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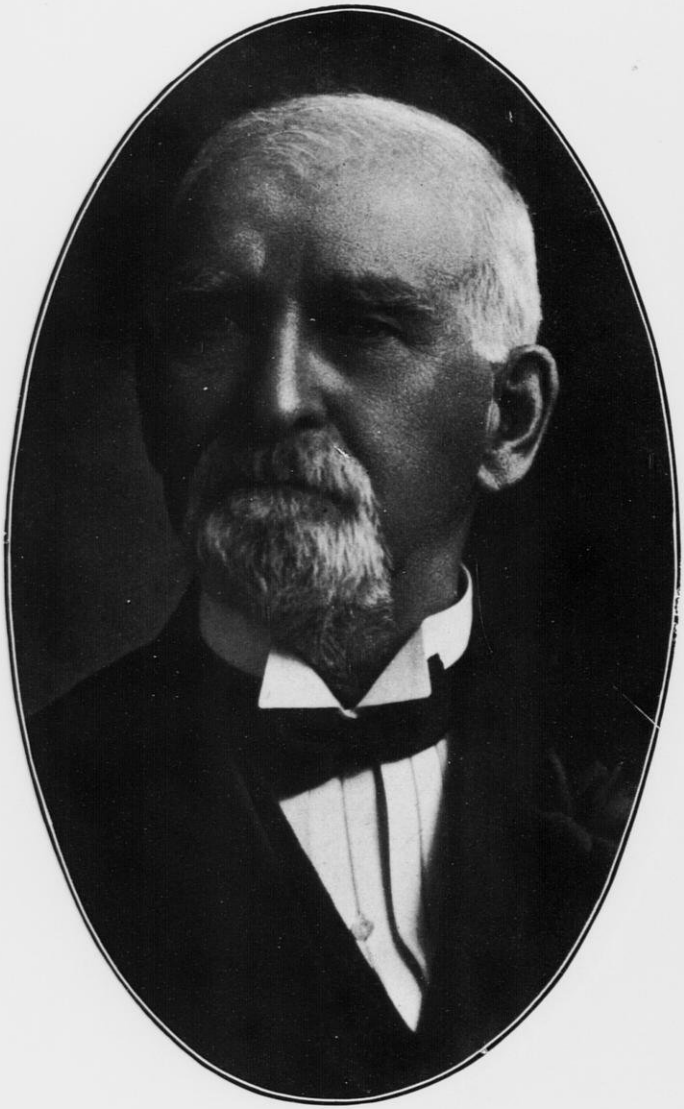

O. H. Ingram

AUTOBIOGRAPHY

Orrin Henry Ingram

May, 1830—December, 1912

EAU CLAIRE, WISCONSIN

December 31, 1912

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CONTENTS.

Mrs. Cornelia Pierce Ingram

MY BOYHOOD.

MY GRANDFATHER, David Ingram, came from Leeds, England, and settled in Southwick, Mass. in the year 18.... My father, also David Ingram, was born in Southwick, and married my mother, Fannie Granger, who was also born and raised in Southwick. I was born in Southwick, May 12, 1830, and when I was a small boy my father and mother moved to Saratoga, (Old Saratoga, it was then called). I was the fourth of a family of nine children, five boys and four girls, of whom only myself and my brother Julius Ingram, also a resident of Eau Claire, are living.

My father died when I was eleven years old, and soon afterwards I went to live with a family named Palmer, seven miles south of Glens Falls, N. Y., towards Saratoga Springs. I lived there about two years and then went to Bolton, N. Y., to visit my mother, who had married again and was living on a farm on the shore of Lake George. I found her lonely and anxious to have me stay near her. I had expected to remain with the Palmers until I was twenty-one, but I arranged with them to let me off, on account of my mother's anxiety.

My mother arranged with a family named Boyd for me to live with them, do chores for my board, and go to school. They didn't live far from the schoolhouse and treated me nicely.

That winter Uncle Nathan Goodman, who lived about two miles from Boyd's, at Goodman's Corners, visited them. He took a liking to me, and wanted me, in the spring, to go with him. The Boyd family had two sons who could do the work in the summer and they were willing I should go to Uncle Nathan. He had a good farm, and his wife was very nice. They had no children, but had adopted a boy some years before who was something of a bookworm, and perhaps I might say a little in-

clined to be lazy, as he was willing to let me do all of the work while he would stay around the house and read. In the winter I got up at four o'clock in the morning, depending upon Uncle Nathan to call me, and I sawed wood in the woodshed by the light of a lantern until breakfast, by candle light. After breakfast I milked the cows, fed the horses, and got ready for school. Aunt Lucy always had a nice lunch for me, in a little dinner pail, that I carried to school, which was about a mile and a half distant. I worked on the farm in the summer, and while I was yet a mere boy, fifteen or sixteen years old, I did a man's work.

When I went to Uncle Nathan's it was an understanding that I would remain there until I was twenty-one; but that kind of life was monotonous for me, and I was curious to see my birth-place, and arranged with Uncle Nathan to let me off. He furnished me money enough for my fare on stage to Troy, N. Y., and on the Boston & Albany Railroad, then new, to Westfield, Mass. I had the few things I possessed in a small trunk, which I left at the Westfield station, and went afoot to Southwick, where my mother's brother lived, with whom I had been corresponding. Southwick was a pleasant New England village, and my uncle was anxious to have me remain there. But I had heard a good deal about the armory at Springfield, and about young men who went there to learn trades, and it seemed to me that would be a good thing for me to do. It was eleven miles by wagon road to Springfield, and my uncle, who was a prominent man in Southwick and knew the commander at the armory, who had told me if I was anxious to go there and get a position he would go with me, so I talked with the gentleman in charge of the armory, who told me he could register me for a position, and said: "You may not get a position for three months, or six months, or perhaps a year, for I have a long list of applicants, and they will be taken according to dates, but your turn will come after awhile." That was rather discouraging, and after leaving the armory I said to my uncle that I

would like to go to the large locomotive works, at Springfield; that perhaps I could get in there. We went there, saw the superintendent, who told me they paid young fellows fifty dollars for the first year, with board and clothing; one hundred dollars the second year; two hundred dollars the third year, and three hundred dollars the fourth year—provided they were steady and willing to take hold of the work; and said I could have a position when the next vacancy occurred.

I returned home with my uncle, feeling somewhat discouraged. He was determined to keep me there, and found that the landlord and proprietor of the Loomis Hotel wanted someone to act as clerk and general hand, but could pay only small wages. The town was then a great cigar manufacturing town, the cigar makers were a tough lot, as a rule. At that time in Massachusetts there was a great deal of cider brandy made, and those fellows would hang around the hotel when off from work and drink too much and get quarrelsome—so much so that the proprietor would frequently order them from the place. The Congregational church stood on a corner opposite the hotel, and one of the trustees came to me soon after I started in at the hotel and told me he could give me so much a week for ringing the bell at six o'clock in the morning, twelve o'clock noon, and six o'clock in the evening. I do not remember how much he gave me, but it was a small sum, but the job helped to keep me employed and out of mischief.

After about six weeks, work at the hotel proved to be tame and unsatisfactory, and, I remembered that Mr. Bronson, whom I knew in New York, had said to me that if I didn't like it in Massachusetts he would, if I would come back, give me a good position at lake Pharaoh, where he had large interests in a saw mill and a large body of timber. Mr. Bronson's wife was a sister of your mother and usually spent a part of each summer at Bolton, which was close to Lake George, while Mr. Bronson was putting in most of his time at Lake Pharaoh, looking after

the saw mill. When I went to work for him, Mrs. Bronson was at her father's with her twin babies, Erskine and Gertrude, about a year old. Mrs. Bronson was about ready to go back to Lake Pharaoh, and I was to report there to Mr. Bronson. It was arranged that I should accompany Mrs. Bronson and the twins. It was a long day's drive in a double-wagon, with heavy springs under the box and the seats arranged with the trunks behind them to rest our backs against. The twins were so small they had to be held. I held one of them most of the time, and their mother the other. We drove to a place called Garfield Hotel, on the shore of the lake, reaching there in time for dinner. It was eleven miles from there to the mill, but there was a road from the head of the lake to its outlet, where the mill and the headquarters and the boarding house were, and where the families of the mill men lived. They usually had a boat at the head of the lake in which to go down to the mill, but when we reached there we found someone had taken it, and it was necessary (it was almost dark), for us to drive two miles and a half through the woods, over a rough road, and Mrs. Bronson, with one child on her lap, and myself, with the other, as you can imagine, were pretty well shaken up, and very tired when we got there. Mr. Bronson sought to learn who had taken the boat, but I don't remember whether or not he found out.

BEGINNING IN LUMBER

The first work I did in the mill was on the edger, edging lumber. The edger then used had a narrow carriage, 12 or 14 feet long and 14 to 16 inches wide, and on which we placed a board and pushed it through by a saw which took off one edging, and when brought back we turned the board over and pushed it through again, taking off another edging. That would be a strange method to men in our modern mills, with modern edgers. Wages were $13 a month, and board, during the sum-

mer, and $12 and board during the winter, while cutting the logs.

I was not there two years before it was thought proper in the absence of Mr. Bronson, to put me in charge of the work. Mr. Bronson had looked after the repairs of the mill, and would take a lantern to all parts of it at night, to see that everything was in order to start in the morning; and as he usually took me with him, I became familiar with the work to be done. In the winter I had charge of the cutting of the logs and of having the saws and axes and everything else in readiness for the men. The last winter I was there I took a severe cold. One of the teams had broken through the ice on the small lake we had to cross. I was in charge of the camp, and hurried to the lake to get the horses and help the men out of the lake, which was done in short order, but I got very warm and took a severe cold. I was taken to the headquarters at the mill, and was very ill with fever for three or four weeks. A doctor was brought in from Bolton, Lake George, to treat me. He made several trips, some thirty or forty miles distance, and brought me out all right; and as soon as I was able to be moved he took me in his sleigh to his own house, at Lake George, where I remained about a month. The doctor was a half-breed Mackinaw whom the ladies of Waterford, N. Y. had educated and looked after until he was settled in practice at Bolton. Some time before I was taken to his house he had married a daughter of a Mr. Smith, one of the prominent men of Bolton. She was a very competent person and treated me nicely. While I was at the doctor's house a millwright who was engaged to build a mill about eighteen miles from Kingston, Canada, had recommended me to a retired Presbyterian minister at Schenectady, N. Y., named Fox, who was one of the company building the mill, saying he thought I would be just the man for manager. When I was well enough I went to see Mr. Fox, who by his marriage had inherited a large property,

and after learning what he would expect me to do, I told him I would soon let him know whether I would accept his proposition, which was to give me $1,000 a year, with my board. That was so much more than I had been getting that it was a tempting proposition. I took the matter up with Mr. Bronson and he advised me to accept.

MANAGER—LAW IN CANADA

Mr. Fox gave me a letter to his partner at Kingston, a Mr. Angling, then city treasurer of Kingston, and a prominent business man. After talking things over with Mr. Angling he took me to the mill, then well along under construction. It was being furnished with a slabbing-gang, a stock-gang, and what we called an English gate (consisting of two saws in one sash or frame), to cut the large logs, the slabbing-gang to cut the medium logs, and make stock for the other gang. The stock-gang had thirty saws hung for cutting inch lumber. The stocks were generally made twelve inches thick when the log was large enough. The mill would cut about 150,000 feet a day.

It was about two months before the mill was ready to run. It was on the Rideau canal, that was made up by the canal and lakes between what was then By-town (now Ottawa), and Kingston, and about eighteen miles from Kingston. The canal was a government work and had at that point, Brewer's mills, four or five locks with a lift of about eighty feet, and was built to overcome a rapid in the Rideau river. The back water from Lake Ontario stood back to within a foot of those locks. The locks were built in a substantial manner, with cut stone, and the government had provided a large, fine stone house for the lock-master. There had previously been a small mill at that point, run by water power. The new mill was run by water power from one end of the dam, which backed the water into a lake six or eight miles long. Mr. Angling had obtained a con-

cession from the government for the use of the water power, and had made contracts for logs along the Rideau canal sufficient to stock the mill. I got there before the ice went out of the lakes, and the camps that were putting in the logs were breaking up, so it was necessary for me to make arrangements for getting the logs to the storage ground above the mill, or rather to see that the contractors who were to deliver the logs put them into the storage ground, in rafts. I made a trip to the contractor's camps. Some of the time I had to go across the lakes on the ice and some of the time by wagon road. I found the men waiting on the contractor for their pay. They were getting short of provision and were very uneasy, as the contractor had not been there for some time; and in some cases they were getting ugly, and made demands upon me, as agent of the company, for their pay. After two or three days spent in looking over the logs I returned to the mill and went immediately to Kingston to see Mr. Angling. I learned that he had paid the contractor in full for the logs. I returned to the mill, made inquiries as to his whereabouts, and the best information I could get indicated that he had left the country, without paying either the bills or the men, but had arranged with the foremen at the different camps to put the logs into rafts and deliver them at the storage ground at the mill, which would be making more bills to be paid. Meantime, the ice had gone out of the lakes and the logs were being moved in rafts to the mill; and I learned from men who had been discharged that they were looking for McDonald, the contractor, for their pay, and they said if they didn't get it they would run the logs through the locks and sell them to somebody from whom they could get their pay. I soon discovered I had a pretty big job on my hands, besides getting the mill ready to run. So I hurried to Kingston with horse and buggy to see what Mr. Angling would propose to do. He, of course, said it would not do to allow the men to run the logs by the mill, and

that when the rafts reached there, (they were coming pretty close together), to advise him, and he would send an officer to take possession of the logs. As soon as the rafts reached the tieing-up place, half a mile above the mill, I was notified by the foremen of the camps that if they did not receive their pay as soon as the logs were tied up they would run them to the locks, have them locked through, and take them to a point below where they could sell them and get their pay.

Nothing could be learned of the contractor, McDanold. Of course, I informed Mr. Angling what the men proposed to do, that they would probably move the logs past the mill into the basin of the locks and demand the lockmaster to lock them through, which was not authorized to refuse to do. The next morning, bright and early, the chief of police of Kingston appeared, dressed with blue coat and brass buttons. Asking me where the logs were, I pointed them out from the mill, and he asked me to send him there in a boat. I found a man ready to go, told the officer the men were desperate, and that I thought he would find it difficult, from what they had said to me, to get possession of the logs. He replied that he felt able to handle that matter, and didn't seem to want my advice. I guess he thought I was a pretty young fellow to advise him. As he was a resolute fellow, I dropped the matter. They started about nine o'clock to the rafts. When the men saw the boat coming thirty or forty of them arranged themselves on the outside of the rafts. Some of them were armed with pike-poles, and some with guns, and when the officer got within a few feet of a raft the chief spokesman, who was known among them as "Bold McGinnis, from the County Tyrone," warned the officer that he must not put his foot upon the raft, or if he did, that he would be a dead man. The officer told the man who was rowing to turn the boat around, stern to the raft, and he drew out a paper which he said to the men was an order from the Queen's Bench that they must leave the rafts with luggage,

and not return, otherwise they would be taken to the jail at Kingston and prosecuted. The men hooted and yelled while he was reading the order, and told him he could "go to h—l." When he had read the warrant he turned to the man at the oars, saying, "Shove the boat right up to the raft!" As he did so, he drew from his belt two revolvers, one in each hand, one of which he pointed directly at the man who had talked to him and the other at the man next to him; and by the time the boat had reached the raft every man on it had grabbed his luggage and was running for the timber along the shore where the logs were tied up.

The officer remained perhaps an hour, then came back, and said to me that the men had left the rafts and he guessed we would not have any further trouble; that he would return to Kingston, and if there was further trouble, to advise him as quickly as possible. I replied that I believed, notwithstanding he had frightened them off the rafts, they would all come back and attempt to run the logs into the basin and force the lockmaster to put them through. "Oh," he answered, "people here in Canada are different from what they are in your country." (He had taken it for granted that I was a Yankee). "They have more regard for the law than they do in your country." "Well," I replied, "men are a good deal the same, so far as my little experience goes, in both countries, and I look for more trouble." "Well," he said, "young man, don't be alarmed. We have the law on our side and we will see to it that the logs are kept for the mill and for the owners of the mill." By noon, soon after he left, the men were back on the rafts, had started a fire, and were getting their dinner. Sometime the next forenoon "Bold McGinnis, from the county Tyrone," came to the mill and told me they resolved to run the logs through the locks and sell them if their pay was not forthcoming, and that the chief of police, if he came back, would find the men all there and ready to fight for their lives. Things

looked pretty serious, but the only thing I could do (a young man, not more than twenty), was to notify Mr. Angling again what the men proposed to do. I again sent a man on horse with a letter to him, and the next morning, soon after daylight, I was on hand, and the rafts were being moved past the mill into the basin of the locks. Of course I could do nothing to stop them. I had only a small crew working on the mill to get it ready to run, with a pretty good prospect then that there would be no logs to saw when the mill would be ready. I went along the embankment to the lockmaster's house, asked him what he proposed to do, and he answered that there was no other course for him but to allow them to put the logs through. I looked down the channel, below the locks. There was a long bridge over the narrow river, and I saw a steamer coming, and recognized it as the Beaver, an old steamer running between Kingston and Bytown. I watched, and it soon came to the foot of the locks. As soon as the gang plank was put out an officer passed down and stood at one side while a company of sixty or seventy regulars, with muskets, filed out and started up the bank. The officer was the sheriff of the county in which Kingston was located. He wore a blue coat with brass buttons, and also striped trousers and a hat with a gold band. I was on the embankment when they came up by the logs and the officer said "Good morning" to me and I responded with a "Good morning, sir." He asked, "Are those the logs in question here?" I answered "Yes." "Are those the men on the rafts who brought them down here?" I answered "Yes." "Well," he said, "Pretty bold piece of business, isn't it, to defy the law?" I replied that I supposed so, and began to think I had undertaken a big job. However, thinking by that time, that "discretion was the better part of valor," I went over to the mill. When I started away the sheriff said, "Young man, you need not be afraid, there isn't anybody here going to hurt you." Just then "Bold McGinnis from the County Tyrone" took a

pike-pole and began to shove the logs away from the bank. The officer, after the soldiers were arranged along the bank, with their muskets, said to "Bold McGinnis," "Stop, sir, don't shove that raft away, I want to get onto it." McGinnis answered, "You nor none of your minions can put foot on one of these rafts; if you do, you will be dead men!" A number of the soldiers had their muskets in hand ready, the moment the sheriff, whose name was Kink, ordered "Present arms," to raise their muskets to their shoulders; and at that moment the sheriff started down the embankment. The sun was just rising, and as he started he unbottoned his coat and drew a sabre about three feet long, swung it in the air, and made a leap for the raft, landing beside "Bold McGinnis" with pike-pole in hand, and his men close by. Immediately they all whirled about and ran for their lives across the rafts to the shore, looking like a flock of sheep going over a fence.

I was so much amazed I did not know what to think, or say, The men left the rafts and never returned. What became of "Bold McGinnis of County Tyrone" I never knew, but several of the men who had worked on the rafts and in the woods, Scotchmen and Glengarry men, came to the mill for work when I was ready to start it. I hired several of them, and they proved to be royally good men. I learned then that they had no lien law in Canada, and that the men had no one to look to but the man to whom they hired, McDonald, who had run away with their money. That seemed to me a hard thing, knowing, as I did, that they were entitled to pay for their work. There was no law to protect them in undertaking to do what they were apparently bound to do until they were forced, under the law, and by the officers, to quit the rafts and lose their pay. While there was no legal obligation upon the company to make good their losses, I would have felt like spending some money to punish McDonald, and perhaps have gone a little farther, and have given them something towards their winter's work. Al-

though the company was not at all liable, my way of treating such a matter would have been to do a little something for the men. Some of the men I hired worked there while I remained at Brewer' Mills.

MILL BUILDING—SUPERINTENDENT.

It was a great place along the Rideau canal for fever and ague. Sometimes a third of the mill men would be laid off on account of the ague. I had a touch of it myself and was obliged to use too much quinine to prevent it, so I advised Mr. Fox and Mr. Angling that I could not remain on that account, but would try to find them another to take my place. I did that, and went to Belleville, Canada, about fifty miles from Kingston, near the head of the Bay of Quinte. A Belleville man had visited the mills while I was at Brewer's and was anxious to have me and also to get him a millwright to build a mill at Belleville; and to give them a plan of it as I would like to have it built, so I wrote them I would superintend the building of the mill and perhaps run it a little after it was built. While building that mill I was engaged to build or superintend the building of two other mills, gang mills.

MARRIED AND AGAIN AT BYTOWN

While building those mills I went back to Lake George and married your mother, December 11, 1851. She was the next youngest daughter of Capt. Pliny Pierce, who resided on Federal Hill, about two miles from Goodman's Corners. I left her at Glens Falls with her sister, Mrs. Bronson, and returned to Belleville. I soon decided that I had better have my wife with me, so I returned to Glens Falls for her. I finished those mills and ran the first one started during the summer, and then engaged to build another mill, on the Moirah river, about nine miles from Belleville, a gang-mill, water power. The other mills in that vicinity were steam mills. While we were there our first child was born.

Soon after the mill was running, Harris & Bronson, at Lake Pharaoh, bought a water power at Bytown, secured some timber limits, and prepared to build a mill. Mr. Bronson, then my brother-in-law, was anxious to have me help build their mill, knowing that I had after leaving them a good deal of experience. He thought I ought to be with them, and that he could arrange for me to have some financial interest in the mill. After the mill stopped, and during the winter, they were anxious for me to be there and rush the mill-work and order the machinery.

I decided to go to Bytown and left Belleville in a covered sleigh, with your mother and the baby, and our luggage. It was a drive of about 230 miles. We spent the second night out at Brewer's Mills with the man I had engaged to take my place, and his wife, and drove through by easy stages, and had a comfortable trip. Went directly to Mr. Bronson's house and remained with them until spring, when we went to housekeeping, for the first time.

MY OWN EMPLOYER

All the next year I was busy helping about building the mill and to get the first piers and booms in the river to handle the logs as they came down the Ottawa. After the mill was built, Mr. Harris, who was the head of the Harris & Bronson Company, suggested that he would like to have me run that mill by the thousand. We had already built a water-slide from the side of the mill where the lumber was put out down the shore to the piling ground for the lumber. It was of three-inch plank, part of them 15 inches wide and part 12 inches wide; three 12-inch plank in the bottom, and the side planks 15 inches wide. The lumber was dropped from the mill into the water-slide, with about six inches of water, which carried it to the piling ground, where the water was let out and the lumber taken on little two-wheeled cars and distributed. The mill consisted on the shore-side of what we called an English gate—two saws

hung on sash gate. Sometimes we ran only one saw, and sometimes two, for cutting the big logs. Next to that, along on the same line, was a slabbing-gang, in which we hung sixteen saws, eight on either side, and a twelve-inch stock, or cant, as we called it; beyond that was a stock-gang which ran two medium-sized stocks, or cants, side by side. In that gang we had forty saws, and beyond that we had what we used to call a Yankee-gang. The Yankee-gang was an iron frame with a center piece, or stile. One side of it was hung with twelve saws—six on either side of a twelve-inch cant, or stock. The log would be run through the slabber, boards and slabs taken off, the stock turned down to a set of rollers, and would go back through the stock gang, where the lumber was taken off to the edger. We had two ordinary edgers and a large trimmer. When the lumber went over the trimmer it was dropped into this water-slide and run to the piling ground.

I hesitate to tell you what I did in that mill that year, for it seems incredible, but is nevertheless true. I filed and hung every saw, including edging saws and trimmer saws; two saws for the first English or shore-gate, sixteen saws for the next, the slabber-gang, and forty saws for the next, or stock-gang, and twelve saws for the slabber-part of the Yankee-gang, and twenty-two saws for the stock part of the Yankee-gang. I used a filing machine and bench of my own invention, which enabled me to do the filing of so many saws as promptly as it had to be done. Then, at night, after the mill was stopped, I hung the saws I had filed during the day. I had a mill-wright who would go around with me to see that every key and everything else in the mill was properly cared for, to start the next morning. During that summer the only man besides the mill-wright I had to help me was one I took from the machine shop the month of August to help me about the filing. Other than that, I did all of that work myself, which would now be considered work for three men, at least. There were no machines then with emery wheels for sharpening saws. It was done with

a file. The boarding house was close to the mill, and your mother with the help of one girl did the work for a large portion of the men.

The logs were supposed to be delivered at the foot of the jack-ladder, but many times I had to help get them through the flume from the storage-boom to keep the mill going. We cut about 150,000 feet of lumber a day. That amount of mill, the way we run now, would cut hardly twice that amount. We did not run the machinery at as high a speed as now, or put on as much feed, but with the slow feed we made very smooth and even lumber. It looked so nice that Mr. Harris on one or two occasions cut off pieces of board an inch and a half plank and took them to Albany to show to parties there what kind of lumber we were making. Most of our lumber was shipped in canal-boats down the Ottawa into the St. Lawrence, through the canal to Lake Champlain, down to Whitehall, and from there to Troy by canal. When we settled up, in the fall, Mr. Harris was there, and the bookkeeper who kept my accounts and paid the men found that, counting the days the mill had run, it left me $10 a day for my work. Mr. Harris said he was much pleased with the way I had run the mill and made the lumber, and that he would like to have me run it another year, but thought I ought to run it for 50c. instead of 75c. per M. I told him I could not do it for that; that I had done the work of at least three men, and at the price he proposed to give me it would not pay me to do it, and I advised him to get another to take the job.

ON A BIG SALARY

Mr. Bronson, who had to do about what Mr. Harris said, couldn't prevail on him to give me the price I was willing to take and continue to run the mill. He felt, too, as he talked when I first went there, that I ought to have a financial interest in the operation. That, however, meant too large an investment, and I did not have the courage to run in debt to the extent I would have had to, so the next day I told Mr. Harris he had

better get someone to take the mill at his price, and said I hoped he would be able to get the lumber made in as good shape as I had made it, and that I would seek a job elsewhere. I knew pretty well where I could go, for Mr. Gilmore, manager of all of the Gilmore & Co. mills in Canada and the Eastern provinces, had frequently been to the mill at Belleville and when I was running the mill for Harris & Bronson at Bytown, and had said to me that if ever I wanted to make a change he would be glad to see me, but that he did not want me to think he was there to hire me away from the parties I was with. I went to Mr. Gilmore's office (their headquarters being in the city), and told him I was at liberty to engage with him, if he wanted me, and talked with him in a general way about what he wanted or expected me to do. He told me, and asked me if I could go with him to the Gatineau mills, about nine miles, and look them over. He also talked with me about the other mills of the company. I told him I could go at any time.

I talked the matter over with your mother. She was a good deal surprised, feeling, I suppose, that I would likely remain with Mr. Bronson, so she could be with her sister. But I was decided in my plan, and she, as she always has done, acquiesced.

The next day Mr. Gilmore advised me that he could go out to the mills, and we drove out. They had extensive mills there, cutting about 500,000 feet per day—one mill on either end of the dam across the Gatineau river, five gangs in one mill and four in the other, with edgers and trimmers and all the other necessary machinery for such plants. I was introduced to the men in charge, the man who had built the mills, and his son, the latter then a competent millwright and doing the active work. I expressed some doubt and fear that it was a large undertaking for me, especially in view of my being an American Yankee (what Americans were then called), about getting along with the men. He said I need have no fear on that ground, if I was willing to undertake the job and take full charge of the mills and the work at the piling ground, which

was five miles down-river, the lumber being carried thence in a water-slide 30 inches wide and 15 inches deep, the water running into it from the dam and filling it a little more than half full. It took a large force of men to handle the lumber at the piling ground and keep the water-slide from jamming and throwing the lumber out, which made it necessary to stop the mill temporarily until the slide was cleared. In some places there were ravines of twenty to thirty feet, which made it a very serious matter to pick up the lumber, the slide having some very short curves, frequently causing jams. I said to Mr. Gilmore that I could remedy that trouble by straightening some of the curves and making the slide a battering-slide, or in other words, four inches wider at the top than at the bottom, in which case, if the plank lapped by each other a little, and formed a stoppage, the water would rise in the slide and liberate the lumber so it would move on.

WITH THE GILMORE COMPANY

I looked the situation over and decided to accept the offer of Mr. Gilmore of £1,000 Halifax currency ($4,000) a year. He told me, in talking about the mills they had, that I would be expected, in a general way, to supervise the management of all of the mills. One mill was at Trenton, on the River Trent, nearly 200 miles from the Gatineau mills; another was on the Blaunch river, about twenty-five miles down river from Ottawa, or Bytown; another was a few miles further down, at Buckingham; another on the North Nation river, and another on the South Nation river, but the latter mills were not large. They also had a mill at Wolfcove, Quebec, and another at Indian Cove, Quebec. These latter mills were used for making needed repairs on their vessels for shipping their sawed lumber and hewed timber to London, Liverpool and Glasgow. He said I would be expected to go to each mill occasionally, as it might seem to them advisable. They had a large wholesale store for distributing point in the city of Ottawa, and a store at each of

the other plants. The store at Ottawa supplied their timber operations on the Ottawa and its tributaries above Ottawa. They got out a large amount of square timber that was hewed and rafted to Quebec, where it was taken into vessels for London, Liverpool and Glasgow. They also shipped large quantities of timber from New Brunswick, where their firm was known as the Gilmore & Rankin. Their firm name at London, Liverpool and Glasgow was Pollock & Gilmore, and their ships carried flags marked P. G., which the sailors said stood for "poor grub." The company had about six hundred vessels on the Atlantic and carried their own insurance.

When I went to the Gatineau mills I boarded with the son of the millwright, whose name was Petrie. He lived in one of the company's houses and two maiden sisters did the work. They were very Scotchy, and there I got my first lesson in oatmeal porridge, which they made very thin, and for breakfast always had oatmeal porridge, some toast, and coffee. I ingratiated myself pretty well into the good graces of the son and the sisters, and occasionally took your mother there to spend a day or two with them. Afterwards Mr. Gilmore found out, and I presume through me, that his head-bookkeeper, of whom he had a good opinion, was drinking too much, and that his assistant bookkeeper, a young man from a good family in Ottawa, was also drinking too much, and that his head man at the piling ground was given to drinking too much. Mr. Gilmore came to the mills frequently and would sometimes stay over night with the old agent, an old Scotchman of whom he thought a good deal. Sometimes he spent his evenings with me, in a room in a wing connected with the store and office, and he suggested to me one evening that I put a couple of bedrooms in that wing, finish them up in such shape as I would like to have them, and that he would put in a library for me. He thought by that means I could have an eye on the help which he was afraid must in the end result in their being discharged, for when their work was done, at night, and the of-

fice closed, they frequently went to a small village within half a mile of the mill, and would return to the store, where they had rooms, or to the house of the head bookkeeper, pretty well filled up, or under the influence of liquor. I fitted up the two bedrooms in good shape, with necessary furniture, and a sitting room and library were also put in.

I made it a point when I first went there to go home, to Ottawa, Saturday night, and return to the mill Monday morning. By the way, Mr. Gilmore volunteered to furnish me a house in Ottawa, also to keep my horse, or horses, as I saw fit to drive, at his own stable in Ottawa, which was back of the wholesale store, enclosed by a high wall, with a big gate which was kept closed; and when I came back I drove to the big gate, and rapped, and the hosler would take my horse, or horses. I usually reported at the office as soon as I got there, if I was there before it closed. I went to the city sometimes during the week and would get back to the mill after dark. On one or two occasions I found the bookkeeper and his assistant and the man from the piling ground having a high time, with bottles of whiskey and glasses galore in the room. It did not take me long to put a stop to that, and as they soon found it was uncertain when I went to the city what time I would be back, whether the same night or the next morning, that practice was soon broken up. (For your information, but not for others, I will tell you who those men were. The head bookkeeper was Mr. Keith, father of Tom and Lex Keith of this city, and husband of Mrs. Agnes Keith. The assistant bookkeeper was John Chitty, as bright a young man as I ever saw. The head man at the piling ground was Frank Donnelly, a right good man, but with the habit of drinking too much when he got a taste.) In order to have a better influence over Mr. Keith, at Mr. Gilmore's request, I changed my boarding place to Mr. Keith's house, and it was a pleasant place for me. His first wife was a very pleasant woman, and they had two sons.

ENLARGING OPERATIONS

The first year I was at the Gilmore mills I suggested to Mr. Gilmore several changes in the mills, to make them more economical and, as I thought, do the work better. We were sawing largely for foreign market, and everything that could be so manufactured was made into deal, (three-inch plank), which I used to say must be three inches plump, until some one asked me how much "plump" was, and I answered that it meant a trifle over the full thickness of three inches. The mills were cutting about 500,000 feet a day. Logs were cut in the woods thirteen feet long, and the deals were required to be seven, nine, and eleven inches, and upwards, in width, and were classed as Nos. 1, 2 and 3. When I went there No. 1 were practically clear, free from sap or any defect; No. 2 would allow some defect, and a little sap, but were required to be good pieces of lumber, premitting some small, sound knots. No. 3 were much like our No. 2 common, as we now grade lumber. The prices at which these grades were sold in the foreign market were as follows: No. 2, the second year I was with the Gilmores a little less than two-thirds the price of No. 1, and No. 3 at about one-third less than No. 2. In making all the deal of three-inch plank we were obliged to make much inch, inch and a quarter, and inch and a half lumber from the sides of the logs, which were shipped to Troy and Albany, very largely. When the prices in foreign market for Nos. 2 and 3 dropped, as they did, I suggested to Mr. Gilmore that we would realize more from those grades by re-sawing them into inch and a half, and I told him how I thought it could be done to good advantage; that was, to build a little gang that would carry three or four saws, with upright rollers for feed-rollers, and run thin saws, about three feet long, with teeth not over an inch apart, and about eighteen or nineteen gauge in thickness. In that way deal three inches plump would make two planks, one

inch, three-eighths, and one-sixteenth—the thickness required by the Troy and Albany markets from their own mills in the west and northern New Tork. I ran that little gang three hundred revolutions a minute, and by running three and four pieces through at a time, it would cut all the Nos. 2 and 3 deal the mills were making, and made a large amount of lumber for the American market. It was run to the piling ground, seasoned for shipment by canal, and taken down the St. Lawrence river, through the canal from the St. Lawrence to Lake Champlain, through the lake to Whitehall, whence the Northern canal run to Troy. It increased the amount of lumber sent to dealers so much that the market was depressed, and it became necessary to start a yard at Troy to take care of it. That made another job for me, for Mr. Gilmore wanted me to go to Troy with him to arrange for the ground and lay out a yard where the lumber could be taken from the canal boats and piled, and more completely seasoned. We located that yard between the Mohawk and the Northern rivers. Mr. Gilmore bought a large tract of land, and with the help of a surveyor I staked out the yard, and made arrangements with a Vermont company that was getting out slate for its fine, broken slate, to cover the yard. I conceived a plan for handling the lumber from the canal boats into the yard, and from the yard again to the boats that took it down the Hudson to New York, which enabled the company to handle the lumber in a cheap and expeditious way. I put railroad tracks through the yard, running from the canal on one side to the river on the other, and made the tracks parallel and at right angles. I then went to a car shop in Troy and had cars made after my own plan. I put down standard width tracks, and had wheels made two feet in diameter and a frame 2½x16 inches in width and 8 feet long, with 2½ inch shaft, four wheels to the car, with cast iron boxes to bolt to the lower side of that frame, with four girts the same thickness of the sides crossways of this frame, with a center girt four inches thick and fourteen inches wide. Then I had a cast

iron circle four feet in diameter with a center hub that rested on this four-inch girt, the wheels of the car being two feet or twenty-six inches in diameter, the top of which were a little below the top of the frame. I then had a frame made the same size and like the lower frame I have described, only six inches in depth. Then I put a similar casting on the lower side of that frame, and in the casting of the lower frame I had about eight four inch cast iron wheels, that were set into the lower circle, and places were made in the casting to receive these wheels, and the hub of the circle on the narrow frame of this car made a place for a king bolt. From that the top frame of the car would revolve around like a turn-table; in other words, it was a car with a turn-table on it. In this top frame I put rollers as long as the frame was wide, six inches in diameter; the end rollers having square ends on the shafts that went through them, reaching outside of the frame, so that one could put a crank to it and shift the load from one car to another. In that way, the tracks being at right angles, and running through the alleys to the piling ground, one could move a car to any alley, and a load of 1000, 1500 or 2000 feet, by setting the top frame at right angles with the car, and move the load from a loaded car to an empty car in a greater or less time. That method did away with all the switches in the yard, and it was a very economical way of handling the lumber; and many mills all through the country, in New York and Canada, soon built such cars to handle the lumber in their yards.

The first year the yard at Troy was in full operation we shipped to it thirty or thirty-five millions of lumber, and I believe the project resulted in a very satisfactory way of disposing of the lumber shipped to the American market. Allen Gilmore, of whom I have frequently spoken, had charge of the sawed lumber and square timber in Upper and Lower Canada, with headquarters at Ottawa, or Bytown. The company had a branch house in Montreal, of which James Gilmore was the manager; John and David Gilmore were the managers at the

Quebec office; and a Mr. Rankin, a partner, was manager in New Brunswick. The company's square timber business was much larger than all of their sawed-lumber business. Much of the square timber (hewed timber) was re-sawed in London, Liverpool and Glasgow.

EARLY-DAY RAILROADING

I don't remember in what year it was, but I remember that Mr. Gilmore was there, after I had got the Troy yard arranged and a good deal of lumber piled, and he brought with him the company's local manager from the River Trent mills, to show him the arrangement we had at the Gatineau mills for handling the lumber we sent to Troy for American market. While there, (it was the year or perhaps the year after the Hudson river road was completed between New York and Albany), there was much talk about "the lightning train" it run. Mr Gilmore told me about walking a mile or more towards New York, to see that train pass. I well remember the way he told it. "Why," he said, "Mr. Ingram, it was one of the greatest sights I ever saw, when that ponderous engine, with some eight-feet drivers they were experimenting with, went by us at full speed!" And he swung his hand on the table, saying, "It seemed to demand an unconditional surrender of everything!"

LUMBER CAMPS

After the mills were shut down at the Gatineau and the millwrights at their work of repairing, I made a trip up river, to the camps. The farthest camps up the main Gatineau were about 160 miles. We used a long sled—no bob sleds then. On my first trip Mr. Carmichael, the old Scotchman, the agent, went with me, as the road to me was new. There had been very little logging done on the river until we got about fifty miles out, at the mouth of the Casuwa Baswa. We had a pair of good driving horses and two large rolls of mackinaw blankets

rolled tight and put inside of grain sacks to keep them clean, and plenty of Buffalo robes, and sat on spring seats on the top of a high sleigh box. We had with us a brother of the head bookkeeper in the Ottawa office, an Irishman who had been in this country but a year, and the boys at the mill had christened him Fandangus. He was about as awkward with a team as anybody I ever saw. He sat on the forward seat and Mr. Carmichael and I on the back seat. The sleigh boxes then were about two feet high, and a little higher at the back end. We made a long drive the first day and stayed that night in the company's camp at the mouth of the Casuwa Baswa. The next forenoon we looked over the skidded logs, and I put red crosses on logs that ought to be left. In the afternoon we drove to the River Desire, about thirty miles, where we remained all night. At that point the Hudson Bay Company had a trading post, a large store where they took in furs from the Indians, of whom there was a large settlement, and where they came in from their trips north, getting furs. They got otter, beaver, mink and muskrat, and had a village of log buildings—the chief having the best house. The agent was a favorite with the Indians and the chief, and suggested that it would be a nice thing for me to call on the chief, who had come in the day before with the tribe, with their furs. Our agent could talk with them pretty well, and he asked the chief if they had some nice mink skins. The furs were in a room above, reached by a ladder. The old chief went up, dropped several packages, and came down and opened them. They looked remarkebly fine to me—the darkest mink I had ever seen. I requested our agent to ask the chief what he would sell me eighteen or twenty of the skins for, and after I had selected them the chief said he would let me have them for $2 apiece. They were worth about $3, but he was disposed to favor me on account of his friendship for our agent.

I was introduced to the agent by Mr. Carmichael as their future manager. We had a comfortable place to stay and start-

ed next morning after an early breakfast on the drive of about twenty-five miles to a large logging camp. After dinner the foreman went with us to look over our skidded logs, and I put red crosses on a few which should not be hauled. It had snowed some the night before, and again before noon, and the snow was coming down thickly when we left there in the afternoon. We had to drive part of the way over ice on the river and part of the way on land, and the further up we went the less the road was broken, as there was no travel except teams that hauled our supplies from Ottawa. On leaving the river, a little before dark, through a narrow woods road, the snow was deeper—so deep in places that it would slide ahead of the box and stop our team; but by getting out and stamping the snow we would start again. The further we went the darker it became, and it seemed questionable where we could put up for the night. The snow had become so heavy that the horses could not trot much, and were wet with the melted snow. About ten o'clock we came across a couple of squaws in a little tepee by the roadside, drinking something from a birch cup, what the Indians call cosso. Mr. Carmichael could talk their language well enough to be understood, but he couldn't get them to even look towards us. We were anxious to learn where a certain foreman of the company had his camp. Mr. Carmichael had been there twice the winter before, when they were camped fifteen or twenty rods from the tote road, and thought we must be getting near there. There had been one or two storms since there had been a team through, and it was understood when the last supply team went there that the foreman would soon move to a new camp, four or five miles from the one at which we expected to stop. After a long time, the horses well beat out, we came to a creek that Mr. Carmichael knew, but there wasn't much track down the creek to the camp. We finally reached the camp, but the crew had finished the timber they were to cut, and had moved. It was then about midnight. The camp and stable were unlocked, but a

granary in which flour and pork and a chest of tea were stored for the drive, was locked. Mr Carmichael got out at the camp door and went to the stable with Fandangus, thinking the horses needed more attention than he would be able to give them. Mr. Carmichael in the meantime peeled some bark from white birch logs of which the camp was built and had started a fire in its center. Camps in these days were built of logs, of course, and in the center was a square place of about eight feet, with a log on either side, and with an opening through the roof, built up with small green logs six or eight feet above the roof, forming the chimney. I had got the horses into the barn and their harness off, and with what stuff we could find in the manger I went at one horse and Fandangus at the other, rubbing and trying to dry them. After half an hour at that we put the blankets and halters on them and they began picking among the sorts, as we called it—(the remains of hay left in the manger). Going back to the camp, we took the harness and hung them on racks to dry. We then went to the granary and with an old axe drew the staple, and by lighting some bark for a torch we found several barrels of flour, two or three barrels of pork, and a quantity of oats; and I think I was more glad to see the oats, that our horses would have something to eat, than anything there we could get to eat. I found also a long handled pan, used for frying pork. We heated water that we got from a water hole close by camp in the kettle I found in the store room, and with sand and ashes cleaned the pan as best we could. Meantime I had broken in the head of a barrel and got some pork and had rolled a barrel of flour into the camp, raised the hoops and got the head out, made a hole in the flour, then with some fried pork fat and water stirred a batter in the barrel, and with that we managed, with some fat pork, to bake some cakes, of which, with fried pork we made our supper. Don't like to call them pancakes, but they were shaped like pancakes. After getting thoroughly warm and giving the horses some oats we headed up the flour

barrel, put it back in the warehouse, drove in the staple, and left the granary locked as we found it.

The next morning at daylight we started for what was called the company's new farm, which had been cleared up two years before for raising oats for the camps. Mr. Carmichael knew about how far it was before we could get breakfast, but it seemed to me it was twice as far as he thought it, eight or nine miles. When we reached that camp there were only a foreman and one man who had been left to thresh out the oats. They had a stable and plenty of oat-straw for the horses, and the foreman could get us something to eat. Mr. Carmichael stepped into the camp. I remained in the sleigh, taking observations, and after looking around to see where we were went to the stable with Fandangus to put the horses in, and then went back to the camp. (In those days they didn't have stoves in their camps). The first log of the camp was laid on the ground and the door hung on the inside. On going in one had to step over a log, down to the ground. As I pushed that door open an object started out for which I quickly made room—a squaw who wore a rabbit skin suit, and her head was as big—the way the hair stood on it—as a half bushel. She was lame, dragging one of her limbs, and had come out on her hands and knees. I think I got back six feet as quickly as anybody ever did, and she went around back of the camp, in the snow. Mr. Carmichael then opened the door, and I found him scolding the foreman, who was trying to get something for us to eat, for harboring an Indian. The company was opposed to the foreman giving any quarters to Indians, or trading with them. He was explaining to Mr. Carmichael that some traders had been through there a week or ten days before who had some whiskey, and had met that tribe of Indians on the way down the river, and had given them whiskey to get their furs, got them into a row, and this squaw had been so seriously hurt they had to leave her. This tribe was what they called "Taddy Bull Indians," distinct from other tribes there; had

curley hair, and the head seemed to be, as I have said, as big as a half bushel.

WRECKED AERONAUTS

We left there about two o'clock and went to the branch of the Gatineau known as the Basket Tongue river, where Mr. Carmichael knew the company had a large camp on a creek called De Jauboul, at which we stayed all night. The foreman showed us some pieces of rope and some pieces of a balloon, and told us of finding—a month or more previous—two men who were lost, wandering along the lake the Indians called De Jauboul. The foreman and his men ran across them while laying out a logging road to the lake and down the creek into the main Basket Tongue. These men, then about 150 miles from Ottawa, represented that they had started from St. Louis and landed in these woods. They were nearly famished, having had nothing to eat for two days. The foreman and his men went with them, following the trail as best they could, and found the baloon badly wrecked, it having landed in some trees, from which the men got to the ground. At that time there was a tote team, as they called it, (a supply team), up there, and the foreman sent the two men, with as much of their balloon as they wanted to carry, down to Ottawa a three or four days trip. I am under the impression that the chief aeronaut gave his name as Le Mountaine, and told us where they started from. The foreman gave me some of the broken rope and balloon, which I carried back to the Gatineau mills.

From that camp we went ten or twelve miles to the upper camps, where they had found an island in the river on which they had raised enough oats to supply all of their camps within fifty miles. That was my first trip up in the woods on the Gatineau river to look after our logging interests, and it had taken us more than two weeks to make it. I made a similar trip the next winter, going to some woods, farms and camps that I had not visited before.

MET MR. KENNEDY

After my trip, as above, I went back to the city where your mother was. She had spent most of the time while I was away with Mrs. Bronson. After a few days I went to the River Blaunch, and Buckingham, to look after the company's work there. Mr. Kennedy, who afterwards came to Eau Claire with me, was the foreman and a millwright there, and about that time married a Miss Atkinson, whose people lived near Gatineau Point, across the river, and on the north side from Ottawa or Bytown. They were keeping house at the Blaunch mills and when I went there to look after the work I usually got a good meal with them.

A LONG DRIVE

Sometime in the winter of 1855, I made a trip with Mr. Gilmore to the River Trent. We started from Ottawa about nine o'clock in the morning with a livery team and covered sleigh for Prescott, on the St. Lawrence; stopped for dinner and changed horses at Kempville. After lunch, as they called it, we drove to Prescott, where we again changed horses, then on to Brockville, I think about fifteen miles, where we got dinner at night, changed horses again, and reached Gananocqua, about twenty miles from Brockville, a little after midnight; changed horses again, and then on to Kingston, reaching there about 4:30 next morning. We were well comfortably bundled with furs, fur coats and collars and buffalo robes, and were driven to the British American Hotel. After breakfast we started for Naphanee, 25 miles distant, with a fresh team. We took lunch at Naphanee, and changed horses again, and reached Belleville, 25 miles further, in time for dinner at night, and after dinner, with a fresh team, we were driven twelve miles further, to the River Trent. Mr. Gilmore had advised Mr. Cummings, the agent that we would be there, and Mr. Cummings

met us at the hotel. River Trent was then a small country village. The company had a large steam mill there in which Mr. Gilmore thought I ought to make some such changes as I had made in the Gatineau mills.

WESTERN FEVER

After a day or two at River Trent I got leave of absence for ten days or two weeks to go to Michigan—Grand Rapids and New Ago. I had been reading about lumbering in Michigan, of the great chances for young men to go into business, and I had the western fever. I made the plans for the changes in the mill at River Trent. Mr. Gilmore was going back the same way we had come, in the same sleigh, changing horses at the different places, instead of taking the stage line from Ottawa and from Montreal to Toronto. The stage line from Montreal to Toronto was owned and run by a middle aged negro named Minck, who had accumulated considerable property which he put into that stage line, and ran it several years before the Grand Trunk Railroad was built.

THE GRAND TRUNK RAILROAD

The scheme for building that road was inaugurated by a member of parliament of Canada, in 1851, or a year or so before. While in Belleville I attended a great meeting gotten up by the Hon. John Ross, whose home was in Belleville, and who stirred the people of Canada to make a move to get English capital to build it; and after parliament adjourned he went abroad and succeeded in interesting an English contractor who had built a good many railroads in England. The firm was known as Jackson, Petrow & Betz. Mr. Ross got Stevenson, a great English engineer, to go over the proposed road. They then got a big tent from Rochester, N. Y., and held a mass meeting at Belleville. Mr. Ross also got a great Irish orator from Dublin, a Mr. Rooney, to address the meeting. They had a banquet for many thousands of people, and that meeting was the first for the inauguration of the Grand Trunk.

A STAGE-COACH EXPERIENCE

Instead of going back to Ottawa with Mr. Gilmore I started west from Trenton, on the Minck stage line, which was then on wheels. There were two gentlemen from Montreal on the stage and a Mr. Pond and his wife and a maid, who were going to Toronto, when I got in the stage at Trenton. The back seat was occupied by Mr. Pond, Mayor of Belleville and his wife, the forward seat by the maid and myself, and the center seat by the two men from Montreal. When within three miles of Coburg, the road being slippery and somewhat cut up in ruts, the coach slipped and slewed into a deep rut, and turned over, leaving us pretty nearly standing on our heads—the horses in the ditch. I was first to climb out, through the upper part of the door, and got to the horses' heads as soon as I could. The driver was holding the wheel-horse and the forward one. One of them got up, the other still down, but with the help of the two men from the coach we got them liberated. A farmer coming along with a double sleigh had stopped, and we arranged with him to take us to Coburg. It was then after dark. Finding a little more snow than there had been in the road from Trenton, it seemed safe to try to go through on runners. Mr. Pond suggested that he would join me in hiring a livery team instead of going further in that stage. We found a liveryman who would drive four horses, good drivers, and take us to Toronto, leaving Coburg at eight o'clock next morning and have us in Toronto, 75 miles distance, by seven o'clock in the evening, for, as I remember it, $7 apiece. The morning was terribly cold, so cold that on one long stretch the driver's hands became so numb that he could not hold the lines, and at a place where we stopped to water the horses I volunteered to go outside and drive to the next station. We reached Toronto at about the time he had agreed to have us there.

I left Toronto on the Great Western road, running from Toronto to Windsor, opposite Detroit, and as I remember the next train we met after leaving Toronto went through a bridge, causing such a great loss of life as to make it one of the worst accidents in this country at that time. I spent a day or two in Grand Rapids looking over the opportunity for lumbering and went from there to New Ago, by stage, and spent a day or two there. Found a man in New Ago from Glens Falls, N. Y., whom I had known. From there I went to Kalamazoo, took the Michigan Central back to Detroit, the Great Western to Niagara Falls, the New York Central to Rome, and from Rome to Ogdensburg by stage, and from Prescott, across the river from Ogdensberg to Ottawa by stage, reaching home after an absence of about three weeks. I had kept your mother advised by telegraph when I could, and by letter, but she, of course, as she always did, worried a good deal while I was away. After a day's rest I resumed work at the Gatineau mills, satisfied that before attempting to go into the lumbering business in Michigan I ought to have more money than I had or knew where I could get it, and that I had better stick to my salary, which had been increased £1,500 a year, making $6,000.

REMAINED WITH THE GILMORES

One of the things I did in my second year with the Gilmores was to make what became a celebrated gang-edger. I had learned the necessity for a different method of edging lumber than by running it through on a small table and taking off one edging, then pulling the table back by hand and turning three inch plank over and taking off another edging. I conceived the idea, that, by having one moveable saw on a steel arbor, we could just as well have a rack or pinion on that table and drive it through by power, taking off both edgings at the same time. I got a millwright named Booth (now one of the largest lumbermen in Canada), to make for me a model. He did most of the work at night, in a small back room, where he had a bench and lamps. He and I made the model. On showing it

to Mr. Gilmore he was convinced it would work all right and told me to go to the machine shop in Ottawa that did work for them. I ordered five machines, three for the mills at the Gatineau and two for other mills, which proved to be a grand success.

A REJECTED OPPORTUNITY

The following winter Mr. Gilmore was in Quebec, and John Hamilton, M. P., of Hamilton Brothers, of Hawksburg, sixty miles below Ottawa, where they had large mills, met Mr. Gilmore and told him their millwright, a Mr. Lawler, had devised a great improvement for edging lumber, and that he was there with the model to make application for a patent. Mr. Hamilton told Mr. Gilmore something about the machine as he understood it, and Mr. Gilmore replied, "Why, Mr. Hamilton, Mr. Lawler has no right to a patent on that edger; Mr. Ingram put three or four of them into our mills a year ago, and Mr. Lawler must have seen what he was working at in the machine shop at Ottawa, or he never would have gotten up a machine like that. He certainly saw one like that you have described in our mills." Mr. Hamilton replied, if that was the case, he could not have a patent, and he told Lawler that that edger was already in use, and that he could not have a patent on it. Mr. Lawler returned home in the spring, after our mills were started at the Gatineau, and came to see me. I had met him once or twice, once in Ottawa, and once at Hawkesburg, at Hamilton mills. After looking over the mills, and as we were crossing the bridge between them, and were leaning over a railing at a point where I proposed putting in a resawing machine, he took a large envelope from his pocket and said to me, "Mr. Ingram, I feel that this belongs to you, instead of me." Asking him what it was, he said it was an application for a patent on that gang-edger. I told him I had no idea of getting a patent, that I had had it in use over a year, had it made in a machine shop in Ottawa, and that he had no right to a patent;

that if I would get a patent I must take the oath of allegiance in Canada, which I had no idea of doing. "Well," he replied, "the best thing you can do is to get a patent on it, for it is a great invention." But I was foolish enough to let it go.

The year after I put the gang-edger in the Gatineau mills I had occasion to go to Glens Falls and there heard a good deal about the mills at Sandy Hill, particularly about a large mill, and I was curious to see it, and went there. They were sawing many spruce logs and were using the old fashioned edger. I told the millwright, whom I had met before, what I was using at the Gatineau mills. He was an ingenious fellow, and the first thing he did was to file a caveat for a patent, sending his model to Washington, but before a patent was issued he became sick and died. A Mr. Folsom, the machinist at Sandy Hill, knew what the millwright was working on, and negotiated with the widow for the patent, in case he secured it, which he did. By that time I was here in Eau Claire, and having had one gang-edger made at Watertown, N. Y., had it in operation in our mill here, and had ordered another for the mill of Chapman & Thorpe on the Eau Claire river. Mr. Folsom learned that I had an edger here before his patent was granted and came to Eau Claire, staying a day with me at the mill and at my house, and thus obtained a full history of the machine—when I had made it in Canada, when I had made one in Watertown, N. Y., to use here, etc. and tried to buy me off; said he would make an iron frame, complete gang-edger and give it to me to use in our own mill, or to sell, and finally, as an extra inducement, offered to give me a royalty on all the machines that would be used in this state if I would keep out of the way and give no information in regard to the invention if appealed to. I told him he didn't have money enough, and could not make machines enough, to hire me to do a thing of that kind; that he didn't have any right to a patent, and that the quicker he dropped the matter the better. But he was bullheaded and commenced suit against parties in Muskegon who had learned

from Mr. Tarrant, in charge of the Chapman & Thorpe mill, about this gang-edger, and had begun to get them out for the Michigan mills; and then the Stearns Company of Erie, Penn., got track of it and begau to make a gang edger, each edger somewhat different from the other. But the main thing was a collar, or sleeve, that one or more saws could be put onto that could move on a feather or key in the mandrel or arbor of the edger when the edger was in motion. That they could not get by. That was absolutely essential, hence Folsom thought he had the first right, and the contention resulted in lawyers from Muskegon and Erie being sent here to take my depositions, as to when I made the first edger, when I made the one brought here, how long I had been using it, etc. That gang-edger had very little resemblance to the gang-edgers of the present time, but the great essential was the sleeve that could move with saws on it when the arbor was in motion. If I had been wise enough, or had acted upon advice received and obtained a patent, it would have been worth to me anywhere from fifteen to twenty or thirty millions of dollars.

AN EAU CLAIRE BREEZE

In the last year I was with Gilmore & Co. Mr. Dole, who was with Hamilton Brothers, fancied he wanted to go into business for himself and talked to me a good deal about it, and one day he said he was going to take a trip to the Mississippi river and see what was doing in lumbering. He went to St. Paul and met parties who had heard something about a boom in Eau Claire, and who gave him the name of the man who was booming the town, Adin Randall, and advised him to work his way back east through this country, which he would have to do by stage from St. Paul, through the woods to Menomonie, and from Menomonie here, the stage coming here once or twice a week. Mr. Randall persuaded Mr. Dole that this was one of the best towns for lumbering in this or any other country and showed him a little portable mill he had down near the canal.

The talk impressed him so favorably that he took an option on the mill and a mill-site and came back to Ottawa and reported to me what he had found. I again had the western fever and decided I would investigate, and on the strength of Mr. Dole's report, and the fact of his having an option on a portable mill, I arranged to come out here. That was in the winter of 1856 or 1857. Mr. Kennedy was, I thought, a good millwright, working for the Gilmore Co. on a small salary—less than I thought he earned—and I told him I would try to find somebody to take his place at the Blaunch mills if he wanted to come here and look over this place with me; and I thought it could be done in about three weeks, or perhaps a little longer. He was anxious to do it, and I got a man to take his place and gave Mr. Gilmore notice that I would want to leave in about three months to go into business for myself. I had agreed with Gilmore & Co. to give three months notice if I desired to leave them at any time. Mr. Kennedy knew a handy man he thought he would like to have with him if he was coming here to build a mill, and the man could pay his own fare and take the chance of finding a job, so we arranged to leave for Eau Claire very soon. We were able to reach a point eight miles east of Portage by rail, by coming around by way of Ogdensburg to Watertown, N. Y. When we reached the end of the road we hired a man and team to bring us to Eau Claire. That was in February. Mr. Randall was able to make us believe this was one of the best points in the world for a saw mill, that there was an endless amount of pine timber above here, on the Eau Claire and Chippewa rivers, and that we were soon to have a dam across the river at the Dells that would make Eau Claire one of the best manufacturing towns in this country. We found a good many transients here, and a small hotel known as the Eau Claire House, where it was necessary to have a bed on the floor, on a straw tick, the first night. After another day, looking around, I went with Mr. Randall to see some of the timber on the Eau Claire, where he and some others had a

logging camp. We struck a pretty good looking lot of timber, which they reported as the poorest timber there was, and he said if I could take the time to go up the Chippewa and see some of the big pine trees I would not want to do any more lumbering in Canada; but I saw enough to satisfy me that there was opportunity to do something for myself, instead of working for a salary, and decided to leave Mr. Kennedy here to run the little mill and arrange for some timber, which he found near the mouth of Yellow river, for the frame for our new saw mill. I remained here four or five days. Mr. Kidder was preaching in a little board house, and was then preparing to go east, expecting to return in the spring with his family. I learned that another minister by the name of McNair had also arranged to come here and build a church, so that things were looking rather promising. I left here with the understanding that I would return as soon as my time was out with Gilmore & Co. But before my time was up with them David Gilmore, whose headquarters were in Quebec, and who usually went to the old country to arrange for the vessels they wanted to bring into Quebec to carry out their lumber and square timber, was stricken with paralysis, or apoplexy, on a train near Rutland, Vt. I had started up the mills at the Gatineau and Allan Gilmore got word by telegram, by way of Ottawa, that David had died in Rutland. Mr. Gilmore sent his nephew, who was in his office more as an errand boy than for anything else, on horse-back to the mills, with a letter asking me to come at once. I drove in and found Mr. Gilmore in his rooms over the big store, on a lounge very much broken up. He told me his trouble, and said "the chances are that I will have to go to the old country to make arrangements for our fleet, as there is no one else who can go, now that David is dead; and in case I go abroad I want you to remain and take charge, do everything pertaining to the work at the Gatineau and help Mr. Cunningham in regard to our square-timber operations, until my return, and it will probably take about three months."

They held a meeting right away and decided that Mr. Gilmore must go abroad and arrange for their fleet, and where they were to go. They used to send a good many vessels to Cuba and different South American points and had them at their command when they needed them for any of the numerous places where they had interests. Of course the only thing I could do was to assure him I would remain. I had told him what my plans were about coming here and going into business, and he said if I would remain there, and if Mr. Kennedy and Mr. Dole would take hold of the business I had planned, he would be glad to furnish me whatever money I wanted to put in here, at a low rate of interest, which I could pay out of my salary as I was able; but Mr. Dole had not made arrangements to leave his place, and didn't feel equal to the undertaking, and Mr. Kennedy I knew would not undertake to handle the thing here alone, so I had to decline the offer. But I remained with the Gilmores and made myself useful to them and their business until Allen Gilmore's return, and then I went to Glen Falls, N. Y., before starting back this way and secured a man to take my place with them; but within six months the man found he was not able to do what was required of him and gave it up. When I went to Glens Falls, I took your mother with me to see her relatives and friends there.

IN EAU CLAIRE TO REMAIN

I knew quite intimately, in Ottawa, a young man, Mr. Playter who was in a drug store, and I was satisfied he would be the kind of man we would need in Eau Claire to start out with as bookkeeper. He was delighted with the opportunity and left Ottawa for Chicago at the same time we left Ottawa for Glens Falls. I arranged to meet him at the old Sherman House, Chicago, on a certain day. We had a girl who had been with us some time of whom your mother thought a good deal, and she wanted to bring her with us, and the girl wanted to come. It was arranged that she would go to Chicago with Mr. Playter

and that we would join them there. We were delayed longer at Glens Falls than I expected we would be, and there had been a wreck on the railroad from Buffalo on, and it seemed advisable to take a steamer from Buffalo to Detroit. A day or two before our arrival in Buffalo one of the steamers plying between Buffalo and Detroit had burned, and of course that fact appealed to our nerves; but we didn't know how long we might be delayed, and decided we would take the chance of being lost on the lake. We left Buffalo about nine o'clock, found plenty of room (not many persons wanting to make the trip then). Of course your mother felt more nervous about it than I did. Before taking our staterooms, to retire, we met a young lady who had come to Buffalo on the steamer which had been burned, and her account of her escape did not make the trip seem so much like a pleasure trip as it would have seemed if we had not talked with her, or known about the accident, and of her being saved by another boat before the steamer was entirely burned. She told us she had clung to a rail at the stern of the boat, and that the fire was getting near to her when she was taken off by another boat When we retired it was a question with your mother whether she would remove her clothes, but I prevailed on her to remove most of her garments, but she said she would keep her stockings on, anyway. We got some rest, arrived in Detroit in good time the next day, and took a night train to Chicago. There were no sleepers and we had the seats turned. In the night a thief stole your mother's pocket book and money. We arrived in Chicago the next day and found that Mr. Playter and the maid had left for Eau Claire. We took the first train for Milwaukee, where we had to remain over Sunday; then took the first train Monday to Prairie du Chien. There were some good passenger boats on the Mississippi. We took the steamer War Eagle, and among the passengers was Thurlow Weed, the then widely-known editor of the Albany Journal. Mr. Weed was well advanced in years, took much interest in us when he learned we intend-

ed to settle in business, and gave us a history of a recent experience in a trip through the Mediterranean. He said he was employed by the steamship company to settle up some matters between rival lines of boats, for which they paid him $10,000, making it one of the most profitable pleasure trips he had ever taken. He was then employed to settle up a matter between the State and the old Milwaukee railroad, for which he said he expected to get $10,000. With many good wishes he bade us good-bye when the boat landed at La Crosse.

When we arrived at Reed's Landing we learned that the last boat had gone down the river, and the only thing we could do would be to board the next boat coming along that would land us at North Pepin, and from there hire a team to Eau Claire. We met at North Pepin a gentleman and his wife who afterwards lived for several years in Eau Claire, on their first trip to Eau Claire. We hired a team together and the first day drove to Dunnville, where we remained all night. The only room left in the hotel was a large one with two beds. Your mother and the other lady went to bed and turned the light down, but not so much but we could see which bed we belonged in. Next morning we were up early and learned there was a man sick with small pox in the room next to the one we had occupied. He had been to St. Louis with a little lot of lumber from Yellow river, and was taken with the small pox when he got that far on his way back.

ACQUAINTED WITH J. G. THORP

We reached Elk Creek in time for dinner and there met Mr. J. G. Thorp, who had been over to Eau Galle. They had sent him there with a team, but he was going to foot it to Eau Claire. I had heard about Chapman & Thorp buying the property from Carson & Rand when I was here in February, and I thought it was our duty to take Mr. Thorp into our carriage and bring him to Eau Claire with us. After reaching Eau Claire we were directed by him to the boarding house for the

portable mill we had bought from Mr. Randall. There we found a man and his wife running the boarding house for Mr. Kennedy, and found Mr. Playter and the girl were also there, but we didn't think it a very desirable boarding place. Mr. Kennedy had patiently put up with such fare as they could give him. He was furnishing everything for the house, and it was soon decided that Mrs. Ingram and the girl who came with Mr. Playter could make it a more desirable place for us. Some time that fall Mrs. Kennedy came on, and they stopped during the winter at this same rough-board boarding-house. The house had been lathed, but not plastered. Where we slept, upstairs, we could see daylight along the eaves, as there was no cornice. You can imagine that we had plenty of fresh air, but we also had plenty of blankets and were able to keep warm, although sometimes the snow would blow in and oblige us to cover our heads. Our meat consisted largely of salt pork, and occasionally a ham, and for a change we would sometimes have corn beef that was brought here by the barrel. Your mother had an earthern jar in which she kept doughnuts, and another in which she put the fat or lard she saved from frying pork. The pantry was off from the kitchen, and I frequently ran in to see how she was getting on. One day I opened the pantry door, and while talking with her reached into what I supposed to be the doughnut jar, but which proved to be the jar containing the fat or grease, and my hand went down half its length into the soft fat or grease. I turned around to her, laughing, and she wanted to know what I was doing, and I told her I was looking for the doughnuts.

LOCAL CHURCH ACTIVITIES

We found when we arrived here, the 11th of June, 1857, that both Mr. Kidder and Mr. McNair were holding meetings and dividing their work—one a Congregationalist and the other a Presbyterian. The meeting house on the East side was a small building boarded with rough boards, and battened, and on the West side the meetings were sometimes held in what was known as the Niagara Hotel, kept by George A. Buffington, and sometimes in a hall over the store of Budd & Holbrook. Sometimes they would be held in the forenoon over the river, and Mr. Kennedy and I and our wives would row up the river in a small boat; then in the evening, Mr. Kidder or Mr. McNair would hold services in the hall and then come down to our boarding house and stay all night. We had better singing when Mr. Kidder held the meetings because he was a good singer. Miss Augusta Kidder was large enough to sing and could play the little organ we moved from one place to the other. The Presbyterians and the Congregationalists each had an organization, with a small number of members. Before coming here we attended the Presbyterian church and your mother was a member of that church in Glens Falls and at Lake George, and Mr. Kennedy also was a Presbyterian. The Presbyterians thought they ought to build a church, and solicited subscriptions. Mr. Kennedy and I were subscribers, as I remember, to the extent of about half the amount they expected to put into it. We had the only planing mill in the valley and furnished the dressed lumber and a greater part of all of the building material. Shaw & Huntington had a small hardware store on the East side and furnished the hardware. Both of them, as I remember, were members of the church. Few of the members had much money, and they were running in debt largely for the material they got at home, what money they had going to buy the sash and doors and other things that

had to be hauled here—I think most of it from Portage. When the building was completed they were owing Shaw & Huntington about $800 and Shaw & Huntington were owing us for lumber they had got for some building they were doing. We were calling on them for pay, and they were calling on the church for pay, and it was finally arranged that Mr. Kennedy and myself would assume the payment of the $800 to Shaw & Huntington, and we made a turn of that much on what Shaw & Huntington were owing us. The trustees (I think Mr. Kennedy was one of them) promised to pay us as soon as they could collect it; and so far as I know they have never collected it. So we got some $800 more into the church building than we had subscribed for it, and I have been wondering whether it would be advisable to call on the trustees of the Presbyterian church now for that $800 and interest. Some of the time Mr. Kidder, and some of the time Mr. McNair occupied the church. The next year it was decided to organize a Congregational church on the West side, which was done, and a movement made for building a church. Quite a number of people had come into the town, settling on either side of the river. Mr. McNair and Mr. Kidder had each built a residence on the East side, and a little later Mr. Kidder built a house on the West side.

About the same time school districts were organized on the two sides of the river, Mr. Kidder taking a very active part in the school on the West side and Mr. McNair on the East side.

Soon after the church was built on the East side a Baptist minister came here and held evangelistic services in it. There was a good deal of interest in the meetings, and among others I felt it was my duty to unite with the church over there. Afterwards, when the church was built on the West side, your mother and I took our letters from the Presbyterian church and united with the Congregational.

Our first child died while we were in Ottawa and our son Charlie was born here September 12, 1858.

PRODUCTS AND MARKETS

Two weeks later I went to St. Louis to dispose of part of a raft of lumber which Chapman & Thorp and ourselves had made up, and found no market for it until we reached St. Louis. Mr. Chapman went before I did and had disposed of their part of the raft and our part was landed behind the dike in the lower part of the city. I had a letter from Mr. Rand, at Burlington, of the firm of Carson & Rand, to the man they had sold lumber to, a Mr. Whitehead, recommending our lumber. Mr. Whitehead sent his nephew with me to look up the raft. There had been very high water, but it had receded a good deal, and a part of the raft was aground and pretty well covered with Missouri river mud. Mr. Whitehead was a very nice man, running a little lumber yard. He treated me nicely and was a great help to me, with his nephew, who was about my age, in getting lumber to the bank and washing it off, which we had to do to sell it. He took a liking to me and invited me to stop with them instead of staying at the Monroe House, one of the old hostelries of St. Louis. I don't know how much I got for the lumber, but it seems to me it was $16 per M. on the bank. It was good lumber and well manufactured, and a good deal of it was made from logs we got from Carson & Rand which they left on the Eau Claire river when they sold the property to Chapman & Thorp, and had sawed on shares. We took the logs in the river and brailed them to our mill, giving them one-half the lumber rafted at the mill. Mr. Rand was so well pleased with the lumber we had made for him (he took the first half we made), that he gave me a strong letter to Mr. Whitehead. Without the letter I do not know what I would have done. Mr. Whitehead advanced me some money to pay the balance due the men who had gone down river on the raft. Chapman had paid off their men, and I hired those men to help dig the lumber out and put it on the bank. I think that trip

kept me away from home about two months. The railroad had reached Sparta, and from Sparta I came by stage—the same means of conveyance I had when I started for St. Louis. The next year we got our logs from the Eau Claire river, brailing them from its mouth to our boom. The next year, 1860, we got most of our logs from the Chippewa. The logs were sorted at Chippewa and our logs came on down the river.

MILLS—BOOMS—DELLS DAM

Mr. Randall had conceived the idea of a sheer-boom, which was hung just below the Little Niagara, on that side of the river, and with that we sheered the logs to the canal leading into Half-Moon lake. For a couple of years the most of our logs from the Chippewa were sheered in Half-Moon lake, and to get them back we put in a temporary dam where the canal left the river, and by means of a jack-ladder, with a small engine, we managed, with spiked rollers in the top of the jack-ladder, to pull the logs over and dump them into our boom. The D. Shaw Lumber Company and ourselves built a long pile pier into the river into which our logs were sheered and guided into the canal, and then they were sorted into the lake—our logs put into our boom on one side and the D. Shaw Lumber Co. logs on the other side. Their logs were taken around to the outlet of the lake at the other end from where the present mill stands.

In 1861 or 1862 we planned to build a narrow-gauge railroad of forty-pound rails to take the logs back from the lake and roll them into our pond, in place of driving them back through the canal. I went to Pittsburg and contracted for a small locomotive from Porter & Smith, engine builders, building chiefly small engines for coal mining purposes. After our engine was built and before it was shipped here we enlarged the entrance to the canal and extended a long pier into and up the river, and had a sorting boom inside of that, so we could drop the logs into our boom through an opening in the

long pier; so, instead of having the small locomotive shipped here, we sold it to the company of which we had bought it. We enlarged our boom by building piers, and then Capt. Lea and I thought we could hold all the logs that could come down the river on one side by building a flat boat, some 30-ft. long and 20-ft. wide, made very strong, and putting a machine on that boat, something like the machinery used on a dredge boat, and could tie it to the shore; and that with guy-lines from the boat to the piers that supported our boom out in the river, with that boat and a crane, or derrick, we could pick the logs up, swing them around, and pile them on the shore where we could roll them in after the water would go down. In that way we held a large portion of the logs. It was an ingenious affair and proved to be a great addition to our booming facilities. The sheer-boom for sheering logs in was a device of Mr. Randall's. He put fins (plank about eighteen inches wide, sawed tapering, something like our oar blades of these days), hung on a hinge attached to the boom, and then, with a rope hitched to a fin, and a lot of fins connected on the lower side of the boom with a windlass, and a rope attached to each one of them, we could swing them out from the boom, and the current against those fins would swing the boom around towards the shore of the river, which would carry them into the entrance to the canal, where we had a sorting boom to take our logs from the D. Shaw Lumber Co. logs which were run through the lake. That was labor under great difficulties, but we continued to do that way until we got the Dells dam built, sorting works above it, and the flume to guide the logs from the west end of the boom into Half-Moon lake. That was for the purpose of supplying the logs to the D. Shaw Lumber Company and another mill that had been built on the lake known as the Sherman mill—our logs being put through a ~~slide~~ sluice from the dam and sheered by the same sheer boom into our boom and that of Smith & Buffington, who had built a mill above where the canal entered Half-Moon lake. After the building of the Dells dam we were in shape

to enlarge our mill, and our business was much more profitable. Before the dam was built we lost a great many of our logs that would run under the boom when we were trying to sheer them into the place where we sorted them from the D. Shaw Lumber Company logs which were run into the lake. The Mississippi River Logging Company commenced to drive logs to Beef Slough and the logs that got away from us found their way there, in which case we had to sell them, and because of losing so many logs we had to put into the river a great many more than we needed to stock our mill.

The Chippewa Falls people, were always opposed to our building a dam here, in order that they might have some protection above them, and, as we thought, to stop their opposition to our dam here we organized a company—the D. Shaw Lumber Company and ourselves, Chapman & Thorp and L. C. Stanley having some stock in it—and we built a dam at Eagle Rapids, above Chippewa. The idea was to stop the logs at Eagle Rapids, five or six miles above Chippewa, and sort them, so that the logs for the mill at Chippewa could go into its own booms, and then we could loose the logs for Eau Claire and drive them down here. We hoped it would stop their opposition to the Dells dam, but they continued to oppose the proposition, and the second or third year after the Eagle Rapids dam was built a big freshet tore it out and it was not rebuilt. We finally got a charter for the city of Eau Claire to build a dam at the Dells for water works, which incidentally provided that slack water might be used for booming purposes. The next effort by the Chippewa people was to stop the Mississippi company from driving logs below Chippewa Falls, claiming that to be the head of navigation—assuming, if they could stop the Mississippi Logging Company from driving logs on account of the Chippewa being a navigable stream, they would be able to kill the two birds with one stone. If Chippewa Falls could be shown to be the head of navigation, it would mean that Eau Claire could not drive loose logs below Chippewa Falls

and would be forced to raft them, which would seem to be impossible.

WHAT MIGHT HAVE BEEN

If the peaple of Chippewa Falls had joined with Eau Claire we could have got legislation to prohibit the driving of loose logs in that part of the river navigable for small boats, because at that time the United States government had not made an appropriation to improve the navigation of the river. That was the opinion of Chief Justice Dixon of our supreme court, and of Senator Vilas. They advised us to go to the legislature for such a law, but Chippewa and Eau Claire could not think alike. If they had done so, there would be millions of logs on the Chippewa river yet to be manufactured, and it would have required a railroad on each side of it to the Mississippi to carry the produce of the mills that would have been built along this river. We cut for twenty or twenty-five years on the Chippewa and its tributaries, above here, from five hundred millions to seven hundred twenty-five millions of feet of logs a year, and only a small portion of them was manufactured on the river, most of them being driven past here into Beef Slough to supply mills along the Mississippi, some of which as far down as St. Louis, were getting logs from the Chippewa. If we had got that legislation the Chippewa Valley would be one of the richest valleys in the whole Northwest country; yet, notwithstanding these mistakes, the Chippewa valley is a good valley, and when its agricultural possibilities are developed it will become still more important, as the lands north of us from which the timber has been cut will be among the best agricultural lands in any of the states. Some of us used to think that when the pine was cut off this region would not amount to much, but since it is gone the hardwood and hemlock growing on the same land are valuable. The northern part of this state has already become one of the best sections of our whole country for dairying because of the abundant

supply of good water. The hemlock and hardwood are now being cut and supply the territory which used to be supplied with the pine. Most of the timber being cut now is brought to the mills by rail, instead of driven down streams made navigable for logs by the many dams on the Chippewa, Wisconsin, and St. Croix rivers, where reservoirs were made by the dams, and the water held back, preventing floods when the snows were carried off with rains. Many of the dams are being used now and water is drawn from them in seasons of low water which supplies many of the water-powers used for electrical purposes. Several of the northern counties of Wisconsin are underlaid with iron ore which is likely to prove as valuable, or perhaps more valuable, than the vast amount of timber which has been removed therefrom.

IN "THE POOL" FOR SELF-PROTECTION

The only places on the Chippewa where logs could be stopped in high water in the spring for the mills at Chippewa Falls were at the dams erected before I came here. When the Mississippi Logging Company was organized by the down river lumbermen, who were cutting logs on a large scale on the headwaters and tributaries of the Chippewa, we were helpless to stop our logs, and it was necessary for the mills at Eau Claire to join with the Mississippi people to organize the Chippewa Logging Company. The expense of sorting such a large quantity of logs after we got our dam and booms at Eau Claire was so great that the only thing left for us here was to take stock in the Chippewa Logging Company, to be part owners of the logs that were run down the river. That left our people at Chippewa who had no stock in the Chippewa Logging Company comparatively helpless, as they could not afford to stop and sort the vast bodies of logs for what they could save of their own logs, and they sold their property, which by that time had been acquired by the Chippewa Lumber & Boom Company, and the Chippewa Logging Company bought the mill, water-

power and timber lands for $1,275,000. The company had been incorporated for that amount and we reorganized it, making the capital stock $1,230,000, as that amount could be more easily divided up with the stockholders. We paid the selling company $275,000 cash and bonded the new company for $1,000,000, payable in five or ten years, the bonds drawing 5% per annum. They could be sold at so low a rate because the principal stockholders guaranteed them. The Logging company continued to operate the mill until it burned down, and it then built a larger and better one, in which we cut some years as high as eighty millions of feet. With the proceeds of the lumber and the timber from the lands we met the interest and paid the bonds as fast as they were due. In fact, we were able to pay them faster, but the parties holding them preferred to draw their interest. The proceeds from that purchase paid the bonds and the stockholders have received, in dividends, from the operations of the mill, and the property sold, between five and six millions of dollars. The property is still valuable—and the book value of the stock I feel is worth par now. During all of this time I was active in the management of both the Chippewa Logging Company and the Chippewa Lumber & Boom Company—a director (and am still vice president of the Chippewa Lumber & Boom Company). By reason of that purchase and our becoming stockholders in the Chippewa Logging Company we were able to take out logs enough to stock our mills, but those who did not have stock in the company were, as the saying is, "not in it." Had we not joined with the Mississippi men in the organization of the Chippewa Logging Company neither Chippewa Falls nor Eau Claire would have amounted to very much. Our ownership in the property contributed advantages to Chippewa Falls as well as to Eau Claire, and both cities have become thriving and prosperous. Had we not taken the course we did the chances are we would have been obliged to move our mills to points on the Mississippi and taken our logs from Beef Slough; so the merchants and other

people who have been doing business in Eau Claire may be thankful to the few men who spent their time and money in bringing about what was done in order to keep our homes here. The city of Eau Claire was bonded for $100,000 to aid in getting the dam and power for waterworks. Many of our citizens who are not familiar with the situation here as it was before we got a charter for this dam have been laboring under the impression that they were paying taxes on those bonds more for the benefit of the lumbermen than for the general benefit of the city and those doing business here. The lumbermen here who had the benefit of the dam have always paid the boomage fixed by law just the same as if they had no interest in the investment the city had made; and the further fact that they organized the Dells Improvement Company, with a capital of $100,000, and paid in full towards the construction of the dam, shows that everybody living in Eau Claire, and doing business here, has received the same benefit as the lumbermen from the dam.

We had a hard fight before different legislatures to get the franchise. The Chippewa people opposed it, and the Mississippi Logging Company opposed it. I made a number of trips to Washington to head off movements of the Mississippi Logging Company and the Chippewa Falls people who were doing all they could to oppose the building of a dam across the Chippewa below Chippewa Falls, which they called the head of navigation. A few steamboats, previous to our getting the dam, had in high water run up as far as Chippewa Falls, and I think only once since I came to this country was a steamboat able to run up there, and that was when the water was very high for a very short time.

CHIPPEWA RIVER NAVIGATION

Once after we had built the steamer Silas Wright I went with her to Chippewa Falls and carried some freight. The water was not at good stage, and I feared we could not get back with her, but we did, after scraping over some of the rocky places, and I decided that would be the last time we would try to run our boat to Chippewa Falls. We carried nearly all of the freight for Eau Claire and Chippewa Falls during the three years we ran the Silas Wright, and nearly all of the freight for points between Reed's Landing and Eau Claire. We also made an arrangement with the express company to carry the express between Reed's Landing and Chippewa Falls. One purpose of our building the boat was to get the raft-crews and their kits from Reed's Landing to Eau Claire. The second season we ran the boat we started about the first of April and made regular daily trips until about the first of August, leaving Reed's Landing at night and reaching Eau Claire about eight o'clock the next morning. We received 75c. per hundred pounds for freight from Reed's Landing to Eau Claire. The third year we ran the Silas Wright the water dropped so low, and so rapidly, that we succeeded in getting her down the river to a point near Rumseys Landing, where the water was so low we were unable to get any further. Capt. Lea in charge, tied her up and came back to Eau Claire by team. That year our company and the D. Shaw Lumber Compony lost a good many logs, so we built a portable mill near where the Silas Wright was tied up, gathered our logs which had been carried by high water over the flats, sawed them, and ~~rafting~~ our lumber from there. I returned with Capt. Lea and we sawed timber for two barges, or lighters, each about ninety feet long and ten feet wide, making the sides of 4-inch plank and as long as we could get them, to have as few splices as possible. We then laid two lines of 3x10-inch plank both

lengthwise and crosswise, which gave us a stiff, strong bottom. We put these barges on either side of the Silas Wright and sawed 10x16-inch timbers long enough to reach across the boat to the outside of the barges. We put strips of iron on each timber on either side of the boat, giving the iron which was 3x¾ inches, a half twist, so that the lower ends would lay flat on the side of the boat's hull. With a short plank resting on the timbers of the boat on the inside, and by using rubber packing where the bolts went through the iron strips, we made the bolt holes water tight, then we bored two-inch holes in three places to let the water into the barges until they were sunk so the bottoms were even with the bottom of the boat; then we put in dry pine plugs and pumped the water out of the barges, which raised the boat so that she was drawing only twelve inches of water; then we put in longer arms to the stern-wheel, to let her buckets down even with her bottom. We were thus enabled to navigate the river and carry considerable freight on the boat and barges. In the fall, when merchants here were laying in their winter stocks, we chartered a larger barge we found on the Mississippi, and by running guy-lines from the outside corners of the barges diagonally across the boat to the outside of the barge, and drawing them taut, we held that barge straight ahead of the others. We were thus able to carry all the freight for Eau Craire, and the price made it a paying proposition, altho it took about a day and a night between Reed's Landing and Eau Claire. After putting the barges under the boat we didn't often carry the raftsmen, on account of the longer time it took, hence the men came to Eau Claire by team or afoot. Before we built the Silas Wright I had walked with the raft-crews. Once, in coming afoot between Luna and Rock Falls, Mr. Campbell, who now keeps a hotel at Chippewa Long Lake, then kept a hotel at Luna, told me of a farmer between Rock Falls and Luna whom he thought might like to hire some of the raftsmen to help him with his harvest; so, one time, when I was coming up with our

raft crew, this man was on the watch and wanted to hire two or three of us, and said he wauld pay $1.50 a day. I and two of the men hired out to him, and after talking the matter over I told him I guessed I would not take his job. Before leaving him I told him who I was. I don't remember what he said, but I think he decided he wanted better men. Some men running from Chippewa Falls to Reeds walked from there to Chippewa Falls and carried pieces of line to aid them in tieing their rafts. If men were now required to do what we did then, at the wages paid then, I think they would rebel or strike.

THE EDDY MILL

Before we got the dam built at the Dells we bought a mill at the "big eddy," from Mr. Sherman and his two sons, who had little room for booming logs. We took the mill down and rebuilt it at the head of the rapids, half a mile above the present dam, where we could have more booming room. When we bought the mill it had a circular saw and did not cut much lumber, as it could be only run a short part of the season. After moving and rebuilding it we put in a circular and a gang. We ran it only one year before the dam was built, and to give the dam the height it required we raised the mill eight feet. We did that by putting a solid frame under it after raising it that high, and we had to do that before the dam was closed. That cost us a good deal of money; but the fact of being able to hold logs in slack water above the mill justified us, as it paid well.

THE DELLS DAM

In getting the charter for the dam we were required to put in a lock, to lock boats through, and a slide for running rafts through, which added a good deal to the cost of it; but we were willing to concede almost anything the legislature demanded, to get the dam. I was elected president of the Dells Improvement Company and the city made a lease of the dam to the company, requiring the company to put in the necessary water-

wheels and flumes and to furnish the city the necessary grounds for operating the water-wheels which the city was to put in after the wheels for power were installed by the Dells Improvement Company, the city reserving the right to the water it might want to use for driving its pump—the Dells Improvement Company being permitted to use the water in excess of the city's requirements. The Dells Improvement Company was also required to build the flume from the west end of the dam into Half Moon lake, tunneling a long distance before it reached Half Moon lake; and the Improvement Company was required to put in a gate and separate sluice-way for the logs to be run into Half Moon lake; also, to put in a wide sluice-way, known as the large Tainter gate and sluice, to sluice the logs for down the river. It was obliged to put in a jam boom, with large piers, to stop the logs where they were to be sorted; also, to put in a line of piers so as to leave a channel for the logs for Half Moon lake and those for our mill on the west side of the river. Hence, it required a large space of water inside the river to hold the logs that were to be stopped here. The improvements cost a large sum of money, much more than the $100,000 capital stock of the Dells Improvement Company and the $95,000 of bonds issued by the city. The money was advanced by a few stockholders of the company and was repaid after some time by the booming charges. In the lease it was provided the Dells Improvement should have the $100,000 of water-works bonds the city was to issue to aid in the building of the dam, but the Improvement Company received only $95,000 of them.

SELLING THE CITY BONDS

When I was elected president of the Dells Improvement Company Mr. Dewitt Clark, father of D. S. Clark, was elected its treasurer. Some years before that a Mr. Spafford was running a bank here called the Spafford & Clark Bank of Eau Claire. Mr. Spafford lost his health, and in fact, his mind, and was taken back to Rockford, where his father and mother and other relatives lived; and when it became evident that he was not likely to get well a guardian was appointed to handle his estate. At the earnest request of Mr. Clark I bought Mr. Spafford's interest in the bank, and it was known thereafter as the Bank of Clark & Ingram. Clark & Ingram advanced the money and paid out the money as rapidly as they were able to collect it from subscribers for stock in the Dells Improvement Company. The contract had been let for building the dam and it was pretty well under way when it was thought best to dispose of the bonds we were getting from the city. The late D. R. Moon, who at one time was a banker here, thought he could dispose of the bonds in New York to good advantage, and he was sent there to do so. Meantime the $95,000 of the bonds were delivered to Mr. Clark, as treasurer, and he deposited them with the Importers & Traders Bank, New York, which was our correspondent. Mr. Moon spent some weeks in New York, and I am under the impression tried also in Philadelphia and Boston to dispose of the bonds; but bond men were shy of water-works bonds and knew so little about the condition of things in Eau Claire, and the prospect for a town, that he failed to get an offer; spent $250 or $300 in his effort and came back and reported he could not find a market for them. The late Charles R. Gleason, then city clerk, believed, that, with his knowledge of the affairs of the city, and its prospects, he could sell the bonds, and he went to New York; was there two weeks and spent something over $200, but failed

to get an offer. By that time the bank had advanced about $40,000 to the Dells Improvement Company and Mr. Clark said to me he was not willing to advance more money from the bank, that the bonds must be sold at some price, and that it was up to me as president of the Dells Improvement Company to make some disposition of them. It was a case where something must be done. I didn't have any acquaintance in New York to help me in a transaction of that kind, but Mr. Leland, who had been in the bank with us, was then with Appleton Brothers, at a salary of $10,000 a year, to finish an encyclopedia, and had rendered what aid he could to Mr. Moon and Mr. Gleason. The bonds were still with the Importers & Traders Bank and Mr. Clark gave me an order to get them. Without announcing that I was going to New York I took a train and when I reached Harvard Junction arranged with the conductor for time to go to the telegraph office to wire Mr. W. F. Coolbaugh, president of the Union National Bank of Chicago, asking if I could meet him at the bank on the arrival of that train, about four o'clock. Ingram & Kennedy kept an account with the Union National Bank, and it was the Chicago correspondent of Clark & Ingram. On the arrival of the train I drove to the bank and found Mr. Coolbaugh waiting. I told him what I wanted, what our fix was in regard to the bonds, and that I was on my way to New York to dispose of them. I told him Mr. Clark was worrying about the matter and that the company was calling for money all the time. After explaining the situation pretty fully to him, he said, "You need not worry about that; I can let you have the money you will need until you can realize on the bonds." I then told him my main purpose in meeting him was to see if he couldn't give me a letter to some one in New York who could aid me in selling them. "Yes," he answered, "I can give you a letter to Austin Corbin. He is a banker and broker and one of the most influential men in New York City, and my relations with him are such that he will respond to any letter that I will give you." He wrote a good

letter, endorsing me more than I supposed he would be willing to do, and closed by saying to Mr. Corbin that he wanted him to treat me in the matter as he would treat him if he were there himself. Armed with that, I bought a ticket to New York and telegraphed Mr. Leland to meet me at the Importers & Traders Bank, which he was glad to do, as he was an especial friend. He told me of the persons to whom he had introduced Mr. Moon and Mr. Gleason, saying, "I introduced them to the best bond houses in New York and Boston, the Bellow Company." I asked to see them, and he introduced me. After talking awhile with Mr. Bellew, Mr. Leland said he had an appointment, and would meet me that night at the hotel. Mr. Bellow told me, when I had told him what my errand was, that two parties had been there before, offering the same bonds, but he could not see that they were bonds his houses could handle. I said "these bonds are city water-works bonds. We have a city of twelve to fifteen thousand people, and the outlook is for a town that will do a large business, and I think you will find on further investigation that they are first-class bonds, such as you can recommend to your customers as being as good as any on the market." He questioned me closely, asked how much I wanted for the bonds, how much I expected to get, etc. I told him I wanted 95c. on the dollar, and that they were well worth that much; "and," I said, "I will show you a letter from Mr. Coolbaugh, president of the Union National Bank of Chicago, who knows me well, as Ingram & Kennedy and the Bank I am interested in keep accounts with him." Mr. Coolbaugh had a national reputation as a banker. Mr. Bellew read the letter carefully and said, "You have given me more information in regard to your city and its prospects of growth than the other gentlemen were able to give me, but you are asking too much for the bonds." I repeated that I thought them richly worth the price, adding "if you don't feel like taking them I will go with that letter to Mr. Corbin." He asked how fast we would want the money. I told him we wanted $40,000 (the amount

the bank had advanced); then, if we could get $10,000 or $15,000 a month until the amount was fully paid, it would serve our purpose. He asked where the bonds were, and I told him, with the Importers & Traders Bank, and together we went there. I had been in New York a year before that and had made the acquaintance of the president, Mr. Perkins, and he seemed to have formed a good opinion of me and of the bank I was connected with, and treated us very cordially. I told him we wanted to see the water-works bonds Mr. Clark had deposited there. Mr. Bellew looked them over carefully, said he would take them, and wanted me to state to Mr. Perkins how they were to be paid. I told him I wanted him to deposit $40,000 to the credit of Clark & Ingram and take enough of the bonds to cover that amount; and that he could get the bonds from Mr. Perkins as fast as he paid the money to the credit of Clark & Ingram, also that I had proposed to Mr. Bellow that after he had paid the $40,000, $10,000 or $15,000 a month would answer our purpose until all were paid for. That closed the deal, and meeting Mr. Leland in the evening I told him what I had done. "Well," he said, "you have done a wonderful stroke of business. I didn't believe you could get an offer for those bonds, from what I heard from Mr. Moon and Mr. Gleason."

I took a return train that night and was at home in less than a week from the time of my departure. My expenses were less than $75. I telegraphed Mr. Clark a night message, telling him what I had done, and that was as great a relief to him as anything that ever occurred to him. This was early in the fall of the year the dam was built. We had an exceptionally mild winter and the work was pushed rapidly.

I should say here that the plans for the dam were made by Mr. Douglas of Minneapolis, who was an assistant to Col. Farquahar, the government engineer at St. Paul. Mr. Douglas was very particular that the work should be done according to his specifications, and in order that it would be so done he hired a young man named Johnson, who was in their employ in St.

Paul, as assistant engineer. The Dells Improvement Company hired C. M. Buffington to look after the work—not only the work of building the dam, but the building of the piers, the buying of material, and looking after the quarrying of stone for piers and filling in the crib work. On my return from a trip in the woods, on a very cold day, I went into the building put up by the contractor, Mr. McIntyre, on the east bank of the river, near the end of the dam, where they had one or two stoves to make it comfortable for the men who were getting out patterns, and doing other work they had to do in the shop. I found Johnson and Buffington sitting by the stoves, warming themselves. I asked how they were getting on with the work, and they answered first-rate. I told them I was going down to see how it looked to me. The crib work was made of timber, with an apron below the dam; and the rock was cleaned off perfectly level. The specifications required 12x12 pine timber, 32 feet long, running up and down stream from the foot of the dam, down, to be held to the flat surface of the rock with inch and a quarter round bolts, 30 inches long, holes drilled in the rock, and the bolts with upset heads. The bolts were split about six inches at the lower end, to be driven into the rock, and the steel wedge, after the end of the bolt had been reduced in size, (a very slim wedge, about six inches long), was required to be entered into each bolt two or three inches before driving it through the timber and into the hole drilled in the rock, and these holes were required to be about a half inch, counting the thickness of the timber, in depth, less the 30 inches, so that when the wedge reached the bottom of the hole it would be impossible for that bolt to be drawn out. The head of the bolt was to be up-set and driven down by a heavy hammer, so that it would be a little below the top face of the timber. They were putting that timber down when I went down to see how the work was getting on, and I met a man, as I got down the bank, who said to me, in a low tone, "You may look out for some crooked work." He was careful not to be heard by any

one else, and passed along. He had worked for us a number of years at the mill and felt an interest in the work because I was in charge of it. When I got down to where they were placing that timber (a third or more of it was down), I saw a place on the rock where the timber did not seem to be drawn tight to the rock, and I knew that with such a bolt as we had, with a wedge in it, and a head on the bolt, if driven down properly, it would draw the timber close to the rock; so I got down on my knees and got a sliver that had been hewed from the timber and reached under it, opposite the bolt, and found there was no bolt there, but that only the head of the bolt was there. Part of the way the timber was not drawn close to the rock. I went along and tried another place where it was not drawn down, and found no bolt. By that time the foreman came along where I was and asked if there was anything the matter. I answered yes, and said, "You take this little sliver and reach under the timber there and see if you can find that bolt." He went through the performance, but I was convinced that he knew the condition of things without using the sliver. He began to curse and swear, and declared that some of the men had been doing that to injure him. They had cut the bolt off about ten or eleven inches long, up-set the head, and driven it into the timber, and it hadn't got through which compelled the removal of enough of the timbers so we could prove by driving a wedge between the timber and the rock whether the bolt was long enough to do any good. Had that not been discovered, some of the timbers would have been thrown out by the under-tow of the water pouring over the dam and perhaps caused the undermining of the dam. It goes without saying that Johnson and Buffington felt pretty cheap when they were told what I had discovered, which had been done without their knowledge.

DELLS DAM TROUBLES

There were many things in connection with the dam and the building of the lock that caused me much anxiety and trouble. Some of the timbers in the lumber-slide were not properly fastened, and came out, and some of the timbers in the log-slide on the west side of the river came out for want of having been properly bolted down, and the piers on the lock, if the specifications had been carried out, would have required the ties across the piers to be of the same size of the side-walls of the piers, twelve inches square; but, instead, they had used 6x12s, and those ties or cross-timbers were put zig-zag from one side of the lock-wall to the other, and when the weight of the stone and sand that the piers were filled with came on to them, they sprung down, and in some cases broke and pulled the wall of the lock out of plumb.

Mr. Douglas came when we filled the dam and closed the gates of the lock and filled the lock, and the walls of the lock seemed to be giving way, which caused him to call me to investigate, and see what was wrong. After uncovering the top of the lock-wall, which was not filled up to within five or six feet of the top in some places, we found that the ties of beams across the lock were broken down with the weight of stone and sand piled on them for filling. That did no special harm, except that it looked bad. We had cement mixed thin with water and poured down making the filling a solid mass, so the walls where the gates of the lock were hung were not thrown out of plumb; but Mr. Douglas was much annoyed to think the specifications had not been carried out by Mr. Johnson, who was, he said, responsible for allowing them to put in 6x12s for ties, instead of 12x12 timbers. Otherwise, everything about the dam and the lock, and in fact the whole thing, seemed to be very satisfactory. These 12x12 timbers, 32 feet long, were covered by 8x12 oak timbers 16 feet long, that rested up

against the timbers that covered the lower side of the dam, and the crest of the dam clear across was covered with boiler iron, bent over the crest. These plates were six or seven feet long and four feet wide. These were countersunk and bolted to the covering on the upper and lower slants of the dam. The dam was covered with oak plank eight inches thick on the upper and lower sides of the dam, so that the bolts through the boiler-iron would be driven into hardwood and made very firm.

DANGERS FROM FLOODS

The next spring, 1880, we had a high flood which took out many bridges above here, (also the bridge at Eau Claire), and the railroad bridge a little ways above the dam and the bridge of the Milwaukee road at Wilkin's Island were carried over the dam, and the long inch and a half bolts that were used in the Howe-truss wooden-bridge pulled off a number of pieces of the boiler-iron and a number of the eight-inch plank on the lower side of the dam, as they swept over it, leaving the crib-work exposed. The crib-work on the dam was made of 12x12 pine, the timbers running up and down on the upper side of the dam were eight feet apart, and the timbers running the other way, to receive the covering or planking of the dam, were the same distance apart. In the summer following, I found the pressure of the water on the upper side of the dam had been so great it had squeezed the twelve-inch timbers so hard that they were only about eight inches thick. That gave me a better idea of the strength required under such a head of water. When our logs were thrown out on the bottoms, in the pond above, some of them were aground when the water subsided, and I advised Mr. Douglas that I wanted to put on a four-foot splash to float the logs that were aground. He objected, and said it might be safe to put on two feet, but the dam was not constructed to stand much more pressure than the 18 feet of water it had to stand up against. I ventured to put on a three foot splash, and always felt that the eight-foot splash they have

since put on has made it unsafe, and that, in the event of its breaking through with high water, it would probably flood a large portion of the city. I have frequently said to Mr. Davis, since he has had control of the dam, that I didn't regard it as safe with the eight-foot splash, and he has built several piers below, which are a support to it, so that it is now probably safe against high water with the splash-boards off; but when I think of the 12x12 timbers, where they cross each other for the crib work of the dam, squeezed together so they are only about 8 or 9 inches thick, I fear there is danger of the dam crushing under the weight put upon it by high water. If it should, the greater part of the dam would be torn out by the rush of water and a large portion of this city would be flooded, entailing loss of life; hence, I believe, the only safe way to maintain that water-power is to build a concrete dam immediately below the present dam, so strong that there would be no possibility of its ever giving way. There have been in different parts of this country so many terrible accidents on account of dams above cities and villages giving way that it seems to me our city should insist that the company having the lease of the dam make it safe beyond question.

The Dells Pulp & Paper Company, I understand, has secured the right of flowage above the dam so that it may raise the dam to a 30-foot head instead of what it has now. Of course the company will probably have to go to the legislature to get the right to increase the height of the dam. That done, the water-power would be worth at least double what it is worth now. In the event of the construction of a concrete dam the city would, of course, continue to own all the power it may require for water works purposes. The necessity for locks for the passage of boats has ceased. It probably would be advisable to have a sluice-way in a new dam for the passage of water-craft that some people up river may think they have the right to float, such as flat boats, or timber in rafts, if such needs should arise.

DAM OF GENERAL BENEFIT

The building of the dam has been the making of the city of Eau Claire. Had it not been built, it would have been impossible for any of the mills that have been running here for many years to have secured logs for manufacture here. They would after the Mississippi River Logging Company began to drive logs down river, have been obliged to move their mills to the Mississippi, where they could obtain their own logs, driven down the river. Many people in Eau Claire have felt that the lumbermen were the only persons benefitted by the $95,000 issue of city water-works bonds towards the construction of the dam, but they were and are mistaken, for every one doing business in Eau Claire—merchants and manufacturers—has had part in the benefits, as well as have the lumber manufacturers. In fact those people have had greater benefit, because the lumbermen who had logs boomed in slack water paid 50c. per thousand boomage—the full price fixed by the legislature when the charter was granted. Other than the lumbermen who were manufacturing here, none have paid for the benefits they received by reason of the water power created by the dam, except in the small per cent. of taxes as interest on the bonds. Those who understand the conditions have ceased to find fault or regret the expenditure by the city to aid in the construction of the Dells dam. If the Dells Paper & Pulp Company does what I think will be for its best interests, it will put in a concrete dam and raise its head to an extent that will afford all the power ~~they~~ it want, for ~~their~~ its paper and pulp mill, and also power to sell.

The lumbermen now operating here have ceased to drive logs and are bringing them in by rail. Had the lumbermen in the early days possessed such facilities for getting logs from the head waters of the river, it would have been more profitable to them to have brought them in by rail than to have float-

ed them down the river, and the dam or water power would not have been of any use except for power for driving machinery other than saw mill machinery. The offal when manufacturing logs into lumber would have furnished sufficient fuel for all the power needed; in fact, the saw dust and bark now furnish fuel enough for the saw mills, so that a large per cent. of the offal from a mill is sold for fuel. The water power was of no special benefit to the lumbermen except to create slack water above the dam for storing and sorting logs, when bringing them down by river.

VALUE OF WATER POWERS

Water power has come to be one of the most valuable assets, I think, in this country, and should be utilized at every possible point, in that way encouraging manufacturing. No place obliged to use fuel for power can compete with villages or cities that have water powers. Of late, water power is used very generally to generate electricity for driving street railways, and interurban lines, and for lighting cities and running motors for all kinds of manufacturing. Eau Claire is especially well situated on account of the many places on the Eau Claire and Chippewa and Red Cedar rivers for storing water for power. There should be more dams for reservoirs on these rivers, to check the floods caused by melting snows and the extraordinary rains, so that the power-plants may have use of the stored water in the summer, when needed, and in the winter, when the streams are frozen by the severe weather we have. Reservoirs would supply the necessary water to maintain the power required for any and all kinds of manufacturing, and to a great extent prevent the low lands during flood-times from being submerged, and many times doing great damage. The benefits from improvements of our water power will be better appreciated in years to come. I am strongly of the opinion that Eau Claire, Chippewa Falls and Menomonie will become large manufacturing centers because of the cheap pow-

er they are able to develop and furnish for all sorts of manufacturing, for they will be in position to furnish power and light for different centers so much cheaper than these services can be rendered by creating power by the use of fuel, as many of our larger cities are obliged to do, where they have no water power.

POSSIBLE DEVELOPMENT

Nearly all of the electric power being used in Eau Claire for the street railway and the interurban lines, and the lighting of Eau Claire, Chippewa Falls and Menomonie is now brought from Cedar Falls dam, twenty-five miles west of here. A large number of motors are in use in Eau Claire, Chippewa Falls and Menomonie, for driving manufacturing concerns, and the demand for them is increasing all the time. The power the Chippewa Valley Railway, Light & Power Company has at the Dells dam is now being largely used by the paper mill, hence the power it is itself using here comes largely from Cedar Falls and Menomonie over a high tension line. Besides the power the company is bringing here, it is sending power to Red Wing, Minn., and it is about to close a contract to send enough more power over there to enable the Red Wing people to extend its lines to Lake City and Wabasha, where they have contracts with a few flour mills to drive them by electricity. They find it will be much cheaper for them to get electricity from here than to use fuel for steam to create power. The company is also figuring to run power to Altoona, and later on will probably build an interurban line to Altoona, and very likely another to Menomonie. It has now machinery installed at Cedar Falls to use only a quarter of the power available there. The dam is constructed for installing wheels as fast as power will be needed. The Chippewa Valley Railway, Light & Power Company has dam-sites on the Red Cedar river by which it can develop 25,000 to 30,000 horse-power whenever there is a market for it.

There is now being constructed on the Chippewa river, about twenty-five miles above Eau Claire, a concrete dam that

will furnish a large amount of electric power that can be brought here or taken to any place within reasonable distance. There is another dam being constructed at Brunot Falls that will furnish a large amount of power, and where they are preparing to manufacture paper for boxes; and there are many places above Brunot Falls (about forty miles from here), where a large amount of power can be developed by building dams and a system of reservoirs on the head waters of the Chippewa and its tributaries, that will insure steady power the year round.

A SECOND RETROSPECTIVE VIEW

If the lumbermen here and at other points on the Chippewa river had joined together and built railways on both sides of the river from the Mississippi to the head waters of the Chippewa, and to the Flambeau, instead of depending on the rivers to float their logs, by which from five hundred to seven hundred and twenty-five millions were floated to the Mississippi in the past twenty-five or thirty years, I believe Eau Claire would now be a city of 40,000 or 50,000 people, and that there would still be timber to keep the mills running at the different points where mills have been built on the river. And with such improvements as should have been made on the Chippewa for navigation, the freight rates from here to the markets for lumber and agricultural products would have made this one of the richest valleys in this or any other state; but, instead of what might have been, a large part of the timber, except the hardwoods and hemlock, has been run out of the State, except what was manufactured at a few places in the valley, and has been the means of building up a good many of the towns on the Mississippi, where mills were built for sawing the logs that should have been sawed here in the Chippewa valley; and the same thing holds good as to the valleys of the Red Cedar and the Wisconsin rivers.

PAPER-MILL EXPERIENCE

Soon after the Dells dam was constructed and the water works installed a small paper mill was built at the dam to make paper from rags. The first company operated for three or four years, but from lack of experience and capital it went into the hands of a receiver. It had borrowed a good deal of money, some from the Bank of Eau Claire, some from the Eau Claire National Bank, and some from widows who depended upon the interest for their living. I was then president of the Eau Claire National Bank. A syndicate was formed to buy the property at the receiver's sale. Its indebtedness amounted to a little less than $50,000. Most of its notes were owned in Eau Claire. I went to the dam on the day of the receiver's sale. The syndicate had chosen one of their party to bid for them. His first bid was $10,000 for the entire property. I felt that the property ought to sell for enough, and was worth enough, to pay the indebtedness, if the stockholders would lose what they had in it. I wanted to protect, so far as I could, the Eau Claire National Bank and some of the creditors who could ill afford to lose, and I raised the bid to $15,000. The syndicate bidder raised to $20,000 and I raised his bid to $25,000. He then bid $27,000 and I raised his bids up to $42,000. The manager of the syndicate asked the receiver to adjourn the sale half an hour, which was granted. Meantime, they prevailed on the receiver to require each bidder to put up a certified check to cover the amount of his bid. That was satisfactory to me, and I certified my check on the Eau Claire National Bank. Being its president I could do that. The receiver announced that, and the syndicate bidder raised my bid a couple of thousand dollars, as I remember. I said to them they must bid enough to cover the indebtedness or I did not believe the judge would confirm the sale, and I raised the bid to $48,500. They then quit bidding, and the property was struck off to me. I

was then in much the same fix as the fellow was who went into a raffle and won an elephant, for I knew nothing about the paper business, and had all I could attend to without it; but I started the next day for Neenah and Menasha to see if I could find some one to take it off my hands. I found some parties that I knew and was advised to see the Davis brothers. They had a small paper mill at Neenah and seemed to be the only ones there situated to take hold of the plant here; but their means were limited, so I arranged to let them have about one-half of the property by carrying a large part of that half for them. D. R. Davis came here with me and we organized the Dells Paper & Pulp Company, made Mr. Davis president, myself vice-president, and C. A. Chamberlain secretary. The mill had a 72-inch paper machine, made at Beloit, in pretty bad order—so much so that we at once had it rebuilt. Mr. Davis thought we ought to install a grinding machine for making pulp from wood, and that we ought to have a larger paper mill machine. Contracts were promptly made for both machines, and for larger and more modern water wheels, all of which called for a good deal of money. I had but little money outside of our lumber business, so it was necessary to go to the banks. The Dells Paper & Pulp Company could make notes, but to get money at reasonable rates I was required to endorse its notes. As soon as the new machinery was installed it seemed necessary also to enlarge each department, which called for still more money. I could not give much time to the business, so after two or three years said to Mr. Davis I wished he would find some one to take my stock. Paper was bringing paying price and the mill was showing some profit. Mr. Davis found a retired paped mill man at Appleton who had the money and was willing to take the stock as collateral and ~~loan~~ lend the money to pay me for my stock. That was my opportunity to get out of a business about which I knew nothing. But I had the satisfaction of seeing the indebtedness all paid off before selling

my stock. The widows who had held that paper for several thousand dollars were grateful to me for what I had done for them.

DELLS DAM POWER

The Dells Improvement Company, which rented the power from the city, sold power to the paper mill company, and a company was formed to put in electrical machinery. The Dells Improvement Company sold or gave that company a long-time lease for 650 horse-power. Meantime the Dells Improvement Company sold what power it had left and gave a long-time lease to the paper mill company, with all the rights it had for booming logs; and soon after that, as president of the Empire Lumber Company, I sold the Eddy mill property to the paper mill company. That property of about one hundred acres was on the same side of the river as the paper mill, and extended up into the bend of the river. The paper mill company needed that land, and we didn't, and I sold it to Mr. Davis for about $14,000. That gave them the rights they needed and a large amount of land on the bluff, including Mount Tom. The quantity of logs being driven down the river then was very much less than formerly, but it devolved upon the Dells Paper & Pulp Company to handle the booms and sorting works. The price of paper kept up well for some years and the Dells Paper & Pulp Company had spent the money there it has made, and borrowed a good deal more, enlarged the plant, until it is a fine property, requiring more power from the dam than it owns, so that it has been obliged to install a large steam plant with large engines, to help do the work, and during the dry season it has been obliged to depend largely on the steam plant for power. Under its lease from the city the city reserves the right to all the power it may require for water works purposes. The electric company owns about 650 horse-power and the paper mill the balance, which is an uncertain quantity in low water. In the course of the events I have been writing about the Mis-

sissippi River Logging Company came to the Chippewa and bought timber lands and commenced operations which would have bankrupted the town here, and those manufacturing lumber if we hadn't built the Dells dam to stop the logs to be sorted at the works at the Big Eddy, putting the logs belonging to Eau Claire into side booms and permitting those belonging to the Mississippi River Logging Company to be run down the river. Soon after the Mississippi River Logging Company begun operations on the river Mr. Kennedy, my partner, sold his interest in the Ingram-Kennedy Company to the Dulanys and McVeighs of Hannibal, Mo.

CHIPPEWA VALLEY RAILWAY, LIGHT & POWER COMPANY

Another significant event in the development of Eau Claire was the inauguration of our street railway system by A. E. Appleyard which was recently extended by the organization of the Chippewa Valley Railway, Light & Power Company. Mr. Appleyard also built the line to Chippewa Falls, issuing bonds and borrowing money from his wife's family. He later built in Ohio other interurban lines and got into trouble, having spent the money he and his wife's mother and sister had. He got into trouble with a bank in Buffalo by what was supposed to be some crooked work, which put him in a fix, obliging him to raise money to settle some of his pressing claims. A syndicate was formed here to ~~loan~~ lend him $25,000 and take his stock in this railway company as collateral, thinking, as he, (Appleyard) supposed, they were hoping they would get the road. Meantime he here talked with me about it. I told him I knew nothing about the street railway business and did not want to do anything that would cause the business ~~might~~ to fall into my hands. He said this was the best property he ever owned and he was confident if I would let him have $25,000 he could clean up what was giving him trouble, retain the property, and save to his wife and her mother and sister the money they had put into it.

He told me of the syndicate formed here, who comprised it, and said he was afraid they were planning to get the road; said he knew from what I had said I did not want the road, and that he would put up all the stock he controlled; said he knew he could get what he had already put up for borrowed money, and would give me the notes of his wife's mother and sister, secured by the stock, for the $25,000, and said he could get that stock, which was in some bank, and would have his wife's sister and mother and the sister's husband come here and execute the notes, and then turn the stock over to me as collateral, if I would take it. I was about to leave home the next day with Mr. Weyerhauser and his son and my son ~~Ex~~ for the Pacific coast in a private car furnished us by James J. Hill. I told Mr. Appleyard that my son Charlie, then in my office, would give him a check for the money whenever he brought in the stock and the notes, which he did soon after, and got the money. I was absent nearly three weeks, and when I returned Mr. Appleyard told me he was in just as bad a fix as he was when he got the $25,000 and wanted me to take the property, and made what seemed to me a low price for it; and after talking with C. T. Bundy and George B. Wheeler, who had been managing the business for Appleyard, I decided it would be a good property for me to take over. I was then obliged to put up some $85,000 or $90,000, together with the $25,000, to get it. We then reorganized, and Messrs. Bundy & Wilcox and Mr. Wheeler took certain amounts of stock and John S. Owen and B. A. Buffington each put $10,000 in it. Bundy & Wilcox and Wheeler had very little money to put in it, hence I was obliged to carry their stock. After acquiring the property I saw at once the necessity for more power. In the transactions connected with the Dells dam Mr. Appleyard had secured 650 horse-power of the Dells Improvement Company and had put up a building a mile or so from the city, towards Chippewa Falls, with a large engine, boilers and a storage battery, to get power for the interurban road in connection with the city railway.

In the meantime the Knapp, Stout & Co. company had sold its property at Menomonie to Frank Stout, one of its stockholders, and he organized the Chippewa Valley Power Company composed of some young men in Chicago, where Mr. Stout was living, and one from Minneapolis. Soon after we organized here the greater part of the dam at Menomonie was carried out by a flood and was rebuilt by them. It was found by that time that they needed, in order to handle the property, a large amount of money, and the company, outside of Frank Stout, who was the owner of a large part of the stock, had no means to go on with it. I went to Cedar Lake, where Mr. Stout was stopping, at his cottage, and told him that we, the Chippewa Valley, Light & Power Company would buy the water power and franchise on the river. He said I must see the president of the company, who was in Chicago, and if I wanted to negotiate for the property he would go to Chicago with me, saying he thought there was a chance to buy it to good advantage. In Chicago I learned the other men had very little in it; that Mr. Stout, while he was a silent owner, was the real owner. With the help of Mr. Bundy I closed a trade with him for the company's holdings on both the Menomonie and Red Cedar rivers, which included two or three dam sites below Menomonie, a water power and dam and grist mill at Chetek, the dam and grist mill at Rice Lake, as well as all of their holdings or dam sites on the two rivers. Mr. Stout took in part payment one-fifth interest in our Chippewa Valley Railway, Light & Power Company. He let his brother, the late James H. Stout, and the Wilson estate have part of it. I kept a large block of the stock and was made president of the company. It was at once evident to me and others connected with the company that, for the company to do what it ought to, a dam must be built on the Red Cedar, at Cedar Falls. The Knapp, Stout & Co. company had some years before made surveys of the river, showing places to build a number of dams, and the right of flowage at the different places had been acquired in most cases. We found

we had the right of flowage for a dam at Cedar Falls, where we had a sixteen-foot dam which was not being used for power, and we decided, after consulting some of the best engineers in the country, that it would be wise for us to put in a fifty-foot dam at that place, which would enable us to develop 10,000 or 12,000 horse-power, besides what we already had at Menomonie. That meant the expenditure of a large amount of money in addition to what we had already invested and the issuance of a large amount of bonds on the property, or raise the money in some other way. After buying the Menomonie property it seemed advisable for the Chippewa Valley Railway, Light & Power Company to own the lighting plant at Menomonie, which was getting power from the company. It also seemed desirable that we should have the electric light, water-works and gas plants at Chippewa Falls. Those purchases required a considerable amount of money, and made it necessary to issue more bonds. Together with the improvements we found it necessary to make in Eau Claire, we have now a large bonded indebtedness. Notwithstanding the bonded indebtedness we find the property is earning nearly three times the amount of the interest and expense we have incurred. Bonding companies generally feel that a plant that is earning twice the amount of the interest on the bonded indebtedness is doing a good business, and our bonds are worth considerably more than par.

OTHER INTERESTS

Notwithstanding this history of my doings and of some of the propositions in which I have been interested, and connected with, whch would seem to be enough for one man, I have had a good many other busness interests that have taken much of my time and thought. One investment, made some years ago, in trying to help a son of my old partner, Mr. Kennedy was in a mining property in Arizona, which has required a good deal of thought and attention, and is still on my hands, with no immediate prospect of disposing of it, but I have hoped that I

may get quit of it without much loss. In another case I was induced to help a man who had been interested with me, to take an interest in a rice plantation in Texas. That property has required me to make a number of trips there, and to send representatives there, and to increase my investment to protect what I already had, until now I have a good deal of money in the property, with a fair prospect at this time of disposing of it without loss. These are matters apart from my regular business, which has been that of lumbering. The two things I have just mentioned do not cover all of the outside business enterprises I am or have been interested in. About twenty-five years ago I took an interest in a large coal mining proposition in the Rocky Mountains, on the Canadian Pacific railroad. That has required me to make a dozen or more trips there, and it has been a dividend-payer only part of the time. This season the Canadian Anthracite Coal Company, the company I speak of, has organized a company to do the mining, instead of leasing the property, as we have done in the past, on a royalty, and by so doing it has made another corporation to look after, in which I have a large interest, with fair prospect of realizing fair dividends at some time in the future.

While these investments have required considerable of my time and attention, other lumber concerns than those I have mentioned, in which I have been interested, have required more of my attention. The Louisiana Long Leaf Lumber Company, of Fisher, La., was the first of my investments in the South. That concern has a pine and hardwood mill at Fisher, and another at Victoria, twenty-five miles east of Fisher, on the Texas & Pacific railroad. Both are under one management and have paid good dividends. Another concern, at Clarks, La., the Louisiana Central Lumber Company, has a large mill for sawing pine and a smaller one for sawing hardwood, and a good sized plant at Standard, nine miles from Clark, all owned by the same corporation, which is also a dividend-paying proposition. The two mills have a capacity of over 300,000 feet per

day. A few years ago I was induced to go into a lumber plant at Lyman, Miss. That plant is known as the Ingram-Day Lumber Company. It has not yet been a paying proposition, but has required a large investment of money by me. If I should get my money back without interest I will be satisfied. Another plant, much larger than either of the other lumber plants I have mentioned, located at Fullerton, La., has required its stockholders to put into it a large amount of money, and no doubt it will in the not distant future prove to have been a good investment by paying large dividends. I am or have been the president of some of the companies and vice president of others. These plants have required a good deal of time and thought, and still require a good deal of attention, to protect the properties and make them profitable. Some of the lumber concerns I am interested in which have required a good deal of attention in the past are now liquidating and will soon be wound up. I am trying to wind up as many of them as I can, but it seems difficult for one to lessen his business while he has the strength and ability to take care of it. Many of these enterprises seemed to be forced upon me, as in the case of the presidency of the Union National Bank, more recently. I had persistently refused the presidency, but in my absence from home some stock was assigned to me and I was made a director and president without my knowledge or consent. The O. H. Ingram Company had stock in the bank, but I was not an individual stockholder. I shall shift that responsibility and others that are causing me more work than I ought to do at my time of life as soon as I find good opportunity to do so; but I shall want to do something as long as I have strength, for I would not be happy without participation in business.

LATE PURCHASE BY RAILWAY, LIGHT & POWER COMPANY

A few weeks ago the Chippewa Valley Railway, Light & Power Company decided to buy from the Chippewa Lumber & Boom Company the water power at Chippewa Falls and the dam sites up the river and on several tributaries of the river, the purchase including the office building at Chippewa Falls and some lots they owned on both sides of the river, and the lands that have been secured at the different dam sites, as well as some land on the east side of the river that is not platted. The lands that go with these different dam sites and what we got at Chippewa Falls amount to something over five thousand acres. The purchase includes all of the flowage rights for these dam sites, and in all amounted to $315,400.00. This matter had been under consideration for some time. The improvements necessary to make the property available will require a good deal of thought and attention, so you will see from what I have already written that it is not easy with the interests I have in all of the different concerns I have been writing about for me to unload very much of the work that devolves upon me, and will, I suppose, while I live.

ASSISTED BY YOUR MOTHER

In all of the different things I have mentioned in this autobiography your mother was always a great assistance, and I feel that I am indebted to her for the success I have made, if mine may be called a successful life. We always talked matters over together. For the past few years she advised me not to take on more work, feeling that I ought to devote more of my time to matters of greater importance to me personally than all of these enterprises, and get them in shape as soon as possible for others to manage. No other realizes as I do the great help she always was to me. She passed away, as you

know, the 16th of December last. The last two years of her life she suffered from the effects of a severe attack of pneumonia, which she bore, as you know, patiently. Her death came five days after the sixtieth anniversary of our wedding day. About four days before she passed away she had the nurse call me in the night, about one o'clock, and said she wanted to talk with me. I laid down on the bed by her side, and she said, "Now, I want you to remain in this house while you live, keep everything as I have arranged it, keep the pictures on the walls where I have had them hung. You know I have a very short time to stay with you, and I wish you would hire a good person to take care of you, because I cannot do it. Annie will probably stay with you as long as you want her, and try and keep Josephine as long as you can, for I feel that she is a jewel of a girl." She passed away like one going to sleep, without a struggle, and some fifteen minutes before she ceased to breathe she knew me. None but you children realize what a great loss her going has been to me.

This memoranda, or autobiography, covers a very small per cent of the history of my life since I was nine or ten years old, but this is probably as much of it as you will care to remember, and I will close by saying that I purpose having it put into book form for my children and my grand children, and their children, and for them only.

With more love than I can express,

O. H. Ingram

Eau Claire, Wisconsin, December 31, 1912.