

# A MODEL LUMBER MANUFACTURING PLANT

C. A. Smith Lumber Company, an Establishment Unique and Complete—History of Its Growth and Description of Its Equipment.

The great lumber mills of Minneapolis are hardly second to the flouring mills in the fame and the material prosperity they have brought the city. They have established a reputation for Minneapolis as the leading lumber producing center of the United States, a prestige that will be maintained for years to come.

A visit to the city is not complete without a tour up the river into the well-known "lumber district," which is a great manufacturing center by itself. Vast piles of lumber line the route for four miles, from the downtown railroad yards to the extreme end of the street car line at Camden Place. Huge smoke stacks dot the horizon here and there, betokening "enterprises of great pith and moment." Logs choke the current of the river; blocks upon blocks of territory are covered with millwood; teams hauling huge truck loads of sawdust follow each other in long lines. The strident note of the band saw salutes the ear with monotonous regularity, and in summer time the very air is laden with the pleasant whiff of freshly sawed lumber.

The sightseer off for the sawmill district is always advised to "see the C. A. Smith mill," and he goes past the miles and miles of lumber yards and smokestacks until he reaches the very jumping-off place, the end of the street car line. The trip is well worth while, for at Camden Place is the largest sawmill plant in the city of Minneapolis, and one that is besides unique in its methods of production. No other manufacturing industry in the city presents such an example of thrift and economy in material. In its many devices for using the whole of the raw material, the C. A. Smith mill reminds one of a modern packing-house plant, or a Standard Oil refinery.

**Economy of Material.**  
Experienced lumbermen say that no other mill in the United States comes so near utilizing the entire log, and so widely traveled lumbermen from Frederikstad, Norway, who visited the city on a globe-trotting expedition last spring, declared that the C. A. Smith mill approached the economical methods of their Norwegian lumber mills closer than anything else they had seen since leaving home. Economy of material is the tendency of the white pine lumbermen in these latter days, when the forests of the north are thinning, the price of logs and white pine lumber steadily advancing, and it has come to a point where it pays the manufacturer to take time and extra machinery in order to get out of a log all that is possible. In the old days the only question was how to saw logs into lumber at the least expense. Now economy of production and economy of material must go hand in hand.

In this new movement the C. A. Smith Lumber company has been setting the pace for several years, and it is now turning out a line of high-grade by-products that is a great revenue producer. Lumbermen from east, south and west have made long journeys to study the system and profit by its example. In this plant even the despised slab is fed into machinery

or, as well as to men whose business is lumber.

The buildings and yards of the C. A. Smith Lumber company cover a tract of eighty acres reaching principally north and west of the sawmill proper, which is next to the river, and takes the logs from the pool, at the end of their long journey down the Mississippi, "snaking" them up by machinery, and starting them on their career of usefulness.

Thirty miles of narrow gauge tramways, quite a railway system in themselves, intersect the yards in every direction. Lumber is never dumped, and a small crew of men and horses keep it moving from one stage to another, loaded on great trucks which bowl smoothly along the level track. The rough lumber is piled at a safe distance from the buildings, and only loaded on cars as it is called for, but finish lumber and the other products are carefully housed alongside the railway tracks, which are a spur from the main line of the Minneapolis, St. Paul & Sault Ste. Marie. Over a thousand trucks of various styles are in use on the narrow gauge system of communication between the different buildings and yards.

**The Sawmill Described.**  
The big sawmill, which is the nucleus of the whole plant, has a capacity of 40,000 feet of lumber for every working hour, and is operated all season long by two crews, each working eleven hours, so that the machinery is only idle two hours of the twenty-four. On a gallery above the saws a small army of men and boys is always busy, lining the saws and keeping a supply ready for the next change. The sawmill is a frame building, 85 feet by 208, with a stone and brick engine-house adjoining. It is equipped with two gang saws, which take a huge squared log and run it thru into a dozen boards, in less time than it takes to tell it. The logs are "slabbed," and the extra sizes cut by three upright band saws and one twin band saw, which last is the only saw of the kind in use, so far as known. The two bands, which can be regulated so as to run at any desired distance from each other, square a log in just two motions. The log is run between them on the carriage, and the two bands slice off slabs on opposite sides. A half turn is taken in the log, two more edges are shaved off, and the log is squared and ready for the gang saw. There are also two horizontal band saws, which are a decided novelty in the lumber industry. With their help the mill utilizes slabs, which other mills sell for fuel, ripping them up into small boards, which are much in demand for boxes and other purposes.

**Pumps the City Water.**  
The steam plant for all the buildings is adjacent to the sawmill, and the mill's own refuse, ground up by three "hoggs," furnishes the fuel for this plant, together with the sawdust. This refuse, which is stacked up outside the mill when a surplus accumulates, also plays an important part in the economy of the city of Minneapolis. All the water pumped at the North Side pumping station is lifted with steam produced by this refuse from the C. A. Smith mill. Not a chip goes to waste, and with this remarkably cheap fuel the city saves a big coal bill. It is not paid for by the load, but is furnished under a yearly contract, by which the city pays the company \$6.40 for every million gallons of water pumped. The city's tramway line runs right into the pumping station's shed, where the sawdust and refuse is fed into the long delivery chutes by an automatic device. As a substitute for steam coal, this fuel saves the city

a natural outgrowth of the policy of economy in handling material, and was started when lumber began its final climb to the present high prices. Trimmings and thin slabs are consumed by this plant. If not worked up in this way, they would be corded up and sold as fuel. The box factory is another frame building, 40

feet by 90, and adjoining it is a dry kiln, in which the lumber is prepared for working up. The machinery in this building includes a band resaw, two cut-off saws, two rip saws and a double surfacer. "Odds and ends" find their uses here. Over 10,000,000 feet of box shooks are turned out every year.



C. A. SMITH.

**Makes a Patent Board.**

Under another roof, and under another name, but practically a part of the C. A. Smith plant, is the factory of the Northwestern Compo Board company, which utilizes the edgings of the sawmill, and turns them into a manufactured product which is used

the country over. The process is under a patent held by the company, and the output is put to varied uses. The machinery in this building, which is almost on Lyndale avenue and adjacent to the office building, takes the edgings from the mill and resaws them into thin strips. These are laid side by side, and heavy paper placed above and below. They are then subjected to hydraulic pressure, which molds them into a firm but light board, used extensively for lining houses, as a substitute for fish and plaster. It has found a great many uses, however. It is in demand for specialists, and many car loads have been shipped to New York city to be made into ping-pong tables. Many of them have found their way back to this city.

The plant of the Compo Board company is furnished with heat and power from the main mill plant, and it runs all the year round. It consumes 5,000 cords of clear edgings in a year, and would otherwise be sold as fire-wood.

**A Great Pay Roll.**

In the city of Minneapolis, while the sawing season is on, the company employs 1,200 people. This does not count the army of men dependent on the company's logs every winter. The pay roll here runs from \$50,000 to \$60,000 a month. It will be seen that this is an important factor in the business prosperity of the city. A large number of the employees live in the vicinity of the mill, which is a small city in itself, grown up around this one industry.

Ten years ago, when the mill was first built, Camden Place was a kind of outpost of civilization, and hardly attached to Minneapolis. Now it is a thriving suburb of about 5,000 people, nearly all of them dependent in one way and another on the C. A. Smith Lumber company.

The offices of the company are the finest of their kind in these parts, and are installed in a building two stories high, with a full basement, 40 by 72 feet. It is not only the operating headquarters, but the base from which salesmen go out to the entire northwest. It is fully equipped with vaults and a time lock safe, a telephone exchange, and all the accessories of a modern office building. Owning to the distance from downtown, a restaurant feature has been added on the second floor, and lunch is served there to the office force every noon hour.

**The Man Behind It All.**

An account of the inception and growth of this great industry must begin with something about its head, the founder and builder whose energy and business sagacity have triumphed over every adverse condition. He was not born with a gold spoon in his mouth. Every step of the way to success C. A. Smith has gained by his own efforts.

The future lumber king was born Dec. 11, 1852, in the province of Ostergotland, Sweden. His father emigrated to this country with son and daughter when young Smith was 14 years old, and they reached Minneapolis June 28, 1867. Since that time his life has been spent in and about this city. Anxious for an education, he attended the public schools of Minneapolis from 1868 to 1871, and then for two years studied at the state university. Having to work his way thru school, he secured employment with John S. Pillsbury, and during vacations worked in the Pillsbury hardware store. Hard work, and hard study were too much for his health, and he had to give up the idea of com-

pleting a university course. He went into the hardware store, and worked for Governor Pillsbury till 1874.

In that year the partnership of C. A. Smith & Co. was formed, and C. A. Smith's life in the business world thus dates from almost the same time as the first issue of the Journal. Governor Pillsbury was the "Co.," and it was an even partnership between them. Mr. Smith went to Hermann, Minn., then in partnership with C. J. Johnson. They were pioneers in the "line yard" idea. Having cleared a good profit in the six years, Mr. Smith was ready to take advantage of an offer that came from Governor Pillsbury in 1884. Having loaned money to some loggers who were unable to pay, the governor suggested that Mr. Smith help him in the logs and manufacture them into lumber. So C. A. Smith & Co. took the logs, had them sawed at custom mills, and put them on the market, establishing a wholesale business. They handled 10,000,000 to 20,000,000 feet a year in this way.

**Rose From the Fire.**

In 1887 the company decided to own its own mill, and bought that of the John Martin Lumber company, one of the water power mills on the East Side. They had only been running this mill two months, however, when a disastrous fire came and destroyed it, along with four other mills. As they had logs on hand, he at once made arrangements with Fred Stevens of the Plymouth mill to saw for them, and business was continued on this basis until 1890. Then, still associated with Governor Pillsbury, he bought a two-thirds interest in the mill of Clough Brothers & Kilgore, on the East Side, from the Clough Brothers. The mill ran for two years under this ownership, and was then known as the Smith & Kilgore mill. They then sold out to the Nelson-Tenney company, and his arrangement with them to saw the logs of C. A. Smith & Co. during the season of 1892.

At the close of that season the C. A. Smith Lumber company was incorporated, with a paid up capital of \$750,000, and during 1893 it built a mill at the present location. It started in as a "two band and gang" mill, and has since increased to the equipment already described.

**Growth Graphically Shown.**

The growth of the company's business in thirteen years is plainly shown by the following table of shipments for each year:

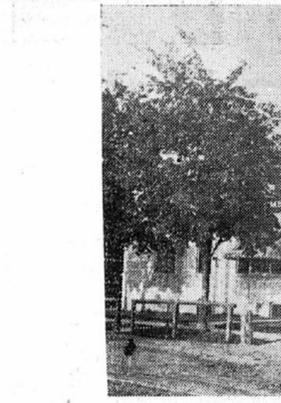
Year	Feet
1890.....	20,000,000
1891.....	22,750,000
1892.....	29,750,000
1893.....	25,600,000
1894.....	32,000,000
1895.....	37,250,000
1896.....	48,500,000
1897.....	54,600,000
1898.....	113,500,000
1899.....	105,000,000
1900.....	90,000,000
1901.....	118,000,000
1902.....	90,000,000

The shipments for the current year, it is estimated, will reach 100,000,000 feet.

In 1899 Mr. Smith purchased the interest of Governor Pillsbury, and since that time has held the bulk of the stock in the company. He is president of the company; A. R. Rogers is vice president; C. J. Johnson, treasurer, and J. E. Oren, secretary; Nann Smith, Mr. Smith's eldest daughter, is a director in the company, and is one of the most faithful on its staff, coming to her desk every morning for a day's work.

**Timber Holdings of the Company.**

The C. A. Smith Lumber company



OFFICE OF C. A. SMITH LUMBER COMPANY.

and turned out a finished product, sought for and shipped thousands of miles away.

With all this careful economy, there is also economy in labor, reached by the most up-to-date labor-saving devices, arranged in a logical system. The development of this model plant to its present size and efficiency tells an interesting story, which explains the present pre-eminence of the C. A. Smith Lumber company in the lumber industry of the northwest.

The traveler in remote parts of Nebraska, Iowa, Dakota and Illinois will see car after car bearing the label of the C. A. Smith Lumber company, loaded with white pine lumber. Journeying to the far east, he will still see along the track in the freight yards train loads of cars with the same sign. All this comes from the great plant at Camden Place, which, because of its diversified machinery and the great volume of its manufactured product, is equipped to fill an order of any size and assortment that can be sent in. Its reputation for ability to fill orders has given it a trade in faraway centers, where otherwise Minneapolis lumber would not be seen.

**Broke the Sawing Record.**  
For the last five years this establishment has placed on the markets of the United States an average of 100,000,000 feet of lumber each year. This season has broken all records for Minneapolis, with a cut of between 115,000,000 and 120,000,000. Night and day, from the day in April when the ice cleared away and the logs were released, to the November day, when the grip of the ice king once more descends on the river, the untiring saws and their army of attendants, scarcely less tireless, rip the huge logs and dress them into lumber of every description.

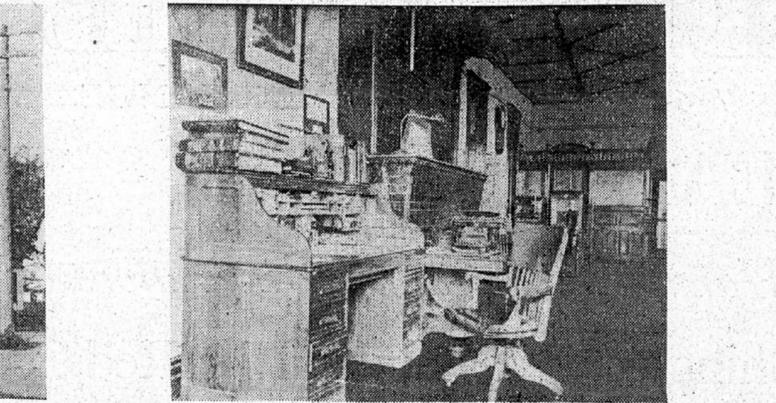
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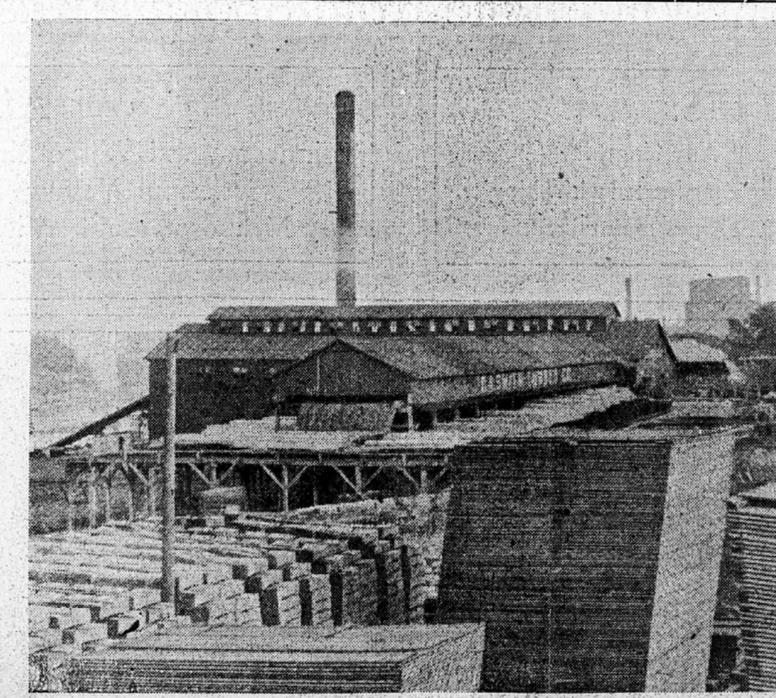
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Thirty miles of narrow gauge tramways, quite a railway system in themselves, intersect the yards in every direction. Lumber is never dumped, and a small crew of men and horses keep it moving from one stage to another, loaded on great trucks which bowl smoothly along the level track. The rough lumber is piled at a safe distance from the buildings, and only loaded on cars as it is called for, but finish lumber and the other products are carefully housed alongside the railway tracks, which are a spur from the main line of the Minneapolis, St. Paul & Sault Ste. Marie. Over a thousand trucks of various styles are in use on the narrow gauge system of communication between the different buildings and yards.

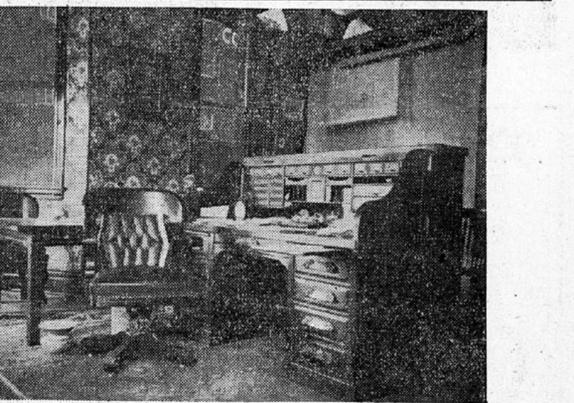
**"Shooks" by the Million.**  
It is not generally known that one of the largest box factories in the west is a side issue at the plant of the C. A. Smith Lumber company, but such is the case. A nailed-up box never goes out of the factory, but it turns out every year millions of "shooks," as they are called, small boards sawed thin and all ready to be nailed up into boxes. These are tied up in parcels and marked, so that the consumer has only to nail them up. Being shipped in this form, they go at the same rates as lumber, and are sent to great distances. This plant is



INTERIOR VIEW OFFICE BUILDING.



Immense Lumber Manufacturing Plant of C. A. Smith & Co., Minneapolis, Minn.



PRIVATE OFFICE C. A. SMITH.

is a large timber owner, holding white pine stumpage in northern Minnesota sufficient to run the mill seven or eight years. Most of the logs can be floated down the Mississippi, but a considerable number will be brought down by rail. It is thought that the high water mark of production has been seen this year, and that the cut of the mill will be reduced in the succeeding seasons. Mr. Smith is in no hurry to see the northern woods denuded, or to put his splendid plant out of commission, so the mill will not operate under such pressure another season. Heretofore two crews have been run all the sawing season, a day crew and a night crew, each working eleven hours. It is likely that only a day crew will be run next year and in succeeding years, and in this way the life of the plant here will be considerably prolonged.

But the final reduction of the Minnesota timber holdings of the C. A. Smith Lumber company will not end its career as a lumber producing company, by any means. It will transfer on another lease of life in a new field, already secured by the long-headed president of the company. In the last four years he has been buying up timber lands in the Pacific coast country, in the states of Oregon and California, until the C. A. Smith Lumber company is now one of the largest holders of timber property in those two states, rich as that section is in forest resources. The forest tracts held in California and Oregon include splendid growths of redwood, sugar pine, fir and cedar. They are absolutely untouched, and will be for years to come. No more will be made to cut this timber, says Mr. Smith, until he begins to see a demand of production for them in Minnesota. Then he will begin to establish sawing plants adjacent to the western timber, and turn out western lumber for the market. In that new field the C. A. Smith Lumber company will be a natural leader, as it is here, not only on account of the size of its holdings, but because of the enterprise and foresight of its guiding mind, Charles A. Smith.