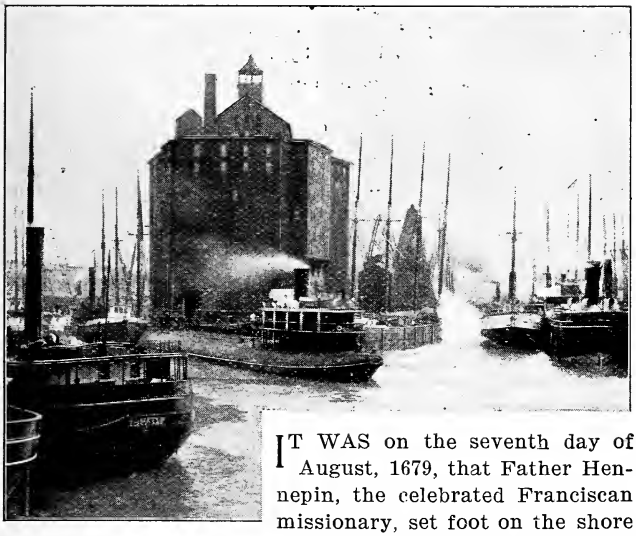
CHICAGO AND NEW YORK:
RAND, McNALLY & COMPANY,
PUBLISHERS.

Buffalo.

THE CITY OF BUFFALO.



IT WAS on the seventh day of August, 1679, that Father Hennepin, the celebrated Franciscan missionary, set foot on the shore of Lake Erie, near the spot where is now the flourishing city of Buffalo. With his company of thirty-four men, he had come down from Squaw Island, where his little exploring vessel, the Griffin, had been built by La Salle. After celebrating mass, and amid the pious intonations of the sailors, the worthy father had proceeded on his voyage of exploration and proselytizing. Thus the

future city received its baptism at the hands of those remarkable men, the early French missionaries, who possessed, in large degree, the qualities of adventurer, explorer, and churchman. In 1687, Baron La Hontan followed, and in his celebrated expedition through this region his trained military eye saw the advantages which the site possessed for a stronghold, and in his journal we find the spot marked upon his map as "Fort Suppose;" but the bold Baron's supposition was not realized until a much later date. The surrounding region was dominated by the Senecas, that courageous and warlike tribe, who kept in check their less numerous and less belligerent neighbors of the Five Nations. Slowly and by degrees a few white men found their way to Buffalo Creek in search of peltries, and the "Old French War" gradually reduced in numbers the powerful confederation of the Five Nations. The devastating expedition of General Sullivan during the Revolutionary War almost exterminated the once powerful tribes, and the long and severe winter of 1779-80 completed that work. A remnant of the Senecas and other tribes sought the shelter of Fort Niagara, carrying with them several white captives, men, women, and children, whom they compelled to work in the fields, and who appear to have been the first white inhabitants of that neighborhood, if we can except the British garrison at Fort Niagara. The captives could hardly be called settlers, as they were not by any means attracted to the spot by their own free will, and escaped whenever opportunity offered. Soon after the events just related, however, the first genuine white settlers built their cabins on Buffalo Creek. To William Johnston, son of Sir William Johnston, and his Indian wife, Molly Brant, a sister of the famous chieftain, Joseph Brant, belongs the honor of first holding in possession the ground at the mouth of Buffalo Creek, which, in the year 1781, by reason of his influence and address, he obtained from the Indians, over whom he wielded great influence. Now gathered a heterogeneous crowd of white adventurers, trad-

ers and hunters, out of which unpromising material was hatched the village of Buffalo.

CONFLICTING TITLES TO THE SITE.

The importance of the value of the country forming Western New York after the Revolutionary War is best seen in the scramble for possession between the Indians, or the Six Nations, on one hand, and the General Government, the States of New York and Massachusetts on the other, not to speak of the numerous private interests seek-

Masten Park High School.

ing control. Treaty after treaty, concession after concession, were made, until finally, in 1797, the lands passed into the hands of the Holland Land Company. They consisted of four tracts, described in as many deeds. The Indian title to these lands was finally extinguished, in that year, at a council at Geneseo, and the ownership of the site of Buffalo passed practically to Holland. With a resident agency at Batavia, N. Y., the Holland Land Company proceeded, by circulars and otherwise, to people their tracts. Joseph

Ellicott was the first agent, and for his labors in opening up for settlement and occupancy the land now forming the city of Buffalo, he has been called the "Romulus of Buffalo." In 1795, the first tavern, that beacon of cities, was established by John Palmer. It was a two-story log house on the terrace nearly opposite Exchange Street, and a few rods west of Main. Its first distinguished guest was the Duc de Rochefoucauld Liancourt, then on his travels, who records that he "ate a very indifferent supper," and was obliged to sleep on the floor; but, having evidently become used to hard fare and scant accommodations, he naïvely adds, "we slept as soundly as we had done in the woods."

Among the first to seek residence in Buffalo after Ellicott's survey was Dr. Cyrenius Chapin, an able young physician, who visited the village in 1801, and made it his home for life in 1805. He was held in high esteem by his fellow citizens, who in 1836 presented him with a silver service as a testimonial of their appreciation for his endeavors, both in peace and war.

GROWTH OF THE VILLAGE.

Almost imperceptibly but steadily the town began to enlarge. The Land Company disposed rapidly of their lots at prices ranging from $120 to $400 each. At this time land beyond Chippewa Street, on Main, was selling for $11 and $12 per acre. The first death in the young community occurred in 1804, when John Cochrane, a migratory Yankee from the land of steady habits, departed this life, and was buried in the little cemetery, laid out by William Johnston, on land belonging to him, now covered by the building known as the Washington Block.

In 1807, William Johnston, so long identified with the settlement, died at the ripe age of sixty-five, and was buried in the cemetery which he himself had provided. He left a son, John, a young man educated at Yale, and of exemplary conduct. About this time the first religious society was formed, under the ministration of Rev. Thaddeus Osgood,

Fort Porter.

assisted by Deacon Callender, who officiated in the absence of a clergyman.

In 1808 the County of Niagara was erected, embracing all the territory of the present counties of Erie and Niagara, Buffalo being made the county seat. This assured permanent prestige to the little town, and gave it immeasurable prominence over its lusty though ephemeral rival opposite Squaw Island. The first court was holden in Joseph Landon's tavern—now the Mansion House. Augustus Porter, one of Ellicott's lieutenants, was made judge, his associates being Samuel Tupper, Erastus Granger, James Brooks, and Zattu Cushing, with Asa Ransom, sheriff, and Louis Le Couteulx, clerk. The attorneys in Niagara (Erie) County at that time were Ebenezer Walden, Jonas Harrison, Truman Smith, John Root, Heman B. Potter, Alvin Sharpe, Bates Cook, and Philo Andrus. The first courthouse and jail stood on Washington Street, the former facing Lafayette Square, and the latter near Clinton Street. The jail was surrounded by a wooden stockade, fourteen to sixteen feet high, like a frontier fort.

In 1805 Erastus Granger was appointed collector for the "District of Buffalo Creek." Prior to this time this territory was in the District of Presque Isle, Detroit, of which General William Irvine was collector.

The first newspaper in Buffalo, the "Buffalo Gazette," was issued on the third day of October, 1811, by the brothers Smith H. and Hezekiah A. Salisbury. Established just before the War of 1812, its columns furnished not only a true relation but a historical guide to the campaign on the lakes and our northern border during that stirring period.

Among the early merchants and traders who made their headquarters at Buffalo were Messrs. Juba Storrs and Benjamin Caryl. Originally educated for the bar, Mr. Storrs soon forsook the legal profession, and in 1809 established himself in business at Buffalo, with Mr. Caryl as partner. The firm was properous, and had branches at outlying towns in New York, Pennsylvania and Canada.

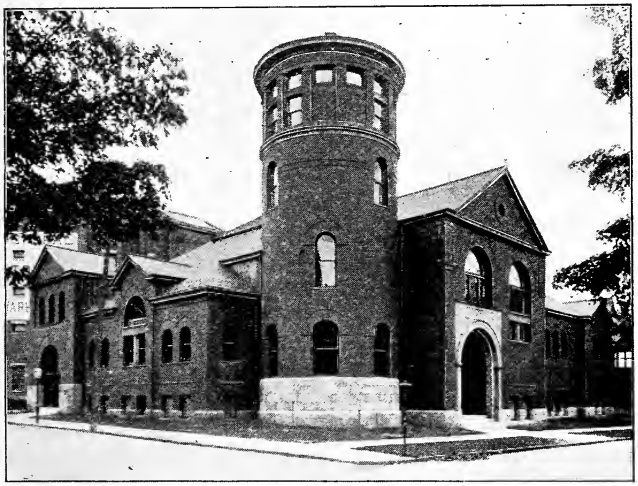
Main Street, south from Court.

Thus the settlement from small and humble beginnings took on the appearance of a town, with all the resources and conveniences of urban life at that period. Mention may here be made of the Old Ferry at Black Rock, which for years was the only landing-place or wharf. The rock was at the foot of what since has been called Fort Street, and was about one hundred feet broad at its northern end, and ran southeasterly in toward the bank for a distance of three hundred feet. It was about four or five feet high, and was regarded as the safest and best landing-place above the Falls. To the Indians the Land Company conceded the perpetual right of fishing at this place, but the blowing up of the rock by DeWitt Clinton's engineers in 1825 caused this privilege to fall into desuetude.

BUFFALO IN 1812.

By some the War of 1812 is regarded as a war of small consequence, but students of history and thinkers recognize the fact that it forever settled the question of British domination over what is now our northern border. From Revolutionary times the frontier question had been an unsettled and aggravating one, but at the conclusion of the war this vexed question was settled at once and for all time. It is not necessary here to relate the causes of the war, but to record the share—a most important one—which Buffalo bore in this memorable event. Hostilities between Great Britain and the United States were declared by Congress on the 18th of June, 1812, a day after the obnoxious "Orders in Council," one of the principal causes of the war, had been withdrawn by the British Parliament. Had the science of electricity progressed as far at that period as it did years later, the war might have been averted and thousands of lives and millions of dollars been saved to both sides. As early as May of 1812, recruiting had been actively carried on in Buffalo by a United States army officer. He promised to those who would sign for five years one hundred and sixty acres of land, three months' extra pay and

a bounty of $16. A number of persons responded, but a great deal of their martial fervor oozed away before a shot was fired. The first marine capture on the lakes was made by a party of British soldiers who moved across from Fort Erie in two boats on June 27, 1812, and seized the salt schooner *Connecticut*, which lay at anchor off Buffalo. On June 29th, Hon. Erastus Granger, the Indian agent, held a council with the chief men of



Grosvenor Library.

the Six Nations and was assured by them of their friendliness to the American cause. Gen. William Wadsworth was the first commander of the forces on the frontier, but was quickly superseded by Gen. Amos Hull, of Ontario County, who in turn was followed by Maj.-Gen. Stephen Van Rensselaer, under whose energetic command immediate steps were taken to fortify the town. An inspection of his forces and supplies revealed anything but a satisfactory state of affairs, but, nothing daunted, General Van Rensselaer set

about to strengthen his line, which was thirty-six miles long, but occupying an admirable natural position for defense. The Indians, aroused by the rumor that Grand Island was invaded, declared war against Canada, in the only document of the kind ever issued by North American Indians, so far as researches and information go. The news of General Hull's surrender at Detroit reached Buffalo on July 17th, and filled the little camp with apprehension but not dismay, as a feeling of indignation arose among the soldiers at the man who had disgraced his country and laid down his arms without firing a shot. This feeling to retrieve the dishonor only multiplied Van Rensselaer's difficulties, as he did not feel that his force was strong enough to invade Canada and strike Brock's army, as it would leave Buffalo exposed to the victorious and elated British troops at Detroit. Pursuing a Fabian policy, he waited until autumn, when reinforcements reached him to the number of several thousand men, consisting mainly of Pennsylvanians. The first real action took place on August 9th, when a gallant and successful attempt was made to cut out the British brig *Adams*, and the Northwestern Company's schooner *Caledonia*, which lay under the protection of the guns of Fort Erie.

The idea was suggested by the old Seneca chief, Farmer's Brother, and under the command of Lieut. Jesse D. Elliott, of the United States Navy, who had about one hundred men under him, the attempt was made at night, the expedition being in three boats, and was a complete surprise to the non-vigilant Britishers on board the vessels, who found themselves prisoners to the Americans on being rudely awakened from their slumbers. Lieutenant Elliott was afterward in command of the *Niagara* in Perry's immortal victory on Lake Erie, and succeeded that illustrious sailor in the command of the lake squadron. The British retaliated by bombarding Black Rock.

Although on September 1st General Van Rensselaer had only six hundred and ninety-one men fit for duty, by Octo-

ber 12th his force numbered five thousand two hundred and six. To the officially unexpressed, yet directly intimated, wishes of high authorities, he at last decided to make a descent on Canada. The time seemed propitious, and Queenstown was the objective point to land his forces. The passage across the river was delayed through various blunders of his subordinates, but finally, on the night of October 13-14, he crossed with a small force, and reached the opposite bank through the midst of the heavy fire of the enemy, who had discovered his approach. A determined stand was made by General Brock, in command of the British forces at Queenstown, but the Americans, smarting under the defeat at Detroit, carried the heights at all points, and the officers were congratulating themselves on the auspicious result, when, to their great astonishment, they found their men in a state of dire demoralization, caused by the sight of advancing British regulars. All attempts to rally them proving futile, a retreat was ordered, which culminated in a general *sauve qui peut.* Only a small number of the invaders succeeded in regaining the American shore the rest being killed or captured. The disaster at Queenstown led to the removal of General Van Rensselaer, who was superseded by Gen. Alexander Smyth, United States Army, who had a short time before been sent to assist Van Rensselaer, but who had remained inactive at Buffalo, with a force of thirteen hundred regulars. Upon assuming command General Smyth issued a bumptious proclamation calling upon volunteers to join his army and conquer Canada. After two unsuccessful attempts to invade Canada, caused by his lack of military prevision, the idea was given up and the forces dispersed to their homes. For this failure General Smyth was lampooned from one end of the country to the other, and his proclamations parodied in prose and verse. He was legislated out of the army, and afterward represented his district in Congress, where he became celebrated by reason of his long-winded speeches. Upon one occasion, when, as usual, the majority of the members

Soldiers' Monument, Lafayette Park.

had left the hall, while delivering a speech, he exclaimed: "Gentlemen can retire if they please; I do not wish them to hear me unless they choose; I do not speak to the members on the floor merely, but to posterity." Upon which an old member, sitting resignedly in his seat, replied: "Go on, sir; go on. Your audience will be here before you get through."

In 1813 occurred the glorious victories of Perry on Lake Erie and the battles of Lundy's Lane and Chippewa. Out of reprisal for the burning of Newark, in Canada, by Colonel McClure, a large force of British and Indian allies landed at Black Rock and sacked the town. With the battle of New Orleans, on January 8, 1814, the war ended.

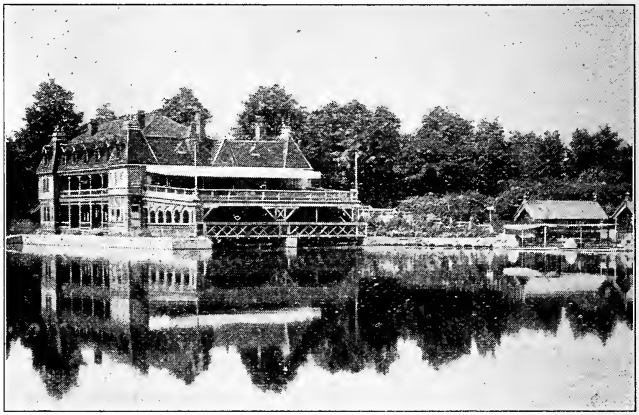
BUFFALO REDIVIVUS.

During 1814, despite the war, the citizens of Buffalo had gradually returned, and the work of rebuilding the sacked town was actively carried on. A brick-yard was started and more substantial structures were erected. In 1816 the town had two newspapers, several churches, and a bank, but was not yet out of the woods; for in that year the Town Council offered a reward of $5 for the scalp of each wolf caught in the town.

The great event of 1818 was the launch of the *Walk-in-the-Water*, the first steamer to ply the lakes. She was built at Black Rock, in spite of the jealousy of Buffalo, and on May 28th glided off the ways amid great rejoicing. She plied between Buffalo and Detroit until 1821, when she was wrecked near the lighthouse. Erie County was separated from Niagara in April, 1821, in which year a theater was established in Buffalo. About this time a humble young pedagogue was teaching the young idea how to shoot at Cold Spring. He subsequently rose to a higher, if not nobler, sphere. His name was Millard Fillmore, the thirteenth President of the United States.

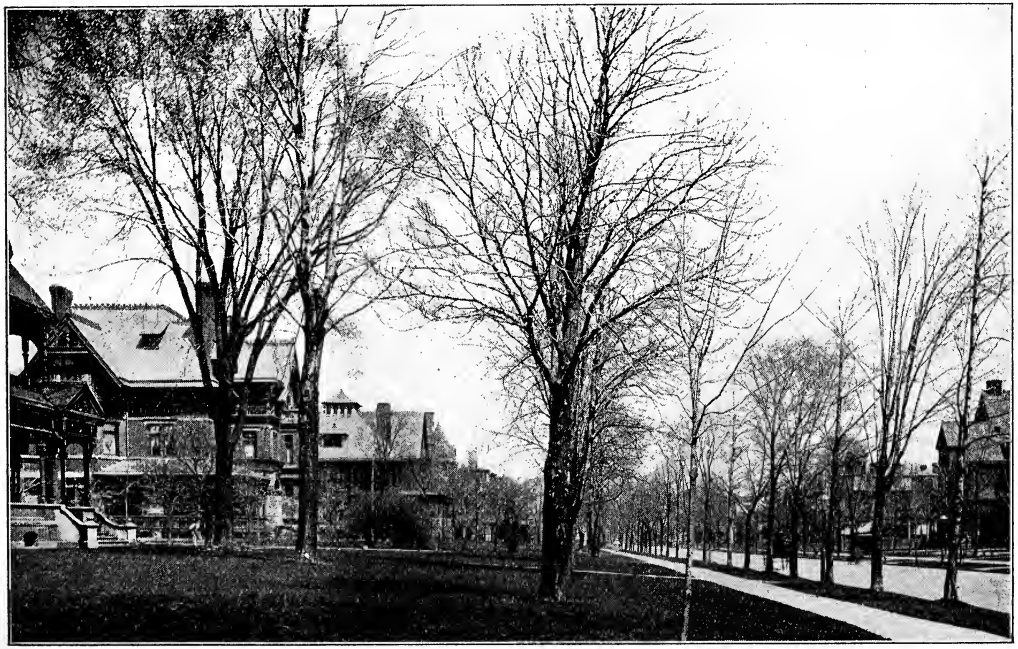
On August 9, 1823, ground was broken for the commencement of the Erie Canal, near the Commercial Street bridge,

amid loud acclamations, the blare of music, and the salute of cannon. The chief citizens shoveled, a procession followed the contractor's plows, and refreshments were partaken of. The year 1825 was an eventful year for the future great city on Lake Erie. The population in January of that year numbered 2,412. There were four newspapers and the village boasted nearly five hundred buildings. Still all east of Washington Street was an almost inaccessible morass, while west of Franklin Street and north of Chippewa the forest primeval remained. Marquis de Lafayette



Boat House, Delaware Park.

visited the town on June 4th, it being specially decorated and illuminated for the occasion. An address of welcome, parades, and a reception formed the main features of his stay. Red Jacket, the brave and faithful ally of the Americans, was present, a committee having kept him free from intoxicants during the Marquis' presence in the town. A unique event was the purchase of seventeen thousand acres of land on Grand Island by Major Mordecai Noah, of New York, a celebrated journalist of that day. His purpose was to afford the Jews of Christendom a refuge. He announced



Delaware Avenue, north from Utica.

himself as Judge of Israel, and on September 2d a corner-stone was laid with imposing religious ceremonies and addresses. The scheme, however, came to naught.

The completion of the Erie Canal marked the beginning of Buffalo's present prosperity.

TOPOGRAPHICAL.

Buffalo, the Queen City of the Lakes, stands at the eastern extremity of Lake Erie, at the head of Niagara River, and within easy reach of the sublime scenery of Niagara Falls. The mouth of Buffalo River, a fine natural harbor in itself, has been improved and deepened. It is protected by a break-water, and in 1869 the United States Government began the construction of an outside harbor. This structure was originally 4,000 feet long. It fronts the entrance of the river about half a mile from the shore. In 1893, 806 feet were added. The River and Harbor Act of August 17, 1894, made provision for surveying and preparing a plan for extending the outer break-water south-easterly. This plan is now being carried out and will add greatly to the convenience and capacity of the harbor.

CLIMATOLOGICAL.

Buffalo has a right to be proud of possessing one of the most equable climates in the United States. The temperature very rarely falls more than ten degrees below zero. The lake, a natural storehouse of heat, considerably modifies the low temperature. In summer only occasionally has the thermometer touched ninety degrees, and then a pleasant cooling breeze makes the heat bearable. But such a temperature is the exception. The evenings are always cool in summer no matter how hot the day may have been, and it is always possible to sleep at night. Visitors accustomed to regions where not a breath of wind stirs the heated air, or if it does, only intensifies the attendant discomfort, often remark this agreeable feature of the city's climate.

Scene in Buffalo Park.

IN THE ENVIRONS.

As a summer resort the city has many advantages. The water supply is pure and abundant and there are no dangerous alternations of temperature. From the time when the handsome chestnut trees, which, along with maples, locusts, and other shade trees, adorn the principal streets, open their blossoms in the spring, to late in October and the Indian summer, the thoroughfares present a constant charm. The resident in Buffalo is certain to become a lover of nature. An hour will take him to the heart of woods where flowers and ferns of every species grow in rich profusion. At his gates is a lake teeming with fish, and a river where the gamy black bass lurks, ready to be lured by the skillful angler. Wherever one turns he is astonished and thrilled by the beauty of the scene.

The city itself, keen, never-resting, rushing along in the activities of commerce, delights the heart of the stranger with the manner in which its broad-minded merchants turn from the serious contests of business competition to take part in some civic parade, to honor distinguished visitors, or extend a hearty welcome to a world-wide order or a convention of national importance. It is not alone Buffalo's proximity to the Falls that makes it the rendezvous of travelers and the delight of conventions. Its own excellent and varied natural charms and the genuine good fellowship and spontaneous hospitality of its citizens, together with the facility with which they practice the Horatian maxim of mingling the pleasant and the useful, have created in the hearts of those who have once visited it a strong desire to return.

POPULATION.

In 1779 the first white man settled on the present site of Buffalo. He established a store where the Mansion House now stands, at the corner of Main and Exchange streets. In 1810, when the first United States census was

taken, the population of Niagara County was only 6,132. In 1812, the population of Buffalo was about 1,500. In 1820 the population of Niagara County was 23,313, of which 15,668 was in the present county of Erie. The year 1825 saw the population of the city mount to 2,412; five years later it was 8,668; by 1850 it had reached 42,261; 1870 witnessed the crossing of the 100,000 line, and in 1895, 335,709 was the approximate population. According to the strict laws which govern such increase the population of Buffalo, in 1901, the opening year of the new century, should number the desired half million. The New York *Tribune* predicts that Buffalo will have a million inhabitants within the next ten years. The Chicago *Tribune* believes it will become the manufacturing center of the nation.

The future of Buffalo is full of promise. Its citizens are intelligent and enterprising. Few Northern cities have such a large infusion of the German element. Much of the city's progress and wealth is due to the industry, thrift, economy, patient toil, and high intelligence of this part of the population. Besides the dominant native American element there are quite a number of naturalized British subjects, including a large Irish population, not by any means backward in the city's counsels and development. The Polish section of the community is numerous, but is chiefly made up of laborers. They form a colony on the east side of the city, and have several places of worship, among them the spacious St. Adalbert's Polish Catholic Church. The Italians are likewise in strong evidence.

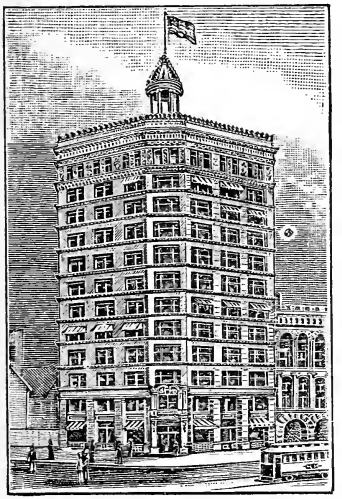
THROUGH THE CITY.

On arriving at Buffalo by one of the twenty-nine railways that enter the city we find ourselves in the neighborhood of Main and Exchange streets. If we have landed at either the Erie or the New York Central Depot, we will have an opportunity of seeing one of the many viaducts which have been built to carry the streets over the railways. At this point Michigan Street is carried over Ex-

Washington Street, Looking North.

change Street. A very long and wide viaduct carries Seneca Street over the railway tracks where Seneca Street meets Fillmore Avenue. This is one of numerous recent improvements of a like character.

Passing along Exchange Street with its restaurants and ticket-brokers' offices, we leave the New Continental Hotel behind us (rates $2 per day) at the corner of Michigan Street. Further along is the Arlington at the corner of Wells Street. (Rates, $2 per day.) The Broezel House is at the corner of Seneca, Wells, and Carroll streets. Its rates are $2.50 to $3.50 per day. We then catch a glimpse of the Postoffice at the corner of Seneca and Washington streets. This building will soon be abandoned. A large new Postoffice has been erected on the square formed by Swan, Ellicott, South Division, and Oak streets. On Washington Street near Exchange is the office of the Buffalo *Express*, a leading daily and Sunday newspaper.



D. S. Morgan Building — Offices Metropolitan Life Insurance Company

A few steps brings us to Main Street. On the southeast corner of Exchange and Main stands the Mansion House (rates $2 and $3 per day), an old established commercial and family hotel. On entering Main Street and looking to the south, we see the masts and funnels of the shipping at the docks, indicating where the pleasure boats for the neighboring resorts await their thronging passengers, and where the larger vessels which traverse the mighty inland

seas to Chicago and Duluth are moored. Here, too, a constant procession of freight vessels makes things lively with the din of their whistles and sirens, while the new drawbridge at the foot of Michigan Street is kept in constant motion to let them pass.

Eastward lies the region contained between Elk Street and the Hamburg Canal, where the First Ward is situated with its large Irish population. Westward, on the other side of Main Street, stretches Canal Street, once almost as famous as the Bowery of New York City, but now retaining only a shadow of its former unenviable reputation and prosperity.

To the north of Canal Street is the Terrace, running from Main to Court streets, and largely occupied by the tracks of the New York Central Railroad. At the Main Street end stands the Liberty Pole, with its triumphant eagle and the beloved flag of our country. The first pole was of wood. Time, with gnawing tooth, destroyed it, and a modern iron mast has taken its place; but the same old eagle, gorgeous in a new coat of gold, perches on the top. On this rather straggling thoroughfare are large manufactories, rag warehouses, and the Italian settlement.

Leaving this interesting but uncomfortable neighborhood, we proceed up Main Street, past the *Times* newspaper office. On the right are the Bank of Buffalo and the Manufacturers' and Traders' Bank, and the *Courier and Enquirer* newspaper office on the left. Near here is the Wm. Hengerer Company, an important house doing both wholesale and retail business in dry goods. In this quarter, too, is the *News*, a daily and Sunday newspaper. From this point onward Main Street is a succession of handsome and thriving stores of every description, banks, office buildings and hotels.

One striking feature of the city, as can be seen in the accompanying picture—a birdseye view taken from the top of the Ellicott Square building—is that the chief business blocks cluster round a common center and are within easy

reach of each other, thus facilitating the dispatch of business. In the half-tone on page 3 are to be seen St. Paul's Cathedral, the Erie County Savings Bank, the Guaranty Building, the D. S. Morgan Building, the Real Estate Exchange, the City Hall and St. Joseph's Cathedral.

A few years ago a number of small stores with narrow windows and an ancient appearance looked across Main Street to St. Paul's Cathedral and Niagara Street; now one of the handsomest buildings to be seen in any city occupies the same spot and fronts on four streets. Ellicott Square has ten stories. Its principal entrance, with elaborate ornamentation and large pillars, leads into a main court with mosaic floor, around which are spacious stores, a restaurant and offices. Here important meetings are sometimes held, bands play and election and other returns are read. The building itself is of modern steel construction, faced with brick and terra cotta. It contains 447,000 square feet of floor space; has 40 stores, 16 banking rooms and 600 offices. Fourteen elevators convey the constant stream of busy people who throng its floors. The Western Union Telegraph Company has its famous repeating station on the tenth floor. The large sum of $3,350,000 was expended on the site and building. The well-known and exclusive Ellicott Club, with an entrance fee of $60, and annual dues of $40, has its rooms, with café and restaurant, on the tenth floor. Here President McKinley made a memorable speech, at the time of our war with Spain. The offices of various prominent railway companies are here.

All day the section of Main Street from this point on to the Music Hall presents a gay and animated scene, and at night is brilliantly lighted by a double row of electric lamps on each side of the street. The Iroquois Hotel (Rates: American plan, $4 and $5 per day; European plan, $2 per day and upwards) stands out conspicuous, at the corner of Eagle Street, with its eight stories, shortly to receive an additional two. It is the property of the Buffalo Library.

When the Niagara Bank entered the field in Buffalo, in 1816, it had no competitor. Now there are twenty-four banks in the city. Prominent among them is the Erie County Savings Bank, which occupies an imposing Elizabethan structure facing Main Street at the head of Niagara Street, having Pearl Street on the east and Church Street on the south. Black, white, pink, gray and red marbles line the walls on the different floors, and the woodwork is mahogany. Its many turrets and windows and the steep roof give wonderful relief to the flat fronts and prevailing simplicity of many of the neighboring Main Street stores. The Erie County Savings Bank and the Fidelity Trust and Guaranty Company occupy the first floor, and there are besides 193 offices.

Close to this bank and in striking contrast to the busy surroundings is the quiet St. Paul's Cathedral, the parent Episcopal church of Buffalo. Behind this is the City and County Hall, a three-story granite building, unfortunately hidden from view from Main Street. It has been suggested that this portion of the street should be opened up that this fine municipal structure might be displayed. It stands in the square formed by Eagle, Church and Franklin streets and Delaware Avenue. The cost of construction was $1,500,000. An annex to the City Hall, known as the Municipal Building, stands on the opposite side of Delaware Avenue. The City Hall is finished in black walnut. The tower, 200 feet in height, contains an illuminated clock with four dials, each nine feet in diameter. From the top of this tower can be obtained a charming view of the city, Lake Erie, the Canadian shore and Niagara River.

A building 157 feet high, with an observation tower which gives it a height of 221 feet, is not easily overlooked. It is only a few steps from the City Hall and will repay a visit. Even at night the D. S. Morgan Building, at the southwest corner of Pearl and Niagara streets, is most conspicuous, as its dome-shaped tower is studded with electric lights. White Italian marble and white oak

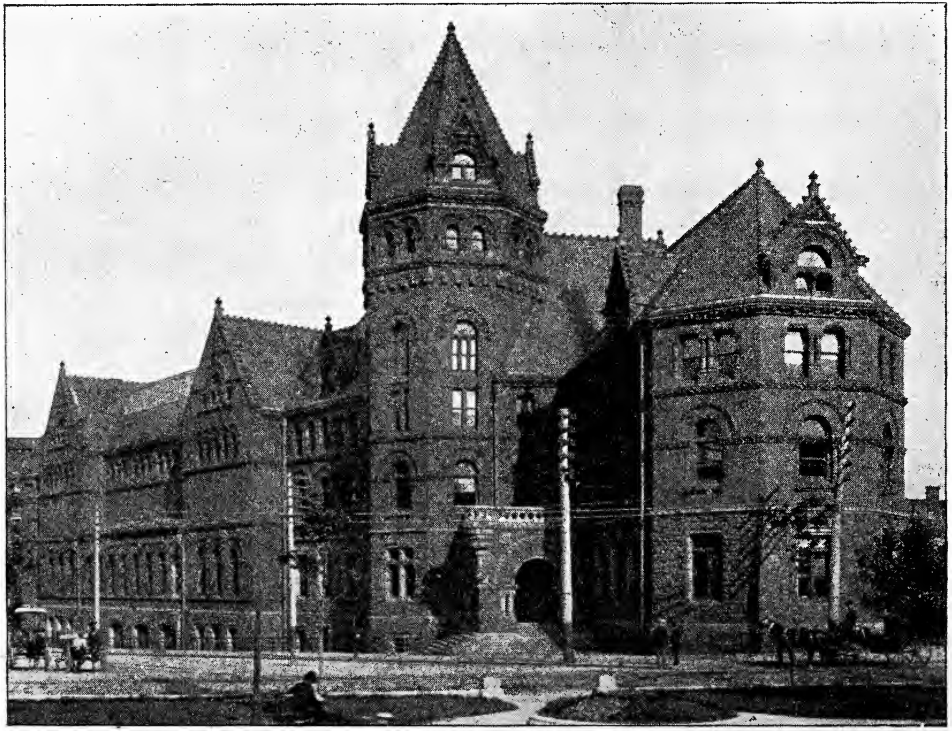
adorn its interior. Ample light which streams through large windows makes this a most desirable office building, and its rooms never lack tenants. A splendid view is obtained from the upper tower.

Still within the same circle whose radii center at Ellicott Square, we come to the Guaranty Building, at the southwest corner of Church and Pearl streets. It towers thirteen stories heavenward and exhibits much the same features as the other large buildings already described. The same may be said of the Dun Building at the corner of Pearl and West Swan streets. The Builders' Exchange, which is owned by the stockholders of the Board of Trade, stands at the northwest corner of Court and Pearl streets. It is built of stone and is eight stories high. The society consists of more than a hundred contractors and dealers in builders' supplies and has opened free to the public an exhibit of builders' materials on the ground floor.

From this quarter, if you choose, half a dozen different streets will take you down to the lake; but we do not advise you to thread your way through the business mazes of that section. You should follow Court Street down to Niagara Square, a large open space in which great improvements are contemplated. Here Delaware, Genesee, Mohawk, Niagara and Court streets intersect.

To the northwest lies a nice residence district, along the lake front. Erie County Penitentiary is at the corner of Fifth and Pennsylvania streets in this direction, and a little farther along the water works may be visited. Close to this region on Niagara Street is the striking castellated armory of the 74th Regiment, which is almost completed.

On the way back to Main Street we pass the handsome headquarters of the Masonic Order, at 43 Niagara Street, an eight-story brick and stone building, with rooms on every floor suitable for the various orders of Masonry. Here, too, is the home of the Acacia Club, a Masonic society for the promotion of social intercourse among its members.



Buffalo Library.

On returning to Main Street by way of Court Street, we arrive at Lafayette Square, with the German Insurance Building and the old Lafayette Presbyterian Church on the north, and the Mooney-Brisbane building on the south. The Public Library stands on the southeast corner of Broadway and Washington Street looking into the Square, and the Buffalo Savings Bank keeps it company on the northeast corner. In the center of the Square is the Soldiers' and Sailors' Monument, a handsome tribute to the heroes who died by sea and land in our various wars from 1776 to the Civil War. The monument is eighty feet high and is crowned with a statue of the Goddess of Liberty. The base of the monument is adorned with warlike figures, and four large rifled cannon, unused weapons of the Civil War, are mounted, one at each corner of the square, and an old mortar and two cannon, one of British origin from Fort Erie, and one from Black Rock, a survivor of the War of 1812, remind us of the tragic past.

Looking into the Square from the head of Broadway is the Public Library, one of the most popular institutions in the city. For many years it was the property of the Young Men's Christian Association. Aided by public subscription, the present building was erected. It contains the Library, the Fine Arts Academy, the Society of Natural Sciences and the Historical Association. There are about 100,000 books in the Library. Formerly $3 a year was charged as subscription. The membership was small and its means were straitened. Within the past two years it has been made a free library; the membership has risen to about 60,000, and the interest taken in it by the public has proportionately increased. An excellent system of open shelves has been instituted by the new superintendent, Mr. Elmendorf, and the once staid and solemn halls are filled with eager readers.

The basement is given up to the use of the Natural Science Society, which has a large collection of prehistoric animal remains, geological specimens and Indian relics.

The Fine Arts Academy has rooms where an annual exhibition of local art is given and where a recent valuable donation of plaster reproductions of famous ancient statues, such as the Laocoön, the Winged Victory of Samothrake, the Faun of Praxiteles and others, contribute to the education of Buffalo's art community.

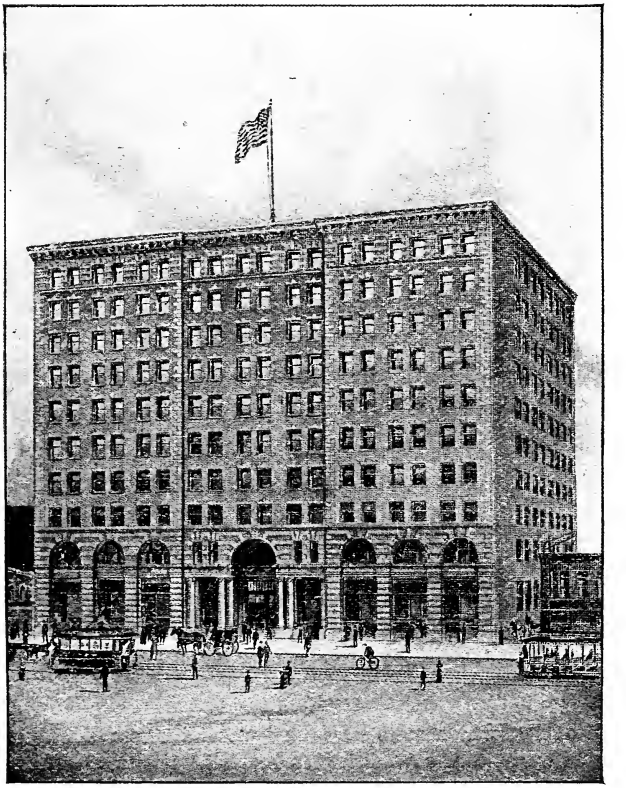
The Historical Society has a valuable collection of old coins, Indian relics, old books of local interest, local pictures and antiquities, in the upper rooms of the building. Racks for bicycles, a free check-room for parcels and umbrellas and well-appointed lavatories add to the many admirable features of this institution.

The Mooney-Brisbane Building on the south side of the Square contains large stores on the first floor and sixteen bazaars arranged to face a central court on the second floor. There are seven stories in this building, which has every improvement in the way of elevators, heating and plumbing. It was erected in 1895 on the ruins of the old Arcade Building, where Shea's Theater and the old Wonderland had their home.

Looking to the left, on the opposite side of Main Street, below Court Street, we see the large dry goods store of the Adam, Meldrum & Anderson Co., which is called the American Block. On the east side of the street is the store of J. N. Adam & Co., another large department store. Almost facing Lafayette Square near Court Street is the new and extensive clothing establishment of J. L. Hudson & Co.

Passing the German-American Insurance Building we come to the Tifft House, a well-known commercial and family hotel.

At the head of West Genesee and partly looking down Main Street the Genesee Hotel, with the Central Presbyterian Church on its right, forms a welcome break in the street line. On the opposite side of the street, at the corner of Mohawk, is the Young Men's Christian Association, a four-story building of red brick, with gymnasium, library, billiard room, swimming bath and several



The Buffalo General Agency Office Building of Mutual Life Insurance Company of New York.

lecture rooms. Lectures, addresses and various courses of instruction which are largely taken advantage of are given throughout the year, and in order to foster physical as well as mental vigor the society has a good athletic field of its own.

The trend of business, at least in the way of stores, is up town, and of late years there has been a general moving of various firms into the section between Genesee and Edward—Flint & Kent's dry goods store, Perren's carriage

The Genesee Hotel.

showroom, various bicycle stores and the pioneer of them all, the Palace Arcade, a building with ninety-four stores and offices, which runs through from Main to Washington Street opposite the Washington Market.

THE MUSIC HALL.

Walking out Main Street to the north, beneath the handsome chestnut and maple trees which shade the sidewalks,

we come in sight of the tower of the Music Hall building, with its open observation gallery, just below the spire. Its proportions are symmetrical and its appearance artistic, and from above its spacious entrance bas reliefs of famous musicians look down. The building is the property of the German Young Men's Christian Association. It has a large hall, the acoustic properties of which are unfortunately not all that could be desired. The stage is 48x80

Music Hall.

feet and the hall itself will seat 3,000. The concert hall, which is much smaller, is convenient for lectures and society entertainments. Here, for a number of years, the congregation of the First Baptist Church has worshiped.

Along Edward Street from the Music Hall and just at the corner of Franklin, is the Grosvenor Library, a free public library, bequeathed to the city by Mr. Seth Grosvenor. After an uneventful history of growth and accumu-

lation of funds the trustees were at last able to erect this handsome building in the style of the Italian Renaissance. The library has over 40,000 volumes and is open from 9 a. m. to 6 p. m.

DELAWARE AVENUE.

Keeping along Edward Street to the west we arrive at Delaware Avenue, the aristocratic quarter of the city—and a really handsome street. At the corner of Edward Street is the Saturn Club, famous for its hospitality, intellectuality and progressiveness. To the south is the Buffalo Club, the resort of the wealthy, with handsome billiard rooms and a splendid swimming pond. Tne avenue runs from the Terrace four miles out to the city line. It passes between Forest Lawn Cemetery and the Park, and is the delight of cyclers, for it is asphalted all the way.

GOODELL STREET TO CITY LINE.

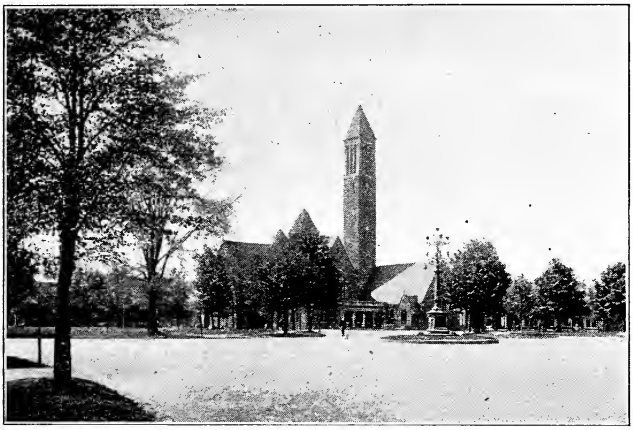
Returning to Main Street: Emerging from Edward Street, St. Louis Cathedral is on our left hand; opposite is Goodell Street, with the handsome offices and saloon of the Christian Weyand Brewing Co., at the northeast corner. East from this is a vast network of streets that extend over to Genesee, where High Street runs into that thoroughfare. Here are the homes of many of the German population of the city. On Mulberry Street is St. Boniface's Catholic Church and School. Further to the north on Main Street stands a fine building in connection with the German-American Brewing Co. Here is a handsome saloon and bowling alley, also a commodious hall and society rooms, with a popular roof garden.

From this point Main Street runs clear to the city line with residences, a hospital or two, and various manufactories on the way. The street cars run out all the way, and will convey you to the Exposition; or, if you choose, you can transfer at Allen Street and reach the same destination by way of Elmwood Avenue.

CHURCHES.

St. Paul's Episcopal Church occupies a commanding position where Erie, Pearl and Church streets join. It lends an element of grace to the group of buildings—municipal, banking and business—which cluster at this spot. The church was consecrated in 1851.

At the corner of Genesee and Pearl streets, in close proximity to the Genesee Hotel, is the Central Presbyterian



First Presbyterian Church.

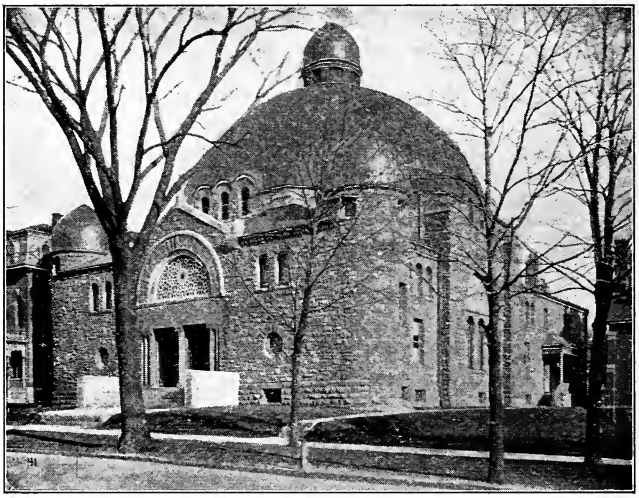
Church, a solid building with a severe spire. This somber place of worship may one day give way to a more modern establishment, if the plans of the Rev. Henry E. Mott, the present incumbent, ever materialize. Mr. Mott's idea is to build a convention hall and church combined, along with other practical features, on the site of the present Genesee Hotel and Central Church. The site is well adapted for the scheme, which might solve some of the city's problems.

The Old North Church looks romantic with its ivy-

covered walls which give tone to the plain block between Huron and Chippewa.

On Tupper and Delaware is a modern church with every convenience for Christian social life—Delaware Avenue Methodist Episcopal Church. It is a model institution, with parlors, piano, kitchen, minister's library, handsome organ, Sabbath school room, classrooms and a large and well-furnished parsonage.

In the immediate vicinity is Calvary Presbyterian



Synagogue—"Temple Beth Zion."

Church; and facing Trinity Place, Trinity Episcopal Church, both with wealthy congregations and all the appliances of a modern Christian institutional church.

Northward on the avenue, between Bryant and West Utica streets, is the very handsome Delaware Avenue Baptist Church. In point of excellence of internal arrangement and variety of rooms and fittings for church work it would be difficult to find any modern place of worship better pro-

St. Louis' Catholic Church.

vided. Under the Rev. Dr. Gifford's guidance this congregation has attained an influential position in city work.

The First Presbyterian Church at the corner of Wadsworth and Pennsylvania streets, facing the Circle, presents a bold and striking image as it looks down Richmond Avenue and commands the entrances to Porter Avenue and North Street with its tall square tower.

Along Porter Avenue, at the corner of Prospect, the Catholic Church and Academy of the Holy Angels are beautifully situated in the midst of trees and grassy lawns.

Temple Beth Zion, on Delaware Avenue, between Allen and North Streets, is a splendid example of a modern Jewish synagogue. Its large round dome and ornamental front distinguish it from all other church buildings. It is the property of a progressive Jewish congregation, who retain the essentials and discard the non-essentials of Judaism.

For many years the Lafayette Presbyterian congregation worshiped in their church on Lafayette Square. Lately they have removed to a very beautiful new home, on what was once Bouck, but now is Lafayette Avenue.

The Catholic church is well represented in the community. There are many Polish, Italian and German congregations, besides one French church. St. Joseph's Cathedral, at the corner of Swan and Franklin streets, is a Gothic stone building with two towers and a magnificent chime of forty-three bells, which, however, have long been in disuse for want of proper accommodation. It is hoped that public generosity will enable the cathedral authorities to place them so that their sweet tones may be heard by the crowds that will attend the Exposition of 1901.

St. Michael's German Catholic Church looks down on Washington Market's busy square, the retail emporium for fruit, poultry, vegetables, fish and butchers' meat. On the north, adjacent to the church, is Canisius College, and a little further along the Buffalo Academy of the Sacred Heart, where the Sisters of St. Francis educate young women to be teachers in the public schools. Canisius Col-

lege was chartered in 1883. It affords a first-class all-round education to boys and fits them mentally and physically for public life.

St. Louis' Church at the corner of Main and Edward streets has a beautiful spire whose symmetry and grace speak eloquently of the designer's genius.

Time would fail us to tell of St. Bridget's with its numerous Irish congregation, St. Adalbert's, where the swarming Polish population of East Buffalo worship, and the many other homes of this excellently organized religious body.

THEATERS.

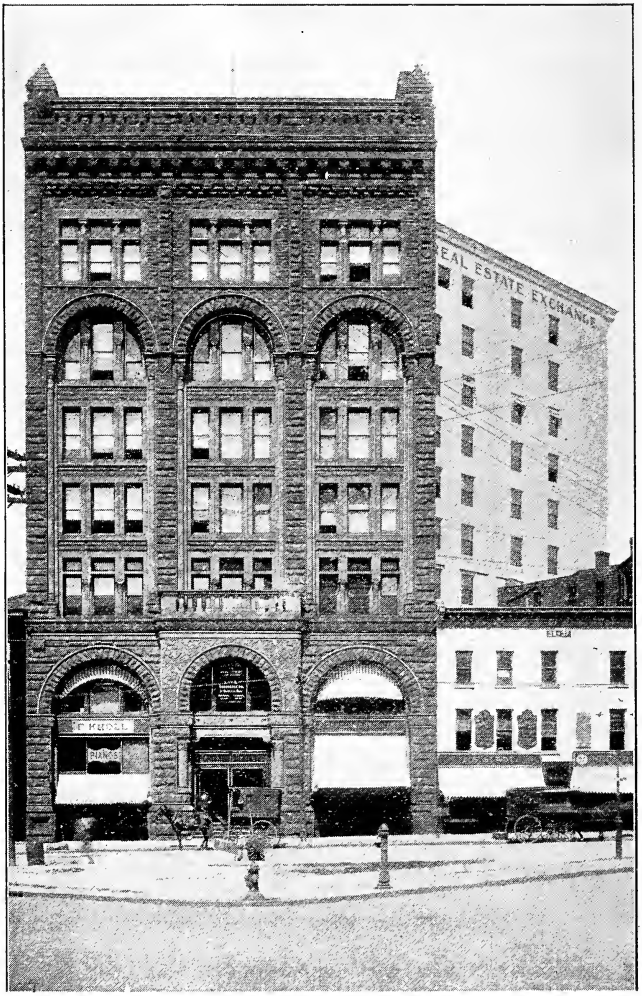
Buffalo has three principal theaters. Sometimes the Music Hall is used as a playhouse, making a fourth. The Star is the principal theater. High-class comedy, tragedy and opera are to be heard here. Prices are reasonable, with occasional extravagant rates for some star or exclusive combination, and again with a 25-cent admission all over the house when some popular opera company makes a long stay during the summer.

The Lyceum, on Washington Street near Lafayette Square, is the home of melodrama and the resort of wonderful mechanical pantomimic productions.

Court Street Theater has a reputation for producing a species of light variety entertainments that draw large crowds of men. Wrestling and boxing exhibitions also attract multitudes thither.

HOSPITALS.

The Buffalo State Hospital for the Insane on Forest Avenue, near Elmwood, was begun in 1872 and completed quite recently. Its two handsome towers, its beautiful grassy lawns, its profusion of trees and shrubbery and its many other attractions are all calculated to soothe the troubled mind. Its admirable sanitary arrangements, the abundance of light, the perfection of its ventilating and



Masonic Temple.

heating apparatus, the good food, the means of exercise and recreation, all presage cures, and the medical statistics confirm the promise. Mondays, Wednesdays and Fridays visitors are admitted from 2 to 5 p. m.

The General Hospital on High Street has been enlarged lately. The addition will accommodate 325 patients. The old building has room for 175. Over two thousand patients are treated here every year. Some of them are charity patients; others pay $1 a day, and others in proportion to accommodation and attendance. This is also a training school for nurses.

State Hospital for the insane.

The Fitch Institution perpetuates the memory of its founder, Benjamin Fitch, one of Buffalo's prominent philanthropists. Here are an accident hospital and ambulance, a dispensary, a fresh-air mission and other charitable associations.

The Sisters' Hospital on Main Street, near Delaware Avenue, has done incalculable good. It has 344 beds. It attends to 2,000 patients yearly by means of its resident physicians and its emergency hospital at Soutn Division and Michigan streets.

There are many other hospitals in the city. The German community recently began the construction of a large infirmary for those of their own nationality.

SHORT EXCURSIONS.

Mostly all the excursion boats start from the foot of Main Street, but the visitor will find Ferry Street an equally convenient starting point for most places. From Ferry Street a boat crosses every fifteen minutes to Fort Erie, Canada, where there is a pleasant grove and the ruined fort to be seen.

A short distance down the river is Grand Island, six miles wide and twelve miles long. Situated within half an hour's sail, it offers many advantages for summer residence, which have been appreciated by several wealthy clubs and private families whose homes are to be seen on both sides of the island. A bridge from the mainland has been long talked of. The charter was obtained some years ago, and work was begun in the summer of 1899. The bridge will connect Buffalo and Grand Island about a mile below Grand Island Ferry, and this most desirable residence district will be within easy reach of the city. The island, with its pleasant resorts—Bedell House, Elmwood Beach and Edgewater—offers varied attractions to the visitor. Steamboats run every day to these places, and every hour to Bedell House, and in a short time transport one from the center of busy life to the charms of the country, where fishing, boating and bathing can be found to the heart's content and the body's recreation.

Crystal Beach, in Canada, about an hour's sail, is one of the most attractive bathing and pleasure resorts near the city. Woodlawn Beach, six miles up the lake shore, on the American side, is a pleasant family resort, easily reached by wheel. Kenmore Park, between Buffalo and Tonawanda, and Lein's Park, near Ebenezer, have special features of their own, and are carefully conducted. There is an excellent steamboat service to Slater's Point, on the Canadian side of the river, near the Falls, whence electric cars run through the picturesque scenery of the Dufferin Islands past the finest view of the Falls, along the top of

the Gorge, overlooking the Whirlpool Rapids, and down to the quiet, but historic village of Queenston, over which Brock's monument keeps sleepless watch. On the American side of the Falls an electric line conveys one by the Gorge route close to the Whirlpool Rapids and follows the course of the river all the way to Lewiston. None should miss this interesting trip.

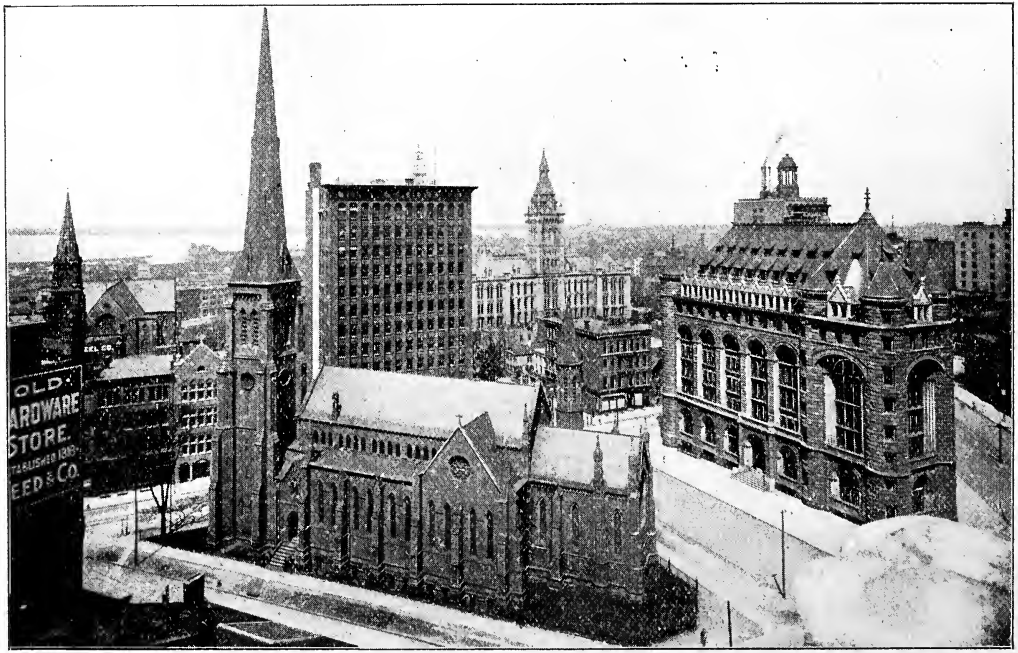
The large boats, the *State of Ohio*, *City of Buffalo*, and the *City of Erie*, run between Cleveland and Buffalo. Two fine steamers, the *North West* and the *North Land*, run between Buffalo, Chicago and Duluth.

THE PARKS.

Few cities are more favorably situated, or more abundantly supplied with facilities for recreation and rest than Buffalo. The park system offers simple, wholesome and refreshing recreation within the city. Water, meadow and woodland delight the eye, and the extent of land devoted to this purpose equals and even exceeds that of some larger cities. Starting from the City Hall on Main Street, by carriage or wheel, one can ride out Delaware Avenue, with its beautiful residences and shade trees, to North Street and the Circle; down Porter Avenue to the Front, a public park of forty-seven acres, overlooking the lake. On the left is Buffalo Yacht Club House; in front the Erie canal, the New York Central and Grand Trunk railroads, the breakwater and Canada on the other shore.

To the north is Fort Porter, looking out over Niagara River from the top of a little hill. For some years past it has been garrisoned by Companies A and G of the 13th Regular Infantry. It is a substantial two-story brick building, with hospital, guard-house and officers' quarters.

Asphalt streets at every block will take you to West Richmond or Elmwood Avenue, as you please. Thence the distance to the park is not great. Buffalo Park is 362 acres in extent, with a handsome lake. A well-constructed road, 9,800 feet long, runs from the entrance past the



Bird's-eye View from Ellicott Square, showing St. Paul's Cathedral and Erie County Savings Bank, containing Offices of Equitable Life Insurance Company of New York.

park lake, and skirting the golf course passes the Zoo, with its interesting collection of animals, and turns northeast to Main Street.

A mile and a half along this street, to the north, stands the Poor House and Erie County Insane Asylum. Forest Lawn Cemetery may be visited. Leaving Forest Lawn by the south gate, the Crematory appears. Continuing east to Humboldt Parkway, you reach the Parade, a park of fifty-six acres, which lately has been enlarged and beautified by the addition of a lake and bicycle paths. From this point Genesee Street may be followed until Main Street is again reached.

NIAGARA FALLS BY WHEEL.

An enjoyable trip by carriage, electric road or bicycle is out Delaware Avenue, past the west side of Forest Lawn Cemetery, turning to the right across the street-car line, when the park is reached, down the shady slope to the bridge, where boys angle for sunfish and perch; up the hill past the Exposition Grounds, out the Boulevard to Kenmore; past Kenmore, a beautifully clean little residence village, with three churches; up the hill to Kenmore Park and then down to Tonawanda. All this distance, eleven miles, you have a smooth asphalt pavement to the city line and thence to Tonawanda a perfect brick pavement. Having reached the famous lumber city, midway between Buffalo and the Falls, you can return or go on. If you are driving, your road to Niagara Falls is plain; if you are on the cars, you need no guide; if you are wheeling, you strike through Tonawanda, crossing the bridge over the canal, and out the brick pavement till you reach the country road at Gratwick. Keeping along this for about a mile and a half, you reach the bicycle path. An Erie County tag, costing 50 cents, admits you to all the bicycle paths in the country. You follow the path till you reach the Log Cabin Hotel, when you must take to the road, riding between the car tracks, if you choose and as most people

do, till you strike the path once more. The road follows the river; passes through La Salle, near which the famous explorer built his first boat, "The Griffin," about 1679, and follows a direct line to the neat, modern, industrial village of Echota, the Niagara Falls Power Company's creation, with a trim station on the N. Y. C. & H. R. Railway, Sugar and Buffalo streets, two principal thoroughfares of Niagara Falls, run through the village. You follow Buffalo Street, whose asphalt pavement brings you to the Falls, twenty-two miles from Buffalo. Thence you may ride to Lewiston, Queenston or Lockport, but the roads are not so good as the one you have just followed.

CANADIAN ROUTE TO THE FALLS.

If you prefer to see the other side of the river you can take your carriage or wheel and cross the river at Ferry Street to Fort Erie. Thence a rather rough road skirts the river, passes Grand Island and reaches the Falls by way of Dufferin Islands.

TO WILLIAMSVILLE.

This is a nice trip of eleven miles. There is asphalt pavement to the city line. There you have your choice of a country bicycle path on the right and a natural bicycle path on the left, both good. Twenty minutes' ride brings you to Sulphur Spring Farm, a pleasure resort. Further on is Blocher's Spring, a highly respectable family temperance grove, beautiful with quince and apple blossom in their season, and famous for its sulphur-impregnated water.

CAZENOVIA PARK.

Seneca Street starts from Main Street between Swan and Exchange, and runs east to the city line. On the right, just before the city line is reached, is Cazenovia Park, through which runs Cazenovia Creek. Much has been done to beautify this naturally picturesque spot. The creek has been bridged in different places, and flowers and shrubs

adorn the well-kept grass, which is a great advance on the rank growth of Red Jacket's day.

SOUTH PARK.

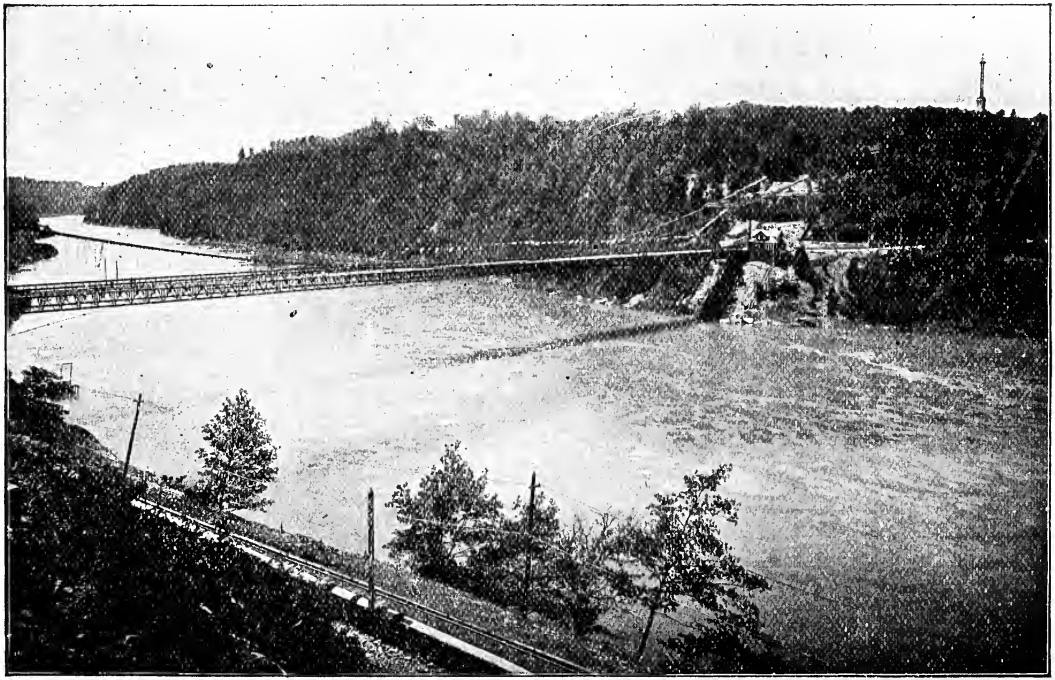
South Park is another recent creation, which, though still in its infancy, gives promise of a future of beauty. It lies to the south of the city, adjacent to Limestone Hill. From its commanding situation on the crest of the Ridge Road an excellent view of Buffalo can be enjoyed. It has a lake and botanical houses. A new and spacious botanical building is almost ready. In course of time South Park will be as popular and beautiful as its luxuriant sister in the north of the city.

FOREST LAWN CEMETERY.

Buffalo has no fewer than twenty-two cemeteries of various kinds. At Limestone Hill is Holy Cross Cemetery, used exclusively for the interment of those of Irish birth. The United German and French Catholic Cemetery at Pine Hill, East Delavan Avenue, near the city line, is laid out with taste and is distinctly beautiful. But Forest Lawn Cemetery surpasses them all in beauty of situation, which has been greatly increased by tasteful landscape gardening. It stands on a high table nearly surrounded on the south and west by Scajaquada Creek. The Soldiers' monument, the Red Jacket memorial near the Delaware entrance, the Blocher dome, with its four plate-glass windows and four life-size figures; the Bliss obelisk, 151 feet from base to apex; the Bailey sphere, seven feet in diameter; the McCuen granite maltese cross, and many other beautiful pieces of sculpture lend an artistic setting to the natural features of the burying-ground. As it is not far from the Exposition, a visit can be easily paid to this lovely spot.

THE COUNTRY CLUB.

The Country Club stands in its own grounds, twenty acres in extent, at the north end of Buffalo Park, close to



The Niagara Suspension Bridge.

the Exposition. It has a polo field and a golf course, and is maintained by a membership of about 200 of both sexes. Its aim is to promote athletic exercises and to provide for its members an agreeable meeting place remote from city noise and distractions.

THE CREMATORY.

Opposite Forest Lawn Cemetery, where the rites of sepulture are paid to the dead, stands the Crematory, a dark sandstone building, where cremation, equally ancient, is practiced. The company has a capital of $15,000; but cremation has not yet become fashionable, though the number of its patrons is increasing.

COMMERCE AND NAVIGATION.

Buffalo is the port of discharge for the traffic of the lakes which connect the grain fields of the West with the Atlantic seaboard. By canal and by rail lumber, grain, flour and coal are rapidly distributed. This commerce is increasing, for Buffalo is the natural outlet to the markets of the world.

In 1796 the first American vessel sailed Lake Erie under the American flag. In 1806 a few small vessels transported freight to Buffalo. In 1816 the number had increased to 29. In 1817 the first flour boat arrived. In 1818 the first steamboat sailed from Black Rock. Buffalo's shipping in 1825 was 1,050 tons. In 1898 the total tonnage entered and cleared at the port was 12,020,721 tons. Next to New York and Chicago it is the greatest port of entry and discharge in the United States. Of grain, 220,350,000 bushels entered the port in 1898; about 25,000,000 bushels were exported by canal, and 178,490,750 bushels by rail. There are 40 grain elevators, 6 transfer towers, and 8 floaters engaged in the grain trade in Buffalo. But only 41 of these are working on an average. Their total storage capacity is 20,460,000 bushels. The transfer capacity for each twenty-four hours would probably be 5,500,000 bushels.

There are six flour mills in Buffalo. Last year 482,907 barrels of flour were manufactured.

LIVE STOCK TRADE.

As a live stock market Buffalo is said to be the second largest in the world. Nearly 9,000,000 animals are handled yearly. In 1898, 28,200 cars of cattle, 30,709 cars of hogs, 6,606 cars of sheep, 3,964 cars of horses, and 3,233 cars of mixed animals were received. In the same year 26,535 cars of cattle, 25,555 cars of hogs, 7,029 cars of sheep, 3,679 cars of horses, and 478 cars of mixed stock were shipped. Buffalo's dealings in sheep are the largest and in cattle and hogs the second largest of any stock-dealing center.

LUMBER TRADE.

Including Tonawanda, Buffalo is the largest lumber market in the United States. In 1898 1,750,347 feet of lumber were imported by canal, and 189,075,938 feet by lake. Besides this, 5,339,938 pieces of lath, 277,000 railroad ties, 9,100,000 staves, 1,387 cords of stave-bolts, 120,583,000 shingles, 4,170 posts, 106,938 cords of pulpwood, 100 bundles of hoops, 161 cars of headings, and 654,000 cubic feet of ship timber were imported by lake. By canal were exported 28,182,437 feet of lumber, 6,640,000 pounds staves and heading, 897,000 shingles, and 10,803,000 pounds of pulpwood. By railroads were exported 533,587,500 feet of lumber, 55,625,000 shingles, and 287,898,000 feet of lumber bought at points of production and shipped to points of destination by city merchants.

COAL TRADE.

There are large stocking coal trestles at Cheektowager at Georgia Street, and at Ganson and Michigan streets. The Delaware, Lackawanna & Western, the Erie, the Lehigh, the Reading and Buffalo, Rochester and Pittsburg companies occupy these points. The joint storage capacity of these trestles is about 400,000 tons.

The shipping docks and coal pockets have a joint average daily shipping capacity of 21,500 tons and a joint average storage capacity of 35,500 tons. In 1898, 7,336,301 tons of coal, including both anthracite and bituminous, were imported, and 2,692,187 tons exported.

BANKS.

In 1816 Buffalo had one bank, the Niagara; in 1899, there were 16 discount banks, 4 savings banks and 2 trust companies. The discount banks have deposits to the amount of $34,222,277, and capital, surplus and earnings of $8,998,-278. The two trust companies have deposits, $9,220,811; and capital, surplus and earnings, $1,082,274. The savings banks have deposits, $39,758,622.89; surplus, $4,847,867.87; and assets, $44,561,544.88. The Bank Association formed a Clearing House in 1890, to give stability to the banking business and facilitate exchange transactions. The clearings last year amounted to $216,123,437.10; and the balances to $37,176,383.51.

NEWSPAPERS.

The first newspaper printed in Buffalo was the *Gazette*, published in 1811. This is now the *Commercial*, a flourishing and enterprising journal. The *Courier* changed hands lately, and, along with the *Enquirer*, became the property of Mr. Conners, a wealthy grain merchant. The *Express*, printed by the Matthews & Northrup Co., is a leading paper with a first-class illustrated Sunday edition. The *News* is a prominent and successful independent paper with a Republican creed. It also has an excellent Sunday edition. So has the *Times*, the Democratic organ, vigorously conducted by Mr. Mack. The *Catholic Union and Times* is a clear-sighted religious journal, edited with much literary skill by the Rev. Father Cronin, whose excellent editorial qualities have gained for it a large circulation among the Catholic community of the city. There are three German daily papers—the *Demokrat*, the *Volksfreund*, and the

Freie Presse. A Polish semi-weekly paper, *Polak w Ameryce*, has a considerable circulation. These are some of the many periodicals published in the city.

RAILROADS CENTERING AT BUFFALO.

Buffalo's railroad facilities are the greatest in the world. Twenty-nine different lines enter the city. There are, within an area of forty-two square miles, including the Delaware, Lackawanna & Western and West Shore Railroads, 450 miles of railroad tracks. When contemplated additions have been made this will be greatly increased. The railroad companies own over 3,600 acres of land.

ASPHALT PAVEMENTS.

Some years ago Paris, the capital of France, boasted that it had the finest paved streets in the world. Now Buffalo occupies that proud position. Three million square yards of the city's pavements have been laid by the Barber Asphalt Paving Co. All the European capitals combined have only two and a half million square yards. The very low death rate of the city, only 12.25 per thousand, in comparison with 14.22 at Chicago, 20.09 at Boston, and 21.04 at New York, is partly to be attributed to the two hundred miles of asphalt streets, carefully swept each day, where there are no crevices to catch disease germs.

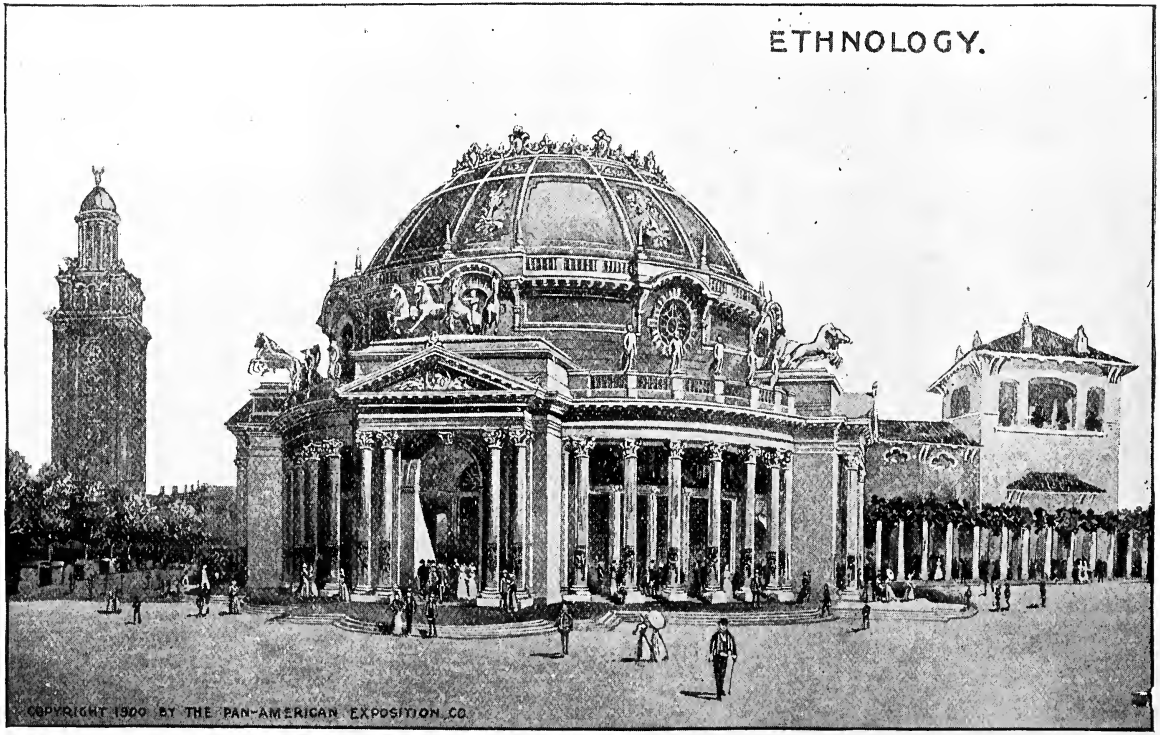
SOME BUFFALO INDUSTRIES.

While the advent of Niagara electric power in Buffalo is certain to attract new industries to the city, there are many old-established firms like the Buffalo Scale Co., organized thirty years ago, which have grown with the city's growth. This is the largest concern in the United States exclusively engaged in the manufacture of scales. The Buffalo Car Manufacturing Co. constructs all kinds of freight and refrigerator cars. The Niagara Car Wheel Co. turns out 450 wheels each day. Vast capital is invested in these two industries, which employ many men. Sidney Shepard & Co.'s Stamping Works turn out stamped, ja-

panned and galvanized ware and sheet metal goods. This establishment has a history of sixty years; is up-to-date in every respect, and caters to the Western trade by means of its Chicago establishment.

The Buffalo Cast Iron Pipe Co. and the Spaulding Machine Screw Co. are two immense concerns employing a small army of workmen. The former manufactures the standard piping of the country, and the latter puts on the market various parts of bicycles. The Buffalo School Furniture Co., the Niagara Cycle Fittings Co., the Jacob Dold Packing Co., are other large concerns. The last mentioned transacts business yearly of over $10,000,000.

There are many breweries in the city. The Gerhard Long Park Brewery has an annual output of over 175,000 barrels. The Magnus Beck, the Iroquois, the Christian Weyand, the International, the Star, and the John Schusler Brewing Company are all first-class establishments. What will give Buffalo its future high standing among the first-class cities of this land is the proximity of the Niagara electric power. The Falls are only twelve miles distant as the crow flies. When the full available electric power has been brought into industrial use there will be a continuous city from Buffalo to the Falls. Such a city would not be much larger than Chicago. The Falls are capable of producing 420,000 horse-power, an amount equal to the total steam-power now in use in New York State. Already the vast street-car system of Buffalo, Tonawanda, Niagara Falls and Lockport is propelled by the Falls electric power. Month after month sees the new power installed in more of the business houses of the city. One of the newspapers, the Express, is printed by presses driven by electric power from the Falls; others will follow. The streets are lighted by the Falls electricity, and soon its industries, which employ 70,000 hands and need a capital of $100,000,000, will be driven by the same force. There are not wanting those who prophesy that in proportion as the Niagara power is used the city will develop until within a single decade its population by a normal growth will be a million.



Ethnology Building — Electric Tower at Left — Pan-American Exposition.

Pan-American Exposition.

Historical Review of the Exposition Project.

Probably the most distinctive purpose of the Pan-American Exposition, to be held during the summer months of the year 1901 at Buffalo, is the extension of commerce and the promotion of friendly relations between the United States and the Latin American Republics of Central and South America. Naturally there are other objects, notably the celebration of the achievements of America during the nineteenth century, for one, and the display of the electric energy generated at Niagara's cataract, for another.

From the first, feature after feature has been promised, and the outlook is bright for a many-sided and very attractive Exposition. Some of these features will be unique, a comprehensive display from America's new possessions, gathered and installed under the guidance of the Government, being one which promises to be of very great interest, while another will be the water and horticultural displays; and the buildings themselves will be pleasing, for they will show a marked departure from the structures seen at prior American expositions, the severely classical style always before adopted having been made to give way to the warmer types prevalent in the South.

Either of the above ideas would be sufficient in itself to make an exposition profitable from the educational viewpoint, but with such a wealth of ideas on which to build it is possible that Exposition officials may overstep their most sanguine expectations.

After giving consideration to the plans of the Exposition, weighing carefully and conning over the merits of each, the conclusion forces itself that the determination to develop trade and social relations between the United States and the Republics of South and Central America

is the most important reason for the holding of the Exposition. The other reasons are strong, but just at the opening of the century the idea of binding together the people of the North and South appeals in a powerful way to all, and the fact that prospects are bright for the cutting of a great ship canal through the Isthmus of Panama, by the United States, adds zest to the Pan-American idea.

Though not a very old project the Pan-American has already gathered to itself elements which must inevitably aid its progress and add to its comprehensive character. It has 13,000 individual subscribers, each taking a personal interest in the outcome of the plans now maturing; and it has the co-operation of the Federal Government, the Empire State, the Dominion of Canada and ten of the Latin-American Republics, and a location that is not surpassed on the globe. Many months ago the Congress of the United States set aside $500,000 for the erection of a group of government buildings and the installation of a display, while it also authorized the President to send formal invitations to the other Republics and the colonies of the Western Hemisphere to join with the United States in commemorating the progress that has been made in the arts and sciences by the Pan-American peoples during the past century. Gratifying, indeed, must have been the results of the sending of those invitations, for though some time must still elapse before the opening day arrives, word has been received which proves that the men of South and Central America are eager to co-operate with the United States in this great effort to show to the world that the title chosen for the Exposition means "All American" in the fullest and truest sense. Of the Republics of Central and South America, Mexico, Honduras, Nicaragua, Salvador, Guatemala, Chile, Argentina, Brazil, Peru, Costa Rica and Bolivia have already sent official acceptances. The Dominion of Canada, Dutch Guiana and Guadaloupe are also in the list, and there are strong reasons for believing that Venezuela will soon follow.

Wm. I. Buchanan, Director General — Pan-American Exposition.

A brief glance at the Exposition project from its awakening to the present time will convince the reader that a vast amount of work has been done. When the Federal appropriation was made, no decision had been reached regarding the size or location of the site, the number or appearance of the buildings, the possibilities of Latin American co-operation, or the personnel of those who would have the active management of the enterprise.

Since then an ideal site has been selected; an executive force has taken up the reins of government; an Advisory Board of Architects has prepared plans for a score of beautiful buildings; a dozen foreign countries have officially accepted invitations to participate, and $5,800,000 has been placed at the disposal of the management with which to carry on the work.

Such results attained in so short a time are significant of a gratifying conclusion, and when the charms of the Exposition City and her peculiarly favorable location are considered, the prospects grow brighter day by day. The city of Buffalo is unrivaled in the qualities which should attach to the site of a great Exposition of industry and art, and is not excelled for charm or salubrity by any city in which an exposition has hitherto been held. It is within thirty minutes by steam cars, fifty minutes by electric cars and ninety minutes by steamboat of the world's greatest and most famous natural curiosity, the Falls of Niagara.

Lake Erie, Niagara River, the Niagara Rapids, the Falls and the Whirlpool, and the Gorge of the Niagara below the Cataract, combine to make a picture of natural scenery on the grandest possible scale, which thousands will visit, and which it is well worth a journey across the continent, or a voyage across the sea, to look upon.

The motive power of the Exposition will be supplied almost entirely by electric currents generated by the energy of the great Cataract, eclipsing any demonstration yet conceived of the wonders of the electrical age. Whatever the world now knows, or by 1901 may know of the

magic power of electricity, will be developed with a fullness and a profusion which only the unlimited power of Niagara could make possible. It is now believed by optimists that by 1901 all the industries of this city of nearly 400,000 people will have the electrical energy of the Cataract for their motive power.

The proximity and power of Niagara, both as an added attraction and as a contributing aid to the beautification of grounds and buildings through its electric power, was given deep consideration before the preliminary work was started, and the wisdom shown in the selection of the site has been amply proven.

When the first call for money was made it was at a public dinner tendered to Mayor Diehl. There was an immediate and unprecedented outpouring of wealth and within three hours the sum of $500,000 had been pledged. With that splendid sum as a nucleus, offices were opened on the morning following, and for the eight days succeeding the average subscriptions exceeded $100,000. Then the Federal Government appropriated its half million dollars; the Empire State followed with $300,000 and later passed a bill increasing the capital stock from $1,000,000 to $2,500,000, and giving the right to float bonds in a similar amount.

After the money was raised the actual work was begun. A plot plan showing the outlay of the grounds was prepared and the twenty-one principal structures which will be built were apportioned among the eight members of the Advisory Board of Architects. It was clearly laid before the members of the Board that it was the desire of the management to make the ensemble one typical of the countries of South and Central America. All of the buildings are to be of the sub-Spanish or Free Renaissance style; partaking of the warmth and color of the buildings of the tropic countries, which run to low, heavy, hanging eaves, gayly colored tiled roofs, brightly tinted walls and pleasing fountains and flowers within the inner courts. Now the plans of nearly all of the structures have been completed,

and with the handsome outlay of the grounds and the unprecedented water and electrical effects promised, it is assured that the completed work will present an appearance of rare beauty. There is a special advantage in the site which the management selected, for it embraces 335 acres of land accessible by three lines of steam and five lines of electric cars, and to reach it it is necessary to traverse the show portion of the city, the selected plot lying north and west of the city's aristocratic residential section, and embracing 180 acres of Delaware Park, the finest subdivision of the city's very complete and handsome park system. Already on the site the mammoth Service Building has been erected, and in the building a large force of draughtsmen are working out the details of the other buildings, which will soon be rearing their ornamental heads skyward. The pictures of the buildings so far submitted show, to a remarkable extent, the wisdom of the management in following the Spanish style.

The burden of completing the Exposition will rest upon the shoulders of William I. Buchanan, late Minister to the Argentine Republic, who, on November 1st of last year, accepted the position and entered upon the duties of Director General. Mr. Buchanan is thoroughly familiar with exposition work. He made a great success of the Corn Palace Exposition at Sioux City, his home, and when the World's Columbian Exposition was being organized he was the first man to receive appointment as a Department Chief, the Bureaus of Agriculture, Live Stock and Forestry all being under his supervision.

His services as United States Minister to Argentina, one of the wealthiest and most progressive of the South American Republics, put him in touch with the men of South America, and the settlement of a long-pending and vexatious boundary dispute between Chili and the Argentine Republic gave him a standing in South America such as is probably not enjoyed by any other citizen of the United States.

EXPOSITION OFFICERS.

JOHN G. MILBURN, *President.*
EDWIN FLEMING, *Secretary.*
GEORGE L. WILLIAMS, *Treasurer.*
JOHN N. SCATCHERD, *Chairman Executive Committee.*
WILLIAM I. BUCHANAN, *Director General.*

GROUND PLAN.

(See diagram with map.)

The ground plan of the Pan-American Exposition, shown in the accompanying engraving, represents an area of 350 acres in the northern part of the city of Buffalo. From north to south the grounds are somewhat more than a mile in length and from east to west about half a mile.

The northern boundary of the grounds is the New York Central Belt Line Railway, to which the twenty-six railroad lines entering Buffalo will have access during the Exposition, so that trains from any part of the United States or Canada may put down their passengers at the Exposition gates. A special railroad station (No. 16 on the diagram) of ample dimensions, is provided. The eastern boundary is Delaware Avenue, which, throughout a greater part of its length, is one of the most beautiful streets in the world. It is paved with asphalt for more than five miles within the city, and a fine smooth brick pavement extends another five miles beyond the city line to the Tonawandas. The southern and western boundaries are Forest and Elmwood avenues, with double-track electric lines connecting with more than 300 miles of city and suburban railways.

The whole area devoted to the giant enterprise is admirably chosen, and is susceptible of such artistic treatment as will give to the Exposition an exquisite landscape effect. The southern part of the grounds, 133 acres, is improved park land, rich in its variety of trees and shrubbery. A beautiful lake of irregular shape, fringed with vivid green

George Bleistein, Chairman Committee on Publicity — Pan-American Exposition.

foliage, is met here and there by romantic paths that lead the strolling visitor around broad lawns and among gardens brilliant with blossoms that fill the air with perfume.

ARTISTIC FEATURES OF THE EXPOSITION.

The general plan has been completed by Carrere & Hastings of New York, and the scheme opens out with wonderful effects of composition and color.

The plan of the grounds will be like an inverted T, a main court for the perpendicular and lesser courts for the horizontal, with the buildings grouped around these, forming minor courts within, the whole surrounded by a park system with canals and waterways. The transverse courts open out at the front on the unusually fine lakes and woods of the Delaware Park, the city park laid out some years ago by Frederick Law Olmstead. Elevated on a plateau, and framed by the woods, this profile of the Exposition will stand out imposingly. The scheme of the courts is defined by making salient points in the masses of buildings. At the extremity of the main court stands the electrical tower, designed by Howard, Cauldwell & Morgan, 350 feet high; the junction of the courts is marked by two tower-like buildings about 200 feet high, with massive domed constructions at the ends of the transverse courts.

APPROACHING THE EXPOSITION.

Starting from the city in a northwesterly direction those bound for the grounds will pass up Delaware Avenue to Delaware Park. From Delaware Avenue one will have the first view of the Exposition buildings as they stand out with their tinted sides and their red tile roofs. This general view will not show a mere irregular plot packed with buildings, but a composition carefully worked out. To the artist as well as to the untutored in the arts, who appreciate unconsciously true values and proportions, the ensemble will be as pleasing as any detail of the Exposition.

All the main buildings will have a uniform height of eave line of fifty feet, the low red roofs giving an informal character that will exclude the commonly expected severity of an exposition. Passing through the park with its fine lakes one will arrive in a fore court, in spirit like the courts in front of the drawbridges of medieval castles; then over a causeway, suggesting a drawbridge, in its heavily decorated and sculptured pylons, bridging a lake to the new grounds.

INSIDE THE PORTAL.

Beyond this portal one will stand in an Esplanade, the transverse part of the T. Shady trellises extend along the water front from right and left, where bands will be playing alternately and people will be passing through to the gondolas and launches on the lakes, the gayest of the scenes, bright with floating bunting and fluttering awnings, while in front lies the chief effect of the Exposition—the Court of the Fountains, more than 1,000 feet long and 500 feet wide. At the end the flower-like electrical tower will throw a myriad of glittering lights on the mirrored surface of the main lagoon. The terraced sides of this basin and the transverse courts will be richly decorated with mosaic-like beds of brilliant flowers, studded with statuary.

Beyond the buildings, at the sides, the grounds are being richly laid out; to the east for open agricultural exhibits, to the west, in a lagooned park, for exhibits from our new possessions. Beyond, and to the east of the electrical tower will be a grand Stadium for sports, and to the west a Midway Plaisance.

STYLE OF THE BUILDINGS.

At the first meeting of the Board of Architects in Buffalo it was decided that the general style of buildings should be "a free treatment of the Renaissance"—that is to say, a style of buildings where columns are little employed, depending for its character more upon long lines of arcades

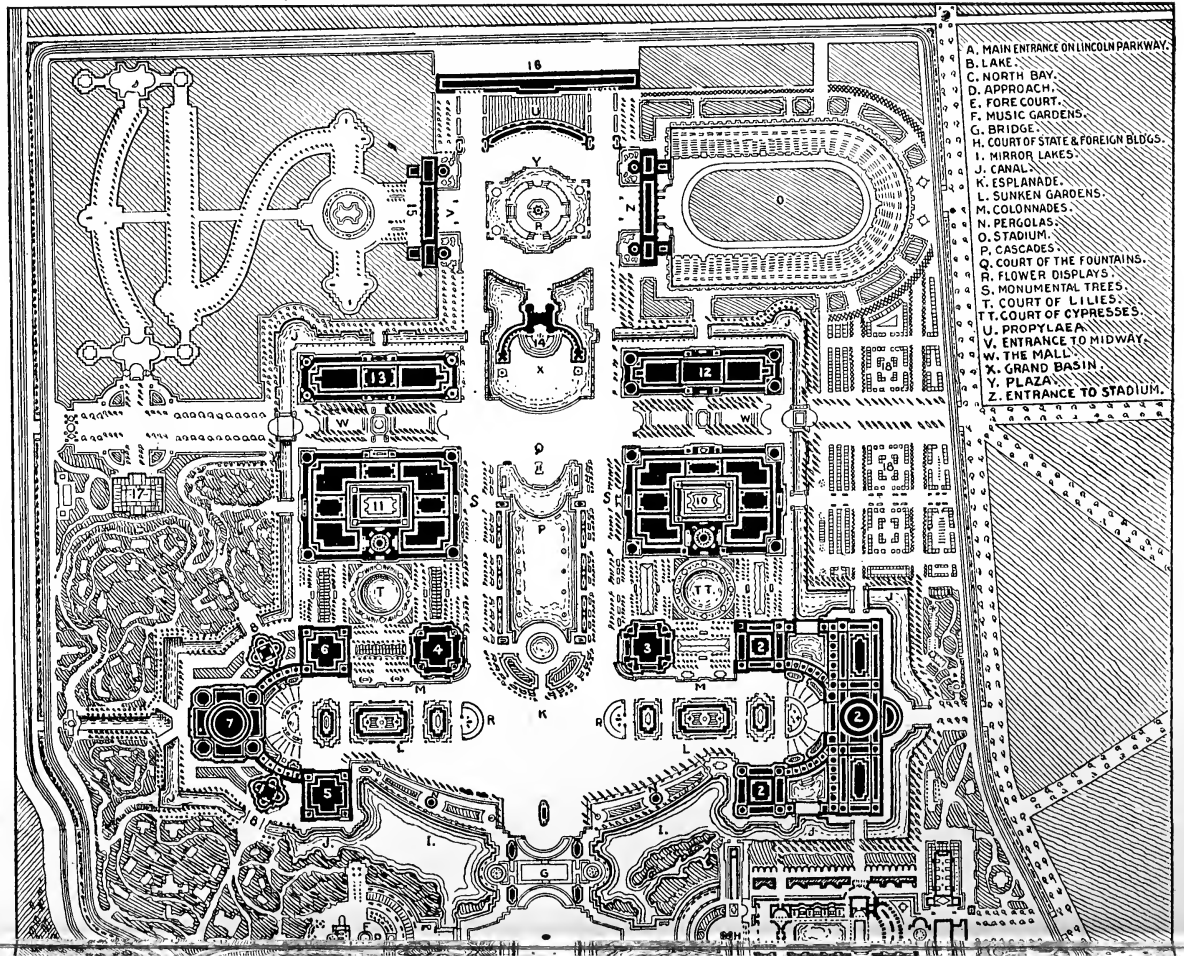
and richly detailed openings; upon red tiled roofs in brilliant contrast with softly tinted walls, rather than upon the stately and monumental columns of the classic style employed at Chicago. It was also thought appropriate to employ such a style because it would be more in keeping with the central idea of this Exposition—that is to say, Pan-American—since the architecture of South America and Mexico is virtually Spanish Renaissance. Staff is to be employed in the construction of the buildings, which will be like the method used in building the Dewey Arch, except in the electrical tower, where the skeleton must necessarily be of steel.

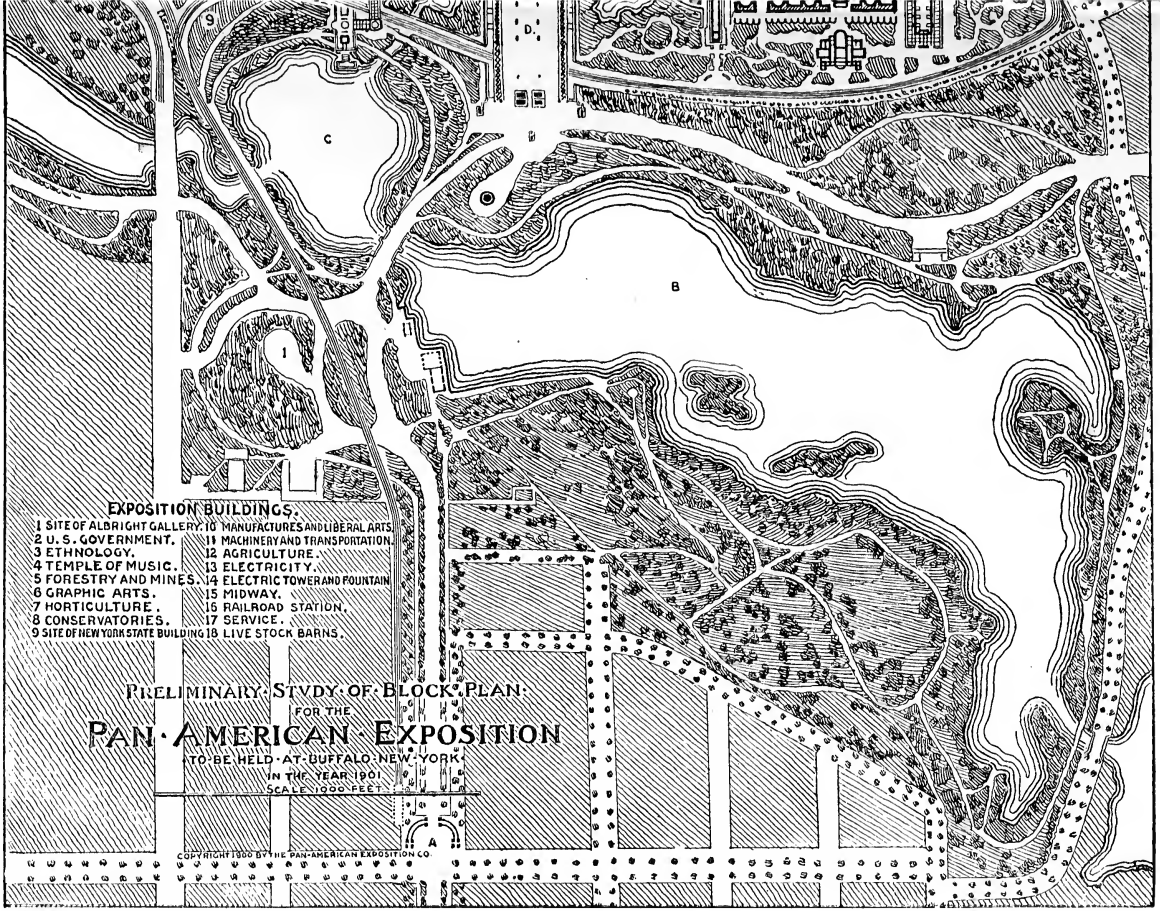
FLOWERS AND FOLIAGE.

In contrast to the Chicago Exposition, color will play as important a part as form. Besides the color of the roofs, broken here and there by towers, the arcades, in conspicuous places, will be brilliantly decorated—a uniform scheme harmonizing the whole. All the terraces and parterres are to be profusely furnished with bay trees and orange trees, interspersed with embroidery gardens. The subordinate courts will be massed with dark green cypress trees about huge circular basins of water, exhibiting water plants. The canals, which surround the central group of Exposition buildings, are to be lined with double rows of poplar trees, and the reaches of ground between these and the Exposition boundaries are to be banked here and there with heavy masses of dark foliage, richly contrasting with the light surfaces of the buildings, and completely shutting out the world beyond.

ELABORATE ELECTRICAL DISPLAY.

The lighting for night effects is being studied by Luther Stieringer, expert. The electrical power, furnished, as is all the running power of the Exposition, by Niagara Falls, offers a greater opportunity for esthetic experiments than has ever before been possible anywhere. The Electrical


A. MAIN ENTRANCE ON LINCOLN PARKWAY.
B. LAKE.
C. NORTH BAY.
D. APPROACH.
E. FORE COURT.
F. MUSIC GARDENS.
G. BRIDGE.
H. COURT OF STATE & FOREIGN BLDGS.
I. MIRROR LAKES.
J. CANAL.
K. ESPLANADE.
L. SUNKEN GARDENS.
M. COLONNADES.
N. PERGOLAS.
O. STADIUM.
P. CASCADES.
Q. COURT OF THE FOUNTAINS.
R. FLOWER DISPLAYS.
S. MONUMENTAL TREES.
T. COURT OF LILIES.
TT. COURT OF CYPRESSES.
U. PROPYLAEA.
V. ENTRANCE TO MIDWAY.
W. THE MALL.
X. GRAND BASIN.
Y. PLAZA.
Z. ENTRANCE TO STADIUM.


EXPOSITION BUILDINGS.
1 SITE OF ALBRIGHT GALLERY.
2 U. S. GOVERNMENT.
3 ETHNOLOGY.
4 TEMPLE OF MUSIC.
5 FORESTRY AND MINES.
6 GRAPHIC ARTS.
7 HORTICULTURE.
8 CONSERVATORIES.
9 SITE OF NEW YORK STATE BUILDING
10 MANUFACTURES AND LIBERAL ARTS.
11 MACHINERY AND TRANSPORTATION.
12 AGRICULTURE.
13 ELECTRICITY.
14 ELECTRIC TOWER AND FOUNTAIN
15 MIDWAY.
16 RAILROAD STATION.
17 SERVICE.
18 LIVE STOCK BARNS.
PRELIMINARY STUDY OF BLOCK PLAN
FOR THE
PAN-AMERICAN EXPOSITION
TO BE HELD AT BUFFALO NEW YORK
IN THE YEAR 1901
SCALE 1000 FEET
COPYRIGHT 1900 BY THE PAN-AMERICAN EXPOSITION CO.

John N. Scatcherd, Chairman Executive Committee — Pan-American Exposition.

Tower is to be treated as a focusing point for flash lights, and for reflections of every color from the illuminated fountains beneath, and all of these lights will in turn be reflected to the thousands of spectators who will congregate in the great central courts, and mirrored up from the bright lagoon. The general lines of the building, as well as those picturesque features, such as towers and domes, of which there are many, will all be outlined by incandescent lamps, while the most unique effect of all will be the huge lighted globe of jeweled glass, 350 feet in the air, on top of the Electrical Tower, on which will be visibly outlined North and South America.

BUILDING THE EXPOSITION.

Ground was broken for the Exposition on September 26, 1899, and the work has been carried forward with all the rapidity that the weather conditions would permit. The plans of the Exposition contemplate a system of picturesque waterways for pleasure boats surrounding the main group of buildings. The excavation of these canals has required the expenditure of a vast amount of labor.

The preparation of the horticultural features has been pushed with no less energy. Many thousands of cuttings and shrubs have been planted and many large trees have been moved to places where their foliage will contribute to the beauty of the completed Exposition.

One important building has been finished and other large buildings are in process of rapid construction.

A WONDERFUL ELECTRICAL EXPOSITION.

It is a part of the plan to make the Pan-American Exposition also the greatest Electrical Exposition ever contemplated. Every department of electrical science will be covered, either in the form of exhibits or in elaborate public displays, as conspicuous features of the Exposition. The building to be devoted to Electricity is west of the great

Electrical Tower and on the north side of the Mall opposite the Machinery and Transportation Building. It is 500 feet long and 150 feet wide, with a dome 159 feet high. The visitor who comes expecting to see the greatest electrical wonders of this electrical age will in no wise be disappointed.

SCOPE OF THE EXPOSITION.

The magnitude of the Pan-American Exposition may to some extent be appreciated when it is understood that one of its chief purposes is to illustrate the progress of the last century in all the states and countries of the Western Hemisphere. To that end the President of the United States issued to all governments in the Three Americas special invitations to participate in the Exposition. Hearty acceptances have been received from many of them, including Canada, Mexico, Honduras, Guatemala, Brazil, Argentine Republic, Bolivia, Chile, Nicaragua, Salvador, Guadaloupe, Dutch Guiana, Costa Rica, Peru, Venezuela and Haiti. Responses are expected from the others soon. Many of the States will have special buildings and extensive exhibits.

The Exhibits of the Exposition are divided into fifteen great classes, as follows:

Electricity and Electrical Appliances.

Fine Arts; Painting, Sculpture and Decoration.

Graphic Arts; Typography, Lithography, Steel and Copperplate Printing, Photo-Mechanical Processes, Drawing, Engraving and Bookbinding.

Liberal Arts; Education, Engineering, Public Works, Constructive Architecture, Music and the Drama.

Ethnology, Archæology, Progress of Labor and Invention, Isolated and Collective Exhibits.

Agriculture, Food and its Accessories, Agricultural Machinery and Appliances.

Horticulture, Viticulture, Floriculture.

Live Stock.

Forestry and Forest Products.

The Court, Machinery and Transportation Building — Pan-American Exposition

Fish, Fisheries, Fish Products and Apparatus for Fishing.
Mines and Metallurgy.
Machinery.
Manufactures.
Transportation Exhibits, Railways, Vessels, Vehicles.
Exhibits from the Hawaiian Islands, Puerto Rico and the Philippine Islands.

Besides the classified exhibits there will be numerous collective exhibits having special sanction and occupying special buildings.

EXPOSITION RESOURCES.

Authorized Capital	$2,500,000
Authorized Bond Issue	2,500,000
United States Government	500,000
New York State Appropriation	300,000
Aggregate Resources	$5,800,000

GENERAL FEATURES.

More than twenty large buildings and massive architectural features are included in the plan of the Exposition. Besides these there will be the numerous State and foreign buildings and buildings for special exhibits. As the visitor enters the grounds at the main entrance on Lincoln parkway at Forest Avenue (A) he may take the intramural railway for a trip around the grounds, or he may stroll leisurely for a third or half mile through the beautiful park, enjoying many pleasing sights as he proceeds. On his left will be the Albright Art Gallery (Fig. 1), the gift of a prominent citizen of Buffalo. Crossing the bridge over a narrow part of the lake the sight-seer will come to the approach (D) bridging the intramural railway. Then comes the Fore Court. At his left are the beautiful Music Gardens (F). At his right about fifteen acres are devoted to the State and Foreign Buildings, forming a large court (H).

Crossing the Triumphal Bridge (G) over the Mirror Lakes (I-I) he will come to the great Esplanade, where 250,000 people may congregate upon special occasions. The view at every step unfolds into greater magnificence. To the right of the Esplanade are the Government Buildings (2-2-2), rising in exquisite architectural proportions and so elaborate in detail that one must pause to study them in order to enjoy more fully their impressive beauty. In the foreground are fountains sparkling and dancing like things alive, and the sunken gardens, rich with blossoms and rare foliage. The Government Buildings are connected by arcades, forming a great semi-circular court, the artistic effect of which commands unhesitating admiration.

On the far left is the companion group of buildings, of somewhat smaller proportions, but no less beautiful. These are the Horticultural (Fig. 7), Graphic Arts (6) and Forestry and Mines (5) Buildings.

Crossing the Esplanade (K), to the immediate right and left are the Ethnology (3) and Music (4) Buildings. In front is the Court of the Fountains (Q), with its wonderful and fascinating beauty. The electrical effects to be presented here at night will make it a fairyland of enchanting brilliancy and loveliness, an achievement that was impossible until electricity supplied the means for producing such novel displays of light and color.

On the west side of the Court of the Fountains is the Machinery and Transportation Building (II), 500 by 350 feet, with a great central court. On the east side stands the Manufactures and Liberal Arts Building (10), of the same general dimensions. Crossing the Mall (W-W), on the right hand, the big building to be devoted to the Agricultural Exhibits (12), meets the vision. On the left is the Electrical building (13). Between the two stands the great steel Electrical Tower, 350 feet high, its foundation in a large aquatic basin. This immense tower, of imposing design, magnificent in its elaborate electrical features, will be the most conspicuous object on the grounds. Elevators


FORESTRY AND MINES.
HORTICULTURE.
GRAPHIC ARTS.


· Pan-American · Exposition — Buffalo · MDCCCCI ·
· THE · PLAZA ·

will carry visitors to the grand restaurant and to any of the numerous promenade floors at various heights. Near the summit of the Tower will be a balcony commanding an extensive view of city, lake, river and country for many miles in all directions.

Next north of the Electrical Tower is the Plaza (Y), its western boundary being the large restaurant building and entrances to the Midway (15), and on the eastern side, the Stadium (Z). On the north side are monumental colonnades and entrances from the railroad station, known as the Propylæa (U). The Midway covers twenty acres and the Stadium will be capable of seating about 25,000 people.

East of the Agricultural and Manufactures Buildings are the Live Stock exhibits (18-18), covering about ten acres. The numerous smaller buildings are to be allotted space in the park and between the main group and Elmwood Avenue.

THE PLAZA.

Standing at the great Electric Tower and looking to the north, the visitor will have before him the Plaza or Square, a beautiful open space 350 by 500 feet. On the opposite, or north, side of the Plaza will be the Propylæa or monumental entrances, connected by a curved colonnade 280 feet long. These form an architectural screen of exceptional beauty, shutting out the steam and trolley railway station at the northern end of the Exposition grounds.

A large building at the left, 341 feet long and 52 feet wide, with towers 164 feet high, will be used for restaurant purposes. This forms also the eastern entrance to the Midway or pleasure ground, where the visitor may find a collection of novel entertainments that will astonish the most cosmopolitan traveler.

Directly across the Plaza from the Restaurant Building is a companion structure of the same dimensions, forming the entrance to the Stadium, or Athletic Field, where 25,000

people may be seated to enjoy the high-class contests in the athletic sports, in which champions from all parts of the world will participate.

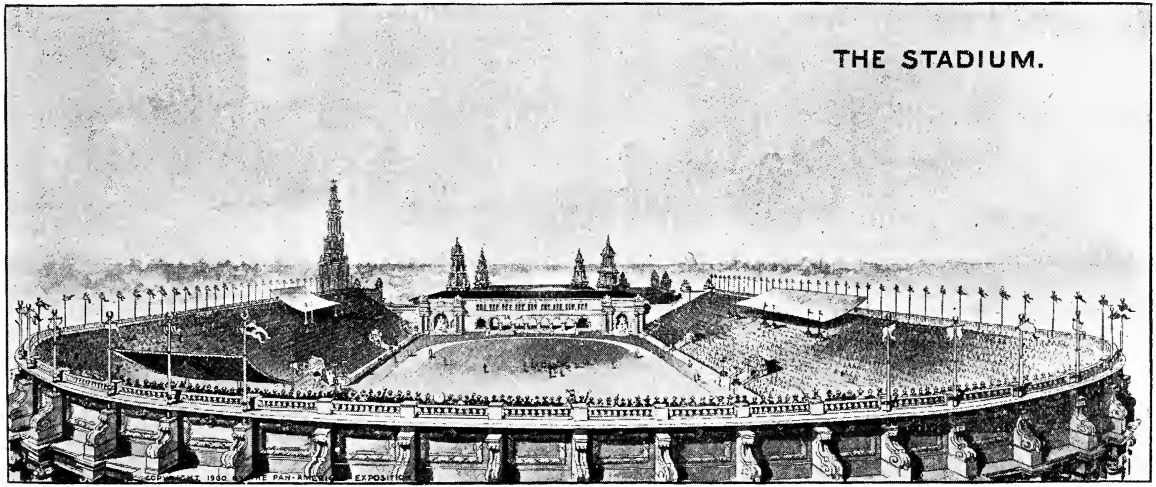
A terrace, slightly raised above the general level, will form the central portion of the Plaza. This terrace will surround a sunken garden, in the center of which will be a band stand, the terrace affording a large space for listeners.

THE STADIUM.

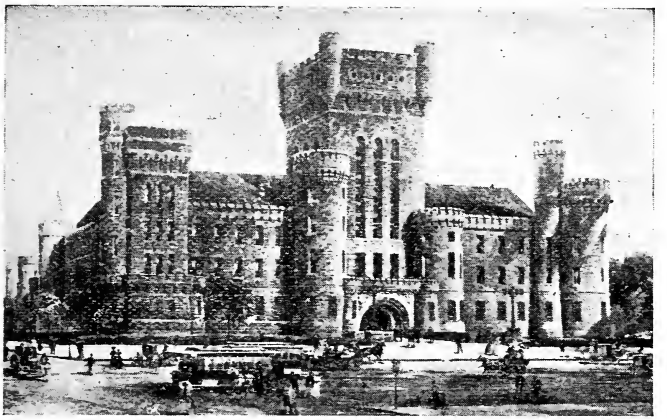
The completed Stadium for the Pan-American Exposition at Buffalo next year will offer to the lovers of sports the most spacious and splendid arena ever erected in America. The Athletic Carnival to be held during the great Exposition will be the most notable in the history of American sport. The co-operation of many of the best promoters of athletic games and contests has been secured. Visitors to the Pan-American Exposition may therefore expect to witness the meeting of the most famous athletes of the world, in competition for prizes worthy of their best feats of endurance, strength and skill.

It is said that the great Colosseum at Rome, built in the first century of the Christian Era, could accommodate 87,000 spectators. The Pan-American Stadium will be 129 feet longer and but ten feet narrower than the historic amphitheatre of Rome. The Stadium, however, will have a larger arena, and the seating capacity is estimated for 25,000 people. The top row of seats will be sixty feet above the ground, and every seat will command a perfect view of the vast interior. Standards are to be placed at various points for the support of awnings in such a way that they will not obstruct the view from the other seats.

The Stadium will have a quarter-mile track and a sufficiently large space inside of this for any of the athletic games. Great attention has been paid to having a large number of aisles to reach the seats, and, in addition to the principal entrance on the west, there are provided seven


THE STADIUM.

large exits. These exits are made of sufficient breadth and height to admit, in case of need, the largest vehicles or floats, as it is proposed to use the Stadium for certain pageants, exhibits of automobiles in operation, judging of live stock, horses, agricultural machinery, road machinery, etc. No exhibitor has ever had such a splendid arena in which his exhibits could be displayed. The space under the seats is to be used for exhibition purposes, and is in itself the equivalent of a very large building.



The Armory.

A large and picturesque building forms the main entrance to the Stadium. This is 241 feet long by 52 feet wide, with towers 164 feet high. The style is in conformity with that of the other buildings, with an arcaded effect in the lower story, red tiled roof, broad eaves and bright colors. The old Spanish towers give a finished beauty to the structure and make it one of the most prominent features of the Exposition.

The Stadium resembles in a general way that erected at Athens a few years ago, although this one can be, of

course, only a temporary structure. It is intended as a model of what it is hoped may be executed some day in permanent form.

The Stadium will cover ten acres of ground and its situation is on the east side of the Plaza, opposite the Midway. It is near the great entrances from the steam and trolley railway station, at the extreme north end of the Exposition grounds.

THE GOVERNMENT BUILDINGS.

So vast is the number of valuable and interesting objects for exhibition in the possession of the United States Government that none but a building of great proportions could possibly contain them. Instead of one building, however, at the Pan-American Exposition in Buffalo, N. Y., in 1901, the Federal group will consist of three massive structures connected by colonnades. The main building of this splendid architectural trinity will be 130 feet wide and 600 feet long. The others will each be 150 feet square.

The Government work is under the direction of James Knox Taylor, Supervising Architect of the Treasury Department. The group will be treated architecturally in a modified Spanish Renaissance, the details suggesting a Mexican rather than a strictly Spanish origin. Like the others, these buildings will be constructed of staff, already made familiar to the public by its use at the Chicago and more recent Omaha Exposition. The color scheme, in marked contrast to that used at Chicago, will be rich and brilliant, the lavish use of color and gilding giving, with the intricate plastic decorations and sculpture groups, an ensemble both striking and interesting. Portions of the roofs, covered with red Spanish tiles, will add much to the character of the buildings as a whole.

In plan, the buildings are shaped like a letter U, the opening being toward the west. The main building corresponds to the bottom of the U, which will accommodate the greater portion of the Government exhibits, the administra-

tive offices, guard room, etc. Its center will be surmounted by a dome, the apex of which, 250 feet above the main floor level and crowned with a figure of Victory twenty feet in height, will form one of the most conspicuous features of the Exposition grounds. Connected by colonnades to the main building are the two lesser buildings or pavilions, one of which is intended to hold an exhibition typical of life and labor in the Government's new possessions; while the other will contain a branch station of the United States Weather Bureau, and the exhibit, aquariums, etc., of the United States Fish Commission.

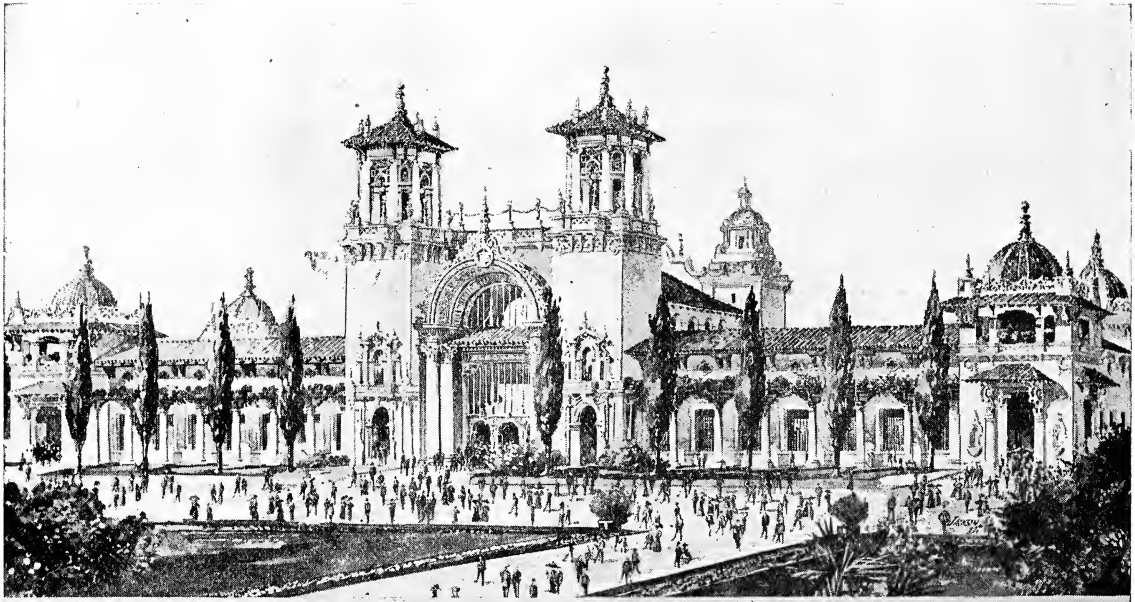
Inlets from the lagoon fill the spaces within the colonnades connecting the pavilions with the main building. The central plaza, the space enclosed by the arms of the U, is decorated by steps, terraces and formal flower beds, making an easy and beautiful approach to the main entrance under the dome.

HORTICULTURAL, GRAPHIC ARTS, FORESTRY AND MINES BUILDINGS.

The main buildings of the Exposition are so arranged as to form a vast court in the shape of an inverted letter T, the horizontal, or transverse court, lying east and west. At the extreme west end of this horizontal are the Horticultural, Graphic Arts and Forestry and Mines Buildings. The Horticultural Building, 220 feet square, is flanked on the south by the Forestry and Mines, and on the north by the Graphic Arts Building, each 150 feet square. The whole group is connected with arcades, forming a semicircular court, in which will stand the "Fountain of the Seasons."

The Horticultural Building will have a central lantern 240 feet high, at the intersection of the four arms of a Greek cross, which includes in its angles four small domes. Deeply recessed arched entrances are features of each facade.

The Graphic Arts and Forestry and Mines Buildings are



ELECTRICITY BUILDING
PAN-AMERICAN EXPOSITION
GREEN AND WICKS ARCHTS - BUFFALO NY

companion structures of the same size and style, having four corner towers. On the east facades are vaulted loggias of three arches each, which form the main entrances. Colored bas-reliefs will ornament the broad white walls, while the pilasters of the facades and arcades will be decorated with arabesques of twining vines, fruit, flowers, birds and children. The colored decorations will be confined chiefly to the vaulted ceilings of the loggias.

Two colored compositions will adorn the space above the eastern entrance of the Horticultural Building. These will represent Ceres, goddess of the harvest, bearing in her arms a sheaf of golden wheat. Three lions, led by Flora and Primavera, will draw her chariot.

ELECTRICITY BUILDING.

Elaborate designs have recently been completed for the Electricity Building for the Pan-American Exposition. Displays of all kinds in the practical and artistic uses of electricity, together with complete exhibits of electrical machinery and appliances, are to be conspicuous features of the great Exposition.

The designs contemplate a very handsome and commodious building. The structure is to be 500 feet from east to west, and 150 feet wide, giving an exhibition space of 75,000 square feet.

The south facade fronts The Mall and the north fronts the Midway. The east end is toward the massive Electric Tower, while the west faces the Grand Canal. The building is long, low and inviting. The design of the facades shows artistic grouping. The openings of the pergola-like loggias, placed at frequent intervals, present a delightful effect, showing more and more of the details of the pilasters and openings as the eye travels to the end of the building farthest away from the observer.

There is a pleasing ending at each corner of the structure, with a low-domed pavilion tower, and the building is interrupted at the center by a double-towered entrance.

This entrance, wide and high, is spanned by an ornamental arch and supported on each side by columns. The towers, also, have minor entrances through them.

The connecting work between the towers, the towers themselves, the pavilions at the corners of the building, and similar places, are to be brilliantly illuminated and made gay with banners and flags.

The modelled relief work of the building is of the choicest design. The general ornamentation of the structure

Machinery and Transportation.

is to be frescoes in an interesting mixture of reds, greens and yellows. The general color scheme follows that of the Machinery and Transportation Building and other groups of buildings of the Exposition. The structure was designed by Green & Wicks of Buffalo.

MACHINERY AND TRANSPORTATION BUILDING.

One of the big buildings of the Exposition will be that devoted to Machinery and Transportation. This will be 500 by 350 feet, with a central court 100 by 175 feet. Its location is on the west side of the main group, opposite the Court of the Fountains. It is built in the type—as all the

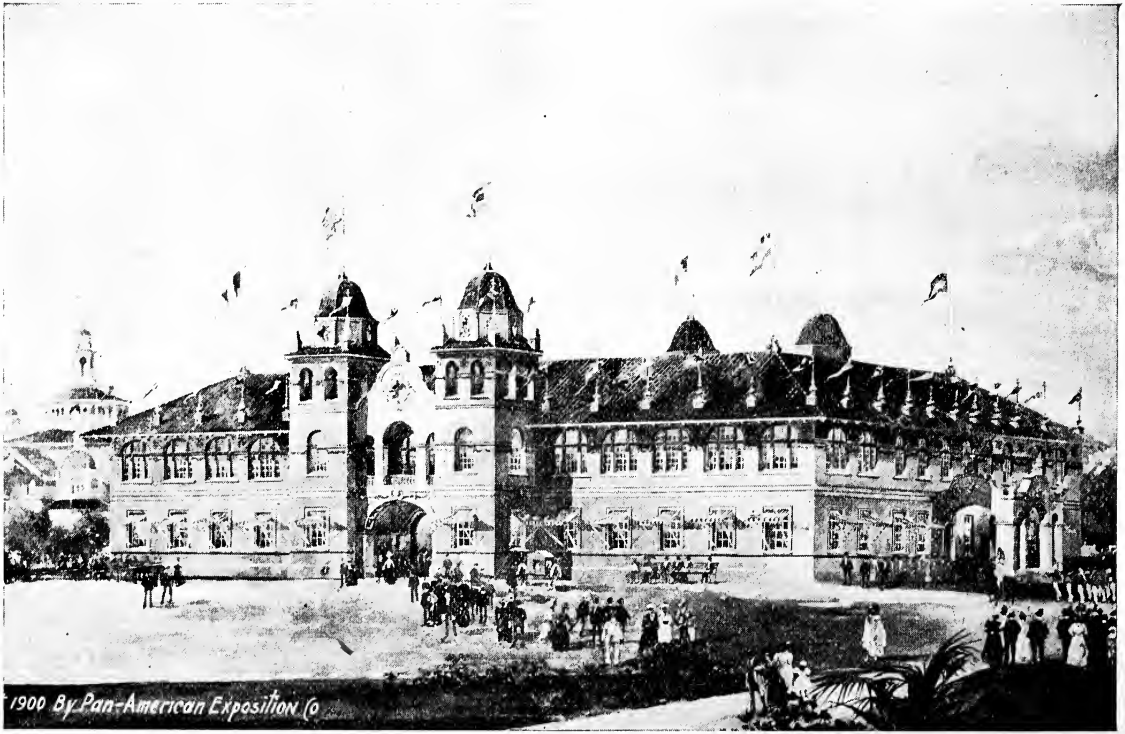
other principal buildings are—of the Spanish Renaissance, modified to suit the conditions of the Exposition. The work is far more ornate, however, with roofs laid with red tile and the cemented walls brilliant with color. The colors are to be reds and yellows in light tints. The facades will present an arcaded effect, with broad overhanging eaves, in imitation of the old mission buildings found in California and Mexico. Each facade will be broken by an important architectural feature, and each corner flanked with low pavilions, the design giving large plain surfaces for color, while the eaves give deep shadows. The loggias, balconies, pavilions and other places are to be ornamented with shrubs, vines and flowers, blending with the coloring of the building. The openings are grilled with specimens of wrought-iron "Rejas" or grill screens, such as are seen in examples of Spanish architecture of the sixteenth century.

The building has numerous entrances, the principal ones being in the center of the four facades. Once inside the structure, the size will be appreciated. All the towers, pavilions and other proper spaces are to be brilliantly illuminated and decorated with banners and flags.

The Central Court will be a veritable tropical garden, with a long narrow pool containing interesting specimens of aquatic life, and will have winding paths and seats among the flowers and shrubbery, where the weary visitor may find rest and diversion from his study of the more practical features of the Exposition.

THE SERVICE BUILDING.

The large Service Building, although small in comparison with the big Exposition structures, was completed in thirty-two working days, and was the first building erected on the grounds. It is the present home of a large corps of officers and employes having immediate charge of the constructive work of the Exposition. This handsome building is on the west side of the grounds, and is 95 by 145 feet,



Service Building — Pan-American Exposition.

two stories high. A broad arched driveway on the north side leads to an inner court. To the right and left of the driveway are entrances to the corridors that open into the various rooms of the building.

In this building are the offices of the Director of Works, the Landscape Architect, Superintendent of Building Construction, Purchasing Agent, Chief Engineer, Mechanical and Electrical Engineer, with their numerous assistants. On the second floor is a large draughting room for the use of the architects, with fire-proof vaults at hand for the valuable drawings. In this building will also be the headquarters for the police and hospital service, the fire department and the officers in charge of the transportation and installation of exhibits, and other officers. The building is equipped with a cellar, kitchen, dining-room and numerous sleeping apartments, for the accommodation and comfort of those whose work requires their continuous presence on the grounds.

THE ELECTRIC TOWER.

The dignified and stately beauty of the great Electric Tower, which will form the conspicuous center-piece of the Pan-American Exposition, will command the rapt admiration of every visitor. The genius of the architect has been taxed to preserve lines and elements of beauty in a work of such tall proportions, but the problem has been well mastered.

The height of the tower is 348 feet above the surface of the broad basin in which it stands. Its position is between the Court of the Fountains and the Plaza, on the north side of the Mall. It looks down upon the Agricultural Building on the east and the Electricity Building on the West. The Tower proper is flanked on the east and west by long curved colonnades, which sweep to the southward and terminate in airy pavilions, forming a semi-circular space 200 feet across. Within this space and in a high niche in the main body of the Tower are cascades, while

all about the basin are leaping jets and countless playful figures, each with its spurt of water, combining to make a brilliant water scene. At the center of the niche is a tall geyser fountain, whose waters find their way from the high basin within the niche over successive ledges and among a multitude of vases to the level of the pool.

The main body of the Tower is eighty feet square. From the surface of the water to the top of the colonnades is seventy-five feet. This portion of the structure is enriched by a system of decorative rusticated bands, which give an aspect of great solidity to the base. The shaft of the Tower is treated with great simplicity. The center of each side is paneled with fantastically perforated work, through which is indistinctly revealed the massive framework of the Tower. This feature is calculated to produce a remarkable effect when lighted from within, as it is the intention to do. The main shaft of the Tower terminates in an elaborate entablature at the height of 200 feet. The crown of the Tower rests upon this entablature, and is composed of three stories of diminishing proportions and varying design. The lower of these stories is an arcaded loggia, rich in ornamentation and having the wall surfaces brilliantly colored. Pavilionettes at the corners terminate in light fantastic cupolas. The second stage, or lantern of the Tower crown, is in the form of a high, circular colonnade, entirely open, so as to allow the effect of the sky to be seen between the columns. A spiral staircase within the colonnade leads to the last stage of the Tower, the cupola, over whose soaring dome is poised the superb figure of Electricity herself, thus dominating the entire Exposition, which owes so much to her generously exerted power.

From the water to the feet of the figure of Electricity is a vertical distance of 331 feet. The figure is seventeen feet in height.

The entrance to the Tower is across an ornamented bridge from the Plaza, on the north side. Elevators will carry passengers to the various floors, which will be de-

voted to different purposes of the Exposition, such as reception rooms, offices, restaurants, belvederes and amusement halls. A large restaurant, at a height of 200 feet, will give the diner a broad and beautiful view of the Exposition and the surrounding landscape. From the cupola the eye can sweep the whole Niagara Frontier, and look far into Canada, beyond the majestic river that separates that country from the States.

Sculpture plays an important part in the decoration of the Tower. Two magnificent monumental groups of statuary flank each of the four sides of the base. Above the water niche in the southern face of the Tower is a magnificent escutcheon, representing the arms and seal of the United States. In the spandrels of the arch above the niche are sculptures in high relief. The pavilions and wings are also richly decorated with sculptures and other architectural devices. The entire exterior of the Tower will be studded with myriads of electric lights, so arranged that a great variety of effects can be secured. The use of electric lights in combination with the sparkling fountains and cascades will produce scenes of fantastic beauty.

ADVANTAGES OF SITUATION.

No great Exposition in this country was ever so favorably situated to claim the patronage of a vast number of the people. Buffalo is the chief gateway of traffic between the East and the West, and nearly all the great railway systems of the East and the Middle West have terminals at this point. Nearly all the transportation lines of four of the Great Lakes have Buffalo for their eastern terminal. More than forty million people have their homes within one night's ride of this city, while Chicago, at the time of the World's Columbian Exposition, had but half the number within the same distance. The grand and imposing character of the Pan-American Exposition, when fully understood, cannot fail to bring to Buffalo a multitude of visitors.

Twenty-six railway lines, including twelve trunk lines,

give the city a service of 250 passenger trains daily. There are nearly 700 miles of steam railway tracks inside the city limits. A thorough train service between Buffalo and all the principal cities of the country is in daily operation. The traveler from St. Louis can reach Buffalo in twenty hours, from Chicago in thirteen hours, from Indianapolis in twelve hours, from Cincinnati in twelve hours, from Columbus in eight hours, from Cleveland in four hours, from Pittsburg in nine hours, from Detroit in six hours, from Port Huron in seven hours, from Washington in fifteen hours, from Philadelphia in thirteen hours, from Baltimore in thirteen hours from New York in nine hours, from Boston in fourteen hours, from Montreal in fifteen hours, from Toronto in three hours. From nearly all these cities the trip can be made without a change of cars. More definite information will be cheerfully given by local railroad officials. During the Exposition all the railway lines centering here will have the right to use the tracks which run to the Exposition Grounds, so that passengers from different points may alight at the gates in the great union station designed specially for the steam railway traffic.

A PARADISE FOR WHEELMEN.

Buffalo is widely known among wheelmen for its splendid park system and its asphalt pavements. On January 1, 1900, there were 223 miles of asphalt pavements. Every year several miles are added. It is now possible for wheelmen to reach almost any part of the city on the smooth roadways. To this mileage must be added the fine broad cycle paths through the parks, and the hard macadam park roads many miles in extent.

Niagara Falls.

TO ALL WHO TRAVEL.

NO attempt has been made to pack all the history of the Niagara frontier into these pages; for, to the average sightseeing tourist, historical facts are like an overloaded valise — hard to carry. The history has not been entirely left out, because a great deal of it is romantic and entertaining; but the effort has been to make the past less prominent than the present. As an historical hand-book, this work might easily have been doubled in size without exhausting the subject. The whole frontier of the Niagara, from Erie to Ontario, is a wonderfully rich field for the historian, as it is for the geologist. It is hoped that enough on both these lines of research is contained herein to add to the knowledge and enjoyment of the tourist thousands.

The chapters that follow have been written in the interest of the tourist public. They have been written by one who knows his field "by heart," and whose aim in this work has been to put himself in the place of the visitor, and make his directions and descriptions as plain, straightforward, and trustworthy as possible.

HOW TO GET THERE.

If the Hibernian who thought it very lucky that great rivers often flow past great cities has visited Niagara Falls, he has probably remarked that it is also fortunate that many railroads run to a place which so many people wish to visit. Niagara Falls is one of the points of easiest access in the world. It is fifteen hours' ride from Boston, twelve from New York, fourteen from Chicago, and one hour from Buffalo. Travelers by the

Grand Trunk (Chicago & Grand Trunk from Chicago) cross the river on the Railway Suspension Bridge (opened 1855) and get a fine view of the Upper Whirlpool Rapids, and a distant view of the Falls, from the train. Travelers by the Michigan Central cross the river on the Cantilever Bridge, getting a distant view of the Falls; and also from Falls View Station, on the Canada side, a fine general view of the Horseshoe and American Falls. The New York Central reaches the Falls direct from Rochester, and also by a line from Buffalo, twenty-two miles, which skirts the east bank of the Niagara River for the greater part of the distance. The New York, Lake Erie & Western reaches the Falls by a branch from Buffalo. Over the tracks of the New York Central and the Erie run, besides trains of those roads, the through trains of the Michigan Central and Grand Trunk, and solid trains or through cars of the West Shore and Lehigh Valley roads. Niagara Falls, N. Y., is the present terminus of the Rome, Watertown & Ogdensburg Railroad, although its early extension to Buffalo has been announced as probable. The St. Catherines & Niagara Central reaches Clifton. The New York, Lackawanna & Western has taken steps for the construction of a line from its present Buffalo terminus to the Falls, incorporated as the Buffalo, Lackawanna & Pacific. Yet another line likely to be built is the Buffalo, Thousand Islands & Portland, giving the R., W. & O. the Buffalo connection above mentioned. The electric car line between Buffalo and Niagara Falls, equipped with elegant and commodious cars running every fifteen minutes, makes Niagara Falls more accessible than ever. It is a delightful ride, particularly during the summer season, and is patronized very extensively by the residents of Buffalo. In fact, this line has a tendency to make the Falls a suburb of Buffalo. More than one hundred trains daily arrive at, and depart daily from, Niagara Falls.

NAMES AT NIAGARA.

The traveler, especially if he has never visited the Falls, almost always approaches the place with some confusion of mind as to exact localities. If that is the reader's state of mind, let him read the following carefully and set himself right.

The principal village on the river opposite the Falls is Niagara Falls, N. Y. Years ago it was called Manchester, a name more appropriate now than ever before, for the town is a considerable manufacturing center, and bids fair to become much greater, as we shall see further on; but it is not likely that its name will ever

The Falls seen from Falls View Station, Michigan Central R. R.

be anything but Niagara Falls. Two miles below, on the same side of the river, is the town of Suspension Bridge, N. Y. Midway is a residence section known as Clarksville. The consolidation of Niagara Falls and Suspension Bridge villages under the former name has long been discussed, and is likely to be accom-

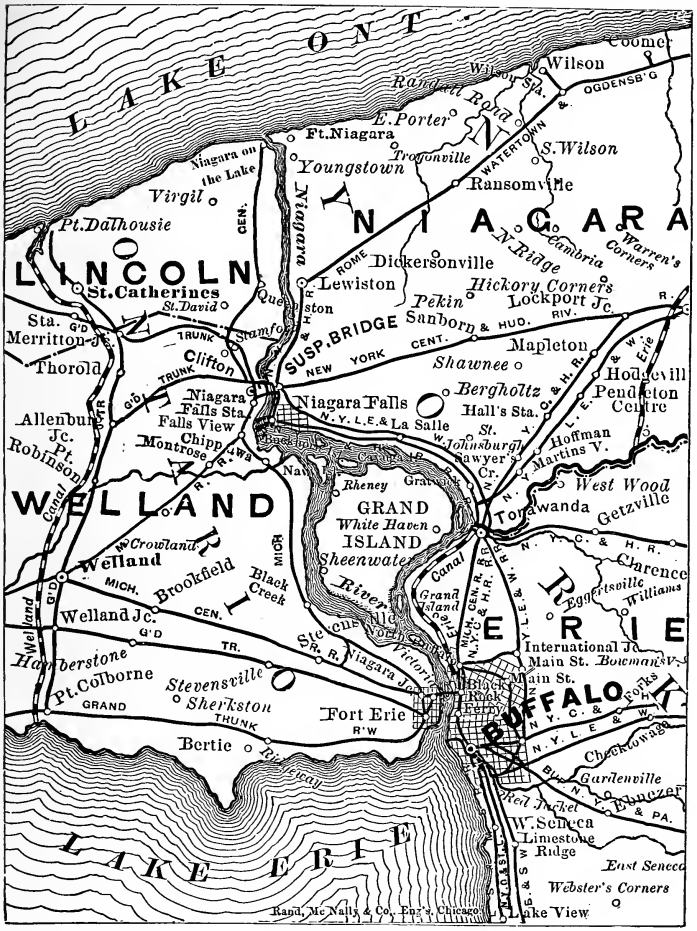
plished before many years. Opposite Suspension Bridge, on the Canada side, is Niagara Falls, Ont., formerly Clifton, which name is yet retained in the time-tables of the Michigan Central for that station, the name "Niagara Falls" being given to a station on the hill above the Clifton House. The town of Niagara, Ont., often called "Old Niagara," or "Niagara-on-the-Lake," is at the mouth of the river on Lake Ontario, fifteen miles to the north of the Falls.

The stranger will do well to remember that there are two vicinities of principal interest—the vicinity of the Falls, and the vicinity of the Whirlpool; they are three miles apart. A third region might be added from Queenston on the Canada side, and Lewiston on the American, to the mouth of the river—a lovely region, but of which the chief interest is historic; the hasty tourist too often neglects to see it.

There are street-cars in the towns on both sides of the river, and one may ride from Niagara Falls, N. Y., to Suspension Bridge village for five cents. Cars run every eight minutes. The Suspension Bridge terminus is perhaps ten minutes' walk distant from points of interest on the river. Speaking of car-fares, let us have a few plain words

AS TO EXPENSE AT NIAGARA.

The Falls are practically free. Every part of the New York State Reservation, which includes the old Prospect Park and adjacent shores, Bath, Goat, Luna, the Three Sisters, and several other (inaccessible) islands, are absolutely free. There are no tolls, and no one has a right to demand or collect fees of any visitor, *except* for the use of the Inclined Railway, which is owned by the State. There is a charge of ten cents for riding down and up again. The stair at the side of the railway is free. On Goat Island, the descent to the Cave of the Winds, with guide and the use of oil-cloth suit, costs one dollar. Use of stair, without guide or suit, is free. It is a fine trip, but the visitor who is anxious to save his dollars may omit it and yet get a good idea of scenery at the Falls.



Scale of Statute Miles.

10 5 0 5 10 15

Map of Niagara River.

It costs something to cross the river; twenty-five or fifty cents by row-boat, ferry, or the *Maid of the Mist;* twenty-five cents upward (according as one walks or rides) to cross on either of the Suspension Bridges. Once on the Canada side, however, the whole bank of the river is free from Queenston to the Horseshoe. Above the Falls, in Victoria Park, there is a toll of ten cents, which goes toward Park maintenance, as the ten-cent charge at the Inclined Railway on the American side is used for the maintenance of that useful institution. The descent of the hydraulic lift at the Table Rock ledge is twenty-five cents, or fifty cents with oil-cloth suit. The Whirlpool Rapids elevators, on both sides of the river, are at present in private hands, and the regulation fee of fifty cents is charged at all of them. The Whirlpool elevator on the American side is in the DeVeaux College grounds, and here also fifty cents is charged.

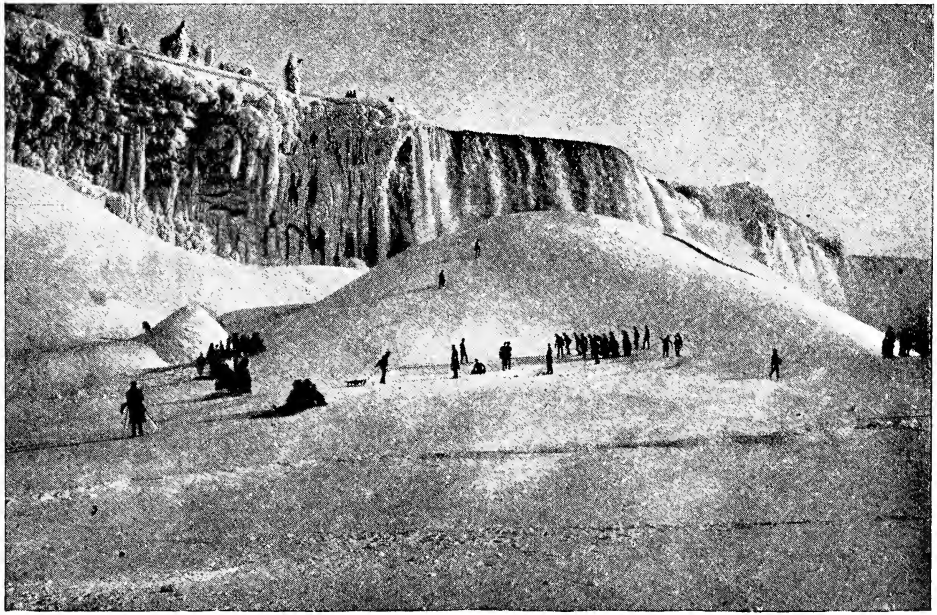
This is all, except what the visitor voluntarily pays for hotel accommodation, carriage hire, photographs, and knickknacks.

FREE TOURS.

Suppose the visitor wants to see all he can without spending a cent.

He can walk from the Erie or New York Central stations, in Niagara Falls village, down Falls Street to the entrance of the Park in five minutes. In the Park he can go to Prospect Point and get a general view of the Falls, the upper Suspension Bridge, and the distant islands and Canada shore. He can go down the stairs at the Inclined Railway house, and view the American Fall from below. Returning, he can walk up the river bank to the bridge, cross to Bath and Goat islands, descend the stair to Luna Island, and visit every spot on Goat Island and the romantic Three Sisters, returning by the north end of the main island, if he is a good pedestrian, without the expenditure of anything but muscular energy and enthusiasm.

If on the Canada side, as we have shown, he can enjoy the finest of the general views, from the river bank between the Clifton House and the Horseshoe, without cost. He must forego the Canadian islands, unless willing to spend ten cents; but he



A Winter Scene at Niagara Falls.

can tramp to the Whirlpool, and even to Queenston, without being called upon to spend a cent.

Most visitors, of course, are prepared for reasonable expenditures. The following memoranda will show them, in convenient form, the ordinary fees to be paid for the use of bridges, elevators, etc., not included in the government tracts:

Goat Island—Including guide and suit to go through "Cave of the Winds"	$1.00
Prospect Park—Down and up Inclined Railway	.10
Prospect Park—Round trip on *Maid of the Mist*, including rubber suit	50
New Bridge—Niagara Falls to Canada and return, each person (carriage 25 cts.)	.25
Museum—At Niagara Falls, N. Y.	.50
Under Horseshoe Falls—Canada side—guide and suit (without suit 25 cts.)	.50
Old Suspension Bridge—Over and return	.25
Whirlpool Rapids and Park—Inclined Railway, Canada side	.50
Whirlpool Rapids and Park—Elevator, American side	.50
Whirlpool—Stairs, American side	.50
Niagara Falls to Suspension Bridge—Street-car over old bridge, Whirlpool Rapids Park (Canada side), return same way	.40
If each is paid separately	.85
Niagara Falls to Suspension Bridge—Street-car, walk to Buttery's Whirlpool Rapids elevator, return same way	.40
If each is paid separately	.60
Niagara Falls to Suspension Bridge—By street-car and return	.10

TOUR OF THE STATE PARK.

A good place to begin to see Niagara is at the parapet in Prospect Park—which was the former name of this part of the State Reservation, and by which it continues to be known. If the object be to obtain a first general view of the great amphitheatre below the Falls, an ideal place of outlook is the middle of the upper Suspension Bridge; but as visitors will usually prefer not to pay bridge-tolls until ready to cross to the other side, this view may very well be deferred.

Many people say they are "disappointed" in their first view of the Falls. This is partly because they look at the Falls from above, instead of from below, where the prospect is much more impressive; partly because the distances and wide prospect dwarf

the height; and partly because many people think it the correct thing to refuse to recognize the beautiful and sublime when it is before them.

After taking a good general view from Prospect Point, we recommend that the visitor go to the foot of the American Fall by the Inclined Railway, the entrance to which is but a few steps from Prospect Point.

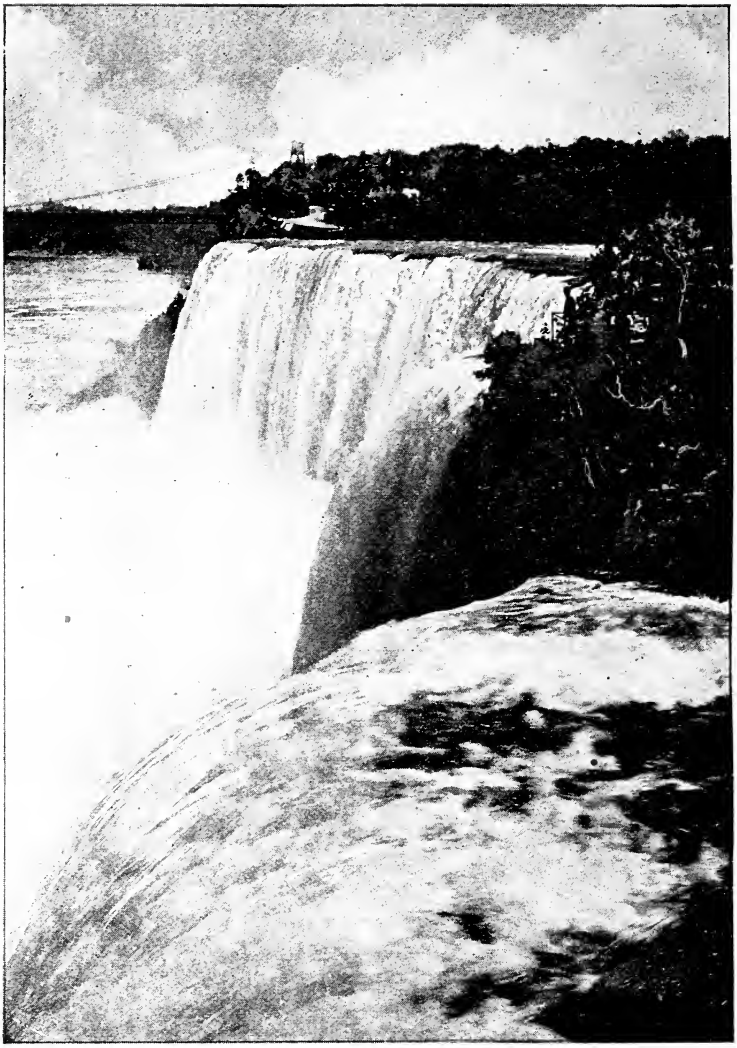
By some three hundred stairs, or, better still, in a car running on an inclined railway, we descend to the water's edge. These cars are raised and lowered by water-power by means of a three-inch cable three hundred feet long, running around and over steel wheels. This cable-car has been running many years, but there has never been an accident. At the foot of the stairway tickets may be obtained for the trip on the *Maid of the Mist*. The Shadow of the Rock, as the space between the sheet of water at the end of the American Fall is called, is no longer accessible, the authorities considering the spot dangerous.

Here were formerly a stone observatory and dressing-rooms, where visitors put on oil-cloth or rubber suits preparatory to the trip under the American Fall; but when the State took possession, the trip was discontinued, and the buildings torn down.

Over the rocks, near by, is formed, every severe winter, a huge mountain of solid ice, which does not entirely disappear till the end of May. This ice mountain has been one hundred feet high. On the top of the observatory and dressing-room, too, the ice often forms four feet thick.

From this point, during seventy-five years, ran the old Bateau Ferry. It has been replaced by the *Maid of the Mist*, which runs up to the Horseshoe Fall, then back to the Canadian side, and finally returns to its starting point. The fare is fifty cents.

Prospect Park was formerly owned by a private company, which introduced electric lights with colored shades, an art gallery, etc.; but in 1885 the State of New York secured the property and discontinued these features. The State has done much to beautify the Park, but the general policy is to restore things as nearly as possible to a state of nature, without the aid of artificial attractions. There are fine old trees in Prospect Park, and



The American Fall from Goat Island.

numerous structures for the comfort of the public. It is a favorite place for picnics, and there are no signs to "keep off the grass."

TO THE ISLANDS.

Returning from the foot of the Fall, walk or ride up the American shore, past the rushing rapids, to Bath Island Bridge. This is the only approach to one of the pleasantest spots in the world. Bath Island lies midway in the river. It was formerly covered with mills, which were removed when the State took possession. The brick office of a vanished paper-mill has been retained as a convenient meeting-place for the Reservation Commission. On the left, up-stream, are Ship and Brig islands, so called from their slight resemblance, in winter, to stranded craft with bare masts. These islands should be bridged, as should the small islands on the right. A second bridge conducts from Bath to Goat Island. There are direct roads through the woods to the west side of Goat Island, but the usual route is to turn to the right. The path winds through a grove of beeches and elms, and presently brings the visitor to a point of view whence he looks back across the American Fall to Prospect Point, where he lately stood. The view here is one of the loveliest at Niagara. Stairs and a short bridge conduct down to Luna Island, so called because the lunar bow is seen here under favorable circumstances. The small portion of the Fall separated from the main cataract by Luna Island is named Luna Fall. Under it, in the cavern formed by the recessed cliff, is the Cave of the Winds.

From the further side of Luna Island, protected by an iron railing, a most intimate view of the American Fall is had. It will be observed that the line of the Fall is far more irregular than it appears to be when seen from any other points.

The guide books have usually called upon visitors to stop at the top of the Luna Island stairs and "see the so-called profiles, formed by the inequality of projection in that portion of the precipice which is formed by the western side of Luna Island. The rock is close to and almost under the American Fall. They obtain their name from their remarkable likeness to three human

faces." Most people fail to see anything very "human" in these rocks; but the distant outlook is so lovely that it doesn't need any fancied accessories.

Once more resuming the path that circles Goat Island, glimpses of the distant Horseshoe are soon obtained. A short walk brings one to the Biddle Stair, by which approach is had to the Cave of the Winds. This famous stair is named after Nicholas Biddle, one time president of the United States Bank at Philadelphia, who, in 1829, contributed the funds for its erection. The Park Commissioners have repeatedly asked the Legislature to appropriate funds for the construction of an elevator at this point, but the much-needed grant has not yet been made.

American Fall, Prospect Park.

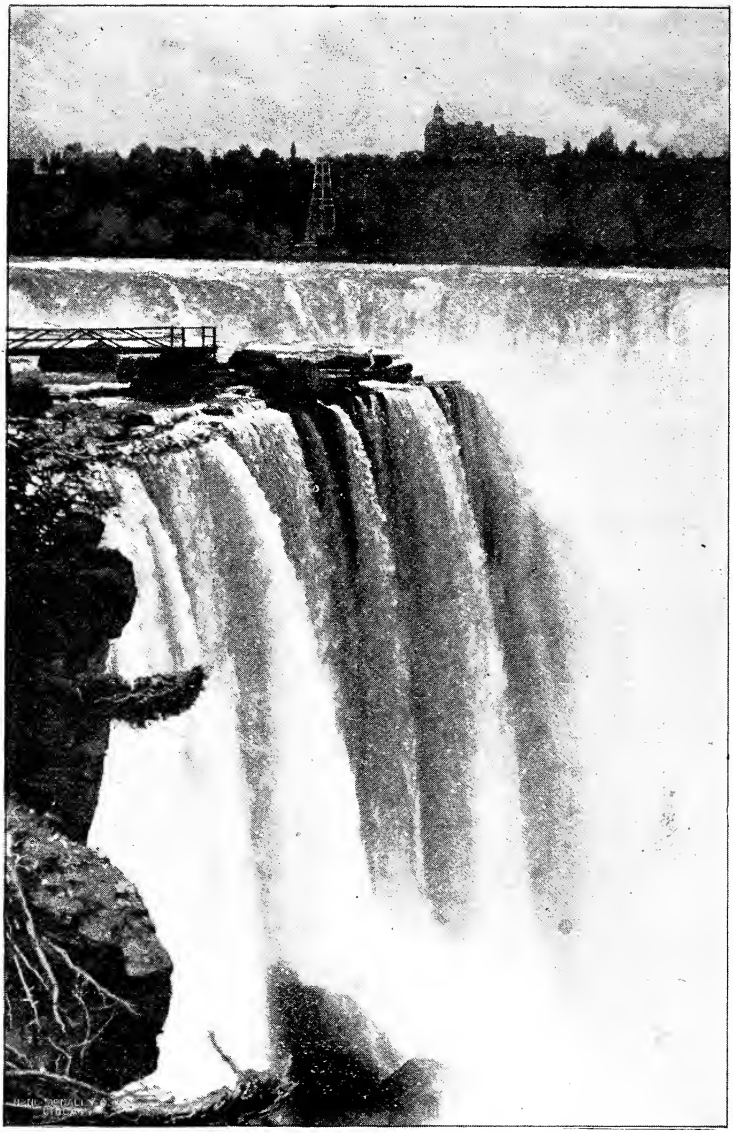
The perpendicular height of the bank at this place is one hundred and eighty-five feet, the staircase being eighty feet high and consisting of ninety steps. From the foot of the stair a rude path leads toward the foot of the Horseshoe Fall. It is one of the points where there is yet room for improvement. A little outlay would convert this rough and neglected spot into a popular point of resort.

To the right from the Biddle Stair runs the path to the Cave of the Winds, or, as it is sometimes called (in the guide books only), Æolus Cavern, by all means the best place to go behind the sheet of water. It was first entered in 1834, and during the past fifty-six years this curious but splendid cave has been the chief charm of the locality, and has been visited annually by hundreds. It is one hundred by one hundred and sixty feet in dimensions, and one hundred feet in height. Having been excavated by the action of the falling water, it forms a natural chamber through which, with suitable dresses and guides, which can be secured for a dollar, we can pass between the cataract and the rock, and see the everchanging effect of the light passing through the descending mass of water; take a bath in the mist and spray of old Niagara; pass through the rainbows, and secure a novel sensation of commingled terror and safety, from which we can emerge after a few minutes as free from any other effect of the water as when we entered.

The formation of this cave was easy. The gradual wearing away by the water of the shaly substratum of the precipice, left the limestone rock above projecting about thirty feet beyond the base, thus forming an open cave, over which descends the Luna Fall. The compression of the atmosphere by the falling water is here so great that the cave is rendered as stormy and turbulent as that of old Æolus himself, from whose classical majesty, indeed, it derived its first name.

If the wind is blowing down the river, or from the American shore, you can stand with perfect safety upon a large rock, within a few feet of the falling sheet, without inconvenience from the spray. In the afternoon, when the sun shines, there is always a splendid rainbow between the sheet of water and the rock, within a few feet of you; and this is the only place on the globe where a rainbow forming an entire circle can be seen. Two, and sometimes three, have been seen at once.

Over and among the rocks at the foot of Luna Island formerly ran paths with numerous bridges. It was the usual tour, except by the timid, to pass through the Cave of the Winds, behind Luna Island, and over these bridges, which were always green and slippery with algæ and the perpetual spray. The State has discontinued this risky and enjoyable feature.



The Horseshoe Fall from Goat Island.

After remounting the Biddle Stair, follow the path along the bank to the left, and you will reach the spot where a huge slice of the land has fallen. One slide occurred in 1843, and another in 1847. Within twenty years, more than twenty feet in width and four hundred feet in length have gone down. Proceed a little farther, and you stand above and in full view of the Canadian Fall. Go down the hill and out to the Terrapin Rocks; it may be tiresome, but it will repay you.

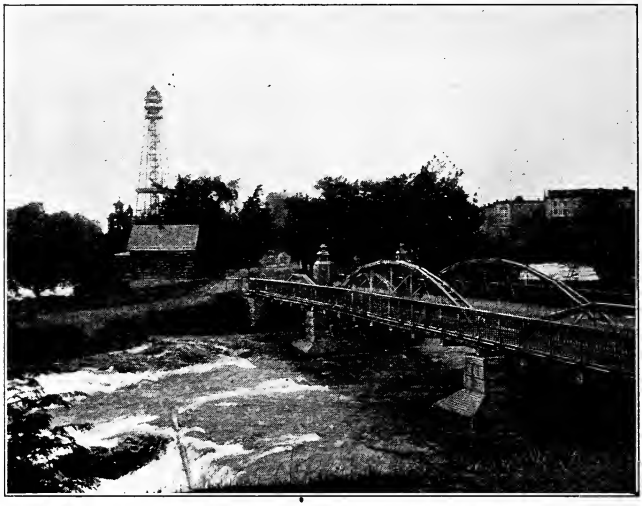
This bridge is subject to the action of the spray; care should be taken in crossing it. In the winter of 1852, a gentleman from West Troy, N. Y., while crossing to the tower, fell into the current, and was carried to the verge of the Fall, where he lodged between two rocks. Mr. Isaac Davy, assisted by a visitor, rescued him, by throwing lines to him; he had just sufficient strength left to fasten them around his body; then they drew him to the bridge in an exhausted condition. He remained speechless for several hours after being taken to his hotel.

As you stand inside the iron rail and overlook the vast gulf below, you are in the very center of Niagara.

The old Terrapin Tower, also called Horseshoe or Prospect Tower, which stood on these rocks, was built, in 1833, of stones gathered in the vicinity. It was a round tower forty-three feet high, twelve feet in diameter at the base, and eight feet at the top, with a gallery near the upper end—a rugged structure, in perfect harmony with its surroundings. It was blown up by the wish of a majority of the owners of the Goat Island Group, in 1873, on the ground that it was unsafe. Table Rock, which fell in 1850, was directly opposite, on the Canadian shore.

From this point one gets the best view of the shape of the Fall, and the clearest idea of how it has been modified by the action of the water. This action has been especially violent of late years. On Sunday, February 1, 1852, a portion of the precipice, stretching from the edge of the island to the tower, about one hundred and twenty-five feet long and sixty feet wide, and reaching from near the top to the bottom of the Fall, fell with a crash of thunder. The next day another, a triangular piece, with a base of about forty feet, broke off just below the tower. Between the two portions that had thus fallen, stood a rectangular projection,

about thirty feet long and fifteen feet wide, extending from the top to the bottom of the precipice. This mass loosened from the main body of the rock and settled down perpendicularly about nine feet, where it stood for years, an enormous column, one hundred and fifty feet high by the dimensions given.



Bridge to Goat Island.

There is, however, little danger to visitors now from possible landslides, as all parts of the river are regularly inspected and carefully guarded by the local officials. Any sign of loosening rock or sliding earth would be detected at once and closed off with warning signs.

This Fall is often called the Canadian Fall. The boundary-line between the United States and Canada was fixed by a commission created by the Treaty of Ghent. It met at Utica, N. Y., in 1822, and designated the following boundary-line, which is still in force: The line runs "from the mouth of the Niagara

River up the middle of said river to the great falls, thence up the Falls *through the point of the Horseshoe*, keeping to the west of Iris or Goat Island."

Human law has not changed the boundary, but natural law has. The point of the Horseshoe is not fixed; in the last seventy years it has shifted very considerably; so that we have here a unique example of a fluctuating boundary-line between two nations.

The width of the Horseshoe is about two thousand three hundred and fifty feet. The deep green color of the water, especially in the angle, is due to the depth. In 1827, the *Michigan*, a vessel condemned as unseaworthy, was purchased and sent over the Fall. She drew eighteen feet, and filled with water as she went through the Rapids. As she went over the brink without touching, the depth of the water was proved to be twenty feet.

As you reach the top of the bank, the path directly in front will lead you through the wood back to the bridge, but you will miss much if you take it. Turning to the right, you follow the edge of the bank for about forty rods and reach a small stone monument directly in your path, marked with a cross on the top, the arms indicating the cardinal points of the compass. It was set by the New York State Survey in 1842 to mark the recession of the Falls.

A fine view is here had of the Canadian Rapids, which run at the rate of twenty-eight miles an hour.

The cedar-lined way leads along the west side of the island, to the Three Sister Islands, connected with Goat Island by substantial suspension bridges in 1868. The first, second, and third Sister lie one beyond another, the third being the farthest out in the Canadian Rapids. From the rocks at the head of this little islet it seems as if the terrible torrent which comes pouring down from the south would sweep it away. Little Brother Island, just north of the Sisters, is detached. Adventurous people have reached it and returned in safety, but the experiment is not recommended. A light bridge thrown across to it would pleasantly extend the tourist's ramble.

From the head of the third Sister may be seen one continuous cascade, extending as far as the eye can reach, from Goat Island across to the Canada shore, varying from ten to twenty feet in

height. From this miniature Niagara rises a spray similar to that of the great Falls.

The "Hermit's Cascade" is best seen from the first Sister Island Bridge, by which it is spanned, and is a beautiful sight. It is so called because Francis Abbott, the Hermit of the Falls, used to bathe here in 1829. He was a young man, gentlemanly and accomplished, who for two years lived a solitary life at Niagara. He had a hut near this spot on the island, and later on he built one in what is now Prospect Park. He had but little intercourse with

Above Goat Island.

anyone, wrote a great deal, and always in Latin, but destroyed all manuscripts almost as soon as written. On Goat Island, at hours when it was unfrequented, he delighted to roam, heedless, if not oblivious, of danger. At that time a stick of timber eight inches square extended from Terrapin Bridge eight feet beyond the precipice. On this he has been seen at all hours of the night, pacing to and fro, without the slightest tremor of nerve or hesi-

tancy of step. Sometimes he was seen sitting carelessly on the extreme end of the timber—sometimes hanging from it by his hands and feet. He belonged to a respectable English family, and his reasons for leading this life were never known. He was drowned while bathing near the foot of the Park Railway, in 1831. His body was recovered, and is buried in Oakwood Cemetery, Niagara Falls, near that of Captain Webb, and many another victim of Niagara.

When you get back to Goat Island, you can return to the bridge by a short way by taking the road straight ahead through the woods. It is best, however, to see the other views, and to do this you turn to your right, and follow the road directly east. Here one sees how it was possible for the island to have reached a long way up-stream, for a bar extends up between the currents for nearly half a mile, with a depth of water not over four feet. This also shows how it was possible for people to visit the island before the bridge was built. The upper (south) end of Goat Island is tame but pleasant. Opposite it, on the American bank, was, years ago, a favorite landing-place for smugglers bringing whisky into the States from Canada. Many a boat has run across from Chippewa in dark nights, and ventured thus near to the American Rapid and Fall, that the owner of its contraband cargo might enjoy the unlawful but handsome profit on his goods which the American market afforded. There is always more or less smuggling across the Niagara, but the modern smugglers take safer routes than this.

Still following the circuit of the island we reach, not far from the bridge which leads back to the mainland, a spring of excellent water, called Rebekah's Well. Whoever drinks here will carry pleasant recollections of Goat Island away with him.

Had the tourist taken any of the roads which run through the middle of the island, he would have had a short but delightful passage through a fine bit of woods. Many of the trees on Goat Island are among the oldest and largest to be found anywhere in Western New York.

Once more on the mainland, the rest of the Reservation should not be neglected. The State's free domain extends along the bank up to Port Day, a point on the shore about a mile above

the Falls, where a hydraulic canal opens from the river. This is the lowest point of safe navigation on the Niagara. Nowhere else is the good work of the State more apparent than along here. The bank was formerly covered with mills and unsightly structures. All are now cleared away, and every year some progress is being made toward restoring the region to a state of nature.

HOW NIAGARA WAS MADE FREE.

Everyone who enjoys the present freedom of Niagara should have some knowledge of the way in which it was made free.

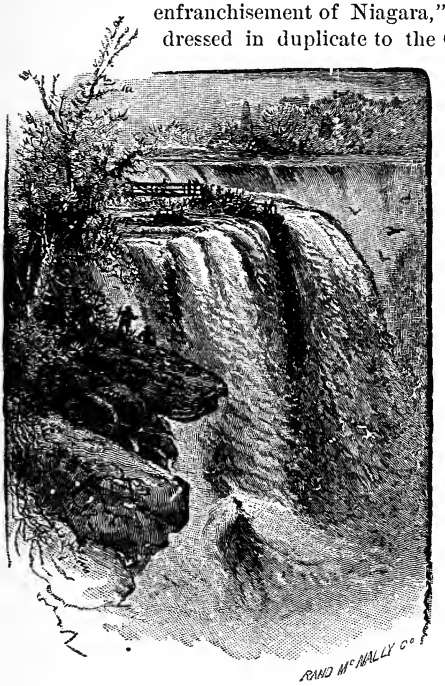
The idea was first publicly spoken of by Lord Dufferin, then Governor-General of Canada, in a speech delivered in Toronto, before the Ontario Society of Artists, September 26, 1878. Shortly after, Lord Dufferin had a conversation with Governor Lucius Robinson of New York State, concerning Niagara's debased condition. From this conversation is reckoned the beginning of official action toward bringing about a better state of things. In the following October, Lord Dufferin formally brought the matter to the attention of the New York State authorities in a letter to Governor Robinson, who laid the project before the Legislature in the following January, and recommended the appointment of a commission to consider the subject. This commission in due time recommended the acquisition of the lands adjoining the Falls, and the appointment of a commission to take the necessary legal measures.

Canadians are justified in claiming for Lord Dufferin the credit of being the originator of the free park idea.

Americans may continue to maintain that Governor Robinson deserves the honor of taking the first step to make the Falls free.

As a matter of fact, all that either of them did was to become impressed, rather tardily than otherwise, with the public sentiment in the matter, and to recommend legislative action. Lord Dufferin urged the matter upon the Provincial Government of Ontario; Governor Robinson brought it before the New York Legislature; and the slow machinery of legislation and law did the rest. There was much opposition, both in the form of private interests

and legislative indifference. A feature of the battle which was waged against official hesitancy and stolidity was the sending to the Legislature of 1880 "a remarkable memorial asking for the enfranchisement of Niagara," which had been addressed in duplicate to the Governor-General of Canada and the Governor of New York, by about six hundred of the most eminent men of the United States, Canada, and Great Britain, among them Professor Max Müller, Sir John Lubbock, Thomas Carlyle, and John Ruskin. And the feature was the formation of the Niagara Falls Association, composed of representative citizens of New York City, Boston, Brooklyn, Buffalo, Philadelphia, and other cities. Howard Potter was its president, and Daniel Huntington, George William Curtis, and Cornelius Vanderbilt were its vice-presidents. Its object was "to promote legislative and other measures for the restoration and improvement of the natural scenery of Niagara Falls, in accordance with the proposed plan of the Commissioners of the State Survey, as presented in their special report on the subject, under a concurrent resolution of the Legislature of the State of New York, May 19, 1879."



Horseshoe Falls, from Goat Island.

Bills to carry out this plan were introduced in 1880 and 1881, but failed to pass. No action was taken in 1882. In 1883, "an Act to authorize the selection, location, and appropriation of certain lands in the village of Niagara Falls for a State Reservation, and to preserve the scenery of the Falls of Niagara," was passed, and on April 30, 1883, was signed by Governor (now ex-President) Cleveland, and became a law. William Dorsheimer, Andrew H. Green, J. Hampden Robb, Sherman S. Rogers, and Martin B. Anderson were appointed commissioners to select the necessary lands; one hundred and seven acres, embracing Goat Island and adjacent islands, Prospect Park, from the brink of the cataract to the new Suspension Bridge, also a strip of land running from Prospect Park to Port Day, bordering the river and containing the buildings which marred the beauty of the natural scenery, were bought from private owners for one million four hundred and thirty-three thousand four hundred and twenty-nine dollars and fifty cents. On a memorable 15th of July, 1885, the New York State Park at Niagara Falls was opened with ceremony, attended by sixty thousand people, and declared free to all the world.

The improvements which have been made consist chiefly of the removal of mills and other unsightly buildings, the planting of trees, etc., and a general effort to restore the river banks and islands to a state of nature. The landscape gardening has been carried on in accordance with plans perfected by Mr. Frederick Law Olmsted, and Mr. James T. Gardner, director of the State Survey in 1879. The work of improvement would go on faster if the State were more liberal in appropriations.

EFFECTS OF FREEDOM.

During the season (about half the year) of 1885, the year the State Park was established, the number of visitors, as reported by the efficient superintendent, the Hon. Thomas V. Welch, ranged from one thousand to six thousand daily, at least four times as many as before the establishment of the Reservation. During the excursion season of 1886, two thousand seven hundred and forty-one cars arrived, bringing one hundred and sixty-six thousand two hundred and eighty excursionists; the proportion of well-be-

haved people may be inferred from the fact that only five arrests for any cause whatever were made on the Reservation during the entire year. In 1887, from June 1st to October 24th, three thousand one hundred and sixty-nine cars brought one hundred and eighty-seven thousand seven hundred and eighty-one excursionists. On August 19th of that year fourteen special trains arrived, aggregating one hundred and sixty-seven cars, with over ten thousand people. No accident occurred on the Reservation during the season, and but three arrests for violation of ordinances were made. In 1888 the visitors, as estimated by the Park Superintendent, was about three hundred thousand, of which one hundred and seventy-one thousand and six hundred were "excursionists." In 1889 the same authority put the number of visitors at five hundred thousand, with a falling-off of excursionists to one hundred and forty-two thousand eight hundred and sixty.

These figures show how popular Niagara has again become, and how admirably the free system works, so far as a rational use and enjoyment of privileges is concerned.

ON THE CANADA SIDE OF NIAGARA.

It is a little hard for an American—i. e., a *United States man*—to acknowledge that Niagara Falls is seen to better advantage from the Canadian side than from under the Stars and Stripes. Such is the fact, however. The best general view is had from the Canada side. The most effective view of the Horseshoe is from the path that approaches the tunnel under the Canadian edge of the Fall—the most effective, that is, for sublimity and grandeur. For mere beauty, we think Luna Island Fall takes precedence.

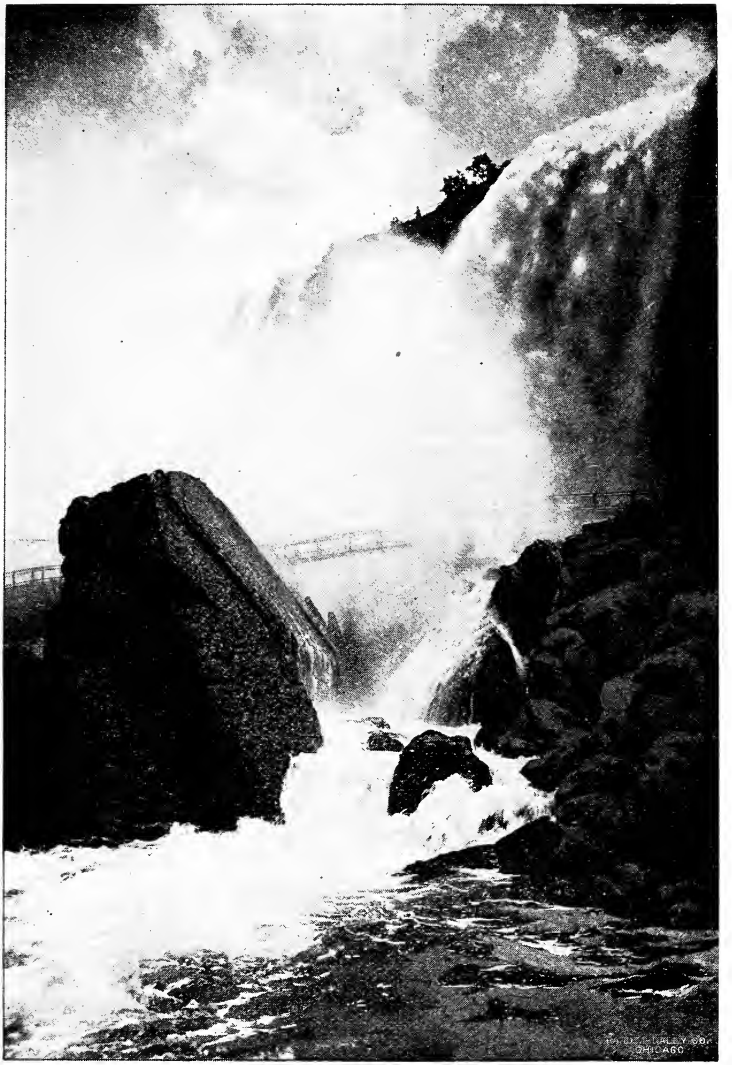
THE QUEEN VICTORIA NIAGARA FALLS PARK.

This is the long but loyal name under which the lands bordering the river on the Canadian side, in the vicinity of the Falls, have been known since the spring of 1887. We have already referred, in

sketching the history of the Reservation on the American side, to the honorable part borne by Lord Dufferin in making Niagara free. The Canadian Government moves slowly, but once under way, it does its work well. The New York State Reservation was opened July 15, 1885. At a meeting of the Ontario Provincial Parliament, in that year, preliminary steps were taken. By the spring of 1887 the title in all the lands embraced by the Park (as first established) had passed to the Government, in the name of Queen Victoria, and the Commissioners began the work of clearing and improving the grounds. The Commissioners were Col. (now Sir) Casimir S. Gzowski, K. C., M. G., chairman; John Woodburn Langmuir, John A. Orchard, and John Grant Macdonald. The last-named gentleman has since died, and no successor has been named at the time this Guide is compiled; otherwise the Commission remains as first organized. Mr. James Wilson has been the very efficient superintendent of the Park from its establishment.

The lands first named, the Queen Victoria Niagara Falls Park, cover an area of one hundred and fifty-four acres. They extend along the western bank of the Niagara from the Clifton House on the north (near Canadian end of upper Suspension Bridge) to smooth water above the head of the Rapids, a distance of two and one half miles; the width embraces all the land lying between the water's edge and the steep wooded bluffs, which forms a magnificent natural boundary on the west. This area includes, besides the strip of main land, Cedar Island, about one thousand two hundred feet long, and the group opposite the head of the Rapids, formerly called Clark Hill Islands, now better named Dufferin Islands.

In 1890, the Victoria Park—as it is called for short—was extended by the acquisition, on the part of the Government, of a strip of land fifty feet wide from the top of the bank, extending from the north limit of the Park as first established, to Queenston; thus including the wild pocket in the hill which holds the Whirlpool; the wooded *demesne* known as Foster's Flats, skirting one of the wildest rapids in the river; and seven miles of the most picturesque but least known parts of the Niagara gorge.



The American Fall from below Goat Island.

An electric railroad runs along the bank via the upper part of the Victoria Park, from Chippewa to Queenston, stopping at all points of interest.

A TOUR IN VICTORIA PARK.

In a general sense, everything is free on the Canadian side. The few charges that are made are just and reasonable. No one who remembers the reign of extortion, now happily past, can possibly grumble at the cost of seeing Niagara to-day.

The tourist who comes by rail on the Canadian side, may leave the train at the Grand Trunk station at Niagara Falls (Ont.) station; from which, unless he is a vigorous pedestrian, he will take tram-car to a point near the Park entrance, or a carriage to and through the Park. If he arrives by Michigan Central, he can be set down at the "Niagara Falls" station, near the Clifton House. A few minutes walk will bring him to the Park entrance. If he cross from the American side by the upper Suspension Bridge (toll), he turns to the left, past a licensed photographer's, and soon is at

THE PARK ENTRANCE,

with a five-mile tour ahead of him. If physical habit permits, we recommend that this tour be made on foot. The drive, however, is very pleasant. A few steps inside the rustic turnstile, one can pause on the very brink of the cliff and enjoy an unobstructed view of both Falls. If the conditions of sun and wind are favorable, rainbows will add to the beauty of the scene. From the edge of the bank, the visitor looks down on the steep descent which winds down to the Ferry Landing. This is a historic old road, and has been described by writers for the past seventy-five years. From the landing the steamer *Maid of the Mist* plies across the river and up to the Horseshoe Fall. The landing and approach are a part of the Victoria Park, and under Government control, but the ferries are private concerns. It was down this road July 24, 1883, that Capt. Matthew Webb took his last walk on earth.

Proceeding, the visitor passes on his right the superintendent's office, a small brick structure, and comes to "Ramblers' Rest,"

a fine lookout on the brink of the cliff. To the right, nearly opposite this point, under the hill, are some small ponds which add to the diversity of the grounds. "Inspiration Point" is about one-fifth of a mile farther along; the view here is one of the best to be had. Beyond this, toward the Fall, are a restaurant, waiting-room, and picnic grounds, which the public may use without charge, under reasonable restrictions.

A few steps beyond, in front of the Table Rock House, take time for a careful outlook. Here Table Rock once extended over the river. (The data of its fall will be found on another page.)

Here is the most historic place for going "under the Falls." Old-time visitors, who descended by perilous ladders or fatigueing stairways, knew not the ease of the hydraulic lift by which the visitor of to-day is lightly dropped to the foot-path below. A spiral stair near by is still occasionally used. There is a charge of twenty-five cents for going down here, or fifty cents if an oil-cloth suit, obtained in Table Rock House, is worn. If one doesn't care whether he gets wet or not, the oil-cloths are superfluous, but if he is choice of his clothes, or is liable to take cold from a drenching, the oil-cloth rig would better be donned.

At the bottom of the elevator the guides lead the way along a path under the overhanging rock, and, for a short distance, under the edge of the Horseshoe Fall.

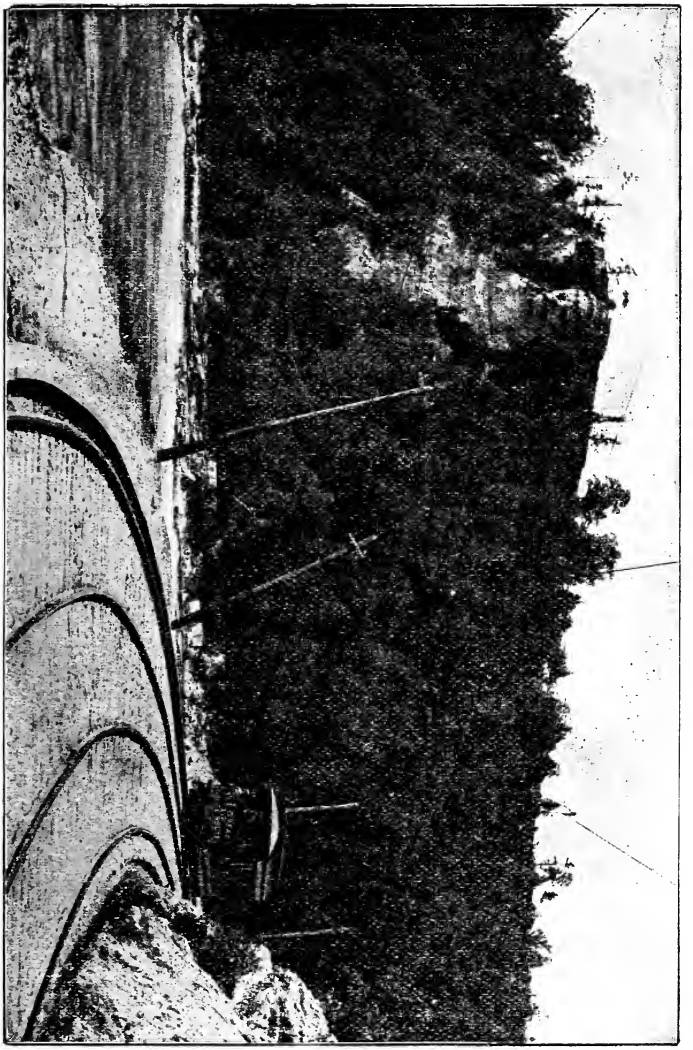
Look up; you will get an idea of height, weight, volume, and awful power, such as can nowhere else be had. From the point where the path ends a tunnel has been made through the rock, by which the visitor can advance one hundred and fifty feet farther behind the Fall, and look out from the more distant end at the back side of the great sheet of falling water, with occasional glimpses of the grand curve of the Horseshoe and the cliffs of Goat Island beyond. A Scotch mist is dryness itself compared to the state of things which the spray usually keeps up here.

Returning, notice, just before getting into the elevator, the remains of Table Rock at the river's edge below. The great crevice, which separates it into two huge fragments, came some time after the rock fell. Light but secure bridges make several interesting points down here easy of access.

According to old-time writers and pictures, this path under Table Rock ledge was formerly infested with rattlesnakes, as were many other points in the gorge; but it has been many a year since a rattler was seen there. The early travelers, too—they were famous for discovering wonderful things—have recorded that they found their advance behind the Fall made very difficult, or even impossible, by a mysterious force which they concluded was compressed air. One traveler tells how, after advancing as far as he could, he took up a stone and threw it with all his might into the cavernous space behind the falling water, whereupon, he says, it all at once stopped in its course, and fell suddenly, as if it had struck an invisible wall. He attributes the phenomenon to the highly compressed condition of the air behind the Fall. It is an experiment which every visitor may try for himself. People blessed with strong imaginations will get most wonderful results.

AMONG THE ISLANDS.

From Table Rock ledge the carriage-road and the foot-path—named "Rainbow Ramble," because on sunny afternoons you are sure to see plenty of rainbows on the rising spray—lead alike to the bridge to Cedar Island, a long narrow island well overgrown with cedars. At the north end is a toll-gate. The rates are ten cents for pedestrians, twenty-five and fifty cents respectively for one and two-horse vehicles. These tolls, which are levied for the maintenance of bridges, etc., and the fee at the Table Rock elevator, are the only charges the visitor is called upon to pay while exploring the Victoria Park. In the narrow channel between Cedar Island and the main shore are two small islands, the larger one named Willow Island. From the upper end of Cedar Island, another bridge conducts back to the mainland. Before proceeding farther a few points should be noted. Opposite Cedar Island, on the bank which forms the western bound of the Park, are an interesting group of buildings, including a Roman Catholic church, monastery, and the Convent of the Lady of Loretto, regarding which interesting institution a few notes are given farther on. Falls View station, on the Michigan Central Railroad, is on the same height, about one thousand feet farther



The Demon of the Gorge.

south. All trains stop here long enough to give passengers a good general survey of the grand scene. The station platform is one hundred feet above the river. On Cedar Island there was formerly a wooden tower and observatory, but when the Government acquired the property it was taken down. Many springs of good water occur in the steep hill-sides.

The principal entrance to the Park, opposite the Clifton House, is from the old road now known as Central Ferry Street. Other entrances, each guarded by gates and stiles, are, in order from the most northerly, by the Jolly Cut, the Murray Street Ravine, and at the southern end of the Park, by the Prospect Drive, which is reached by the old Portage Road running from the Falls to Chippewa. Near Falls View station are two reservoirs of the Niagara Falls (Ont.) water-works. The stone pump-house of this system stands near the river's edge in the Park.

After regaining the mainland, above Cedar Island, the way lies along the river bank. To the right is an ample recreation ground, on the hill-side of which is a walk called "Botanist's Ramble." Just above is the gardener's residence. This is the best point to see the "White Horse Rapids," as the opposite cascades are called. The river descends here fifty-five feet in three-quarters of a mile. Sumach Island is passed on the right. A weir and old race-way is seen. This is the site of one of the first grist-mills in Upper Canada (now Ontario). Clark's Hill, the fine residence seat of a former owner, is on the right.

We now cross, by a fine steel suspension bridge, erected in 1879, to the Dufferin Islands. They are four, the smallest independently named Weed Island. The rapid arm of the river which cuts them off from the steep hill-side is called the Elbow. Numerous bridges connect the three largest islands; and Riverside Ramble, Lovers' Walk, Lovers' Retreat, and any number of "Bowers" seem to consecrate this secluded nook to lovers and the newly married. The group is well wooded, especially with cedar. Near Lovers' Retreat, on the uppermost islet, notice the curious growth of gnarled and prostrate cedar trees among the rocks. From the largest island another suspension bridge leads to the mainland at Dufferin Gate, through which one may pass and climb some steps to a summer-house on the

table-land above. Prospect Drive runs along the shore for a quarter of a mile above the line of breakers, and makes a loop at the extreme southern limit of the Park. The water rushes down into the "Elbow" at a reported rate of thirty miles an hour.

Near Dufferin Gate is a house which for many years covered the Burning Spring. A stream of natural gas burst from the rocks here, and was known even to the Indians. Afterward it was confined in a well, and as it bubbled up through the water was ignited for the delectation of visitors. For many years it has been worked as a great card; but a few years ago it stopped flowing, presumably because the gas-vein was tapped by wells near Chippewa; so that now there is no Burning Spring to see.

The conscienceless hackmen, however, will still offer to show the famous Burning Spring. If the visitor tells them to go ahead and show it, they will take him to a point outside the Reservation where a natural-gas pipe (the region between Lake Erie, the Welland Canal, and the Niagara River abounds in natural gas) is made to do duty as a "spring," and the stream is gravely ignited at twenty-five cents a show. There are two or three of these "springs" in the vicinity, outside the Victoria Park; the proprietors of the gas-pipes presumably pay a commission to hackmen for catching visitors.

It is one of the few petty little abuses of confidence which yet survive at Niagara Falls. They have grown beautifully less of late years. Government control on both sides of the river has done much to protect the public.

In both Parks there is an efficient police service.

On the return from the Park, stop at the large Museum Building and inspect the fine exhibit of minerals of Ontario. The collection was made by the Government for the Cincinnati Exhibition of 1887. There is no charge. The view from the cupola is a fine one.

There were two hundred and fifty-two thousand three hundred and seventy-nine visitors to Victoria Park in 1889. Of this number twenty-two and four-tenths per cent. came on Sunday; seventy-one per cent. were from the United States, eleven per cent. from Great Britain, and only ten per cent. from Canada. The maintenance of the Park in 1889 cost nineteen thousand and thirty dollars and eighty-eight cents.

THE LORETTINE CONVENT.

A most conspicuous object on the bluff above the Horseshoe Fall, Canada side, is the Lorettine Convent of Our Lady of Peace. The present structure is but one wing of the proposed building; from its grounds and windows an unsurpassed view of the Falls and river is had. The Loretto Order originated in Bavaria, among the loyal British exiles who had taken refuge there in the last struggle of the Stuart. The name is taken from the Lady-chapel of Loretto. The Order came to America from Dalkey Abbey in Ireland, in 1845. The mother house, known as Our Lady of Loretto, is in Toronto. The convent of Our Lady of Peace, overlooking Niagara, was established about 1860. There are several other Lorettine convents in Canada, but only one, it is believed, in the United States. That is in Illinois. The work of the Lorettine nuns is chiefly educational; that is to say, this great building that makes a black silhouette on every Niagara sunset sky, is a Catholic boarding-school for young ladies, and most excellent is its reputation. To the devout it should be an object of especial interest. Pope Pius IX. granted the privileges of pilgrimage to this convent. The Sunday that the chapel here was dedicated, hundreds of pilgrims, after hearing mass in the city of Toronto, proceeded by steamer and railway to the shrine above Niagara. "When they came back," says the Rev. X. D. Macleod in his "History of the Devotion to the Blessed Virgin Mary in North America," "when they came back, at least upon the steamer, they chanted, with the sublime, perpetual voice of the cataract for *basso*, the Vespers of the Blessed Virgin. After which all knelt, with their faces towards Toronto, in adoration of the Blessed Sacrament, thanking the Redeemer there present, for their preservation from all casualties during that, the first pilgrimage to Our Lady of Peace."

The tourist will perhaps feel an added interest in the great cataract, when he learns that it has been consecrated, by Bishop Lynch, in 1861, "to the Blessed Virgin of Peace."

How many of America's grand scenic passages have been thus hallowed?

BELOW THE BRIDGE, CANADA SIDE.

The Niagara Falls Park and River Railway extends from Chippewa to Queenston. The route is 13½ miles long. It follows the contour of the cliffs and gives an ever-varying view of the attractive scenery of the Gorge, Whirlpool, and Rapids. From the Falls to the Whirlpool, three miles, little of the river or gorge can be seen from the highway, except at the

WHIRLPOOL RAPIDS ELEVATOR,

where a comfortable descent to the water's edge may be made, the charge being fifty cents. The scene here is most interesting. The river is but four hundred feet wide, and of unknown depth. Note the heaped-up appearance of the water. Captain Webb was last seen alive in these rapids.

There are two elevators on the American side of these Whirlpool Rapids. One side of the river gives as effective a view as the other. From these points one gets a new idea of the height of the bridges.

THE WHIRLPOOL,

Three miles below the Falls, is now included in the "Niagara Falls Queen Victoria Park"—i. e., on the Canadian side. The Commissioners have projects for making it accessible which may be carried out by the time this Guide is in the hands of the public. For many years the Whirlpool elevator, Canada side, was owned and operated by Leander Colt, who built stairs, observatories, etc., and made his grounds attractive. In 1890 a small land-slide carried away a part of the elevator-way, stairs, etc., and the property passing into the hands of the Government, was not restored for the use of tourists.

The Whirlpool is a circular basin in the hill, into which the river rushes from the south, and out of which it escapes to the northeast. The gorge at the outlet is so narrow that good throwers can put a stone across it; it has been repeatedly done, but not—to our knowledge—by any lady. The distance is about four hundred and fifteen feet. The cliffs are three hundred and fifty feet high.

Viewed from above, on either side, the Whirlpool does not appear to be a rough or turbulent expanse of water; and a frequent exclamation is, "Where is *the* Whirlpool?" the visitor expecting to see a great current rushing round and round, with a terrible funnel-like hole in the middle, into which everything is hopelessly sucked. There seems to be a popular idea that a whirlpool is very much like a whirlwind or waterspout, except that it is in the water instead of in the air.

A Quiet Spot.

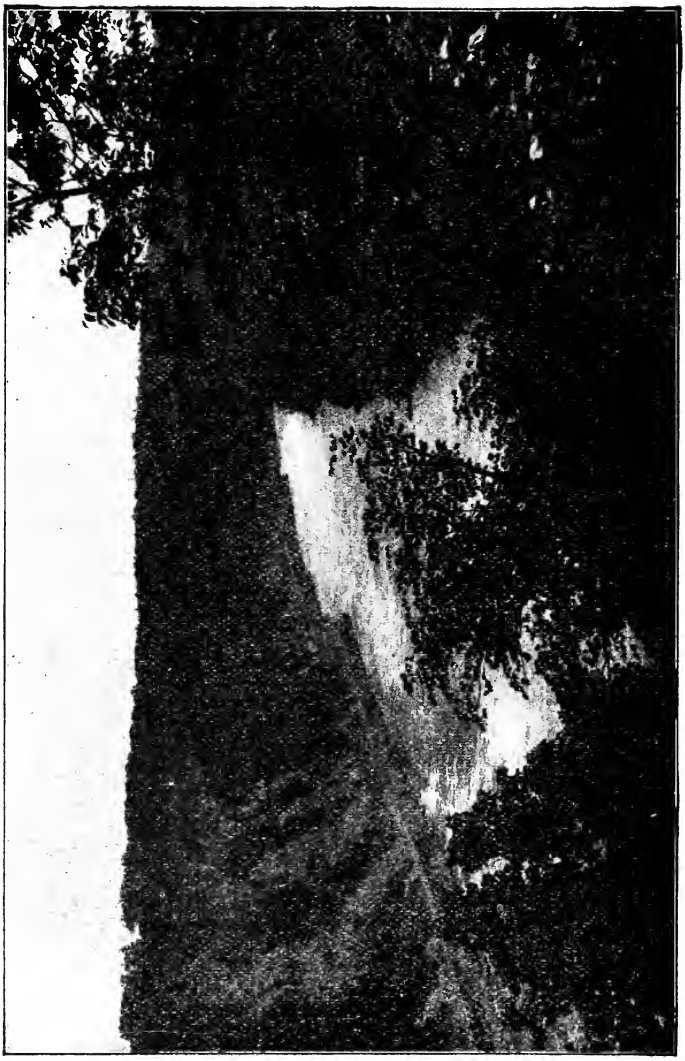
No idea could be further astray. The waters of the Whirlpool are highest in the middle; actually heaped up, as they emerge from the narrow gorge above. They rush straight across the basin to the opposite shore, where there is a parting of currents. One great eddy sweeps back in a long ellipse, following the contour of the west side of the pool; another current turns

in the opposite direction, and is itself parted, a portion of its waters escaping at once down the outlet toward Lake Ontario, and a portion turning back and forming a great eddy on the opposite side of the main inrushing current from that first named. Then, too, the waters that skirt the American shore turn for the most part into the outlet without being detained in the basin of the Whirlpool at all. This splitting of the current, and confusion of the back currents and under-currents, keeps the expanse of the pool constantly changing, but with certain tolerably constant features as here described. There may be a dozen little whirlpools and eddies at a time, any one of them liable to engulf and drown a swimmer, or swamp a boat. Yet fortunate currents might carry even a feeble swimmer (assuming that he had escaped the Rapids above) through the Whirlpool without harm. It often happens that logs, etc., borne near the American side, are swept around the bend into the outlet, and not carried into the Whirlpool at all.

The athletic tourist who can get to the water's edge of the Whirlpool, Canada side, has sights to see not surpassed anywhere on the river. (Proposed improvements will soon make it easy of access for all.) He is surprised to find the waves much larger than he thought when on the bank above. Following down-stream, around the bend of the Whirlpool, he comes to a rocky run, over which a pretty stream falls. It is called Swiss Glen. The margin of the Whirlpool may be followed quite around to the outlet, and there are comparatively quiet spots where young men sometimes bathe, but always at foolish risk.

THE WHIRLPOOL, AMERICAN SIDE.

On the American side, the Whirlpool is approached through the grounds of De Veaux College, an Episcopal school for boys with a military *régime*. The income from the stairs which lead to the bottom of the cliff is a source of revenue to the institution. The uniform charge at the elevators, etc., is fifty cents. The waiting-rooms of all of them are well stocked bazaars. The views from the top of the bank, American side, are comprehensive and grand. January 7, 1886, the Niagara Falls & Whirl-



The Gorge from Above.

pool Railway was incorporated. It has since been consolidated with the Niagara Falls & Lewiston Railroad, and the latter's name. The project was to build a narrow-gauge line on the American side, down in the gorge as near to the water's edge as possible, from a point near the foot of the inclined railway in Prospect Park to the Whirlpool, the terminus being the spot now reached by the foot-path from the De Veaux College grounds. Difficulties in securing right of way have kept the plan from being carried out; but it is not unlikely that the road will sometime be built, and even extended through the gorge to Lewiston.

THE UNKNOWN NIAGARA.

Between the Whirlpool and the towns of Queenston and Lewiston, the river rushes through a deep gorge. On the Canada side, a mile below the Whirlpool, are Foster's Flats, where the precipitous walls trend back from the water's edge, making room for a few heavily-wooded acres of lowland. The river is very turbulent here, and the Foster's Flats Rapids is a wild stretch of half a mile. It is practically a continuous rapid to Queenston, where the gorge ends. From this point to Lake Ontario, seven miles, the river is placid, navigable for large lake steamers, and is a famous fishing-ground. This deep gorge is one of the wildest and most romantic passages in American scenery; but to all except a few surveyors, scientists, and fishermen, it is practically an unknown part of Niagara.

THE MAID OF THE MIST.

No visit to Niagara is complete that does not include a trip on the *Maid of the Mist*. This stanch little craft made her first trip June 13, 1885, and has run regularly and without mishap during the season ever since. She is seventeen feet long, sixteen feet beam, seven feet hold. The hull is of white oak, and contains three tight compartments. She is owned in Canada, and registers from St. Catharines, the nearest Canadian port.

She is the third *Maid of the Mist* which has plied as a ferry on the Niagara below the Falls. The first was built in 1846, but was

cranky, and in 1854 was replaced by the second, on which, in the spring of 1861, Joel Robinson made his perilous trip to Lewiston. No accident has ever occurred at this ferry, either to steamers or row-boats. The task of rowing a boat across the boiling Niagara looks to the novice like a perilous one; but the experienced rivermen, by taking advantage of currents, and by knowing the signs of the river, do not find it very heavy navigation.

The *Maid of the Mist* usually crosses the river from the Canadian to the American shore, then runs up-stream past the American Fall, and as close to the Horseshoe as is safe, returning to the Canadian dock. The visitor, who has been disappointed in the height of the Falls, as seen from the shores above, will get all over that feeling as he looks up at them from the steamer's deck. The very windows of heaven seem to be open, and the floods to be descending from the skies.

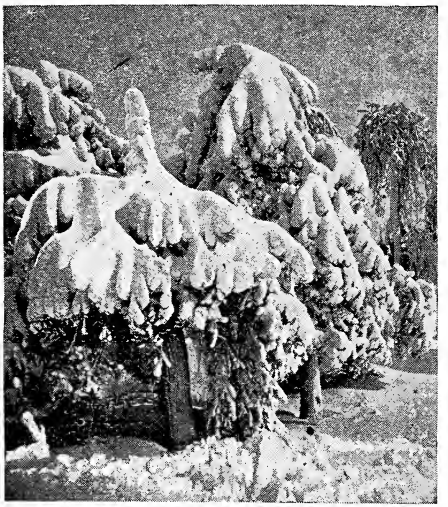
AMONG THE BAZAARS.

Whoever has traveled much, especially among American resorts, has observed that there are certain stock "curiosities" offered for sale at the bazaars of these favored places. The knick-knack shops of Niagara Falls and St. Augustine, Fla., for instance, have a strong "family resemblance," except that one is rather given over to baby alligators, and the other to Indian bead-work. The bazaars at Niagara are really very interesting places, though most of the commodities offered for sale, the countless and excellent photographs excepted, have little, if any, relation to the Falls.

The museums here, however, have long been celebrated. Mr. Thomas Barnett, who died in 1890, established, in 1828, a museum on the Canada side of the river, near Table Rock. It was the first museum of any kind in Canada, and became known far and wide. At that time the present site of Queen Victoria Park was a cedar swamp, and the Falls could not be seen from the museum. For some years Mr. Barnett showed great energy in enlarging his collection. He sent his son to Egypt and secured one of the finest collections of mummies ever brought to America. Many countries were searched for strange things. As the stock increased, the

large stone building in the park was built, and handsome grounds were laid out. The late Saul Davis was another pioneer museum man. He was for a time Mr. Barnett's active rival, and finally bought the Barnett collection and combined it with his own. When the Victoria Park was established, this celebrated museum was moved to Niagara Falls, N. Y., where it now occupies a suitable building opposite the State Park.

There are also a number of private collections here. Nearly every visitor tries to take away some memento; but such vandalism is to be deprecated.



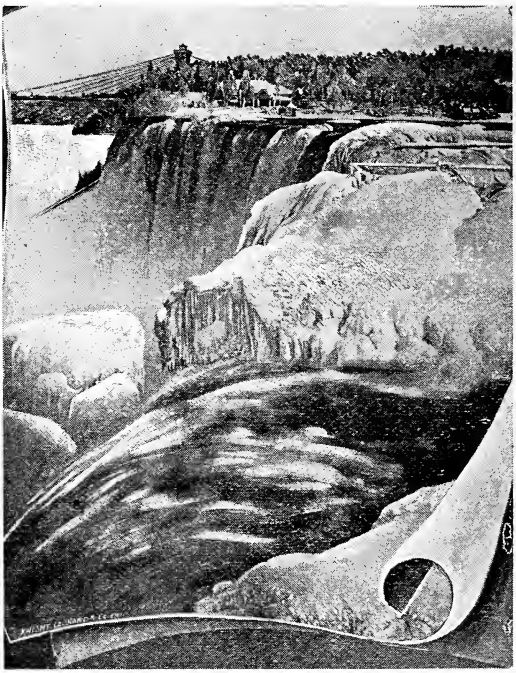
In Winter.

WINTER SCENERY.

The Falls are always grand, but their winter scenery varies exceedingly. Sometimes it is dirty and dingy, the stream running dark and muddy, the cliffs dripping mud and the islands being bare and dreary. Not even heavy snow makes fine scenery on the tree-clad islands and shores. Sometimes the winter scenery is wonderfully beautiful. It is the frozen spray from the Falls that works the transformation. The wind and the mist are conjurors there. Sometimes the conditions are such that the spray scarcely touches the trees for days at a time. Then comes a shift of wind, the spray is poured over the evergreen cedars or the bare branches and twigs of other trees, and a single night completes the grand transformation, clothing every object in a

shining armor of ice, which may last for weeks if the temperature remains low.

Another and more substantial type of the scenery at the Falls consists of the great icicles, and stalagmites, and pillars of ice, which form under the cliffs. Under Table Rock ledge, and in the Cave of the Winds, these beautiful formations are usually to be found in winter.



Niagara Frozen.

The so-called ice-bridge is the greatest winter wonder at Niagara. The name is a little misleading. No span of ice, arching across the Falls or the river, ever forms. The ice-bridge is merely

the accumulation of broken ice below the Falls. It usually forms late in the winter, and often does not form at all. The necessary conditions preceding it are that there should be heavy ice in Lake Erie, and that it should break up and go over the cataract in large quantities. It then becomes impacted in the narrow gorge, its lower edge being above the beginning at the Whirlpool Rapids, and its upper edge sometimes extending as far up-stream as the American Fall. It is thus a great ice-floe, with upheaved hillocks and great fissures, testifying to the constant pressure. It is often forty feet thick. As soon as considered safe, paths are made from shore to shore, and sometimes shanty restaurants and shelters are built in mid-stream. The river is carefully watched for signs of a break-up, for once the ice goes, it goes with a rush. Woe be to any unhappy mortal carried down with it!

The ice-mountain forms the foot of the American Fall. It is a great cap of frozen spray which is built up on the rocks, sometimes one hundred feet high. There have been winters when the ice-mountain and ice-bridge were formed together, and afforded ideal facilities for coasting; but such seasons are few and far between.

HINTS AT NIAGARA'S HISTORY.

THE NAME "NIAGARA."

The word "Niagara" is a household word all over the world. It is applied only to the locality, and is to-day the synonym for the ideal water-fall. It is of Indian origin, for the Indians once inhabited this country, and much of the nomenclature of Western New York is traceable directly to them. Niagara has been said by Schoolcraft, and many who have taken him as authority, to mean, "The Thunderer of Waters." The late Orasmus H. Marshall, a high authority in Indian languages and Niagara history, denies this. "The Mohawks," he says, "affirm it to mean *neck*, in allusion to its connecting the two lakes." It is the same in the language of the Mohawks and the Neuter Nation. The Hurons dwelt north of this section, and the Iroquois south of it. So the Niagaras, dwelling between the two, and at peace

with each, came to be called the Neuter Nation, in whose wigwams the warriors of these two tribes met in peace.

Niagara is said to be one of forty known ways of spelling the name—Ongniaarlıra, Nicariagas, Ongiara, Onyakara, being the more common forms met with in old traditions.

The Neutral Nation was also called Attouanderonks by other tribes—that is, a people speaking a little different language; for their dialect was different from that of any other tribe, though partially understood by all. Both these names, as well as Niagaras and Kah-Kaws, were used so as to distinguish their location.

The Neuter Nation was destroyed or absorbed by the more powerful Iroquois about 1650, permanent neutrality being an untenable ground. The Senecas then occupied their lands.

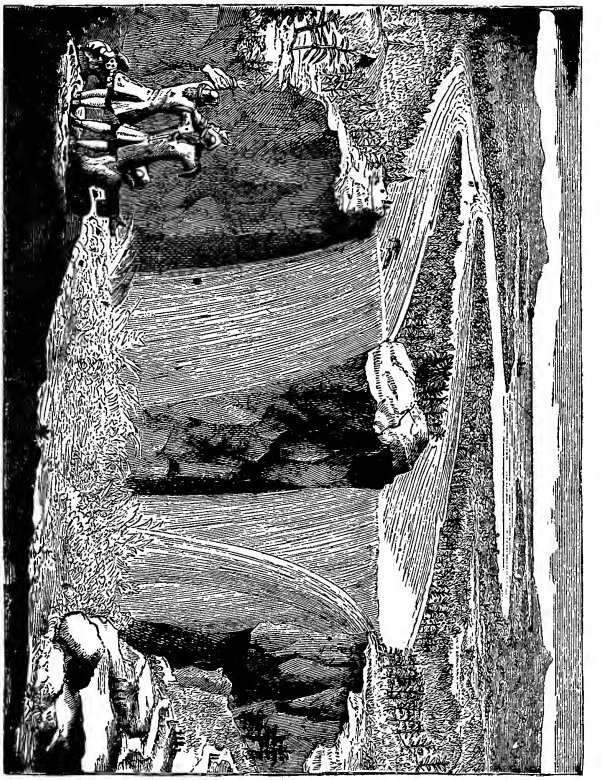
Almost a hundred years after this, a small remnant gathered together and went back to the famous home of their fathers, but they lived there only a few years and, dying off, left no descendants to perpetuate their tribe.

FIRST KNOWLEDGE OF THE RIVER.

The River Niagara was well known to the Jesuits as early as 1640, though none of them had visited it at that time. Lalemant speaks of it as the "famous river of this (the Neutral) nation." The following translation, from his "Relation" of 1641, shows that both Lake Ontario and Lake Erie had already taken their present names:

"This river (the Niagara) is the same by which our great lake of the Hurons, or Fresh Sea, discharges itself, in the first place, into Lake Erie (*le lac d'Erié*), or the Lake of the Cat Nation. Then it enters the territories of the Neutral Nation, and takes the name of Onguiaahra (Niagara), until it discharges itself into Ontario, or the Lake of St. Louis; whence at last issues the river which passes before Quebec, and is called the St. Lawrence." He makes no allusion to the cataract, which is first mentioned as follows by Ragueneau, in the "Relation" of 1648:

"Nearly south of this same Neutral Nation there is a great lake about two hundred leagues in circuit, named Erie (Erié), which is formed by the discharge of the Fresh Sea, and which



Father Hennepin's Sketch.

precipitates itself by a cataract of frightful height into a third lake, named Ontario, which we call Lake St. Louis."

We do not know when white men first visited Niagara, though after the discovery of the St. Lawrence, in 1534, any of the traders and adventurers who sought this region may have done so at any time.

Jacques Cartier, in his description of his second voyage, 1536, speaks of a cataract, but he never saw it. Samuel Champlain, in a book of his voyages, published in 1613, indicates a water-fall on a map.

In 1648, the Jesuit Father Ragueneau, in a letter, speaks of the cataract, and locates it very correctly; and on Sanson's Map of Canada, 1657, it is indicated.

Du Creux, in 1660, in a work, "Historiæ Canadensis," indicated Niagara on a map, but he did not describe the Falls, and it is doubted if he ever saw them.

The first description that we have is that of Father Hennepin, published in 1678, of which we here quote a part:

CHAP. VII.

A description of the Fall of the River Niagara, *which is to be seen betwixt the Lake* Ontario *and that of* Erie.

Betwixt the Lake *Ontario* and *Erie*, there is a vast and prodigious Cadence of Water, which falls down after a surprizing and astonishing manner, insomuch that the Universe does not afford its Parallel. 'Tis true, *Italy* and *Suedeland* boast of some such Things; but we may well say they are but sorry patterns, when compar'd to this of which we now speak. At the foot of this horrible Precipice, we meet with the River *Niagara*, which is not above a quarter of a League broad, but is wonderfully deep in some places. It is so rapid above this Descent, that it violently hurries down the wild Beasts while endeavoring to pass it to feed on the other side, they not being able to withstand the force of its Current, which enevitably casts them headlong above Six hundred foot high.

This wonderful Downfall is compounded of two cross-streams of Water, and two Falls, with an isle sloping along the middle of it. The Waters which fall from this horrible Precipice, do foam and boyl after the most hideous manner imaginable, making an outrageous Noise, more terrible than that of Thunder; for when the Wind blows out of the South, their dismal roaring may be heard more than Fifteen Leagues off.

The River *Niagara* having thrown it self down this incredible Precipice, continues its impetuous course for two Leagues together, to the great Rock above mention'd, with an inexpressible rapidity: But, having passed

that, its impetuosity relents, gliding along more gently for other two Leagues, till it arrives at the Lake *Ontario* or *Frontenac.*

Any Bark or greater Vessel may pass from the Fort to the foot of this huge Rock above mention'd. This Rock lies to the Westward, and is cut off from the Land by the River *Niagara*, about two Leagues further down than the great Fall, for which two Leagues the People are oblig'd to transport their goods overland; but the way is very good; and the Trees are very few, chiefly Firrs and Oaks.

From the great Fall unto this Rock, which is to the West of the River, the two brinks of it are so prodigious high, that it would make one tremble to look steadily upon the Water, rolling along with a rapidity not to be imagin'd. Were it not for this vast Cataract, which interupts Navigation, they might sail with Barks, or greater Vessels, more than Four hundred and fifty Leagues, crossing the Lake of *Hurons*, and reaching even to the farther end of the Lake *Illinois*, which two Lakes we may easily say are little Seas of fresh water.

The rock above mentioned was a huge boulder or mass that was found on the river bank near the foot of the mountain, and just above the village of Queenston. When the old suspension bridge was built at this point, the débris thrown down by workmen blasting for foundations partially covered the rock, but a portion of it is still visible near the western end of the ruined bridge.

Hennepin was the priest and historian who accompanied the French explorer Robert Cavelier, commonly called La Salle. This leader ascended the St. Lawrence, built a trading-post at Fort Niagara, visited the Falls, and built in Cayuga Creek, on the American side, five miles above the Falls, the *Griffin*, sixty tons burden. August 7, 1679, she set sail, the first white man's vessel that ever floated on the Upper Lakes. She crossed lakes Erie and Huron, and safely reached Green Bay, Lake Michigan, where La Salle, Hennepin, and others left her, and made their way to the present site of Chicago, and thence to the Illinois and Mississippi. The *Griffin*, loaded with furs, undertook to sail back, but was never heard of, and was undoubtedly lost in the northern part of Lake Michigan.

GEOGRAPHICAL.

THE NIAGARA RIVER.

The Niagara River, one of the shortest but one of the most famous rivers in the world, is a part of the system by which the

waters of the Great Lakes are carried to the ocean. Its entire length is only thirty-six miles—twenty-two miles from Lake Erie to the Falls, and fourteen miles from the Falls to Lake Ontario.

The Niagara River is merely one link in the chain which conducts the waters of Lake Superior to the Atlantic. It is called the Niagara River between the two lakes, Erie and Ontario. When it leaves Lake Ontario it is the River St. Lawrence, which is seven hundred miles long, and falls into the Gulf of St. Lawrence.

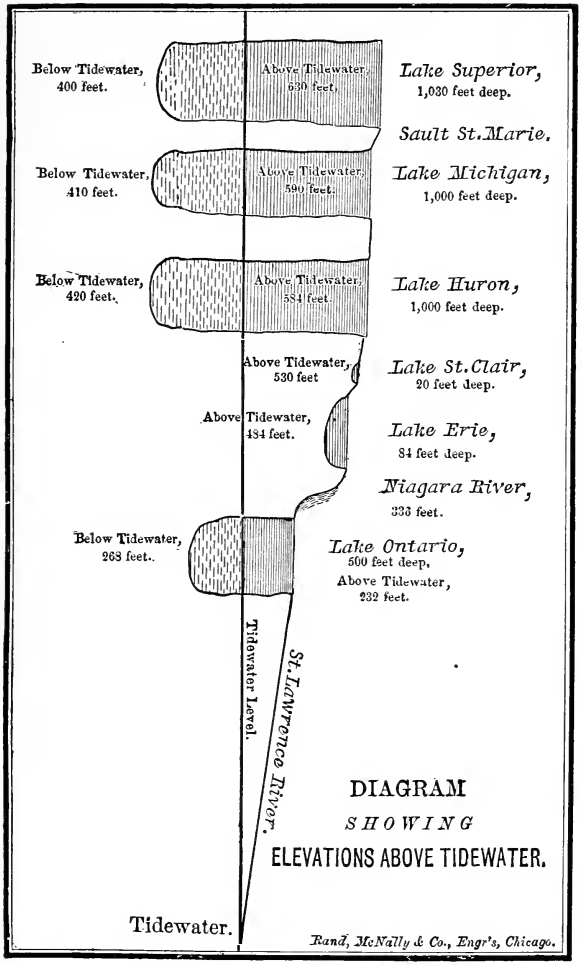
It is part of the boundary-line between the United States and Canada, so decreed by the treaty of Ghent, in 1815. By that treaty, the boundary-line runs through the center of the Great Lakes, and through the deepest channels of the rivers. By this means, over three-fourths of the islands in the river, including all the important ones but one, belong to the United States. Of these islands there are in all thirty-six, of which Grand Island is the largest, and Goat Island the most famous.

In its course the river falls three hundred and thirty-six feet, as follows: From Lake Erie to the Rapids above the Falls, fifteen feet; in the Rapids, fifty-five feet; at the Falls, one hundred and sixty-one feet; from the Falls to Lewiston, ninety-eight feet; from Lewiston to Lake Ontario, seven feet.

Its sources are: Lake Superior, the largest body of fresh water in the world, three hundred and fifty-five miles long, one hundred and sixty miles wide, one thousand and thirty feet deep; Lake Huron, two hundred and sixty miles long, one hundred miles wide, one thousand feet deep; Lake Michigan, three hundred and twenty miles long, seventy miles wide, one thousand feet deep; Lake St. Clair, forty-nine miles long, fifteen miles wide, twenty feet deep; Lake Erie, two hundred and ninety miles long, sixty-five miles wide, eighty-four feet deep.

Several smaller lakes, with one hundred rivers, large and small, pour their waters this way, draining a country of more than one hundred and fifty thousand square miles. This is the drainage of almost half a continent, and whose remotest springs are two thousand miles from the ocean.

With such a supply, it is not surprising that the volume of the Niagara River is never noticeably diminished.


Below Tidewater, 400 feet.
Above Tidewater, 630 feet.
Lake Superior, 1,030 feet deep.
Sault St. Marie.
Below Tidewater, 410 feet.
Above Tidewater, 590 feet.
Lake Michigan, 1,000 feet deep.
Below Tidewater, 420 feet.
Above Tidewater, 554 feet.
Lake Huron, 1,000 feet deep.
Above Tidewater, 530 feet
Lake St. Clair, 20 feet deep.
Above Tidewater, 484 feet.
Lake Erie, 84 feet deep.
Niagara River, 336 feet.
Below Tidewater, 268 feet.
Lake Ontario, 500 feet deep, Above Tidewater, 232 feet.
Tidewater Level.
St. Lawrence River.
DIAGRAM
SHOWING
ELEVATIONS ABOVE TIDEWATER.
Tidewater.
Rand, McNally & Co., Engr's, Chicago.

Through the mouth of the St. Lawrence more fresh water pours into the ocean than through the mouth, probably, of any one river in the world.

The river, over the American Fall, falls one hundred and sixty-seven feet, and over the Canadian one hundred and fifty-eight, the difference being caused by the greater accumulation of rock at the base of the former.

The Niagara is never frozen over, but it accumulates more ice than any other river in the world.

From records kept, a rise in height of water of one foot at top of Falls will, by actual measurement, raise it seventeen and one-half feet below.

On the surface below the Falls, the current, when the water is smooth, runs on an average about six or seven miles per hour. Sailors say about thirty or forty feet deep it runs at least ten or twelve knots. And this is the reason, we think, why saw-logs and other bodies plunging over the Horseshoe Fall are not seen until they come up at the Whirlpool, a distance of three miles.

There is a tradition that there is a periodical rise and fall in the level of the lakes, embracing a period of fourteen years. In 1843, 1857, and 1871, the Niagara River was very low.

March 29, 1843, a heavy gale from the west caused the highest water ever known. The water rose six feet perpendicularly on the Rapids.

INCIDENTS OF THE PAST.

The historical associations that are connected with this section of the country, and with this famous river, are numberless. From the earliest days of the red men's rule, through the long French and English wars to the closing of our own War of 1812, its borders have been the scene of many bloody conflicts and of countless deeds of strategy and heroism.

A line of forts, at first only palisades, but gradually strengthened into permanent forts, extended all along the river. Forts Erie, Niagara, and Mississaga on the Canadian, and Forts Porter, Du Portage, Schlosser, Little Niagara, Grey, and Niagara on the American side, are but links in the great chain of defenses erected at various times along the frontier.

Frequent contests were carried on between the French and English, each one assisted by faithful Indian allies, and the results were both bloody and destructive, as neither party, even were it so disposed, could always repress the Indian nature, as shown in the determination to burn and scalp after a battle.

This contest between French and English in America was carried on for over a hundred years, and finally ceased in 1763, when the French rule in North America was wiped out. It virtually ceased in 1759, after the capture of Quebec by General Wolfe.

After the Declaration of Independence, this section saw a few years of comparative quiet, and the settlement of Western New York prospered. The defense of this boundary was also considered, though the next war saw the British in possession, at one time, of the entire American bank of the Niagara.

The declaration of the War of 1812 threw this section into a ferment. Buffalo and Fort Niagara were the American strongholds, Fort Erie and Queenston Heights those of the British.

August 11, 1812, General Van Rensselaer, of the New York militia, established headquarters at Lewiston. October 15th he crossed the river and captured Queenston Heights. Soon after General Brock arrived and attacked him. Brock was killed in the engagement. Another reënforcement of British soon arrived. As Van Rensselaer's volunteers on the American side proved to be cowards, and refused to cross to aid their comrades, these fellows were totally defeated in sight of their comrades. This was the chief event of the year 1812 on the frontier.

Late in the year 1813 General McClure crossed from Fort Niagara and destroyed the Canadian town of Newark; but thinking Fort Niagara secure, he returned to Buffalo. Colonel Murray, of the English, surprised Fort Niagara and captured it, December 19, 1813. Then the people were terror-stricken, and fled for their lives. The Indians, the old allies of the English, were drawn to their standard, and scoured the country. The British captured and burned Lewiston, Niagara Falls, and the Tuscarora village, between December 20th and 29th, and Buffalo, December 30th.

Early in 1814 General Brown took command, and with him were Scott, Gaines, Porter, Miller, and others. Then the campaign was pushed with zeal and energy. Then followed victories—

Chippewa, Lundy's Lane, the famous sortie from Fort Erie, and the total defeat of the British; and soon after these, peace, resulting for the Americans, according to Lord Beaconsfield's famous aphorism, in "Peace with honor."

GOAT ISLAND.

Originally, the first man who had any right to name "*Goat*" Island called it very properly "*Iris Island*," and it ought to be known under that appellative. It owes its present singular name to a local fact. In 1779 a Mr. John Stedman, having cleared a portion of the upper end of the island, placed some goats (notable among them an aged male goat) upon it. During the ensuing winter it was impossible to reach the island, and the animals were killed by the cold. The people named the island, after the representative of the flock, "*Goat Island*," a cognomen which has ever since adhered to it.

These islands were originally owned by the State of New York. At one time it was proposed to establish a prison, and at another time an arsenal, at Goat Island.

In 1814 General and Judge Porter bought of Samuel Sherwood a paper called a *Float*, given by the State as pay for military services rendered, authorizing the bearer to locate two hundred acres of land on any of the unsold or unappropriated land belonging to the State. Part of this they located on Goat and other adjacent islands, immediately above and adjoining the Great Falls, their patent bearing date 1816, and signed by Daniel D. Tompkins as Governor, and Martin Van Buren as Attorney-General of New York. An early record says the island once contained two hundred and fifty acres of land; at present the group contains some sixty-five acres. The area of Goat Island is sixty-one and a half acres; its circumference about one mile. A strip about ten rods wide and eighty rods long has been washed away on the south side since the first road was made, in 1818. Long before it was bridged, it was visited from time to time by persons to whom its attractions were of more importance than the peril of reaching it. The late Judge Porter, who visited it in 1805, found names cut in the bark of a beech near the Horseshoe Falls, with the subjoined dates of 1771, 1772, and 1779.

THE ISLAND BRIDGES.

The first bridge to this group was built in 1817, and reached to the head of Goat Island. The next winter the high water and the ice washed it away.

In 1818 another bridge was built, but lower down, on the site of the present one. This was repaired frequently till 1856, when the present iron bridge was constructed. The foundation consists of oak cribs filled with stones and covered with plates of iron. The superstructure is of iron, and consists of four arches of ninety feet span each, supported between these piers. The whole length of the bridge is three hundred and sixty feet, and its width is twenty-seven feet. Of this a double carriage-way occupies sixteen and a half feet, and two foot-ways, one either side of the carriage-way, five and a quarter feet each. Visitors often ask how the first bridge was built over the Rapids.

A suitable pier and platform was built at the water's edge; long timbers were projected over this abutment the distance they wished to sink the next pier, heavily loaded on the end next to the shore with stones, to prevent their moving. Legs were framed through the ends of the projecting timbers, resting upon the rocky bottom, thus forming a temporary pier, around which a more substantial one was built. These timbers were then securely fastened to this pier, cross-boards were spiked on, and the first section was done. The plan was repeated for each arch.

TABLE ROCK.

One of the most famous points about Niagara in the old times, now gone forever, was Table Rock. This was on the Canada side, about ten rods below the Falls, and was simply a huge ledge of rock overhanging the precipice.

Table Rock was originally very large, but its form and dimensions were changed by frequent and violent disruptions. In July, 1818, a mass broke off one hundred and sixty feet in length, and from thirty to forty feet in width. December 9, 1828, three immense portions, reaching under the Horseshoe Fall, fell "with a shock like an earthquake." In the summer of 1829 another large mass fell off, and June 26, 1850, a piece two hundred feet

long and sixty feet deep fell, the last piece of the Table. Another large mass fell in 1886. The latest considerable fall was on January 12, 1887.

It was on Table Rock that Mrs. Sigourney wrote her spirited "Apostrophe to Niagara." Standing right at the edge of the water, just where it pours over, a grander or more imposing sight can not be found on the continent.

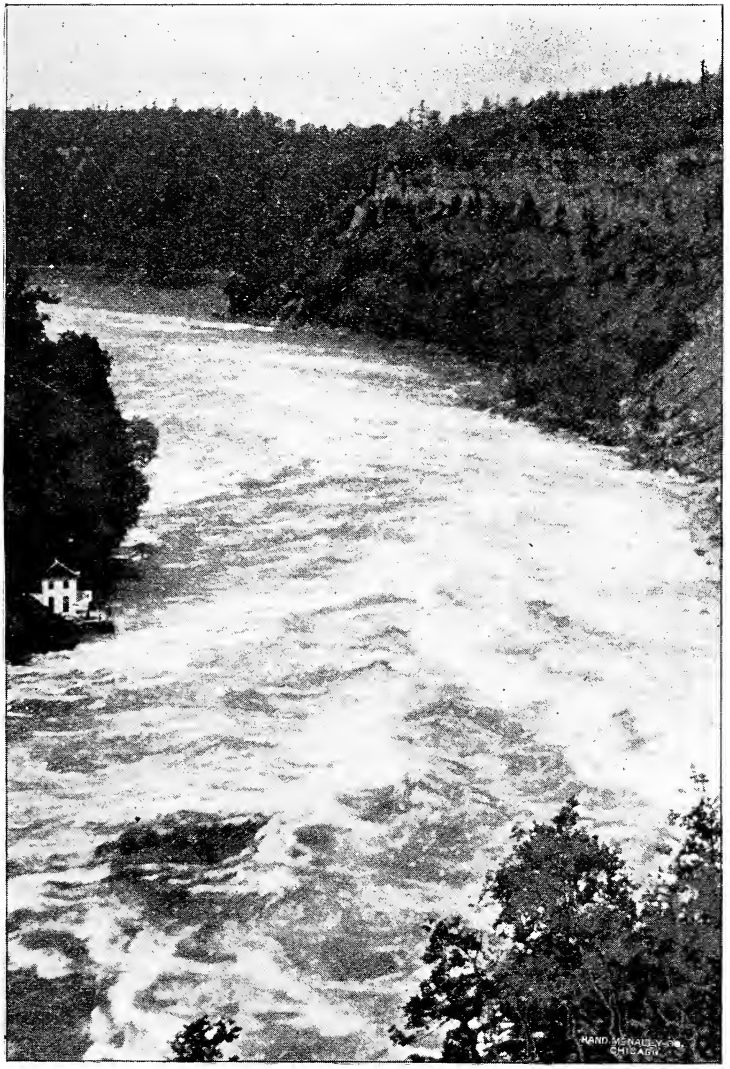
PHENOMENA OF THE FALLS.

On March 29, 1848, a strong east wind drove the water back into Lake Erie. The heavy ice was wedged in at the mouth of the river. This dammed the water up, and soon the river was nearly dry. The rocks under the Rapids were bare, and people walked and drove over them. The Falls, of course, shrank to a mere nothing. The next morning the ice was forced out and Niagara resumed its sway, but the sights and the experiences of that day were novel ones.

The average depth of the river from Lake Erie to the Falls is about twenty feet. In some places it is over two miles wide. At the narrowest point, near the Whirlpool, the current is above forty miles per hour, and at the widest part about four miles per hour.

Between the Falls and the Whirlpool the depth varies from seventy-five to two hundred feet. At the Whirlpool Rapids it is estimated at two hundred and fifty feet; in the Whirlpool at four hundred. But it should be recalled that this is the depth of the water alone. The mass of stone, gravel, shale, etc., which in one way and another has been carried into the channel, lies below the water and above the original bottom of the gorge, which, therefore, is probably as deep again. Various estimates have been given of the amount of water going over the Falls. A point three hundred feet wide below the Falls being selected, the depth estimated, and the velocity of the current known, it is estimated that one billion five hundred million cubic feet passed that point every minute.

Another estimate says that one hundred million tons pass through the Whirlpool every hour.



Rapids below the Falls.

Judge DeVeaux estimated that five billion barrels go over every twenty-four hours; two hundred and eleven million eight hundred and thirty-six thousand eight hundred and fifty-three barrels an hour; three million five hundred and thirty-six thousand six hundred and fourteen barrels a minute; fifty-eight thousand three hundred and forty-three barrels each second.

The Falls are in latitude 43° 6′ north; longitude 2° 5′ west from Washington, or 79° 5′ west from Greenwich.

The Horseshoe Fall has an aggregate length of two thousand three hundred and fifty feet; the American Fall, about eight hundred feet.

Hennepin speaks of three falls, the third formed by the huge masses of rock situated where Table Rock stood. These rocks were of great extent, and the water being obliged to flow around them formed the third Fall, and this Fall fell inward and at right angles to the present Fall. Seventy years later, 1751, this third Fall had disappeared, though still told about by the Indians. The reason was because the big rock had been crumbled away, and the channel of the big or center Fall had been cut deeper, thus draining this higher channel.

The spray rises up in the heavens like smoke, and can be seen for a long way, especially when the rays of the sun are upon it. Judge Porter said he had thus seen the spray at a distance of one hundred miles.

If the wind is up the river, the view of the Falls is not obstructed, but if it is blowing down the river, it is difficult to get any view of the Falls.

In 1840 Gull Island, south of Goat Island, contained two acres of land. The storm of 1847, and the continued encroachments of the river, cut it all away, there being hardly a trace of it now.

The view of the Falls at sunrise and sunset is particularly grand.

The moonlight views of Niagara are indescribably weird and delicate, and it will repay the traveler to journey far to see them. Solar bows, formed by reflection of the sun and spray, can be seen on any bright day when the visitor is between the sun and the spray. Lunar bows, seen at night, are formed in a similar way, by lunar beams. The spectator must be similarly placed.

The roar of the Falls can be heard a long way if the wind blows toward the listener. It has been heard at Toronto, forty-four miles, and at Buffalo, twenty-two miles. When the wind blows from the listener the roar is hardly heard, even when one is within a few feet of the cataract. It is not ordinarily noticeable in the village of Niagara Falls. On the Canada side near the Horseshoe, the roar is not to be shut out. Especially at night do the roar and spray sound like a tremendous rain-storm. Many a stranger, hearing it in the morning as he wakens, is amazed on looking out to find a smiling sky.

VILLAGE OF NIAGARA FALLS.

The village of Niagara Falls was incorporated July 6, 1848, under the General Act of New York passed in 1847. It has a population of five thousand four hundred and ninety-one, by the census of 1890. Suspension Bridge village has four thousand two hundred and eighty-six. On both sides of the river it is estimated that the average annual number of visitors to Niagara is four hundred thousand. It is located in what is known as the Mile Strip, a strip of land one mile in width along the whole length of Niagara River, reserved by the State in its early sales, and sold by the State about 1800. According to the State divisions, there were about one hundred lots in the strip, lot No. 42 being located at the Falls.

After the freedom of the United States had been recognized, a dispute arose as to who should own that part of Western New York lying west of Seneca Lake. Commissioners finally gave New York the jurisdiction and Massachusetts the ownership. It would seem that the land was first sold to Phelps & Gorham, and as they partially failed to fulfill their agreement, Robert Morris acquired it, and afterward sold the western part to the Holland Land Company, though the Mile Strip was not included in any of the above sales. The part purchased by the company is known as the Holland Land Purchase.

The village was originally named Grand Niagara, then Manchester, and finally Niagara Falls.

Numberless accidents have happened at Niagara—suicides, murders, drowning, over the Falls, etc. One or two accidents are

specially mentioned in this work, but it would be useless to give a full list of even known accidents. The number of those who have taken the fatal plunge at night, unseen save by the "Eye that sleepeth not," can never be ascertained. Some years there will be no known accident; again, there have been twelve in a single season.

Below the Falls.

There is really little danger except to foolhardy and reckless persons, and willful suicides. A fair amount of caution would have prevented nine out of every ten of all the accidents that have occurred, and this is more true to-day than ever before.

A famous accident was that of July 19, 1853. Early in the morning a man was seen on a rock in the American Rapids, midway between the Falls and Goat Island. He proved to be a Mr. Avery, who in crossing the river had been drawn into the Rapids and had caught there. People flocked from all over the country to see him. Boats and ropes were lowered. Several boats were

lost, and two sunk near him. Food was sent to him in tin cans. A raft was made and lowered, and reached him safely. He got on it and seized the ropes. It was floated over to Chapin Island, but caught there. A boat was lowered and touched the raft. Avery stepped forward to get into it. The raft tipped, and he fell into the river and was carried over the Falls after an eighteen-hour struggle for life.

Of late years accidents are fewer, but suicides were never so frequent as during the decade from 1880 to 1890; probably because the country has become very populous and the Falls are easier of access than ever before. It is likely, too, that many a wrong-doer sets out to leave the States for Canada, or vice versa, intending to flee across the boundary at Niagara; but while there, either overcome by remorse or tempted by the unusual facilities for self-destruction, he ends his errors with a jump.

NIAGARA'S SCIENTIFIC ASPECTS.

GEOLOGICAL.

Within the memory of men now living, the Falls have receded one hundred feet. This naturally prompts the question, Where did the retrocession begin? Geologists tell us, and their answer is accepted as conclusive, at the mountain near Lewiston. The whole waters of the lakes there foamed over this dam, which was several miles in width. This accounts for the shells, etc., which have been found on Goat Island, it having been submerged; also for the shells found on the land along the river up stream—shells which enabled Lyell, and Hall, and others, to prove that the Niagara once flowed through a shallow valley.

That the stream cut the gorge is, geologically, equally decided. There is no better place to study geology and the strata of rocks than this gorge that Niagara has cut. Mr. Allen, in his guide-book, says:

> Not only has the Niagara River cut the gorge; it has carried away the chips of its own workshop. The slate being probably crumbled, is easily carried away. But at the base of the Fall we find large boulders, and by some means or other they were removed down the river.
>
> The ice which fills the gorge in winter, and which grapples with the boulders, has been regarded as the transporting agent. Probably it is so to

some extent. Put erosion acts without ceasing on the abutting points of the boulders, thus withdrawing their support and urging them down the river. Solution also does its portion of the work. That solid matter is carried down is proved by the difference of depth between Niagara River and Lake Ontario, where the river enters. The depth falls from seventy-two feet to twenty-five feet, in consequence of the deposition of solid matter caused by the diminished motion of the river. Near the mouth of the gorge at Queenston, the depth, according to the Canadian Admiralty chart, is one hundred and eighty feet, while within the gorge it is one hundred and thirty-two feet.

We may add a word regarding the proximate future of Niagara. At the rate of excavation assigned to it by Sir Charles Lyell—namely, a foot a year—five thousand years or so will carry the Horseshoe Fall far higher than Goat Island. As the gorge recedes it will drain, as it has hitherto done, the banks right and left of it, thus leaving nearly a level terrace between Goat Island and the edge of the gorge. Higher up it will totally drain the American branch of the river, the channel of which will in due time, become cultivatable land. The American Fall will then be transformed into a dry precipice, forming a simple continuation of the cliffy boundary of the Niagara. At the place occupied by the Fall at this moment we shall have the gorge inclosing a right angle, a second Whirlpool being the consequence of this. To those who visit Niagara a few millenniums hence, I leave the verification of this prediction.

Various authorities put the recession at from one inch to one foot a year. "When doctors disagree," etc.

There is some gradual wearing away of the soft limestone, varying with the volume of water, but every spring the frost and elements accomplish a year's work by breaking off some large pieces, tons in weight. Thus the deeper water, swifter current, and greater weight and force of the Horseshoe Fall cut the rock away faster than the shallower waters of the American Fall do. Allen says:

All the phenomena point distinctly to the center of the river as the place of the greatest mechanical energy, and from the center the vigor of the Fall gradually dies away toward the sides. The horseshoe form, the concavity facing downward, is an obvious and necessary consequence of this action. Right along the middle of the river, the apex of the curve pushes its way backward, cutting along the center a deep and comparatively narrow groove, and draining the sides as it passes them.

Prof. James Hall, in his "Geology of the Fourth District of New York State," suggests the possibility of there having been three separate falls, one above the other, when the Falls first began to recede. The face of the gorge from the Falls to Lewiston and

along the ridge, shows us exactly through what kind of rocks the gorge was cut. Professor Hall gives these as the strata of the rocks:

1. Niagara limestone.
2. Soft shale.
3. Compact gray limestone.
4. Shale.
5. Sandstone, constituting, with numbers six, seven, and eight, the Medina group.
6. Shale and marl.
7. Quartz sandstone.
8. Red sandstone.

The deep cut through the solid rock marks the course which the Falls must have taken in their backward movement. It is a wonderful excavation—a chasm dug out by the sheer force of water. Not less astonishing has been the removal of débris. The rock has been thoroughly pulverized, and has been swept out of the river to be distributed in Lake Ontario.

Once it was thought that in the wearing-away process the Falls would ultimately reach Lake Erie, and there degenerate into a series of rapids. But the theory has happily been set aside by one which retains to us the cataract, though the shadow of its present self, and much reduced in size. The latest idea is that the Falls will recede two miles and then remain stationary, their height at that point being eighty feet instead of one hundred and sixty-four, as at present. The supposition is supported by an argument which seems reasonable. The present site is a limestone formation some eighty or ninety feet thick, with a shaly foundation. As the shale is washed away the limestone breaks off and the Falls take a step backward. But the end of the shaly deposit will be reached two miles from the present Falls, and then the rushing water will have more than it can do to wash away the solid precipice over which it will be projected.

In 1841 and 1842 Sir Charles Lyell estimated the gradual recession of Niagara Falls, by the undermining of its brink, at the rate of about one foot per annum. When the Commission having in charge the establishment of the State Reservation—or free park—at the Falls, came to investigate the subject, Lyell's

estimates were found to be erroneous. A map based on surveys of the Falls made in 1883, by Mr. Thomas Evershed, for the New York State Surveyor, shows that in the forty-one years ending in 1883 the annual rate of maximum recession has been six and one-sixth feet. For the eight years ending with 1883 the rate is given as sixteen and one-half feet, so that of late years the rate of recession seems to have been higher than formerly.

No discussion before the session for 1886 of the American Association for the Advancement of Science aroused more general interest than did that relating to the geological history of the Niagara River. Unusual attention was paid to the subject by the geologists present, among whom were some of the best authorities in America on geological questions. Referring to the synoptical reports of the proceedings of the Association, we find several authorities reported in substance as follows:

Prof. W. M. Davis, of Harvard University, thinks the Falls were formerly at Lewiston (seven miles below where they now are), but "of no particular height" until after the subsidence of Lake Ontario.

Prof. T. B. Comstock, of the University of Illinois, believes there was no Fall at Lewiston at any time.

Prof. R. S. Woodward, of Washington, finds from observations recorded from 1842 to 1886 that the minimum rate of retrocession is two and four-tenths feet per year. At this rate it takes the Falls two thousand two hundred years to recede one mile. Professor Woodward is also reported as estimating five feet per year as the rate of retrocession.

Prof. G. K. Gilbert, of Washington, thinks that seven thousand years for the retrocession from Lewiston is a maximum estimate.

Doctor Pohlman, of Buffalo, reduces the time of retrocession to three thousand years.

Now such inconsistency as exists in these conclusions is due to the fact that they are drawn from varying data. Moreover, a radical difference in theory exists as to the course of the prehistoric outlet of Lake Erie.

Hitherto the two great authorities on the retrocession of Niagara Falls have been Sir Charles Lyell and Prof. James Hall. As we have seen, the former held that it was approximately correct

to allow about a foot a year for the retrocession. From the variable nature of the strata over which the river flows, the circumstances that affect the rapidity of the erosion differ all along its course. Eminent geologist that he was, Lyell had not the advantage of a series of actual observations. Previous to the careful trigonometric survey made in 1842 under the direction of Professor Hall, for the New York State Geological Survey, no marks or monuments had been fixed. Professor Hall showed that after a farther recession of about two miles, the Falls will encounter a thick stratum which may permanently resist erosion, with their height reduced to about eighty feet.

There is no disagreement or uncertainty about the future of Niagara. With known conditions science is beautifully accurate. Hence, while the discussion of 1886, summarized in the foregoing, did not give the world an absolute dictum regarding the past of Niagara, it did bear fruit in illustrating the importance of scientific observation and record.

According to the United States Geological Survey reports, the average recession along the whole contour of the Horseshoe Fall has been, since 1842, about two and four-tenths feet per year. In the center of the channel, where the bulk of the water passes, the average yearly recession has been about twice that amount. At the point where the acute angle is formed the recession from 1842 to 1875 was over one hundred feet, and from 1875 to 1886 more than two hundred feet. The recession of the American Fall since 1842 has been slight.

The heights of the Falls above the level of the water in the river was determined by the engineers of the United States Geological Survey in 1886, as follows:

Height of the American Fall.....167 feet.
Height of the Horseshoe Fall.....158 feet.

These heights agree closely with those determined in 1842. Hereafter surveys will be made at more frequent and regular intervals.

The amount of water passing over Niagara Falls varies with the height of the river. Prof. W. D. Gunning estimates the average amount at eighteen million cubic feet per minute. Allowing sixty-two and one-half pounds to the cubic foot, this would give

a total of five hundred and sixty-two thousand five hundred tons per minute, or twenty-five million three hundred and twelve thousand five hundred tons in forty-five minutes, of which somewhat more than two-thirds passes over the Horseshoe Falls. Other estimates place the total amount passing over both Falls as high as one hundred million tons per hour. In comparison the flood at Johnstown in 1889 was a gill.

THE FLORA OF THE FALLS.

Much less has been written of the flora of the Falls and vicinity than of its geology; yet to the botanist the region is one of uncommon interest. Not only is the number of species represented on the banks and islands, and in the waters of the Niagara, unusually large, but a considerable number of rare or uncommon plants occur there. Prof. J. Hayes Panton, of the Ontario Agricultural College, reports four hundred and fifty-eight species noted by him in a partial survey of the flora of Victoria Park alone. His report on this work supplements the Commissioners' Report for 1889. The Hon. David F. Day, of Buffalo, enumerates nine hundred and nine species (flowering and fern-like only) observed by him in the Niagara region. [See Fourth Annual Report of State Reservation Commissioners, for 1887.] Both Professor Panton and Mr. Day name numerous species which are of rare occurrence in Western New York and Ontario. Perhaps the most interesting is Kalm's St. John's-wort (*Hypericum Kalmianum*, L.), which bears the name of the famous Swedish botanist who visited the Falls in 1750. It is probable that Kalm first found this plant (which is not known to occur east or south of Niagara), and the blue lobelia which is named for him (*L. Kalmii*, L.), in the vicinity of the Falls. Among the many botanists who visit Niagara, there may be some eager to find Kalm's St. John's-wort. It grows on Goat Island (Day), Cedar Island (Panton), and near the foot of the old Ferry road, Canada side. The only sassafras trees known in the neighborhood of the Falls occur in the Whirlpool woods. The deep gorge between the Whirlpool and Lewiston shelters several of the less common ferns; among others, the walking fern (*Camptosorus rhyzophallus*, Link.), *Pellæa*

atropurpurea, Link., and *Phegopteris Dryopteris*, Fée. For other rarities, the botanist is referred to Mr. Day's list in the Report above designated. Of one aspect of the Niagara flora, Mr. Day writes:

Goat Island is very rich in the number of its species. Probably no other tract of land in its vicinity, so restricted in area, can be found exhibiting so large a number. Its vernal beauty is attributable, not merely to its variety of plants, conspicuous in flower, but also to the extraordinary abundance in which they are produced. Yet it seems likely that there was a time, probably not long ago, when other species of plants, of great beauty, were common upon the island, but which are not now to be found there. It is hardly possible that several orchidaceous plants and our three native lilies did not once embellish its woods and grassy places. Within a little while the harebell has gone, and the Grass of Parnassus is fast going. This is undoubtedly due to careless flower-gatherers who have plucked and pulled without stint or reason. . . . . The suggestion may be made, that pains be taken to reëstablish upon the island the attractive plants which it has lost.

CLIMATOLOGICAL.

Niagara Falls is one of the best places in the world to study the formation of clouds. Especially on still mornings, the rising cloud of spray from the caldron of the Horseshoe may be traced into the upper strata of the air, where it is seen to take on the appearance of ordinary clouds.

The vicinity of the Falls is exceptionally healthful, and the death-rate in neighboring towns is much below the normal.

On the lower part of the river, from Lewiston to Lake Ontario, the spring is usually at least two weeks earlier than it is above the Falls and in the neighborhood of Buffalo.

PISCATORIAL.

There is good fishing in the Niagara, and some of its sections are famous fishing-grounds. From Buffalo to the head of Grand Island, the river is constantly fished in season. Besides lake fish, such as white-fish and herring, good catches are made of bass, pike and pickerel, muskallonge, and now and then a sturgeon. There

are fish in the river between the Falls and the Whirlpool Rapids. The favorite grounds, however, are from Lewiston to the mouth of the river.

In 1887 there was organized, under New York State laws, a "Society for the Protection of Niagara River." It had in view the protection of the fish and the enforcement of the fish and game laws, and also concerned itself with the problems of sewage-draining into the Niagara, the dumping of dredged matter in the channel, and other sources of pollution. Buffalo's sewage, which runs into the Niagara, is a constant theme of complaint at Tonawanda.

HARNESSING NIAGARA.

THE GREAT TUNNEL.

No visit to Niagara is complete without some inspection of the works finished and in process of construction, by which the vast water-power of Niagara is now utilized without injury to the Falls or encroachment on the State Reservation.

The utilization of Niagara River power has been sought since 1825, when Augustus and Peter B. Porter issued a glowing prospectus of the manufacturing possibilities at Niagara Falls, and inviting eastern capitalists and manufacturers to locate there.

No considerable use of the power was made until 1846, when a hydraulic canal was constructed. It is three-quarters of a mile long, running through Niagara Falls (N. Y.) village from near Port Day, on the American shore, above the Falls, to the high bank of the gorge below the Falls. Charles B. Gaskill built the Cataract Mill, the first one established on the Hydraulic Canal, in 1874. Now the bank of the river near the termination of the canal is crowded with manufacturing establishments. Among them, the famous Oneida Community has one of the largest silver-plating works and steel chain manufactories in the United States. Here, too, besides numerous flouring-mills and other large factories, are works of the Brush Electric Light & Power Co., which furnishes light for Niagara Falls and Suspension Bridge villages, American side, and which sends its wires across the river to Niagara Falls, Ontario, and makes a circuit of light for several

miles on both sides of the river. The cliff beneath this group of factories is pierced with a dozen or more canal outlets, flumes, and tail-races, from each of which, at varying height, usually falls a snowy cascade. This group of artificial cataracts is an interesting and picturesque sight.

It was the late Thomas Evershed, of Rochester, who, while Division Engineer of New York State Canals, proposed to utilize the power of Niagara River, practically on the lines which have since been adopted. The Niagara River Hydraulic Tunnel, Power & Sewer Company was incorporated March 31, 1886. July 1, 1886, Mr. Evershed made an elaborate report, estimating the cost of the proposed new tunnel at two million two hundred and fifty thousand dollars. His idea, in brief, was to construct a subterranean tunnel, or tail-race, extending from a point on the river above the Falls to a point near the surface of the water below the Falls. It was to be connected with the river by means of short surface canals, wheel-pits, and cross-tunnels. The power thus secured, ready for turning wheels and shafts, was estimated to be equal to the combined water-power of Lawrence, Lowell, Holyoke, Turner's Falls, Manchester, Bellows Falls, Lewiston, Cohoes, Oswego, Paterson, Augusta (Ga.), Minneapolis, Rochester, and Lockport.

The project stood still for a time, as is often the case with great enterprises. On July 19, 1887, a number of the business men and speculators of Buffalo (but not, as usually stated, the Buffalo Business Men's Association) offered a prize of one hundred thousand dollars "to the inventors of the world, for the best appliance for utilizing the water-power of Niagara River." The amount named was secured—on paper—before the close of the year, and a large number of inventors, a few of them scientists, many of them cranks, came forward with all sorts of schemes and machines. Nobody ever met the requirements, and the prize was never awarded.

In 1890, however, the great work was taken hold of in earnest. On April 1st of that year, a three million five hundred thousand dollar contract was signed between the Niagara Falls Power Company and the Cataract Construction Company. The latter broke ground October 4, 1890, under contract to have one section of the

work ready for use by January 1, 1892. There was a public celebration, and the first earth was thrown up with a silver shovel. The Power Company owns lands for two miles along the shore of the Niagara adjacent to the Hydraulic Tunnel, which have been laid out for lots, streets, mill-races, wharves, and railway sidings, for the purpose of forming a town composed wholly of mills, factories, and workshops. The company has also purchased an adjoining tract of one thousand acres, which has been laid out in streets and lots for homes for workmen employed.

The Niagara Falls Power Company has, from its charter and the amendatory acts, all the powers and grants necessary for taking water from the Niagara River, passing the water through the race-ways and tunnels of the company, and furnishing the power derived from the energy of the water to mills and factories. A subterranean tunnel has been constructed, of horseshoe shape, having a capacity equal to a circle twenty-five feet in diameter, extending through the solid rock to the upper river at a point about one mile above the Falls. From this point the tunnel continues parallel with the shore of the river one and one-half miles, at an average depth of one hundred and sixty feet below ground, and about four hundred feet distant from the navigable waters of the river, with which it is connected by means of surface conduits or canals, through which the water from the river enters and is drawn through the shafts and wheel-pits into the great tunnel below, which forms an immense tail-race for all of the mills, factories, and workshops.

The water falls upon turbine wheels which were put in by the company in a number of the pits, and the power developed thereby is brought to the surface, from which point it is delivered to the mills or factories at that point, or transmitted, by cable, pneumatic tube, or electricity, to adjacent lands, as the customers may desire. Buffalo is already profiting by this electrical transmission. It is fortunate for the manufacturing interests of the country that this great enterprise is in the hands of men who have abundant capital to develop it to the fullest extent. Among the stockholders of the Construction Company are: J. Pierpont Morgan, George S. Bowdoin, and C. H. Coster, of the banking-house of Drexel, Morgan

& Co.; Charles Lanier, Edward D. Adams, and Edward Winslow, of the firm of Winslow, Lanier & Co.; Brown Brothers & Co.; William K. Vanderbilt, D. O. Mills, H. McK. Twombly, Morris K. Jesup, August Belmont & Co., Isaac N. Seligman, Kuhn, Loeb & Co., A. J. Forbes-Leith, Charles F. Clark, Edward A. Wickes, Francis Lynde Stetson, F. W. Whitridge, all of New York City; George M. Porter, of Buffalo, and others. Edward D. Adams is president of the company. The engineers are Albert H. Porter, resident engineer; John Bogart (New York State Engineer) and Coleman Sellers, consulting engineers, and Clemens Herschel, hydraulic engineer.

Fears were expressed before the completion of the works that the tunnel might draw so large a quantity of water from the river as to mar the beauty of Niagara. But the drain upon the main river is not worth considering. The diversion of water by the old Hydraulic Canal, to the amount of six thousand horse power, has not made an appreciable diminution of the torrent that falls over the mighty precipice. The divergence of water to the extent of many hundred thousand horse power would not be noted, as there are fluctuations in the amount of water, caused by the wind setting the water of the lake back or driving more water into the river, amounting to far more than any possible utilization of the water for power can produce.

The Lake Survey Board's measurements of the flow of Niagara River give an average of two hundred and sixty-five thousand cubic feet per second. Should the Cataract Construction Company develop one hundred and twenty thousand horse power, with a head of one hundred and forty feet, they will require about ten thousand two hundred cubic feet per second, using wheels of seventy-five per cent efficiency; so that less than four-hundredths per cent of the average flow will be taken, while if the head used be greater, the diversion of water from the Falls will be less than four-hundredths per cent of the average flow.

THE INTERNATIONAL NIAGARA COMMISSION.

An interesting outgrowth of this tunnel project was the formation, in Europe, of the International Niagara Commission. When

Mr. Edward D. Adams, president of the Cataract Construction Company, visited Europe in the spring of 1890, he found that the most advanced thought on the utilization and transmission of power had not yet found expression in books. In consultation with eminent scientists, practical machinists, and electricians, he perfected the International Niagara Commission. The president of this Commission, Sir William Thomson, familiar with the Falls of Niagara through frequent visits, was probably the first person to suggest the distribution electrically of the water power at Niagara.

France was represented by Prof. F. Mascart, member of the National Institute, Director of the Central Meteorological Bureau, etc. Another member was M. Theodore Turrettiné, the engineer of the St. Gothard Tunnel, a resident of Geneva, Switzerland, and one of the world's greatest engineers. Prof. Coleman Sellers, of the Stevens Institute of Technology, Hoboken, N. J., and Prof. W. C. Unwin, F. R. S., Professor of Engineering at the Central Institution of the City and Guilds of London, were also associated in this Commission. Thomas A. Edison made a special report on electrical transmission of power to be taken from this tunnel. Never before was such an array of talent devoted to the utilization of a water power as that which harnessed the Niagara.

A NIAGARA SHIP CANAL.

The project of a ship canal around Niagara Falls is an old one, and has taken many shapes. Perhaps the most recent is that contained in a bill introduced in the Fifty-first Congress (April 14, 1890) by Mr. Payne. It contemplates "a navigable canal for the passage of merchant ships and ships of war," from Lake Erie to Lake Ontario, to be built in Niagara County, N. Y , along one of several routes which have been surveyed. It was to be built by the Federal Government, and maintained as a national waterway, as the Welland Canal is on the Canadian side. Mr. Payne's bill provided for the expenditure of one million dollars on this work. It is unnecessary here to rehearse the commercial and military arguments for such a public work.

Congress has never yet taken hold of the project with enthusiasm, but there is no predicting what may be brought about by altered conditions.

A PROPOSED BOULEVARD.

A favorite project is the construction of a wide macadam boulevard from Buffalo to the Falls. Various bills have been introduced in the New York State Legislature having this end in view, and the undertaking may yet be carried through.

ENGINEERING ACHIEVEMENTS.

THE BRIDGES.

The bridges at Niagara are not the least of its wonders. The latest triumph of engineering skill is the

STEEL ARCHED BRIDGE

of the Grand Trunk Railway, built on the site of the old Railroad Suspension Bridge completed in 1852 and then considered the engineering achievement of the age. The railroad traffic has not been interfered with for a single day during the erecting of the Steel Arched Bridge and the destruction of the old suspension bridge, which took place at the same time. The building of this structure is said to be the greatest engineering feat of the kind in America, and was done by the Pennsylvania Steel Co., at the works in Steelton, Pa., in 1897. The arch has a span of 550 feet, between the end piers, and a truss span, at each end 115 feet long, to connect the arch with the bluff. The total length of the bridge and its approaches is 1,100 feet, and the center of the arch is 226 feet above the water.

THE UPPER SUSPENSION BRIDGE.

Next in order came the new suspension bridge, below the American Fall. It is a carriage and foot bridge, built by two companies, one Canadian and one American, in 1872. The first ropes were carried over on the ice-bridge. It was the longest suspended bridge-span in the world, the distance from the shore end of one tower to the shore end of the other being one thousand two hundred and sixty-eight feet, or about a quarter of a mile.

The deflection of the cables at center is ninety-one feet in summer, and in winter eighty-eight feet, making a rise and fall of the bridge from changes of temperature of three feet. The length of cables between anchorages was one thousand eight hundred and twenty-eight feet. Fine views were got from the tops of the towers. Height of the bridge above water, one hundred and ninety feet. It is capable of carrying thirteen times as much as can by any ordinary circumstances be placed upon it. Its towers were one hundred feet high. Charges: Each person, each way, 10 cents.

In the great storm of January 10, 1889, this bridge was blown down; but work was immediately begun to replace it, and on May 7th a new structure of iron, hung on steel cables, was opened to the public. During this storm the river reached the highest mark touched in many years, and many thousand tons of rock were carried away from the center of the Horseshoe Fall.

This bridge has been superseded by a

NEW STEEL ARCH BRIDGE

on the same site, which was finished in 1898. The following are the dimensions:

Length of Arch Span	840 feet
Total Length of Bridge	1,240 "
Width of Bridge	46 "
Height above Water	191 "

The bridge floor has double trolley tracks, two eight-foot driveways, and two four-foot three-inch sidewalks. Total weight of bridge, 4,250,000 pounds.

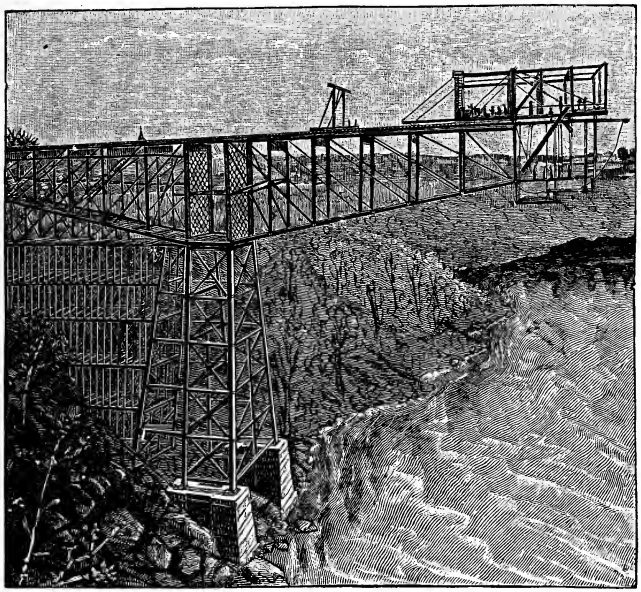
THE CANTILEVER BRIDGE,

Built for the Michigan Central Railway, is a most beautiful, graceful, and stately structure, serving as an enduring monument of engineering skill and marvelous rapidity of construction.

The principle of the cantilever plan is that of a trussed beam supported at or near its center, with the arms extending each way, and one end anchored or counterweighted to provide for unequal loading, as is shown to some extent by the accompanying cut. In practice it is comparatively new, this being the first bridge completed upon this principle. The Firth of Forth Bridge

in Scotland, with a clear span of one thousand six hundred feet, is now built upon this plan, and also in this country the Fraser River Bridge, three hundred and fifteen feet clear span, on the Canadian Pacific.

If any person is desirous of having a practical demonstration of the operation, let him take an old-fashioned pair of steelyards, suspend from the long arm of the lever a light weight of, say, ten



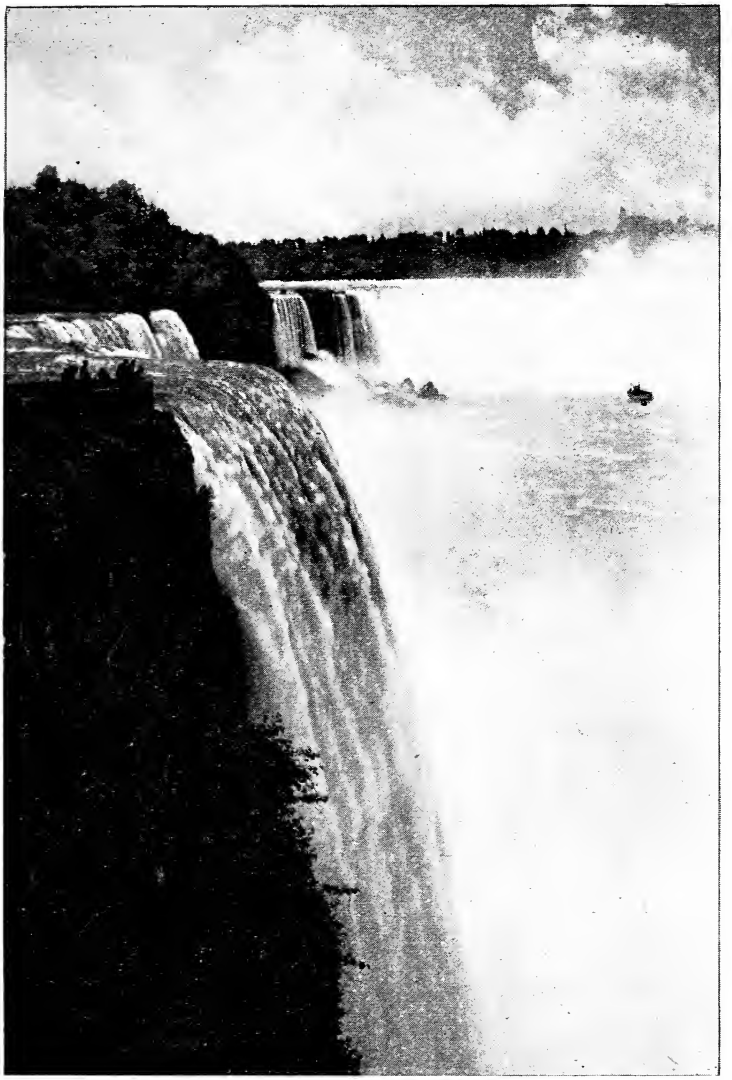
Sectional View of Cantilever Bridge, during Process of Construction.

pounds, and from the other half a ton of beef; the latter represents the shore anchorage of the bridge, and illustrates the power which prevents depression at the end of the long arm.

The total weight of the iron and steel entering into the composition of the massive structure is three thousand tons. The bridge is of sufficient width for a double track, and is built to

carry upon each track at the same time a freight train of the heaviest kind, extending the entire length of the bridge, headed by two "consolidation" engines, and to bear a side pressure of thirty pounds per square foot, which pressure is produced by a wind having a velocity of seventy-five miles per hour. Under these loads the structure is strained to only one-fifth of its ultimate strength. The total length of the bridge proper is nine hundred and nine feet and nine inches, divided into two cantilevers of three hundred and ninety-five feet on the Canadian side, and three hundred and ninety-five feet on the American side, supported on steel towers arising from the water's edge. A fixed span of one hundred and nineteen feet and nine inches is suspended from and connects the river arms of cantilevers. The clear span across the river is four hundred and ninety-four feet and nine inches, being the longest double-track truss span ever yet built.

The bridge spans a chasm of eight hundred and fifty-nine feet from bluff to bluff. The excavations were carried down until solid rock was reached, when blocks of "Beton Coignet," twenty feet wide, forty-five feet long, and ten feet thick, were put in. These form one single mass, capable of withstanding a pressure almost equal to that of the best Quincy granite, and so distribute the load of one thousand six hundred tons that comes upon each pair of steel columns as to produce a pressure of but twenty-five pounds per square inch on the natural formation—much less than a fashionable young lady brings upon the heel of her French boot every time she steps. Upon these Beton blocks, four in number, was built masonry of the most substantial character, carried up fifty feet above the surface of the water. On these foundations the steel towers rest, rising one hundred and thirty feet and five inches above the masonry, and upon these are set steel superstructures. The total weight resting on each of the towers, under a maximum strain, is, in round numbers, three thousand two hundred tons. The total uplifting force that can be exerted on each of the shore anchorages of the cantilever is three hundred and forty tons, and the weight of each shore arm is eight hundred tons. It will be seen that every single piece of material is five times as strong as it actually need be, so that the bridge can be strained to only one-fifth of its ultimate strength. Each ingot of steel was



View of the Falls from Prospect Point.

submitted to a chemical analysis, and the samples to a mechanical test. The standard of excellence adopted was more severe and exacting than usual, and all steel that failed to meet the requirements was rejected. The contractors therefore say: "This bridge in material and workmanship has no equal."

After its completion, December 20, 1884, the cantilever bridge was subjected to the rigorous practical test of twenty engines and twenty-four heavily loaded gravel cars, so arranged as to bring the severest possible strain upon the central truss span and the river ends of the cantilever arms. The slight deflection of six inches was only temporary, and the great triumph of this wonderful work was assured and proven. There is, probably, not a safer or stronger bridge in the world to-day.

A survey has been made for a bridge to cross the Niagara gorge at the Whirlpool outlet. A new bridge is necessary to give the Canadian Pacific its desired entry to Buffalo, and the Whirlpool route will not unlikely be chosen, though various lines have been surveyed.

The Grand Trunk Railway Company proposes to span the river with a great stone arch, which will be built, according to current report, just north of and near to the railway suspension bridge. It is designed to give the Grand Trunk additional track facilities.

NIAGARA'S FIRST BRIDGE.

Between the Heights of Lewiston and Queenston still hangs the picturesque ruin of the first bridge across Niagara. In 1836 a charter was obtained for the construction of a "chain" bridge at this spot, and a bank was established at Queenston for the purpose of carrying out the scheme. Nothing came of it. On March 20, 1851, the Queenston and Lewiston Suspension Bridge was opened. It was a foot and carriage bridge; the distance between towers was one thousand and forty feet, and when built it was the longest suspension bridge in existence. The deck of the bridge was eight hundred and forty-nine feet long, nineteen feet wide, and sixty-four feet above the river. Capt. E. W. Serrell, an Englishman, was the engineer. It was destroyed by the wind,

April 16, 1864. The rusty cables which still remain suspended across the gorge are occasionally crossed by some daring person.

ANOTHER BRIDGE BETWEEN FALLS AND WHIRLPOOL.

Another bridge is likely to span the gorge before long. The River Bridge Railroad Company has been incorporated to build a connecting line, six thousand feet long, between a point in Suspension Bridge village and the river bank just below the mills at the north end of Niagara Falls village. Here is where a bridge will probably be built for the Canadian Pacific Railroad and connecting lines.

COMEDY AND TRAGEDY.

An entertaining book — a good-sized one, too — might be made out of the adventures and misadventures which have happened at Niagara Falls. There is a great, though by no means complete, list of disasters, running back to the days of the first white visitors. Back of that time we encounter the inevitable "Indian tradition." A belief existed among the Indians, it is said, that Niagara demands a yearly sacrifice of two human victims. It is more than likely that the Indians never had any such belief, though it might well be warranted by the facts. It is not only a place of resort, but the first place of last resort for desperate and unfortunate people from all over the country. The curious visitor may find an added, if somewhat grewsome, interest in the fact that well-nigh every accessible point of danger has had either its accident or suicide. Careless people have fallen from the cliffs, insane people have jumped from the bridges, fool-hardy people have been drawn over the Falls through venturing too near on the stream above. No earthly precaution on the part of the authorities, short of personal escort, can prevent these casualties. You can not tell when or where the next tragic affair will happen. Perhaps, reader, the polite stranger who has ridden with you in the Reservation van, or who chatted with you at the hotel table, or who even now, at your side, leans over the bridge-rail to watch the swift water, is on the point of—but we forbear; it is not well

to regard those about you as suicidal suspects, unless their conduct is manifestly suspicious.

Neither is it well to yield to the fancy that the water has an awful, tempting attraction. Weak-minded people occasionally give way to these morbid notions; but anyone who can not watch the bright waters, or stroll along the commanding cliffs, without an inclination to tempt Fate, is not in a proper physical or mental condition to travel, or to have commerce with his fellow-men.

Oddly enough, many people who have resolved on suicide go to Niagara only to die by their own hand. A few years ago, a gentleman from a distant city came to Niagara Falls. It was mid-winter and the ice-bridge was formed. He walked out to mid-stream and coolly shot himself with a revolver—a proceeding which manifestly had no connection whatever with Niagara as a place for suicide.

No one has ever passed over the Falls and lived. The bodies of unfortunates who are carried down are usually found, from two days to a fortnight afterward, in the river at Lewiston, oftener than not dismembered and broken.

THE TRUE STORY OF SAM PATCH.

The story of Sam Patch has long been a Niagara classic, but it is not often told either with satisfactory detail or accuracy. The jumping exploits of recent years have revived interest in this pioneer of the profession, so that a few facts regarding his extraordinary career may be welcomed here.

Sam Patch was born in Rhode Island, about 1807. He was successively a sailor, a cotton-spinner, and an athlete. When about twenty years old he jumped from a new bridge at Paterson, N. J., into the Passaic, a distance of about eighty feet. He repeated this jump several times from the bridge and the high cliffs, and became locally famous. He quit work in the mills and went on a grand jumping tour. In sea-port towns he would jump into the sea from mast-heads and yard-arms. In the autumn of 1829 he came to Niagara. He selected a spot on the foot-path under Goat Island, near the Biddle Stair. Here he put up a ladder, the bottom resting on the edge of the river, the top inclining

over it. It was stayed by ropes to the trees on the bank. A small platform was built at the top, ninety-seven feet above the water, which is about fifty feet deep at that place. Patch made two jumps from this staging, and was witnessed by big crowds. How much he got for it is not known, but the hotel-keepers have always been credited with promoting the scheme. From Niagara Sam went to Rochester, and from the edge of the Upper Genesee Falls jumped—into the next world. In a Rochester paper, for some days before his first successful leap, there appeared the following advertisement:

ANOTHER LEAP.

SAM PATCH AGAINST THE WORLD.

"*Some things can be done as well as others.*"

SAM PATCH,

Having returned from jumping over Niagara Falls, has determined to convince the citizens of Rochester that he is the real "Simon Pure" by *jumping off the Falls* in this village, from the rocky point in the middle of the Genesee River into the gulph below, a distance of one hundred feet. This extraordinary feat will be performed on Friday, the 6th of November next, at two o'clock precisely, in the afternoon. Sam assures the world that there can be "*no mistake.*" He "goes the whole hog"—and, unlike too many politicians of the present day, he "turns no somersets" in his progress! He goes as straight as an arrow. He puts off the jump until after election, out of regard to all parties. Let every man do his duty at the polls and Sam will afterward do his at the Falls.

Subscription papers will be left at the different taverns, where gentlemen who feel disposed to witness the spectacle will please subscribe, and pay the money (however small) to the landlord.

☞ If Sam does not jump, the landlord will return the money to those who gave it—so there is no mistake. SAMUEL PATCH,

Of Paterson, N. J.

The performance was carried out with perfect success, before nearly eight thousand spectators. On November 12, 1829, the following announcement appeared:

Sam Patch has announced his intention to make a second jump at the Rochester Falls on Friday (to-morrow), at two o'clock P. M. A stage will be erected at the edge of the Fall, making the distance which he is to jump one hundred and twenty-five feet. Sam's bear follows suit by jumping over at three o'clock.

When Sam appeared on the platform above the Genesee chasm that unlucky Friday, he was drunk. In a vain effort to steady

himself, he took a stiff horn of brandy, and then plunged—fell, rather, in a sprawling position—into the water far below. That was the last seen of him alive. His body was found the following spring, in March, 1830, at the mouth of the Genesee River, where it empties into Lake Ontario, near the village of Charlotte. It is buried in a small cemetery between Rochester and Charlotte, in a grave unmarked by slab or shaft. Sam had intended to "crown his career" by jumping from London Bridge, doubtless thinking there would be both fame and "big money" in it. The tale is not complete without a word for his bear. Before making his own tipsy jump, Sam pushed the poor brute off the platform; but Bruin, being perfectly sober, curled himself up like a ball, struck the water with a great splash, and escaped unharmed by his unique experience.

BLONDIN AND OTHER ROPE-WALKERS.

Infinitely greater than Patch was Blondin who died in 1897, at the advanced age of 73, and was a marvel of skill and nerve to the last. Blondin was last in this country in 1888, when he performed at Seabright, N. J., Ontario Beach, near Rochester, and other places. He went to Niagara Falls and looked over the ground of his famous performances. He had grown heavy, but not clumsy. Asked if his increasing weight interfered with rope-walking, he laughed and said: "Oh, no; I walk rope when I get so big I can not walk on the sidewalk."

Blondin first visited Niagara in the spring of 1859, accompanied by his business manager, Harry Calcourt. When he proposed to stretch a rope across the river from Goat Island to the Canadian shore, the people of the vicinity opposed him, and the newspapers called him a fool. Blondin has lived to a good age as a respectable man, but on general principles (leaving Monsieur Blondin out of the case) the unfavorable verdict would probably be sustained by the majority of people to-day. Although there are a score of occupations which prove more disastrous than rope-walking, the popular idea of rope-walkers no doubt is that they take criminally foolish chances. The rope-walkers themselves manifestly look at it from a different standpoint.

It was late in June of 1859 before Blondin got his wire rope. The Goat Island plan was abandoned, and it was stretched across the chasm from White's old pleasure-ground. Those who saw Blondin traveling back and forth over the rope adjusting the guys made up their minds that he would never fall off unless struck by a cyclone. He was nimble as a cat. His first advertised walk was on Thursday, June 30, 1859. He astonished the crowd by performing many gymnastic feats, and when in the center of the rope lowered a cord to the old steamer *Maid of the Mist*, from which he drew up a bottle and took a drink. He continued giving performances during the season, and in 1860 changed his place of walking to a point just below the railway suspension bridge. Never before, or since, has any attraction drawn such crowds to Niagara—the opening of the State Reservation excepted—as Blondin's rope performances at this time. It was August 17, 1859, when he did the astonishing feat of carrying Harry Calcourt across the rope on his back. The world seemed to be there. The river bank on both sides was black with people, and vehicles and trains of cars were constantly passing. Excursionists were brought from Milwaukee and return for ten dollars, and intermediate points in same proportion. Blondin should have a monument erected at the Falls by the railroads and hotel-keepers for the amount of money he has put into their hands.

On August 24th Blondin walked again, and crossed the rope chained hand and foot. On his return he carried a cook-stove to the middle of the river, made a fire, and turning French cook made an omelette and sent it down to the deck of the steamer *Maid of the Mist* to be eaten. August 30th he walked in the evening. Thursday, September 8th, he crossed with a bushel basket on each foot. By this time the novelty had passed off, and his greatest feat was thought to be in carrying the man across on his back. He made lots of money at Niagara, bought a house on Third Street, in the American village, and lived in good style. In the summer of 1860 he performed before the Prince of Wales, and at the close of the season sold out, and has called London his home most of the time since. He has a son who is not a rope-walker, but has often ridden on his father's back across the aerial

cable. A daughter of Blondin married a brother of Tony Pastor, but is now a widow.

Perhaps the most vivid account of Blondin's greatest feat at Niagara was written by Nicholas A. Woods, correspondent of the *London Times*, who accompanied the Prince of Wales on his American tour. The following extract from this account can not fail to interest all who visit Niagara. The scene of the exploit, it will be remembered, is a few rods below (north of) the railway suspension bridge:

His Royal Highness saw M. Blondin execute his most terrific feat—that of crossing the Rapids on a tight rope with a man on his back. . . . . It was stretched between two of the steepest cliffs over the Rapids, about two hundred and thirty feet from where the waters boil and roar and plunge on in massive waves at the rate of some twenty miles an hour. To see him venture out on this thin cord and turn somersaults in the center, standing on his head, or sitting down holding by his hands, revolving backward over the rope like a Catharine-wheel, is bad enough for nervous people; but on this Saturday, after keeping everyone's hair on end thus for twenty minutes, he prepared to carry a man across on his back. The mere physical exertion of carrying anyone nearly a distance of half a mile is no slight feat, but when that space has to be traversed on a half-tight rope higher than the Monument from the sea of boiling rapids underneath, where one false movement, the tremor of a single nerve, a moment's gust of wind, or temporary faintness, would hurry both to an instant and dreadful death, the attempt is so full of sickening terror that not many can bring themselves to witness it, and those who do, remain cold, trembling, and silent till the dreadful venture is safely passed. Blondin took the whole matter coolly enough. His Royal Highness was urgent with him not to attempt it, but he replied that there was far less real danger in the feat than appeared to lookers-on, that he was quite used to it and felt quite at ease, and that as he had everywhere announced his intention of performing it before relinquishing his attempts for the season, he felt bound to go on. He accordingly divested himself of his Indian chief's head-dress and bead-work coat, and put two strong straps crosswise over his broad, muscular shoulders, each strap fitted with a flat, wide iron hook to rest on his hips, for in those his adventurous companion was to place his legs. Mr. Calcourt was the man to be carried; and this person, in addition to his own coolness and confidence in Blondin, had himself a sufficient knowledge of rope-walking to enable him to stand on it alone whenever Blondin himself wanted rest.

The preparations were soon made. Blondin took a very long and rather heavy balance-pole. Calcourt divested himself of his boots, and put on a pair of ordinary slippers, the soles of which were well chalked. Blondin then stood steadily, and Calcourt, grasping him round the neck, gently and slowly hoisted first one leg into the hook and then the other, and allowing his limbs to swing as relaxed as possible, the venture commenced. Of course, with a rope nearly half a mile long, no power could draw it straight across such a gulf. It therefore sloped gradually down at both sides from the edges of the cliffs on which it was secured. This made the attempt look doubly fearful, for it seemed impossible, as Blondin went down the steep incline of cord with slow, cautious, trembling feet, with body carefully thrown back to keep his balance as he almost felt his way, that he could avoid slipping and being dashed to fragments on the rocks far down beneath. At last, however, he passed it, though very slowly, and in about five minutes more gained the center of the rope and stopped, when Calcourt, gently raising his legs from the hooks, slid down and stood upon the cord while Blondin rested. Getting upon his back again was a terrible business. Twice Calcourt missed raising his legs to the hooks, and Blondin oscillated violently under the efforts made on his back. This unintentional awkwardness, which no doubt arose from nervousness, I was afterward informed, led to a fierce altercation between the voyageurs, and Blondin swore if Calcourt was not more careful he would leave him on the rope to get back as he best could. Awed by this threat, Calcourt was more careful, or more fortunate, in his third attempt, and the dreadful walk was resumed. Three more such stoppages for rest were made. During one, when almost in the center of the rope, there was a violent gust of wind which fluttered Calcourt's coat-tails as if it would blow them away, and made both men sway on the little cord till the spectators were almost sick with fear and anxiety. The whole passage occupied about a quarter of an hour. Blondin then performed the still more dangerous task of returning along the rope on stilts about three feet high, and this he did quickly and with apparent ease.

BLONDIN'S IMITATORS AND SUCCESSORS.

Since Blondin's time, several people have crossed the Niagara gorge on a tight rope, but none have approached him in daring exploits. In 1873 Bellini performed on a rope stretched from opposite the Ferry Landing to Prospect Park. Three times, from the middle of the cord, he jumped into the river. He had a rubber cord an inch in diameter and twelve feet long constructed, one end being securely fastened to the rope. Holding the other

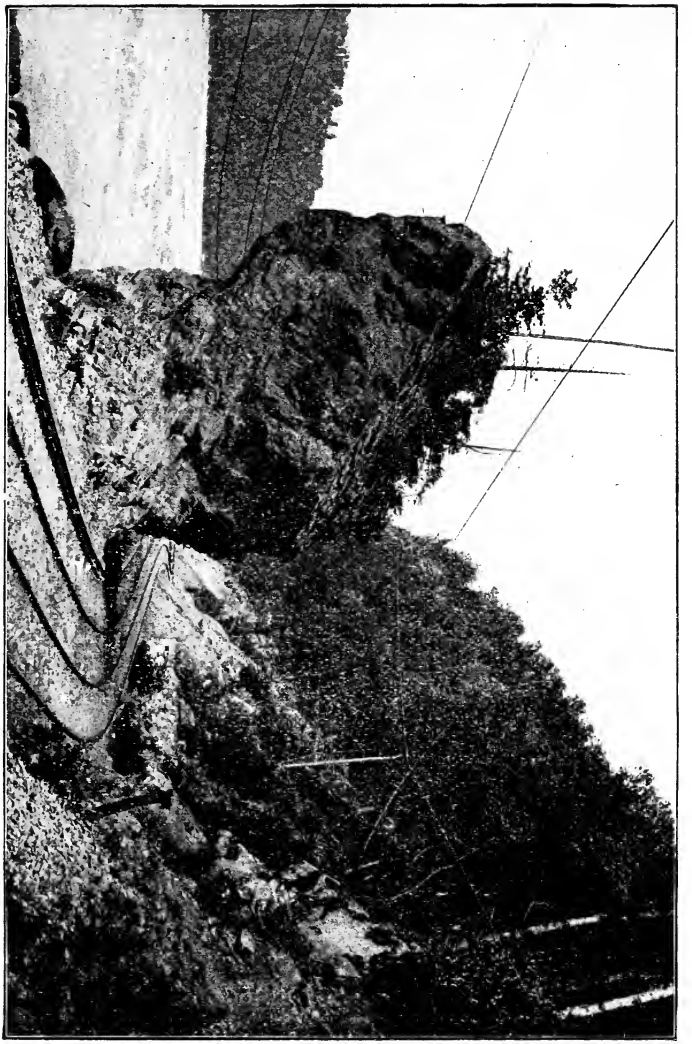
end firmly in his descent, the tension served to hold him in an upright position. The third time the cord broke and entangled his feet, so that below water he was tightly bound. He sunk so deep that he nearly suffocated. He was picked up by the boat which was in readiness, but in an exhausted condition.

Lawrence M. Donovan was Sam Patch's greatest emulator. Larry was a New York printer who began a jumping career by minor feats, gradually working up to the achievement of a leap from High Bridge, over the Harlem, to the water, a distance of one hundred and fifteen feet. This he successfully did four times. Then he surprised all New York one morning by jumping from the Brooklyn Bridge, one hundred and thirty-five feet, to the East River. Later, he went to Rochester to jump the Genesee Falls, but the police prevented him. On the morning of November 7, 1886, he appeared at Niagara Falls. He climbed up on the iron railing of the upper suspension bridge, knocked some ice from under his feet to secure firm footing, and at the signal of a pistol-shot sprang into the air. In four seconds he struck the river, two hundred feet below. He was kept under by the current, to come to the surface sixty feet from where he struck the water. The shock broke one of his ribs and made him insensible, but he was rescued and resuscitated. On August 7, 1888, he jumped from Hungerford Bridge, in England, and was drowned. He was then but twenty-six years old.

Stephen Peere, of Suspension Bridge village, some years ago stretched a steel cable across the gorge a few rods north of the railway suspension bridge and made various passages, usually with large audiences. In 1878 he jumped into the river from the bridge. He came to a tragic end by jumping, or falling, over the bank, June 25, 1887. His cable still spans the river, and has tempted several rope-walkers to show their skill.

Shortly after Peere's death, J. E. De Leon advertised that he would walk it. He got out about thirty feet from shore, apparently became frightened, and after a very amateurish performance on suspended rings, slid down a rope into the bushes and quit.

On September 6, 1890, Samuel J. Dixon, a Toronto photographer, crossed the gorge on this same tempting wire, and gave



The Giant Rock.

a very fair equilibrist exhibition This wire cable is three-quarters of an inch thick and nine hundred and twenty-three feet long.

OTHER PERFORMANCES.

Of late years there have been many performances at Niagara of a sensational character. They have ranged all the way from the throwing of a dummy man from the railway suspension bridge—a puerile experiment which for a time made many people who saw it think a man had fallen into the river—to the wild hazard undertaken by Joel R. Robinson in 1861, or the tragic bravery of Captain Webb.

All in all, Joel Robinson is the most interesting figure connected with the history of adventure at Niagara Falls. His trip with the steamer *Maid of the Mist* has been world-famous ever since he achieved it, in 1861. The *Maid* was built to ply, as a predecessor of the same name had done, as a ferry and excursion steamer at the foot of the Falls. The business did not pay, and it was decided to hazard a trip to Lewiston, seven miles, on the wildest river man ever undertook to navigate, for the purpose of selling her. Joel R. Robinson was the pilot, and there was an engineer and assistant. The fearful trip was accomplished, and quickly, too, though with much injury to the boat. It is related of the brave Robinson, who died a few years later, that he came home from the trip looking twenty years older than when he set out. He was a courageous man, the hero of several daring rescues at Niagara, and his name will always have an honored place in the chronicles of the great river.

The Whirlpool is not far behind the Falls themselves in adventurous interest. Indeed, most of the "experiments" of recent years have had this great basin in the gorge for their principal theater. Accounts are preserved, too, of dramatic incidents which occurred there while the whole region was a wild frontier. Away back in 1811, a dare-devil British soldier, who was logging near the Whirlpool, got afloat on a log, and was carried about in the pool for several hours, finally making land in safety.

There is no record of any attempted boat-passage through the Whirlpool before Robinson made it in 1861; nor was there any for several years following. Then an era of Whirlpool-fooling

set in which presumably is not ended, for there's much truth in the saying that "the fools are not all dead yet."

On August 28, 1887, Charles A. Percy, of Suspension Bridge, N. Y., made a successful trip through the Whirlpool Rapids in a life-boat of his own construction. It was seventeen feet long and four feet ten inches wide, and was covered entirely with canvas. It contained two air-chambers, in which the occupant could hide himself, leaving the boat to the mercy of the current. This is what Percy did, on the day named. Securely tucked away in his air-chamber, he drifted down the Whirlpool Rapids and across the Whirlpool, happily avoiding bad eddies, and landed without harm.

The next June (1888), Percy and Robert W. Flack, of Syracuse, signed truly remarkable articles of agreement "for a race through the Whirlpool Rapids in their respective life-boats, for five hundred dollars a side." Flack's boat was fifteen feet long, four feet nine inches wide, and thirty-four inches deep. It had no air-cushions, but much cork was used in its construction. The race was set for August 1, 1888. On July 4th of that year, Flack undertook a trial trip. Securely strapped into his boat, which was the first open craft in which such an attempt was ever made, he started from the old *Maid of the Mist* landing. Thousands of people were on bridges and cliffs to watch the venture. Flack went down-stream gaily enough, for he had great faith in the qualities of his boat, the *Phantom*. Three minutes after it set out the craft capsized, and was carried into the Whirlpool bottom upward. When Percy and others secured it, one hour later, from the Whirlpool eddies, Flack's dead body, a mere bruised mass of flesh, was found still securely strapped to the seat.

Since the cruise of the *Phantom*, no "life-boat" has been tested in the Whirlpool Rapids.

Capt. Matthew Webb, the great English swimmer, undertook to swim down the Whirlpool Rapids and through the Whirlpool, July 24, 1883. How far he went alive is not known. Several places are shown by officious guides where he was last seen alive. His body was recovered four days after, at Lewiston.

August 22, 1886, a Boston policeman named Kendall visited the Falls, and by wearing a life-preserver, actually swam—or was

borne by the current—through the Whirlpool Rapids and across the Whirlpool, where he managed to reach the shore, exhausted. His feat, however, is in no sense comparable to Webb's undertaking, for Webb entered the water wearing only a breech-cloth, and relying solely upon his own extraordinary prowess.

Less daring souls, too, having in view cheap fame and a possible financial return, have "navigated" the Whirlpool snugly hidden in great barrels built for the purpose. The first ingenious gentleman who accomplished the passage, July 11, 1886, was Carlisle D. Graham, a cooper of Philadelphia. August 19, 1886, Graham made another successful trip. Emulating him, came Messrs. Potts and Hazlitt, coopers of Buffalo, who tucked themselves into a barrel together and made the passage August 8, 1886; and finally, Mr. Potts and a relative, Miss Sadie Allen, accomplished it. So far as known, Miss Allen is the only living woman who ever went through the Whirlpool, a unique honor which no doubt she fully enjoys. When it is remembered that these barrels are massive affairs of oak, ballasted and rigged with many small contrivances, and that the current runs at such a rate that the entire passage lasts scarcely more than twenty minutes, the valor of the barrel navigators is seen to be of a rather cheap kind after all.

When one jumps from the brink of the great cataract or either of the three great bridges which span the river in this vicinity, or is drawn into the rapids above the Falls, his body is sometimes lost entirely, and is never seen again; or, if it is recovered at all, it is a long time afterward, and only after it has gone through the Whirlpool Rapids, the Whirlpool, and the rapids at Foster's Flats. It is then generally picked up in the eddies and coves that are made by the river after it debouches from the gorge at Queenston Heights. Here the ferrymen plying between Lewiston and Queenston are ever on the alert for these ghastly human "finds," which, when found, are caught, pulled in shore, and buried until the friends of the deceased come in search of them, or offer rewards for their recovery. At the mouth of one of the little gorges that jut into the river from the Queenston side are three unmarked lonely graves; there still rests at least one of these sombre "finds" awaiting reclamation. Indeed, from

the cataract down to Queenston there is hardly a green spot, a shady nook, a jutting rock, or a dark hollow that has not associated with it the tale of some tragedy that has been enacted within the sound of the noisy, turbulent waters of this river of death.

One of the strangest fatalities of recent years befell L. G. DeWitt, of New York. He visited the Falls February 28, 1886. That most prominent winter feature, the ice-mountain at the foot of the American Fall, was then a prime attraction. Refusing the services of a guide, Mr. DeWitt climbed the ice-mountain alone, rashly ventured across a great crevice, and walked so far out on the hollowed crust of the ice-mound that it gave way and plunged him down over forty feet into an abyss from which there was no escape. He lodged on a narrow shelf of ice part way down the face of the ice-mountain. In front of him was the overwhelming curtain of the American Fall. Soon after he fell, many tons of ice broke from the mound above and buried him from sight. In a few days, however, the body became exposed to view from the cliff above. Such crowds of people hazarded their lives to catch a glimpse of the mangled remains, far below, that Superintendent Welch of the State Park felt it his duty, if possible, to recover the body. After considering and trying various plans, resort was had to tunneling. A tunnel five feet high, four feet in diameter, and about seventy-five feet long was laboriously cut through the mountain. As it approached the side of the mountain next the Falls, the work became hazardous in the extreme. After four days of tunneling the body was recovered.

It is sometimes urged that the reputation of Niagara Falls is damaged by the fool-hardy gentlemen who try to prove that they can do something which wiser men will not attempt. Not so. There might be work for a coroner's jury down at Lewiston every day in the year without detracting from the sublimity of the Niagara. The infinite dignity of nature remains unassailed.

As the foregoing record proves, the mania for the hazardous at Niagara is not of recent origin. As long as there are high falls, swift rivers, high bridges, and deep waters, there will be Blondins to stretch ropes and walk, Sam Patches and Steve Brodies to jump, Grahams and Pottses and Hazlitts to risk all for

nothing. Fate is tempted variously—by some men with skill, by others with sheer fool-hardiness. There is always opportunity for men to stake their little aggregation of animal tissues against the law of gravitation; and gravitation, it is remarked, usually gets the better of the animal tissues, bones, brain, and all, in the long run—or perhaps we should say, in the long drop.

Because a man is willing, however, to try what most people do not dare to try, it is not therefore well to call him a fool. The chances are that he is, but it is pleasanter to "allow" that he isn't. History may prefer to call him a bold pioneer in something or other. There may be things vastly more foolish than the navigation of the Niagara Whirlpool. No great world's traffic wants to travel that way, as was the case with the wild rapids of the St. Lawrence. But it is human nature to conquer for the sake of conquering. Science and art both wait for a more intimate acquaintance with the four or five miles of the deep Niagara's gorge where the passage is angriest. The excursion manager waits, too. It is no more chimerical to admit the possibility of safe navigation of the Niagara from the Falls to Lewiston, than it would have been, years ago, to have predicted the Brooklyn Bridge, the electric light, or any recent human conquest over nature. It is now possible to view the grandeur of the Whirlpool Rapids and the beauties of the route as viewed from electric trains running through the gorge, at the water's edge, from the Falls to Lewiston and the historic towns at the placid mouth of the river.

NEIGHBORING POINTS.

AMERICAN SIDE.

Grand Island is three miles distant from the Falls. Here the once celebrated Major Mordecai M. Noah of New York designed to build the "City of Ararat" as a place of refuge for the scattered tribes of Israel. In 1825 he even went so far as to prepare for the laying of a corner-stone. The stone, engraved in Hebrew, was got ready, but was never taken to Grand Island. Ceremonies were held, by permission, in the old St. Paul's Church in Buffalo; the stone reposed for years in the the rear of the church, and now is preserved by the Buffalo Historical Society.

At the foot of Grand Island lies Buckhorn Island, with an area of about two hundred and fifty acres. Between these two, and about three miles above the Falls, is an arm of the river called Burnt Ship Bay, from a circumstance connected with the War of 1759. The garrison at Schlosser had already made a brave resistance to one attack of the English, and were preparing for another, when, disheartened by the news of the fall of Quebec, they decided to destroy the two armed vessels containing their military stores. Accordingly, they brought them to this bay and burned them. Portions of the vessels are visible under water even at this day.

During the summer several steamers run regularly between Buffalo and points on Grand Island. A most enjoyable excursion, usually made about once a week, is from Buffalo around Grand Island, the steamer passing between Grand and Navy islands. From the foot of these islands the rapids above the Falls and the rising spray are plainly visible.

Navy Island, which is on the Canada side of the boundary, contains three hundred and forty acres. It is owned by a number of gentlemen who use it as a club resort during the hunting and fishing season. It was a headquarters of the "Patriots" during the Patriot War of 1837.

Tonawanda, eleven miles above the Falls, is largely given over to the lumber transfer business, though it has some saw-mills. Including its suburbs of Sawyer Creek, Martinsville, and Gratwick, Tonawanda covers nine square miles and has thirteen thousand inhabitants. Tonawanda Creek is the boundary-line between Tonawanda and North Tonawanda. The Erie Canal passes through the place, and skirts the bank of the Niagara River to Buffalo. At Gratwick are large iron-furnaces.

The village of La Salle, five miles above the Falls, at the mouth of Cayuga Creek, was named after Robert Cavelier de La Salle, who at this point, in 1679, built his vessel, the never-to-be-forgotten *Griffin*.

Just below, on the American shore, two miles above the Falls, is Schlosser Landing, the end of the portage from Lewiston. This terminus was gradually fortified till it became a fort, called Fort de Portage. This was burned by Joncaire on his retreat, in 1759. In 1761 Captain Schlosser, of the British army, rebuilt it stronger

than ever. He named it after himself, and died there. Here, in 1837, the steamer *Caroline* was attacked, set on fire, and sent over the Falls. The Patriot movement being put down in Canada, the leaders established themselves on Navy Island. Visitors thereto being numerous, the *Caroline*, a small steamer, was brought down from Buffalo, as a private venture, it was believed, to serve as a ferry or freight boat. The Canadians, thinking the boat was chartered by the Patriots for offensive operations against Canada, at midnight, December 29, 1837, dispatched a chosen band of men under Captain Drew, in eight boats, to destroy her. As she lay at Schlosser Dock she was boarded by these parties. Those on board—crew as well as some who, unable to get beds in the little hotel, had got berths on board—were attacked. All but one escaped to shore, he being shot dead. The gallant band having thus succeeded in their attack, set the vessel on fire, towed her out into the stream and let her drift. It was a grand sight. A mass of flames, she floated down the river and entered the Rapids; but before she reached the head of the island the water conquered and extinguished the flames. The smoke-stack, it is said, still lies at the bottom of the river, near Schlosser.

The old stone chimney on the river bank, one and one-fourth miles above the Falls, was built in 1750, and was the first stone structure erected in this part of the country. It was the chimney of the barracks of the French fort called "Little Fort," which was burned by Joncaire when compelled to retreat, in 1759. It was rebuilt two years afterward as an adjunct to Fort Schlosser. The chimney now stands in excellent preservation.

Next come the Falls themselves, fully described before.

Three and one-half miles below the Falls, on the American side, is the Devil's Hole, a gloomy and rugged chasm in the bank of the river, between one hundred and two hundred feet deep. Overhanging this dark cavern is a perpendicular precipice, from the top of which falls a small stream, usually dry in summer, named the "Bloody Run," which takes its name from being turned to a bloody stream during the fight described below.

This chasm was cut by this stream continuously flowing into it, aided naturally by the enormous force of the Falls when they were at this point. During the French war in 1765, a detachment

of the British was decoyed into an ambush here by the French and Indians. The war-whoop of the savages was the first indication of danger. Officers, men, women, children, and wagons were pushed over the bank into the chasm below. Two hundred and fifty people were killed. Only two persons escaped—a drummer, who was caught in a branch of a tree in his fall, and John Stedman (the same who put the goats upon Goat Island), who spurred his horse and ran the gauntlet of bullets to a place of safety.

The Tuscarora Indian Reservation is seven miles northeast from the Falls. Driven from their original seats in North Carolina, this tribe came to New York in 1712, and became merged in the Confederacy of the Iroquois. In the Revolutionary War part of them favored the English, and part remained neutral. Those of the Tuscaroras and Oneidas who had been allies of the English left Oneida Lake, came down the Oswego River, and coasted along Lake Ontario to the British garrison at Fort Niagara. In the spring part of them returned, and part of them took possession of a mile square upon the mountain ridge, given them by the Senecas, one tribe of the Six Nations. The Holland Land Company gave them two square miles more, and in 1804 sold them four thousand three hundred and twenty-nine acres, this forming the estate upon which the Tuscaroras are now located. Whoever visits them expecting to see anything barbaric or savage will be disappointed. They are, for the most part, a well-behaved, moderately prosperous farming community, with churches and schools. A few years ago their chief, Mountpleasant, died; but his widow, sometimes called the "Queen of the Tuscaroras," is a very capable and intelligent woman, of great influence in the tribe, and respected by all who know her. The Tuscaroras are far thriftier than their Seneca brothers on the Cattaraugus and Allegany Reservations, in Western New York.

Indians are nowadays seldom seen at Niagara Falls, although Indian bead and basket work, for the most part made on the Tuscarora Reservation, is offered in abundance.

The bluff, or top of the mountain, six miles from the Falls, so geologists tell us, was the shore of Lake Ontario; a fact which seems to be undisputed. Near here are the remains of old Fort Grey. Lewiston, seven miles below the Falls, was named in honor

of Governor Lewis of New York. It is at the foot of the mountain. La Salle built a cabin of palisades here in 1678, and this was the commencement of the portage whose upper terminus was Fort Schlosser, and which passed over nearly the present roads, a part of which is still called the Portage Road. Up the mountain-side here was built the first railroad in the United States. It was built entirely of wood, the rails being broad and flat. The car ran on runners instead of wheels. It was raised and lowered by a windlass, and carried heavy goods up and down. It was a rude work, but answered its purpose perfectly. A horse-car railroad along the mountain-side succeeded the windlass tramway, and preceded by a dozen years the construction of the steam railway at this point.

Fourteen miles from the Falls, at the mouth of the river, stands Fort Niagara, which was established as a trading-post by La Salle in 1678. In 1687 De Nouville built the fort proper for the prosecution of a war on the Iroquois in defense of the Indian allies of the Western country. The next year it was abandoned, but in 1825 was rebuilt in stone, by the consent of the Iroquois. The English General Prideaux was killed here in 1759, and after the battle the French surrendered it to Sir William Johnson. It is now a United States fort, regularly garrisoned. Here is the famous dungeon where, in 1824, Morgan, of anti-Masonic fame, was said to have been confined, and whence, it was claimed, he was taken to be drowned in the lake.

CANADIAN SIDE.

Fort Erie is at the mouth of the river, on Lake Erie, twenty-two miles from the Falls. From the fort, on September 17, 1814, the Americans made the famous sortie, defeating the British besiegers and compelling them to raise the siege. A ferry runs from Buffalo to Fort Erie every half hour during the season. The ruins of the fort, and the grove on the lake shore above, are popular resorts, and are connected by a lake-shore railway with a second ferry, a mile down the river, which runs to the foot of Ferry Street, Buffalo. This historic Canadian shore is Buffalo's Coney Island, but its fine natural attractions are but little developed. A mile farther down is the International Railway Bridge,

used chiefly by the Grand Trunk Railway. Below, a noticeable object on the Canadian shore is a pretty Episcopal church, which is built in part of stones taken from the ruins of Fort Erie.

The village of Chippewa is two miles above the Falls. In the field south of it, on July 5, 1814, was fought the battle of Chippewa, which resulted in a victory for the Americans. In the early days of the century it was much visited by tourists en route to the Falls, and bid fair to become an important town; but now it is utterly dead, visited only by an occasional artist in search of the picturesque, and by fishermen.

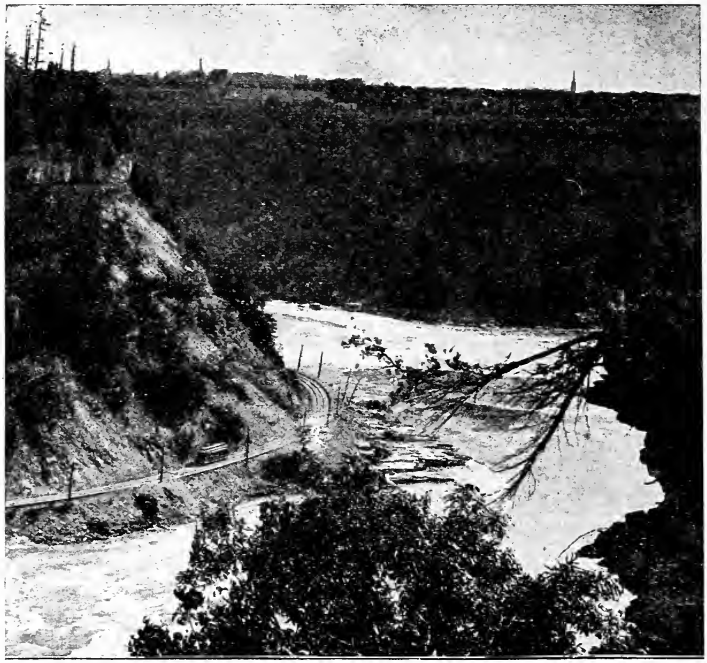
Lundy's Lane Battle-ground is one mile west of the Falls. On July 25, 1814, the decisive battle of the war between the United States and England was fought here, the loss on both sides in killed and wounded being eighteen hundred, the Americans being victorious.

The village of Drummondville is about one-half mile west of the Falls, and is so called in honor of General Drummond.

Brock's Monument is on Queenston Heights, six miles below the Falls. It is a handsome shaft, erected to perpetuate the memory of Gen. Isaac Brock, who fell here in 1813. The first monument was built in 1826, and was one hundred and twenty-six feet high. This was destroyed by explosion on the night of April 17, 1838, and was replaced by the present structure in 1853. It is one hundred and eighty-five feet in height, the base being forty feet square and thirty feet high. Four lions, facing the cardinal points of the compass, rest on this as well as on a pedestal sixteen feet square by ten feet high, ornamented in *alto-relievo* by lions' heads alternated by wreaths. The shaft is of freestone, seventy-five feet high by thirty feet in circumference, having a Corinthian capital ten feet in height, carrying in relief a statue of the Goddess of War. Over this is a round dome seven feet in height, surmounted by Brock's statue, which can be reached by two hundred and fifty spiral steps starting from the interior of the base.

A tablet in the wall of the present shaft tells the visitor that "a monument was originally erected on this spot by a grant from the Parliament of this Province, and subsequently destroyed in the year 1833. The present monument was erected chiefly by the voluntary contributions of the Militia and Indian warriors of this

Province, aided by a grant from the Legislature, the authority for the erection of the same being delegated to a committee of fourteen," of which Sir Allan Napier MacNab, Bart., was chairman, William Thomas was the architect, and John Worthington the builder. The former monument stood a few rods to the east of



View of the Gorge from the International Belt Line.

the present one, close to the steep side of the hill. The view from the monument grounds is of unsurpassed beauty, embracing the garden-like lowlands stretching to Lake Ontario, seven miles to the north. No one who loves nature, or who delights to visit the spots made famous in American history, should fail to spend an hour on Queenston Heights.

The old town of Queenston, named in honor of Queen Charlotte, lies at the foot of the hill. Several of its substantial stone buildings antedate the War of 1812. The spot where General Brock fell, near the base of the descent, is marked by a monument which was erected by the Prince of Wales, and set in place with ceremony on the occasion of the Prince's American tour in 1860.

Between Queenston and Niagara village, the railroad (Niagara branch of the Michigan Central) carries the traveler through the edge of a beautiful piece of woodland overlooking the river, called Paradise Grove.

Niagara, otherwise called Old Niagara, or Niagara-on-the-Lake, rivals Fort Niagara across the river in historic interest. In 1792 it became the residence of the Lieutenant-Governor of Canada, and the first session of the Parliament of the Upper Province was held there. It is on the site of the village of Newark, burned by General McClure in 1813. One of the earliest printing-presses in Upper Canada (now Ontario) was set up here. The visitor should not fail to see its old church, St. Marks, built 1802, and surrounded with a quaint and ancient graveyard. Niagara is one of the most popular resorts on the river, alike for Canadians and residents of the States.

The Toronto steamers, the *Cibola* and *Chicora*, touch at its wharf on their way up to Lewiston. Other steamers run at frequent intervals from Lewiston, connecting with trains and the Toronto boats.

Just above Niagara village is old Fort George, captured by the Americans—General Dearborn commanding—in 1812. It was destroyed by General McClure the next year, and has never been rebuilt.

Fort Mississaga is a prominent object, of no possible use as a means of defense, which stands below the town, near the mouth of the river. A wide common surrounds it, which is occasionally used for militia maneuvers. The annual tour of field duty of Ontario militia, and their summer camp, is usually located above the town, near Paradise Grove.

The Niagara & Queenston Land and Improvement Co., capital stock nine hundred thousand dollars, is a wealthy syndicate, chiefly of Toronto men, which has acquired, by purchase or

option, about fifteen hundred acres of river-front lands near Lewiston, and about as much more on the Canadian side. Among improvements which it contemplates are electric-light plants and electric railways connecting points of interest on the lower river.

THE "CANADIAN CHAUTAUQUA."

On the Lake Ontario shore, near Old Niagara, Ontario, are the pleasant grounds and buildings of the Niagara Assembly, often called the Canadian Chautauqua. The Hotel Chautauqua is a large structure, not yet completed according to original plans, but in use since 1887, which was the first season of the Assembly. From the hotel, thirty miles across Lake Ontario, Toronto is faintly visible in clear weather. On the grounds are numerous cottages, a fine oak grove, through which avenues converge, like the spokes of a wheel, to the Amphitheater. Lansdowne Lake, in the grounds, has its outlet into Ontario. The "season" here consists of schools, popular lectures, etc., after the approved Chautauqua fashion. It is especially popular with Canadians.

Not to be confused with this institution is

WESLEY PARK.

This resort, one of the pleasantest and most popular in the neighborhood, was started with the view to making it a sort of Canadian Chautauqua. It is in charge of a company known as the Wesley Park Association, and comprises pleasant grounds on both sides of the Michigan Central Railway, and reaching to the river, in the southern part of the village of Clifton. An auditorium has been erected, and the grounds have been tastefully laid out. A camp-meeting has been held there every summer since 1886, and every year sees new cottages and other improvements.

The Welland Canal, with its new water-way and grand locks, just finished, runs almost parallel with the Niagara River, eight miles west of it. It was the opening of this canal, with other lesser causes, that diverted traffic from the Lower Niagara, and put its towns into a Rip Van Winkle sleep which is even yet disturbed only by summer tourists and local enterprises for their enjoyment.

SUGGESTIONS TO VISITORS.

These constitute Niagara Falls and their surroundings; and, in conclusion, let us say: If you come to stay only a day, don't think you can see everything named above unless at a large expense. If you come to see Niagara Falls, insist on seeing them first, then select from the outside places any that you desire. If you are going to spend a week here—and certainly to appreciate and understand Niagara one should stay that long—visit daily the two or three principal points, and spend plenty of time at them. Take in one of the other attractions each day. By so doing you will appreciate them all, and will not go away feeling that you have been beaten out of your money, or that Niagara is such a very expensive place.

If, after viewing the real object of interest, the Falls themselves, the visitor chooses to extend his excursions into the surrounding country, he will be amply repaid for his excursions; but he should distinctly understand that these are not the Falls, but the country about the Falls—spots which are pleasant, but not necessary for him who comes simply to view the great wonder of Niagara to visit.

At no place that we know of are such favorable terms given to excursionists, thousands coming annually on excursions, and seeing, we may say, everything for a very small sum.

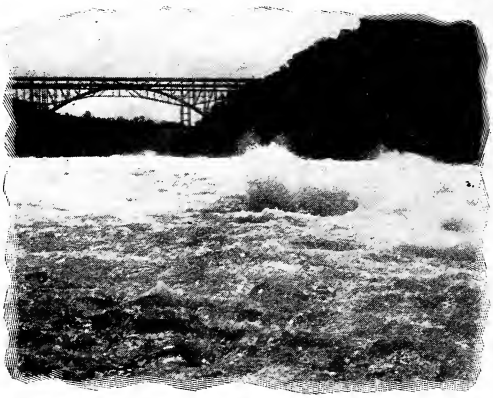
The visitor should remember that in crossing to Canada he passes beyond the jurisdiction of the village trustees, and that if he is wronged by people there, he has, on the American side, no method of redress. He should remember, also, that upon all goods brought into Canada there are large duties.

With these few words, we deem the visitor amply informed. We recommend him to use the same good sense here that he uses at home; to inquire the price of an article before he buys it, and, if too costly, to let it alone, rather than buy it and then go away grumbling; to inquire the price of a carriage before he engages it, and to understand that in no case is the charge more than one dollar and fifty cents per hour. He should expect to pay a fair price for all he receives, not to be continually trying to cheapen

everything; for, as surely as he endeavors to do so, so surely will the advantage be taken of him. Any gentleman or lady who will carefully read and follow the above advice and directions, will never have reason to regret a visit to Niagara Falls.

HINTS FOR SEEING NIAGARA.

The visitor to Niagara Falls should come prepared to remain, for it is not one of those spots which can be "done" in a day; and the mere excursionist, who comes in the "early train" and



The Rapids.

leaves by the "night express," has merely the boast that he has "been to the Falls." If this be the tourist's object, he can accomplish it almost as satisfactorily by going east or west by way of the Falls, getting out during the few moments of the train's stop at Falls View, and then climbing back into the car. One of the chief charms of the magnificent cataract is that it grows upon one, that familiarity does not breed contempt, but that it is more

impressive on the last day of a month's sojourn in its neighborhood than upon the first day. The first sight is usually disappointing, for the spectacle is so sublime and overwhelming that the mind, unable to grasp it, can not adjust itself at once to a scale so stupendous, and the impression fails. But gradually, in the silence of the night, and during the drowsy quiet of the long summer day, the unvarying, ponderous, unspeakably solemn voice of the great flood finds its way into the soul, and holds it with an awful fascination which is all pervasive and can not be shaken off.

And there is another reason why a day is insufficient for seeing Niagara. Between sunrise and sunset one may drive to every spot described in this book, between the Whirlpool and Dufferin Islands, and may do all the things that are usually done by visitors; but the time allotted to each point can not but be inadequate, when each point has sufficient interest to hold one's attention for hours.

It is a good plan for one whose time is limited to take a van in the morning for the tour of the Reservation, descending the Biddle Staircase en route, and on returning to Prospect Park descend to the foot of American Fall, and take the trip in the *Maid of the Mist*, going back to the hotel for luncheon on the return. In the afternoon a carriage may be hired from one of the responsible liverymen for a visit to the Canadian shore, crossing the new suspension bridge and driving through the Queen Victoria Park to Dufferin Islands and back; continuing past the new suspension bridge and the two bridges at Clifton to the Whirlpool and the Whirlpool Rapids, and returning thence via either of the suspension bridges.

Such a trip should consume not more than three hours, the time required depending, of course, upon the time spent at each place of stoppage. The cost would be as follows:

Carriage, two or more persons, three hours	$2.50
New Suspension Bridge toll (carriage, one visitor, and the driver)	.75
Drive through Dufferin Islands (carriage and all its occupants)	.50
Elevator at Whirlpool Rapids (each person)	.50
Railway Suspension Bridge toll (carriage, one visitor, and the driver)	.45
Total	$4.70

The visitor should remember that he is not compelled anywhere to buy anything unless he wishes to, and he should not allow his driver or anyone else to prevail against his will. It may be well also to note that he will be compelled to declare to the customs officers at each end of the bridges anything dutiable that he carries from one country to the other.

The cost of the morning excursion would be:

Reservation van (each person)	$ .25
Cave of the Winds, with guide and dress (each person)	1.00
Inclined railway, Prospect Park (each person)	.10
Trip on the *Maid of the Mist* (each person)	.50
Total	$1.85

A total cost of six dollars and fifty-five cents for seeing about everything that can be seen at Niagara in one day, with the exception of the trip behind the Horseshoe Fall on the Canada side, which can be added for fifty cents.

A USEFUL ITINERARY.

In the following itinerary is presented in outline a method by which two weeks may be profitably spent by the visitor, without once revisiting the same spot, except incidentally:

MONDAY.

Visit Prospect Park and Goat Island, familiarizing yourself with general outline of points of interest.

TUESDAY.

In the morning visit Goat Island, lingering at Luna Island and its stairway.

In the afternoon take a trip down the inclined railway (charge ten cents) at Prospect Park, and upon the steamer *Maid of the Mist* (charge fifty cents, including dress).

WEDNESDAY.

In the morning visit Goat Island, taking a forest walk to the Terrapin Rocks, and *briefly* visiting Three Sisters Islands.

In the afternoon take the forest walk to the Biddle Staircase, and go through the Cave of the Winds.

THURSDAY.

In the morning visit the upper end of Goat Island, taking with you an interesting book or paper, and alternately reading and enjoying the views; return to your hotel for dinner.

In the afternoon visit the new suspension bridge; through Queen Victoria Jubilee Park to Table Rock, stopping at Table Rock Ledge, and thence to the Dufferin Islands, returning to the hotel to supper at six o'clock (expense for carriage and tolls for each person, two dollars and fifty cents up to two persons—less for more than two). The first time you go you may *drive*, after that *walk*.

FRIDAY.

Take a carriage and drive down the bank of the river *on the American side*, taking your lunch, and stopping at Bloody Run; thence to the heights above Lewiston, commanding a most magnificent view of the windings of the river and the lovely valley of the Lower Niagara and of Lake Ontario, returning to the hotel at six o'clock (cost of carriage for one or more, six dollars; no tolls). The same trip may be made more economically via the New York Central Railway in the river-view trains, which are equipped during the summer with handsome observation cars. The cost for the round trip is twenty-five cents.

SATURDAY.

In the morning, having familiarized yourself now with the way, cross the new bridge (cost per person over and return, twenty-five cents), and take one of the vans running through the Park to Table Rock (cost, each person, ten cents), and *walk* thence to the Dufferin Islands, taking your lunch with you and spending the entire day among the islands.

SUNDAY.

Excellent churches, of all the principal denominations, may be found in the village, where visitors are always made welcome.

MONDAY.

Visit the Whirlpool and the Whirlpool Rapids, on the Canada side, taking along your lunch, and passing the morning at the Whirlpool Rapids, and the afternoon at the Whirlpool.

TUESDAY.

Order your lunch put up for you the night before, and taking it with you in the morning, enter the New York Central train for Lewiston, and thence by steamer to Fort Niagara, on Lake Ontario, and return in time for supper. This is one of the most beautiful trips about the Falls, as the railroad runs along the bank of the river, commanding many most beautiful views of the Whirlpool and the Rapids, and the magnificent scenery of the lower river. Expense of round trip, one dollar per person.

WEDNESDAY.

In the morning walk about the State Park, along the bank to the Upper Rapids, lingering on the way to obtain many beautiful views of the river.

In the afternoon drive along the upper river on the American side of La Salle, through a most delightful section of country, and in full view of the river. (Cost of drive, four dollars for carriage for party.)

THURSDAY.

Take a carriage, having your lunch with you, and drive on the Canadian side to the historic battle-field of Queenston and the monument erected to General Brock at Queenston Heights. This is, in its historical features, one of the most interesting trips at the Falls, and the outlook from the Heights is grand. (Carriage for entire day for party of five, seven dollars.)

FRIDAY.

After the long drive of Thursday you will find it most restful to read or sit upon the cool hotel piazzas, or make, possibly, a short visit to Prospect Park, the afternoon being passed in writing to your friends.

SATURDAY.

Take a carriage and your luncheon, and cross the new suspension bridge to visit Lundy's Lane battle-grounds, passing thence to what is unquestionably the most beautiful drive about Niagara—the Canadian river-bank up to the village of Chippewa, and thence to the upper river, commanding a wide prospect of the Islands, and returning thence through the Dufferin Islands. (Expense of carriage per day for party, six dollars.)

These suggestions could be greatly extended by the details of trips upon the upper river, where there is even better fishing than at the Thousand Islands, and, of course, each of the spots above named may be visited more than once; but enough has been said to show that Niagara is fertile in attractions for the "vacation tourist."

It should also be borne in mind that upon the visits to the Whirlpool and the Whirlpool Rapids, Islands, Canadian side, Queen Victoria Park, Dufferin Islands, cheaper means of transportation than carriages is offered by the street railways and vans, which are not so exclusive, but fairly comfortable and less expensive.

We give below the distances from principal hotels to points of interest:

DISTANCES FROM PRINCIPAL HOTELS.

	Canada side.	American side.
Around Goat Island	2 miles.	1½ miles.
" Prospect Park	1 "	½ "
To New Suspension Bridge	⅓ "	¼ "
" Railway " "	2 "	2 "
" Michigan Central Cantilever Bridge	1¾ "	1¾ "
" Whirlpool Rapids	2¼ "	2½ "
" Whirlpool	2¾ "	3 "
" Devil's Hole	4 "	3½ "
" Top of Mountain	7 "	6½ "
" Indian Village (Council House)	8½ "	8 "
" Table Rock	⅛ "	— "
" " " via New Suspension Bridge, or Ferry	— "	1¼ "
" " " via Railway Suspension Bridge	— "	4¾ "
" Burning Spring	1½ "	— "
" " " via New Suspension Bridge	— "	2½ "
" " " via Railway Suspension Bridge	— "	6 "
" Lundy's Lane Battle-ground	1½ "	2 "
" Brock's Monument, Queenston Heights	7 "	7 "

THE INDUSTRIAL INTERESTS OF NIAGARA FALLS.

Niagara Falls is undoubtedly destined to be a great manufacturing as well as distributing point. Hundreds of thousands of tons of freight are brought thither daily to be shipped to all parts of the world. Cars cross and recross the bridges all through the day, and soon every railway of importance in the State of New York will have tracks in the vicinity. The city is enterprising and businesslike.

The possession of the most sublime and awe-inspiring scenery on the American Continent does not necessarily make a Niagara Falls native a dreamer; but, on the contrary, he is generally found to be actuated by a remarkably keen desire to leave some decided and commercial footprints, if not on the "sands of time," still on the more durable and less impressionable rocky walls; those walls which bound that whirling cream of eddy and surge and backwater the deep diapason of whose Horseshoe fall is to be heard for miles.

Probably from the very first discovery of the cataract ingenious minds have been speculating how best to utilize some part of the practically unlimited power without impairing the picturesque value of the scene.

For many years it has been a matter of frequent comment that at Niagara there existed an enormous water-power not utilized. Foreigners visiting the locality expressed their astonishment that a people so inventive and enterprising as the Americans should allow the unlimited power of Niagara to waste itself away without attempting to divert a fraction of the force flowing by their doors to increase the material prosperity of their country.

The feasibility of applying a portion of the power of the cataract to the comforts and necessities of mankind has been discussed for many years by the scientists and manufacturers of America, and several undertakings for the utilization of so much of the water-power as the immediate locality required were carried out by local enterprise; but the limited demand for water-

power in a comparatively new and undeveloped country, and the existence of many small water-powers in the New England States and other sections of the country, permitted this great natural reservoir of power at Niagara to remain practically untouched until the removal of the forests impaired, and in many instances destroyed, the water-powers at other places.

THE OLD MILLS.

The early French explorers and traders, impressed by the magnitude of the water-power at Niagara, built a mill beside the rapids just above the Falls. In Colonial times the British selected a site in the same neighborhood and erected a mill, used for preparing timbers for fortifications along the river. Immediately below were subsequently erected the Stedman and Porter mills, the first structures of the kind on the Western frontier. These were soon followed by the construction of two large raceways, which were used by manufacturing establishments, as was also Bath Island, situated in the rapids above the American Falls.

THE HYDRAULIC CANAL.

The water-power at Niagara was first utilized on a large scale by the construction of the hydraulic canal, about three-quarters of a mile in length, commencing at a point on the shore of the river above the Falls, where the water is deep and navigable, and terminating on the high bank of the gorge below the Falls. The cliff along the bank of the river near the lower termination of the canal is occupied by the large manufacturing establishments.

The Cataract Mill, the first mill established on the hydraulic canal, was erected by Charles B. Gaskill in 1874. The capacity of the mill has been largely increased. It now turns out 700 barrels of flour per day. The canal became the property of Jacob F. Schoellkopf, to whose enterprise and foresight the development of Niagara Falls as a manufacturing center is largely due.

The erection of the flouring mill of Schoellkopf & Matthews was commenced in 1877. It started with twenty-two run of stone, and, by reason of the power and shipping facilities, became so successful that it was necessary to increase the capacity. In 1881 it was remodeled, the stone replaced by rollers, and the product increased to 2,000 barrels per day.

When the Niagara Falls Hydraulic Power & Manufacturing Company became the owners of the hydraulic canal, other manufacturing industries increased. The Niagara Wood Paper Company erected a mill for the manufacture of wood pulp. Owing to the abundant and steady power, the place proved to be particularly well adapted to that industry, and a second mill was soon after erected by John F. Quigley. A third mill, now the property of the Cataract Manufacturing Company, was subsequently established. All of the pulp mills have since erected additions fully as large as the first structures. The Niagara Wood Paper Company and the Cliff Paper Company have added machinery for the manufacture of paper.

When the mill of the Niagara Falls Paper Manufacturing Company was appropriated by the State of New York at the establishment of the State Reservation at Niagara, in the year 1885, the Pettebone Paper Company erected a larger and better mill, in the milling district. In 1889 an addition to the establishment was built and the capacity of the mill doubled.

The Oneida Community (limited) of Niagara Falls has established one of the largest silver-plating works in the United States, and has also added an extensive steel chain manufactory to the establishment. The capacity of the works has been doubled since their establishment.

Carter & Company (limited), manufacturers of counter check-books, located at Niagara Falls when the goods were first introduced. The establishment has been enlarged several times, and a new building is now being erected to meet the increased demand.

A third flouring mill, "The Central," has been established, with a capacity of 2,000 barrels per day. Schoellkopf & Matthews' Niagara Flouring Mill and the Central Flouring Mill, standing side by side at Niagara Falls, are the largest flouring mills east of Minneapolis, and are almost continually run to their full capacity.

The establishment of the flouring mills necessitated the building of large cooper shops. All the barrels used by the mills are manufactured in the mill district. This branch of industry gives employment to a large number of men.

The business of the Brush Electric Light & Power Company, organized in 1881, has continually increased.

The Niagara Falls Brewing Company's establishment is one of the most successful and prosperous concerns of the kind in the country. Since the erection of the buildings, additions have been made sufficient to double its capacity.

The building of so many mills led to the erection of Philpott & Leuppie's machine shop, an extensive establishment located in the heart of the mill district.

Every branch of business established during the past fifteen years has been obliged by increased demand to double its capacity.

A summary of the yearly transactions of some of the various branches of industry will illustrate the importance of Niagara Fal's as a manufacturing center.

The flouring mills manufacture annually 942,000 barrels of flour, value $4,710,000; employ 110 men, and pay out for wages $66,000. The paper and pulp mills turn out 9,156 tons, value $527,520; employ 126 persons, and pay out for wages $64,680. The cooper shops employ 130 men, manufacture 603,600 barrels, value $211,260, and pay out for wages $64,800. The Oneida Community (limited) emplops 220 persons, and pays out for wages $60,000; value of product, $200,000. Carter & Company (limited) employ 161 persons, pay out in wages $49,400; value of product, $350,000. The Niagara Falls Brewing Company employs 40 men, and pays out in wages $28,000; manufactures 40,000 barrels, value $280,000. Philpott & Leuppie employ 16 men, and pay $9,600 for wages.

These establishments are among the most prosperous in the country, a fact largely due to the great superiority of the power and the unexcelled shipping facilities at their command.

The railroad companies have been watchful of the rapid growth of the manufacturing interests, and railroad sidings have been laid to every mill door. Twenty-seven thousand cars of mill freight are now handled every year.

The chain of the Great Lakes, the inexhaustible source of the power, is unaffected by floods or droughts, the surface height of the Niagara River is practically the same at all times, and the lake water which constitutes the stream is of the purest quality. There is nothing to interrupt the steady flow of the products of these establishments, and being located as they are upon the

great highway of commerce between the East and West, where the trunk lines of railway concentrate at the international railway bridges, connecting the United States and Canada, the means of obtaining the raw material, and the facilities for bringing the products of the manufacturing establishments to the consumer, are unexcelled.

THE GREAT GORGE ROUTE,

on the American side, runs from Niagara Falls to Lewiston, connecting with all railroads and steamboat lines from the East and West, from Buffalo and Toronto.

This line is a marvel of skill and ingenuity in electric railroad building. Its cars start from the great Observation Tower, opposite Prospect Park, and carry passengers down a gentle grade on the side of the rocky gorge, reaching the main grade only twenty feet above the water, near the great railroad bridges. It passes along the wonderful Whirlpool Rapids, where they can be seen completely from end to end. The Great Whirlpool is skirted and seen from the most appreciated point, the water level. The lower rapids, the longest, most beautiful, and the least seen in the past, are shown in all their glory. The great mystic cavern, The Devil's Hole, the caves along the route, the old forts, battle grounds, and the ruins of the first Suspension Bridge over Niagara Gorge, the first built in America, are among the interesting points passed, while magnificent views of Queenston Heights and Brock's monument are obtained, the scene of the great battle of the War of 1812, the romantic scenery passing like a panorama before one's gaze, ending up at the historic old village of Lewiston, where direct connection is made with the steamers for Toronto and all parts of Canada.

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AVENUE

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