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Lumber and Wood Processing in Rochester's History

By Blake McKelvey

Little has been written and still less is remembered about Rochester's earliest first industry: lumber and wood processing. Most of the industrial specialties that sooner or later captured first place have been studied and in some cases celebrated at length. Flour milling, the nursery and seed industry, women's shoes, men's clothing, and the several branches of Rochester's technological specialization have each received scholarly treatment in separate issues of *Rochester History* or in major historical volumes.¹ Some, though not all, of these well-recognized leaders, are still firmly represented in Rochester's economy, but few of them contributed more to the city's early growth and character than the lumber and wood-working crafts that originally, if only for a brief period, held first place.

Lumber was of course the most abundant resource in early Rochester as in most pioneer towns in heavily forested regions. But Rochester had a special advantage because of its location

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at a series of water falls near the mouth of the Genesee River. In its 144-mile course it drained a wide, mostly forest-covered, valley which generated a sufficient flow at flood stages to float logs and rafts to its doorstep and, after varied processing operations had been performed, to carry the products along to market. Indeed, the down-river trade, coupled with its interruption at the falls, fixed the site of Rochester as a thriving town and added greatly to the drama of its early growth.

Wood Processors of Village Days

A crude water-powered saw was the pioneer industrial instrument in many forest-bound hamlets. Ebenezer Allan set one up in his clearing at the upper falls of the Genesee in the winter of 1788/9 to assist in building the grist mill that clinched his title to the 100-acre tract. Several other primitive sawmills appeared at lesser water-power sites throughout the Genesee Country during the next decade, generally well in advance of the pioneer grist mills, for sawed lumber was essential in the construction of buildings to supplement and replace the primitive log cabins. But customers for the saw and grist mills were few and widely scattered, and most of them, including Allan's mills, often stood idle, awaiting fuller settlement.

The first need of the pioneer settlers was for a clearing in which to erect their cabins and plant a few grains of corn and other crops. After ringing the larger trees, chopping and burning the saplings and brush, many enterprising pioneers shoveled the ashes into piles to be processed into potash for domestic use. They soon learned that potash commanded a good price at distant markets and would help to answer their need for funds to meet annual payments on their land claims. To produce potash and the finer pearl ash of high quality, special kettles were required, and enterprising men established asheries at convenient road and river junctions. Augustus Griswold built the first ashery in the Rochester area at the Indian Landing on Irondequoit Bay in 1801. Since an ashery required barrels to ship its products, coopers quickly congregated there to supply them, and boatmen to carry the valuable produce to Charlotte at the mouth of the Genesee where lake schooners picked it up for transport to Canadian

markets. Thus Tryon Town, as it was known, prospered.

Allan's mill buildings at the upper falls, bypassed as traders portaged east to Tryon Town, had fallen into decay and were burned or swept away. But when the Embargo and other federal policies propelled a new surge of settlers into the Genesee Country after 1808, a mounting flow of produce was rafted down the river to the upper falls where in 1812 Colonel Rochester established a permanent settlement on Allan's old 100-acre tract on the west bank. Enos and Isaac Stone had built a sawmill at the rapids on the east side in 1808, and Charles Harford a second a year later at the main falls; together they supplied lumber for the first bridge and for several frame houses that sprang up amidst the stumps in the widening clearing at the Genesee falls.²

Colonel Rochester opened a millrace on the west side at the upper falls in 1813, and three years later Matthew Brown constructed a similar race at the main falls. Two new sawmills and three grist mills made their appearance on these west-side races before Elisha Johnson opened a third raceway on the east side in 1817. When Rochesterville was incorporated that year it boasted four sawmills as well as four flour mills, and although the latter already contributed more to the export trade, the lumber mills employed more men. Both however, were outnumbered by the coopers who produced the 30,000 barrels required to package the flour and potash shipped to Canada the next year, while the carpenters who were busily building houses and shops for the bustling town comprised its largest force of skilled craftsmen.³

A similarly vital role in Rochester's early development was played by the raftmen and boatmen who were bringing an ever mounting flood of produce from forest and field down to the falls. Great rafts, constructed on cribs of heavy planks and bound together by saplings, had replaced the crude log rafts of earlier days. Constructed at Gardeau in a large pool below the falls in the upper Genesee gorge, these lumber rafts carried, in addition, quantities of ashes, grain, and staves assembled from rural settlements throughout the valley. Propelled and steered by raftmen treading with long poles from front to back, the rafts made their way down the river to the mill dam above the

small upper falls where the produce was unloaded and the lumber distributed to nearby sawmills. A few years later, when the state built a feeder dam a short distance upstream to supply the canal, a score or more of great rafts would tie up above the dam awaiting an adequate runoff and the arrival of a skilled pilot to guide them through the chute - always a dramatic operation, cheered by numerous onlookers - to the lumber yards that had now appeared along the east and west banks to serve competing sawmills. Impatient with the lumbering rafts, enterprising boatmen manned shallow, flat-bottomed scows to expedite the trade of the upper valley and helped to boost the exports from the Genesee port in 1820 to more than double its volume of three years before and reach a value of \$375,000. Already the export of ashes and staves was declining as merchants were offering better uses for lumber than burning and as the local demand for barrels was absorbing the major output of regional as well as resident coopers.⁴

A variety of wood-working craftsmen thronged the streets of the bustling village. A half dozen boat builders, carriage makers, and chair makers brought useful new skills to Rochester. The earliest boat builders, Oliver Culver and Hosea Rogers among them, had constructed scows and schooners on Irondequoit Bay and the lower Genesee in the early 1800s. but now the needs of the upper river trade and the prospects for an early opening of the Erie Canal attracted several to sites adjoining the lumber yards at the upper falls. The first chair makers and carriage makers opened small shops in the village to supply its growing needs. But, as every observer remarked, the principal or at least the most noticeable activity was that of the numerous carpenters who were constructing 100 new houses and other structures annually in the early twenties. Comprising about 40 per cent of all skilled craftsmen, they maintained a constant market for the products of local sawmills. Indeed some new householders complained that green, unseasoned lumber had been used in the hasty construction of their dwellings, but the demands of the booming town were so intense that the number of new houses completed annually would treble by 1827 when the first village *Directory* appeared. The launching that year of the first window and

sash factory operated by water power supplied a new facility for home builders.⁵

Of course the opening of the Erie Canal east to Albany late in 1823 and west to Buffalo two years later gave a great boon to the wood-working craftsmen as to all other Rochester trades. The boat builders were the first among the lumber crafts to respond to the canal's challenge. A dozen enterprising men built boats at scattered sites during the mid-twenties; by the end of the decade six well-organized boat yards were each turning out a score or more of standardized packet and freight boats worth from \$800 to \$1200 apiece. As the shipments of flour to the Hudson commenced, the demand for barrels mounted, and the number of coopers increased. A local census in 1826 found 73 coopers, exceeded only by the 95 masons, the 124 shoemakers and the 304 carpenters and joiners. The nine sawmills of that date employed only 20 sawyers, assisted by apprentices and unskilled laborers. Of the twenty sawyers listed in the 1827 *Directory*, only five would reappear in the 1834 *City Directory* - one now as a sawmiller and three as merchant, miller, and millstone maker. The mobility or restlessness of the sawyers was characteristic of other craftsmen in Rochester, as demonstrated by the 20 millwrights listed in 1827, only six of whom reappeared in 1834, all but two in other occupations.⁶

Indeed, only 29.6 per cent of a sample of the entire 1827 listing reappeared in the 1834 *Directory*. Even among the more well-established lumber dealers, three out of five moved on, and ten of the nineteen flour millers. It was an era of dynamic but turbulent growth, and while the population increased only by 30 per cent, at least three fourths of the residents of 1834 were newcomers in these years.

The turbulence was accentuated by the recession that hit Rochester in 1829. The calamity, of course, was widespread, and the state listed over sixty properties on the lower Genesee for tax-sale foreclosures, only a dozen of them at the upper falls. Over 600 persons in the county were committed to jail for inability to pay their debts, although only 130 actually

suffered confinement. A protest movement demanding the abolition of imprisonment for debt rallied the support of the Journeymen Carpenters, the strongest local trade association, as well as that of the Boatmen's Mutual Relief Society. With the outspoken backing of two local weeklies they helped to speed the adoption in 1831 of a state ban against imprisonment for debts under \$50.⁷

None of the craftsmen who captured control of the first village council in 1817 was a wood worker, but several of these men soon won civic positions. William Brewster, a chair and cabinet maker, became the trustee of the First Ward in the late twenties, while Timothy Burr a lumber dealer, and John Histed a sawyer, served as fire wardens in their wards during the mid-twenties. Fire was in fact a serious hazard for lumber dealers, as the destruction of one sawmill, two cooperages, and a cabinet maker's shop demonstrated, and at least three carpenters and two coopers were active in the first volunteer fire brigade.

On the other hand, wood dealers supplied the major, indeed the only, resource for the fires that kept stoves and fire places blazing during recurrent chilly and frigid seasons. The resourceful household of pioneer days, able to scrounge enough firewood from nearby forest plots, was disappearing as the village expanded into a city, and while most families continued to supply manpower to split and handle the firewood, their reliance on neighboring farmers and commercial lumber dealers for a frequent replenishing of the back-yard wood pile was increasing. A contributor to the *Genesee Farmer* estimated in 1833 that the average household in Rochester consumed 50 cords of maple wood, at a cost of \$1.50 a cord, "making when the cost of chopping is added about \$100" a year. His prediction that the cost of heating a house would soon come down as the more economical coal imported over the proposed lateral canals to Pennsylvania became available, was still unrealized six years later when the *Rochester Daily Advertiser* reported the consumption of 28,922 cords of firewood in the city that year.⁸

Wood Processing in the Flour City

By the mid-thirties the flour millers had won undisputed first place in Rochester and indeed throughout the western world. The value of their output, as recorded in the 1835 census, more than trebled that of the sawmills, which had also been exceeded by the tanners. A decade later the iron workers would likewise zoom ahead, dropping the lumber mills to fourth or perhaps fifth place. But sawmilling had from the start been widespread throughout the valley, and the sixty-odd sawmills in the surrounding towns of Monroe County more than equaled the output in the city and competed for its market—in sharp contrast to the predominance of city production in all other fields except the dairy industry. Moreover the wood workers of Rochester were becoming highly specialized in diversified lines—boat building, furniture, and carriage manufacture, whose output, like that of house building, was not tabulated under lumber products. The increased diversity was significant and the contributions real.⁹

Yet, despite their loss of priority, the sawmillers of Rochester were enterprising and resourceful. Three new mills increased their number to 12 by 1835—five along Brown's race at the main falls, four along Col. Rochester's race, and three east of the river on Johnson's race. The value of their products that year totaled \$67,549, and the number directly employed fluctuated around 80 depending on the season. These workmen were still outnumbered by the coopers and far exceeded by the carpenters who chiefly consumed their products. But several of the sawmills were now specializing in the production of ship timbers and other products that required accuracy and skill of a high quality. New sawmill devices and planing tools were invented and introduced and a machine to cut and trim shingles by water power. Samuel Richardson opened a turning shop in 1840 to make newel posts, balustrades and fluted columns to order for the Greek Revival mansions of the flour millers. By the mid-forties the sawmills were spawning independent planing mills and shingle factories which, like the boat yards and furniture makers, further divided their market but generally to the public benefit.¹⁰

A series of articles in the *Daily Advertiser* in February 1851 described the city's sawmills, now only seven in number, in considerable detail. Silas Ball, the only sawyer of 1827 still in the trade, now employed four sawyers and seven helpers at the City Saw Mill on Brown's race and turned out 1,200,000 feet of lumber a year. The Red Bird Saw Mill on the same race employed six sawyers and varied helpers in the production of 1,500,000 feet of lumber, plus 800,000 feet of lathing and 1000 bundles of shingles. James Parsons reported a similar output at his Percussion Mill at the brink of the main falls on the east side; it too was equipped with lath and shingle cutting machines. Seth C. Jones, a boat builder and merchant also operated the Falls Mill where a large single saw and a gang of saws enabled him to turn out 2,000,000 feet of lumber a year. Jonathan Child, son-in-law of Col. Rochester and the city's first mayor in 1834, operated the old Rochester family sawmill on a part-time basis chiefly to supply his line of freight and packet boats with boat planks and other timber to keep them in tip-top shape. Two steam sawmills, one operated by Smith & Rowe and adjoining the lumber yard on the east side south of the weighlock, and the second adjoining the Milliner boat yard on the west side of town, substituted steam for the less dependable (and unavailable) water power; they employed 8 and 16 sawyers respectively and turned out a reported 1,800,000 and 3,200,000 feet of boards annually. The Milliner mill had a boat-timber as well as a lath department and boasted the largest production in Rochester.¹¹

The sawing of boat timber and planks required not only special skills and equipment but also easy access to logs of great size. Traditionally only the mills at the small upper falls, adjacent to the lumber yards fed by loggers on the river, enjoyed a selection of suitable logs, but with the opening of the Genesee Valley Canal, linking with the Erie on the west side, a new supply route was available, and Milliner took good advantage of it. Originally the sawing of boat planks had been a hand operation, best described by Edwin P. Clapp a storekeeper in the town of Rush who in the 1890s compiled an account of rafting and logging on the Genesee. His description of the sawing of boat planks is especially graphic:¹²

The greater part of the outer planking and sidings used on these [canal] boats were sixty feet or over in length and very large timber was necessary to get the required length. . . . The Genesee valley had a plentiful supply of the finest oak timber which was the material used in construction of sailing vessels and canal boats at that time. . . . The difficulty of getting these long heavy logs to the mills [was great], and [since] the early sawmills [lacked] . . . carriages for such long timber the sawing of the planks for boats was done with whip saws. To do this the logs were raised on blocking sufficiently high for a man to work beneath them. Chalk lines were drawn on both the upper and lower sides. Two men, one on top and one below, did the sawing; this was not only hard labor but very slow indeed. The blocking had to be removed as it came in the way and a new one built up and placed behind the saw. As the demand increased for boat planks a few sawmills were constructed especially to saw boat planks and methods were introduced to draw the long and heavy logs [forward under the large power saw installed for this task].

The two recently constructed steam sawmills, Milliner on the west side and Smith & Rowe on the east side, had installed movable carriages to draw giant logs under their big "muley" saws and supplied nearby boat yards and distant markets with machine-cut planks. Child's older mill was one of the few earlier mills on the upper river that survived the slump in boat building that occurred, as we shall see, in the late forties. Child's mill still turned out boat planks by team sawing—a hand-crafted quality product that enjoyed only a limited market beyond his own boat company's needs. The machine-cut planking of its rivals would attract a widening market in the late fifties and sixties.

The decline in sawmilling in the late forties was partly accounted for by the spinoff of various wood-processing functions. The introduction of steam-driven planing machines prompted the establishment of three separate steam-powered planing mills to prepare lumber products of high quality. New supplies of lumber imported from Canada and abroad provided woods of a greater variety and facilitated a diversity of products. H. N. Curtis, for example, established a Last, Boot-tree and Crimp factory in which he employed 12 men and produced 34,000 shoe lasts annually to supply the local shoe trade. A shoe-peg factory, a grain-cradle shop, a wooden-pail factory, a wooden-trunk factory, and a shop to make wooden

screws with various fittings were among the wood-processing specialties developed in Rochester at the mid-century.¹³

But the prize market of the early sawmills had been the boat building industry, and its fluctuating fortunes helped to determine the course of other wood-working specialties. Henry O'Reilly in his review of Rochester in 1836 credited the city's six boat yards with an output greater than that of any other port on the canal. The 96 boats produced that year increased to 115 five years later, valued at \$1600 each, and produced a return of \$184,000, which exceeded the market value of all other sawmill products.¹⁴ In 1847 the Rev. Frederick W. Holland of New York, formerly the Unitarian minister at Rochester, described the boat building activity of eleven Rochester yards with some detail in an article in *Hunt's Merchants' Magazine*:¹⁵

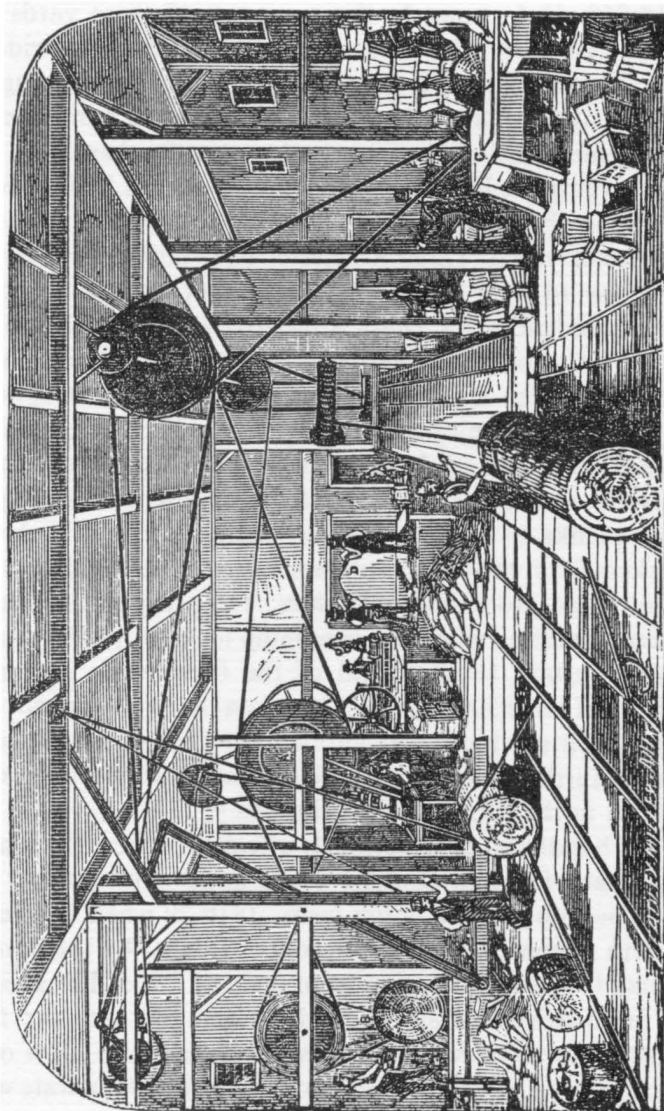
A great share of the boat-building for the whole Erie Canal, as well as for other canals, is performed here [at Rochester]. Owing to the rapid decay of boats, by straining in the locks and striking of one another, and the necessity of employing none but those perfectly water-tight, these small dock-yards have exhibited the utmost activity during both summer and winter. The numerous saw mills on the Genesee have reaped a rich harvest. . . . In 1846 one stick of timber was brought into the city for Howell's yard, 4 2/3 feet at the but, 2 2/3 at the top and 63 feet long, which weighed 19 1/2 tons. . . . The various yards [and their output] are as follows:

Yards	Liners	Scows	Packets	Hands	Value
Howell's	53	13	-	80	\$86,000
Millener's	39	4	-	95	60,550
Jones'	24	2	1	60	37,800
Silence's	23	-	-	30	33,500
Hildreth's	19	1	2	40	29,150
Barhydt's	15	1	-	32	19,600
Benjamin's	8	2	1	20	13,900
Brown's	3	-	-	10	6,500
Dubois'	1	-	-	-	1,500
Watson's	1	1	-	-	2,100
Smith's	<u>19</u>	<u>3</u>	<u>2</u>	<u>78</u>	<u>34,000</u>
	199	30	4	445	324,650

It is gratifying to know [he added] that the Rochester boats bear a high character abroad; that very many of them now float on the Ohio and Pennsylvania canals, and a large number are to enter this season on the Wabash & Erie.

By 1848 the number of boat yards had increased to 13 and the number of men employed to 449, and while the number of boats produced was down slightly to 221, the value was up to \$357,750. Unfortunately the prospects of these yards were already clouded. The state was enlarging the canal, widening and lengthening the canal locks and encouraging the construction of larger boats. But while it had completed the enlargement east of Syracuse and west of Rochester, its delay in enlarging the locks between these two cities had prevented the despatch of large boats to the busy eastern section from the Rochester yards. Three Rochester boat builders removed to Syracuse to supply the eastern market. By 1851, when a correspondent of the *Daily Advertiser* surveyed the scene, he found only nine boat yards in operation and with sharply reduced staffs. Only 34 boats were under construction in February and employment was down to 130 men. A few yards, such as that of Joel Milliner, were producing boats for the western canals, but the Smith & Rowe sawmill was shipping boat planks to Syracuse yards; many of the skilled wood workers from the boat yards were seeking and finding jobs in other wood-processing specialties. The prospect for a revival of boat building when the remaining locks would be enlarged was uncertain since several of the forwarding companies, owners of some 5000 old-style boats on the Erie, were not eager to see their stock of boats antiquated. The uncertainty was of course further complicated by the increasing freight service offered in the fifties by the railroads.¹⁶

The handicraft most seriously affected by these fluctuations was that of the carpenters. Their large numbers had been sustained during the boom years, 1819-29 when Rochester's growth outpaced that of any other village, by the constant demand for new houses, most of them of wood. The adoption of fire-district boundaries had limited the area for frame construction, and while Rochester continued to grow on the outskirts and to retain its character as a city of separate wood-frame houses, bricklayers and masons increased more rapidly in number than carpenters. A brief item in the *Advertiser* in 1842 reported that local carpenters were seeking jobs elsewhere. Four years later, when Rev. Holland made his



(Interior view of BOUGHTON & CHASE'S Shingle Factory.)

BOUGHTON & CHASE'S SHINGLE FACTORY!

Wolcott Street, (East side of the River) 25 rods south of Clarissa Street Bridge,

South part of the City, on the Genesee Feeder, - - ROCHESTER, N. Y.

A, Steam Engine; B, Robert Law's new Shingle Sawing Machine, Patented 1858; C, Circular Saw; D, Wheel Jointer, for jointing shingles; E, Drag, or cross-cut Saw; F, Cutting Machine for cutting shingles.

Twenty per cent. of your money can be saved by buying of us.

OUR SAWED SHINGLES.

We are manufacturing with R. Law's new Patent Shingle Sawing Machine, which makes a smoother and better Shingle than any other, an article *fully* as smooth as planed lumber, and *equal* to the best shaved ones.

In reference to the CUT SHINGLES, we would say, we have made decided improvements, in the machinery for manufacturing them, and they shall be even better than those we have made during the past six years, which have fully satisfied all who had used them. To learn their merits, we would refer you to any disinterested person who has tried them. Cut Shingles have been extensively made and used in Lockport, Tonawanda and Buffalo, for more than twenty years.

OUR TIMBER is selected Pine from the celebrated Otter Creek Pineries, on the Northern Shore of Lake Erie, which is known to all lumbermen as the best quality of timber in Canada.

AS TO QUALITY AND PRICE, being the only persons in the County who manufacture, we can sell the different qualities twenty per cent cheaper than can be bought at any other place in this vicinity, dealers having to make a second profit. WE WARRANT OUR SHINGLES to be as represented, and will deliver at the Railroad or any part of the city, free of cartage. Builders and others wanting Shingles, are invited to call and see for themselves.

BOUGHTON & CHASE.

✂ We are owners of the right of this County, and agents for the sale of any Territory for Mr. Law's machine. It can be adjusted in five minutes to saw barrel heading, and it is the best machine invented for that purpose.

✂ We wish to contract for two hundred cords of Bolts for BARREL HEADING, to be delivered next fall and winter.

Advertisement from the Rochester City Directory for 1859

tabulation, he recorded the construction of 61 buildings of brick or stone that year, and 68 wooden houses, by a work force of 418 which combined the three crafts. The establishment of three additional sash and blind shops in that decade supplied jobs to a few merchant carpenters but spread the work load among less skilled machine operators. By the mid-fifties eight sash, blind and door factories, all relatively small enterprises, reported sales totaling \$61,350 for the year.¹⁷

Fortunately two other wood-working specialties offered attractive opportunities to skilled workmen. Some of the chair and cabinet makers of village days had clustered into furniture factories in the early Flour City days, and while individual craftsmen continued to produce chairs and other products of high quality that would be prized as antiques by a later generation, the machine-crafted products of the factories established along the three principal raceways dominated the market. William Brewster, a cabinet maker who had arrived in 1816, developed a furniture factory on State Street in the thirties. Charles Robinson, a turner in 1834, was perhaps the first exponent of the mass production of chairs at his factory on Brown's race in the early forties, but C. J. Hayden soon launched a rival chair factory near the lumber yard on the west side and opened a display shop on State Street to exhibit his wares. Two other furniture factories, one on South Water Street and one on Brown's race, each employed 30 workmen in the production of chairs, bedsteads, and other household products in 1850. Holland had reported a total of 284 men engaged in the manufacture of furniture four years before, and the census showed an increase to 364 by 1855.¹⁸

But it was the carriage makers who supplied the most glamorous woodworking specialty. James Cunningham, a skilled wood worker from Ireland, had settled in Rochester in 1834 and after working briefly on the repair of carriages had joined two other craftsmen in a shop to build carriages. When bankruptcy threatened them in the depression of the late thirties, Cunningham assumed the debt and launched an independent venture. By the late forties his factory on Canal Street on the western edge of the city was flourishing and gave employment to 84 men in the production of wagons and

carriages valued at \$70,600 in 1846. A second carriage maker, Norman Hough, opened a small hand shop the next year and soon added machine tools operated with steam power to increase his output. Cunningham also expanded after a fire forced him to rebuild part of his shop and by 1850 was employing 100 men in the largest such factory in the state. His total of 700 carriages that year, valued at \$200 apiece, justified the opening of a showroom on State Street in a bid for a wider market.¹⁹

Woodworkers in Diversified Production

By the mid-fifties Rochester's sawmills as well as its flour mills had passed their prime. The forests of the Genesee Valley had long since been harvested, and lumber dealers, like the flour millers, had been forced to import most of their raw material from Canada or the West. Other industrial specialties were competing for first place—women's shoes, men's clothes, the nursery industry—but Rochester's lumber dealers had fostered the development of a number of wood-working trades that continued to flourish. Indeed their vitality sustained the lumber merchants long after their former rivals, the flour merchants, had virtually succumbed. In fact a few wood-working specialties would prove ingenious enough to play a respected if modest role in the rejuvenation of Rochester by the turn of the century as a city of quality products.

Most of the traditional wood-working trades were still thriving in the late fifties, however, and several enjoyed an unexpected boom in the sixties. The demand for barrels at local flour mills tapered off a bit as rival flour milling centers captured the lead in that field, but the burgeoning local brewers offered a lucrative market for barrels of a sturdy quality. The number of cooperages in the county increased from 39 to 46 between 1855 and 1870, and the value of their product from \$225,000 to \$269,000; while the employment declined a fifth, the output of the larger cooperages in the city was sustained by the introduction of improved machine tools and techniques. Thomas Hanvey, a cooper in the city since his

arrival in 1831 who had secured two patents on barrel improvements and two on other wood-working machines, continued to ply his trade. Martin Reed's cooperage on Jay Street, which produced 117 staves and 75 hoops a minute by machine in 1866, was perhaps the most efficient of these enterprises, but J. Lovecraft's barrel-head shop, which also boasted a power-driven machine, was able to survive three destructive fires.²⁰

Monroe County lost one of its 24 lumber mills during these fifteen years, and the city saw three of its seven mills of 1850 remove to the outskirts, but several of these sawmills, those equipped to cut oak boat timber and planks, supplied a new market for such orders from the Brooklyn navy yard in the mid-sixties. The switch from wood to iron for naval craft closed that market in the late sixties; the most significant trend in Rochester's lumber industry, however, was the conversion from sawmills to planing mills. An increasing demand for the finer products of the planing mills—the interior paneling and machine-cut wood work popular in Victorian houses—more than doubled the value added by all local lumber mills.²¹

Slow progress on the canal's enlargement blighted Rochester's boat yards during the late fifties, but the completion of that work in 1862 brought a revival and enabled local boat builders to respond to the increased demand for cargo carriers during the war years. A resurgent demand for lake shipping prompted a renewal of boat building on the lower Genesee where Hosea Rogers and his partners constructed three schooners in these years. But the chief beneficiaries of the mounting freight business were the railroads, and by the close of the sixties the demand for canal boats, even for lake schooners, was declining, and with it the fortunes of Rochester's boat yards.²²

Local wood workers were, however, developing ingenious and useful new specialties. James B. Stevens established a box factory on Furnace Street in the late fifties to manufacture wooden boxes for seed men; he later invented a machine to produce cigar boxes for another booming Rochester specialty. A second shoe-peg shop thrived for a time; a wheelbarrow

maker, two trunk factories, a manufacturer of wooden ware employing 30 workmen, and a shingle factory capable of sawing, trimming, and binding 25,000 a day, each enjoyed a flourishing business during these years. An important though often forgotten aspect of the technique of wood working is the process of drying and seasoning, and two masters of this art, Hugh & Jacob, opened a shop and employed 12 men in the manufacture of willow and rattan-ware baby carriages. Perhaps the most novel of these enterprises was the shop of Mr. Douglass Bly who patented a machine to make artificial limbs and fitted thousands of Civil War veterans with wooden legs before his death in 1876.²³

The major lumber dealers, who in earlier years had developed close ties, sometimes partnerships, with the sawmillers and boat builders, now formed associations with the sash, blind, and door manufacturers or with furniture factories. Thus after the death of Emmet H. Hollister, owner of the lumber yard on the west bank just south of the Court Street dam (where in the sixties he had operated a shingle factory on the side), his sons joined forces with two sash and door makers to open a factory on Exchange Street for the manufacture of these products. To assure uninterrupted production, the partners acquired a steam engine to supplement their water-power privileges, but fires plagued the firm, which was foreclosed in 1869. The brothers retained and continued to operate their lumber yard until the Erie Railroad, which had leased the right of way of the Genesee Valley Railway, purchased that choice site in the early 1880s for the construction of its freight and passenger stations. Handsomely reimbursed by the sale, the Hollister brothers opened a new lumber yard on the eastern edge of the city where the New York Central replaced the Genesee River as their source of supply. There they were able to serve the needs of the remaining sash and door factories and the more prosperous furniture factories as well.²⁴

While the eight sash, blind, and door factories of the sixties (later consolidated into three) supplied principally the house carpenters, a separate group of wood workers produced

picture frames, mouldings, and other interior wood work. Most of them worked in small shops that proved vulnerable to the hard times of the mid-seventies, but James W. Gillis prospered and had a moulding and picture frame factory that employed 135 men in 1883. Gillis was the only survivor among the seven picture frame and moulding manufacturers of the early seventies, but a dozen new shops had opened by 1880. The survival rate was somewhat higher in other specialty crafts—11 of the 38 coopers, 5 of the 27 cabinet makers, 7 of the 17 lumber dealers, but in these trades the new competitors were less numerous. The six planing mills of 1871, on the other hand, increased to 11 by 1880 with only 3 of the original firms surviving. Yet although the toll exacted by the depression among wood-working craftsmen was high, their functions for the most part endured.²⁵

The depression of the 1870s blighted several major as well as minor wood-working firms. Some of the problems plaguing the Hollister lumber interests were aggravated by the wave of unemployment that hit the building industry during the mid-seventies. The Charles J. Hayden & P. B. Bromley chair and cabinet firm, which now operated a factory at the brink of the lower falls, announced a reduction of 20 per cent in its wages in November 1873 but maintained a full work schedule. Hunn, Smith & Spencer, with a furniture factory on North Water Street, also reduced wages 20 per cent and laid off half its work force. James Cunningham, the leading carriage maker, suffered slack times but made no wage-cut announcements. At least two wood-working firms slid into bankruptcy, and two others reorganized with the aid of new partners. Fortunately, by the late seventies, prosperity had returned.²⁶

Wage cuts in the furniture industry were perhaps less grievously felt than in some other fields because of the high wages paid these skilled workers. Indeed, if the 1870 Census can be relied upon, the furniture workers enjoyed wages that more than doubled any received by other industrial craftsmen. An error in tabulation is probable, since their numbers were larger in both 1860 and 1880, and their wage rates below those of the metal workers, the brewers, and a few specialized crafts.

(Moreover, the numbers employed, as reported in several descriptive articles on these firms in the press, considerably exceeded those tabulated in the Census of 1870.) But the furniture workers were in a highly competitive job-market in 1870 and may have enjoyed a brief period of affluence. Several enterprising furniture merchant-manufacturers had established factories and warehouses in Rochester, and were competing for local and distant markets. With factories on one or another of the city's millraces, most of these firms opened warehouses in the wholesale district near the New York Central station still located at Mill Street on the west side. Hunn, Smith & Spencer occupied a warehouse on Mill Street; Jacob Minges acquired one nearby on Front Street, and both Charles J. Hayden and his younger brother James E. Hayden opened competing display rooms and warehouses on State Street, one north and one south of the tracks. These and other merchant-manufacturers shipped 321 tons of furniture, valued at \$224,800, by canal in 1870. Their's was the principal west-moving cargo, exceeded in value only by the east-bound shipments of flour; moreover, farmers rather than millers received the larger share of the proceeds from flour. Furniture shipments by canal dropped off sharply in the seventies, but shipments by railroad increased, and after a moderate recession the furniture companies enjoyed a revival in the eighties.²⁷

Rochester's furniture makers also displayed a new degree of flexibility in the eighties and achieved a wider range of specialization. Frederick Minges, Jacob's son and heir, joined with Fred Shale, a cabinet maker, and Joseph A. Schantz, an upholsterer, in producing parlor furniture of high quality. Jacob Margrander, a mattress maker, featured upholstered chairs and divans. George Meyer & Son specialized in cabinets for library and office use. The competing Hayden firms each offered a wide variety of products, but after the death of the younger brother, James E., his son, J. Augustus Hayden built a huge new factory at Exchange and Court Streets and made a deliberate effort to specialize in furniture of a high Victorian style. In contrast, George W. Archer, a chair manufacturer,

developed a specialty in dental and barber chairs. His first products, of wood and heavily upholstered, were ingeniously designed to be tipped to the desired angle, which required a metal hinge and latch; soon Archer would secure a patent and move to a metal frame for his upholstered chairs. The ready market Archer uncovered prompted another Rochester chairmaker, Frank Ritter, to enter the field in the late eighties with a competing wooden dental chair.²⁷

Two wood-working specialties of an earlier origin were likewise prospering. Dwight Gibbons, who in 1849 had built the first piano in Rochester in the furniture shop of Frederick Starr, made a number under the Starr label that attracted wide favor. In 1860 he left Starr and soon joined with Lyman E. Stone in constructing his own pianos. Within a decade they had 20 skilled workers employed at their factory on State Street. Increasing orders prompted them to open a new factory on Hill Street in 1883.²⁸

Leopold Stein, a wood-worker and cabinet maker, had commenced to specialize in caskets in the 1870s. He opened a factory on Exchange Street in the early eighties and soon had 180 men employed in the production of caskets for a wide market. The launching of a trade journal, *The Casket*, at Rochester in 1876 no doubt contributed to Stein's success. Together they were instrumental in bringing 240 morticians to Rochester for the first national convention held by that profession. The Stein Manufacturing Company incorporated in 1895, soon absorbed two distant rivals and reorganized as the National Casket Company which produced over 70 per cent of the caskets made in America.²⁹

Among the early spinoffs or specialties of the lumber industry, the carriage makers enjoyed the most lucrative market. The Cunningham carriage factory on Canal Street was the most successful. Finally incorporated in 1881 as the James Cunningham, Son & Company, its employment increased by 1904 to 550, recruited from a variety of crafts. In addition to artisans skilled in the curing, turning, and finishing of the carefully selected woods, it had blacksmiths to forge the essential metal parts to order, painters to apply the proper

varnishes and paints, designers to prepare explicit patterns, and salesmen to promote a wider distribution. Plant expansions between 1868 and 1873, and again in 1880, created problems of internal communication, which were met at first by the installation of an internal telegraphic system, later replaced by telephones. For security against fire the company procured an extension of the Holly water system to its plant in 1880 and the location of several hydrants at key points around the sprawling factory, the largest in the city.³⁰

Several active competitors engaged in the carriage business. In addition to Lyman Hough, who specialized in the manufacture of wooden spokes and other parts, Michael Dwyer built delivery wagons and other sturdy vehicles; Keeler & Nichols built sleighs and children's phaetons, and R. Lowe specialized in making the wood-work for fancy carriages and sleighs. A dozen other carriage makers operated shops for varied periods in the city during these years, and many more in the surrounding towns. The 32 carriage makers reported for Monroe County in 1860 employed 235 men and produced carriages valued at \$188,600. By 1870 their number had increased to 65, the employment reported to 356, and the value produced to \$436,887. In 1880 many of the individual carriage makers were absorbed into 9 firms reporting 416 employees and a production valued at \$462,000.³¹ One of the most enduring of the small carriage shops scattered about the county was Caley & Nash in Brighton Village, which the city annexed in 1905. Morrill Caley, who established the shop in 1842 and operated it for fifty years, built a wagon in the eighties that would carry 50 passengers and required six horses to pull it; reputed to be the largest horse-drawn vehicle in America, it was sent to Chicago to help transport visitors around the grounds of the Columbian Exposition. But while Caley & Nash survived for a full century, K. A. Hughson, who moved his carriage factory from Syracuse to Brighton in 1882 and for a time produced 10 vehicles a day, was forced to close within three years.³²

In the lumber and wood-working industry, where skilled craftsmen, sometimes in conjunction with enterprising

merchants, took the lead, their fortunes depended on the development of sufficient managerial skills to meet the changing circumstances of the day. The depletion of raw materials, changing transport facilities and power sources, innovations in technology, shifting demands of the market could each bring opportunity or disaster. When an able merchant-manufacturer emerged, his longevity became of prime importance—an early death of an enterprising leader or partner could close the plant or result in reorganization that produced dissention. A father-and-son partnership promised more continuity, as several of the furniture and carriage firms demonstrated. Legal incorporation offered a promise of stability that several firms sought in the eighties, but their ultimate success depended on their ability to maintain raw material sources and to adapt to new market opportunities.

The hazards were so numerous that only a few of the wood-working firms achieved longevity. Dr. Bly's wooden-leg shop under new leadership after his death filled a continuing need and spurred the establishment of new rivals to supply the national market. In contrast, most of the other specialties—the boat builders, the cabinet makers, and the furniture manufacturers—lost their hold on a national market as Rochester's advantage as a lumber resource center faded into history. Several of these wood-working trades continued to serve local needs, as the listing of three or four shops in each field in the annual Directories in the 1920s and 1930s attests.³³ Even the major spinoffs—the carriage makers and the dental chair makers—faced such drastic technological challenges that they had to move out of the wood-working field to survive at least for a time. Only the carpenters, the sash, door, and blind factories, and lumber dealers who served them retained essentially their original functions. Nevertheless, with the help of the many wood-working firms that had passed from the scene, they had not only contributed much to its history but had helped to shape it as a city of predominantly wooden, free standing homes, and one in which enterprising craftsmen still played a vital role.

NOTES

1. Blake McKelvey, "Flour Milling at Rochester," **Rochester History**, Vol. XXXIII (July, 1971), No. 3; "A History of the Rochester Shoe Industry," **Rochester History**, Vol. XV (April, 1953), No. 2; "The Men's Clothing Industry in Rochester's History," **Rochester History**, Vol. XXII (July, 1960), No. 3; Blake McKelvey, "Rochester the Flour City: Center of Nurseries and Fruit Orchards," Rochester Historical Society **Publication Fund Series**, XVIII (1940), pp. 121-169; Blake McKelvey, **Rochester An Emerging Metropolis** (Rochester, 1961), pp. 11-20, 205-218, 305-322.
2. **See** Blake McKelvey, **Rochester the Water-Power City: 1812-1854** (Cambridge, 1945), pp. 16-39, for a fuller account of these early developments.
3. **Ibid.**, pp. 49-70; see also **Directory of the Village of Rochester** (1827), pp. 85-93.
4. Blake McKelvey, "Traces of the Age of Homespun in Early Rochester," **Rochester History**, Vol. XXX (April, 1968), No. 2, pp. 8-10.
5. McKelvey, **Water-Power City**, pp. 82-90; **Directory** (1827), pp. 116-117.
6. **Water-Power City**, pp. 90-107; **Rochester Directories** (1827, 1834).
7. **Water Power City**, pp. 63-68; Rochester **Craftsman**, Feb. 9, 1831.
8. **Genesee Farmer**, Jan. 26, 1833, p. 30; Rochester **Daily Advertiser** (RDA) Nov. 26, 1839.
9. **N. Y. Census** (1835, 1845).
10. **N. Y. Census** (1835); Henry O. Reilly "Rochester at the Close of 1836," Rochester **Daily Democrat** (RDD), Jan. 4, 1837.
11. **RDA**, Feb. 15, 1851.
12. Edwin P. Clapp, "The Trade and Transportation of the Pioneers," quoted at length in "Traces of the Age of Homespun in Early Rochester," **Rochester History**, Vol. XXX (April, 1968), No. 2, pp. 15-16.
13. **RDD**, Jan. 31, 1840; **RDA**, Feb. 15, 17, 1851.
14. O'Reilly, *op. cit.*
15. Frederick W. Holland, "Rochester, Its Mills, Factories" **Hunt's Merchants' Magazine**, Vol. XVII (July, 1847), pp. 46-52
16. **RDD**, Feb. 27, 1849; **RDA**, Feb. 26, 1851.
17. **RDA**, Mar. 15, 1842; Feb. 18, 19, 1851; Holland, *loc. cit.*; **RDD** May 24, 1855.
18. **RDA**, Feb. 20, 1851; **Times Union** (TU), Oct. 23, 1947; **N. Y. Census** (1855) **Democrat & American** (D&A), April 2, 1860.
19. Holland, *op cit.* **RDD**, May 19, 1848; April 9, 1850; **RDA**, Feb. 17, 1851.
20. **N. Y. State Census** (1855); **US Census** (1879) 111:702; **RDD**, Ap. 17, 1866; Autograph Folder of Thomas Hanvey, R.P.L.
21. **N. Y. State Census** (1855), (1865); **US Census** (1860) (1870) 111:702; Rochester **Chronicle**, July 29, 1870; McKelvey, "Traces of the Age of Homespun," *loc. cit.*

22. **N. Y. State Census** (1855); **U.S. Census** (1879) 111:702; Blake McKelvey, **Rochester the Flower City: 1855-1890** (Cambridge, 1949), pp. 72, 115.
23. Tengwell **Scrapbook** 11, p. 105; **Rochester Directory** (1859), pp. 265; **Rochester Chronicle**, June 1, 1869; Aug. 18, 1870; **D&A**, Apr. 30, 1859; **D&C**, May 11, 1876.
24. **Rochester Union & Advertiser**, June 28, 1860; May 31, 1864; Dec. 27, 1864; Dec. 14, 1869; Oct. 15, 1881; Jan. 12, 1888.
25. **RDD**, May 24, 1855; Jan. 1, 1856; **D&C**, Feb. 7, 1874; **U&A** March 6, 1883; **Rochester Directories**, (1871; 1880).
26. **Rochester Democrat & Chronicle**, Nov. 13, 1873; May 2, Nov. 25, 1874.
27. **U. S. Census** (1870) 111:702; (1880) II:430-315; **RDD**, May 15, 1857; **Rochester Chronicle**, Nov. 26, 1869; Aug. 23, 1870; **N. Y. Assembly Doc.** (1871) No 77; (1876) no 133; (1881) no. 87; **Rochester Directories** (1870, 1875).
28. Gibbon & Stone Autograph Folder, Rochester Public Library; **Rochester Chronicle**, July 30, 1870; **D&C**, Mar. 3, 1883; **U&A**, Mar. 6, 1883.
29. **U&A**, Dec. 24, 1881; March 6, 1883; **Harpers**, July 28, 1888; Blake McKelvey, **Rochester, the Quest for Quality: 1890-1925**, pp. 44, 270.
30. **U&A**, Dec. 17, 1869; May 5, 1874; June 2, 1881, April 26, 1884; **Chronicle** Dec. 20, 1869; **D&C**, May 2, 1874.
31. **D&A**, May 12, 1858; **U. S. Census** (1860), (1870) 111:702; (1880) 11:4:30-31.
32. **U&A**, Aug. 28, Dec. 2, 1882; Sept. 10, 1887; **D&C**, March 31, Oct. 1, 1884; **D&C**, Feb. 1, 1942.
33. **Rochester Directories** (1920, 1930, 1960).