

Minnesota Log Marks

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IN THE OFFICE of the Minnesota surveyor general of logs and lumber is a vault full of record books in which more than twenty thousand log marks are recorded. Their bulk testifies to the magnitude of the pine harvest in the days when lumbering was the state's leading industry. Large portions of the later records are in the fine Spencerian handwriting of Mr. A. D. Cook of Minneapolis, who was connected with the surveyor general's office for forty-four years.¹ He is rightly credited with knowing more about log marks than any other man in the state.

A law which required that all log marks be recorded before the logs bearing them could be moved was passed in 1858. It provides, in part, that anyone cutting logs in the state "shall, before proceeding to mark the same, deposit in the office of the Surveyor General in whose district the logs may be, a copy of the said mark which is to be put upon the said logs," but that the mark must be distinctly different from any other mark recorded in the same district.² The practice of marking logs in Minnesota, however, goes back farther than 1858. In 1851, when Minnesota was still a territory, the Mississippi Boom Company and the St. Croix Boom Company were incorporated. The law establishing the companies provided that they should "sort out the logs and timber according to their several

¹ The records accumulated by the surveyor general's office fill about 26,000 volumes and cover the years from 1860 to 1945. They include tally or scale books used in the field, bill books, log ledgers, records of contracts, of liens, and of transfers of marks, volumes in which are listed the various companies operating in Minnesota with the marks they used, indexes, and the like. Only about thirty per cent of these records remain in the surveyor general's office; the others, as inactive archives, have been transferred to the Minnesota Historical Society. The writer has drawn much material from interviews with Mr. Cook, who served the surveyor general's office in its various districts from 1887 to 1931, and with Mr. M. J. Thornton, chief deputy surveyor general of logs and lumber, who, with the exception of four years, has been associated with the office since 1901. The writer also has received valuable advice and assistance from Mr. H. G. Weber, director of the forestry division of the Minnesota department of conservation, who is now surveyor general of logs and lumber.

² Minnesota, *General Laws*, 1858, p. 267.

marks," thus suggesting that the marking of logs was common practice at the time.³

The marks were a means of identification — a symbol of ownership. When a mark was sold or transferred to someone else, the transfer was reported to the surveyor general's office and recorded. Still on the statute books are laws which make it a misdemeanor to take logs from rivers, sloughs, islands, or land adjoining rivers; to cut out, mutilate, destroy, or render illegible the marks on logs; to injure logs belonging to others; to place on "any log or piece of timber, any mark except the original" one; or to "purchase, receive, or secrete saw logs" unlawfully taken from streams.⁴ "Sinkers" or "deadheads" bearing log marks, often found in rivers or lakes forty or fifty years after the logs are cut, still belong to the owner of the mark. The ownership of deadheads can be determined from the records of the surveyor general if the mark is still legible. This was demonstrated during the summer of 1939, when a launch on the Lake of the Woods struck a partly submerged deadhead and was damaged. The owners of the launch, who were summer visitors from Chicago, were able to identify the mark on the log, made a drawing of it, and sent it to the surveyor general's office, where the records were searched and the name of the owner of the mark ascertained.

The law provided for the establishment of seven lumber districts, "for the purpose of the survey and measurement of logs, lumber and timber within this state." The districts embraced "St. Croix lake and river and their tributaries," with headquarters at Stillwater; the "Mississippi river and its tributaries between the mouth of the St. Croix lake and the mouth of Elk river," with headquarters at the Falls of St. Anthony; the "Mississippi river and its tributaries between the mouth of the St. Croix lake and the outlet of Lake Pepin," with headquarters at Red Wing; the "Mississippi river and its tributaries above the mouth of Elk river," with headquarters at St. Cloud;

³ Minnesota Territory, *Session Laws*, 1851, p. 21. Laws passed by other states indicate that the ownership of logs was to a large extent dependent upon log marks. It thus seems obvious that the marking of logs antedated the laws regulating the practice.

⁴ *Session Laws*, 1854, p. 4; *General Statutes*, 1866, p. 247.

the "Mississippi river and its tributaries below the outlet of Lake Pepin to the southern line of Wabashaw county," with headquarters at Wabasha; the "bay of Superior, Saint Louis bay, St. Louis river and their tributaries," with headquarters at Oneota; and the "Mississippi river and its tributaries from the southern line of Wabashaw county to the southern line of the state of Minnesota." All rivers of sufficient size for floating or driving logs were declared to be public highways within the state. No individual could claim prior water rights, nor could owners of land bordering on the rivers interfere with the flottage of logs. As the logging era in Minnesota declined, the number of lumber districts decreased, until in 1919 the seven had been consolidated into a single district with headquarters in the Capitol in St. Paul.⁵

A logger could request the surveyor general's office to assign a log mark to him, or, if he had a mark of his own and wished to have it recorded, he sent it to that office, where it was checked to avoid duplication. If there was another recorded mark exactly like it, a slight change was made in order to distinguish the new mark from all others. Despite such precautions, duplication occasionally occurred; hence a law provided for settlement of any dispute resulting from it.⁶ It read as follows: "In cases where logs or timber bearing the same mark but belonging to different owners . . . have without the fault of any of them become so intermingled that the particular or identical logs or timber belonging to each cannot be designated, either of such owners may upon a failure of any one of them having the possession, to make a just division thereof after demand, bring and maintain against such one in possession an action to recover his proportionate share of said logs or timber and in such action he may claim and have the immediate delivery of such quantity of said mark of logs or timber as shall equal his said share, in like manner and with

⁵ *General Statutes*, 1866, p. 243; *Laws*, 1919, p. 513. The law failed to designate the headquarters of the seventh district. The original act providing for the "survey of logs and lumber in Minnesota Territory," passed in 1854, designated only three districts. *Laws*, 1854, p. 53.

⁶ *General Statutes*, 1866, p. 250. There is evidence that in spite of branding, disputes arose frequently between loggers and mill owners over the number of logs received at the mills. Rodney C. Loehr, "Caleb D. Dorr and the Early Minnesota Lumber Industry," *ante*, 24:135.

like force and effect as though such quantity embraced his identical logs and timber and no other."

Logs were marked on both ends as well as on the bark. The end marks were made with a heavy stamp hammer. If a logger wished, he could order his stamp hammer through the surveyor general of his lumber district when he sent his mark for recording. A small charge was made for the stamp hammer, which was made of cast iron, had a long handle like an ax, and weighed four or five pounds.⁷ On its face was the design of the desired log mark in raised letters. Although the indentation made with such hammers was not an inch deep, the end mark was usually discernible even after parts of the ends of logs were removed, for the compression of the wood fibers extended into the wood for several inches. It has been said that when loggers were engaged in end-marking logs on cold mornings, "the clear, sharp ring of the hammer could be heard for long distances." The end mark was stamped three or four times in as many different places on each end of a log, so that at least one mark would be visible regardless of the position of the log in the water. One writer records that "Not every greenhorn could end stamp logs to suit woods foremen. The hammer had to be swung hard enough to make a deep imprint in the green timber."⁸

Bark marks were cut with an ax three feet from the butt of the log. They could be easily found when the logs were in the water simply by rolling them. Bark marks were put on logs until about 1910. After that end marks only were used, and the bark mark cutters passed out of existence. Although the log mark no longer plays the important role it once did, some logging companies continue the practice of end-marking logs. All state timber, even pulpwood, is marked and must, by law, bear the stamp "M I N" and the permit number.⁹ Although a purchaser of state timber may add his own mark, he may not obliterate the state mark. When both bark marks and end marks were used, they usually were not identical.

⁷ Most of the stamp hammers used in Minnesota were cast by the Floyd Iron Works of Duluth.

⁸ A. H. Sanford, "Log Marking," in *La Crosse County Historical Sketches*, series 1, p. 67 (La Crosse, 1931); "Up in This Neck of the Woods," in *Grand Rapids Herald-Review*, December 8, 1943.

⁹ *Laws*, 1925, p. 333.

Logs were marked on the skidways in the woods before being moved to the rivers. Then they went to the sorting works, or boom, which had many divisions, called pockets. There logs were sorted and marked with a catch mark, according to the log marks already on them. An ax with a long handle was used to cut this mark. The logs were then directed with long pike poles along the race or center of the sorting place into one of the pockets. The booms were as much as four miles long and a half mile wide. They often were filled with thousands upon thousands of logs belonging to different owners. Ordinarily the work, which was conducted by boom companies, went along smoothly. In a stream with a strong current, however, it was difficult for even the most skillful workers to sort and keep sorted the many different owners' logs.¹⁰ One of the important duties of the surveyor general's men was to keep an accurate record of logs as they went through the boom and to see that each owner was compensated for any logs that may have gone into another lumberman's boom. The manner in which the logs were accounted for is described as an almost superhuman feat.

Unmarked logs were the bane of the sorter's existence. According to one account, "Ire and profanity arose when an unmarked log got into the gap, like a tramp crashing the Ambassadors' Ball, for it held up the parade."¹¹ All logs were examined, and when no mark could be found on them, they were thrust aside with others like them. Comparatively few logs were unmarked, however. Under a Minnesota law of 1862 "logs or timber found in the waters of any lumber district, not in the possession or under the control of any person, which have no distinctive mark, or marks which are not recorded in the proper district, shall be deemed abandoned, and shall not be recognized as property by the courts." A court order, however, provided that on the St. Croix, unmarked logs floating in the stream, "though within jurisdiction of boom company, become property of

¹⁰ The work of the boom companies, which included counting and sorting logs, measuring or scaling the timber they contained, and making them up into rafts, is described by Loehr, *ante*, 24:134-137.

¹¹ *Michigan Log Marks*, 24 (Michigan Agricultural Experiment Station, *Memoir Bulletins*, no. 4 — East Lansing, 1942).

person who picks them up and causes them to be marked with his own mark before they reach boom or sorting works of company." There is a specific provision to the effect that this law does not apply to logs resting on land.¹²

Below the boom the logs were assembled into rafts or brails. Logs sufficient to form an open rectangle 660 feet long and 60 feet wide were fastened together end to end. They were secured at the corners by means of chains attached to wooden pegs about ten inches long and three inches in diameter, and similarly throughout the 660 feet. The open rectangle was filled with logs, presumably all bearing the same mark, which were "poled in," usually parallel with the long side. Wires fastened at intervals across the width of the raft held the logs in place. A scrabble brail was composed of unmarked logs and logs bearing various marks which had not been included with the others. The heterogeneous collection of stray logs in the scrabble brail was sold and the owners of the marked logs were paid for them. In the second Minnesota lumber district a count was kept of unmarked logs and at the end of the season their value was distributed among the various concerns that had passed the logs through the rafting works, the division being in proportion to their respective "runs" of logs.¹³ After floating downstream, the logs were made into rafts, often nine brails wide and a mile long. So far as was humanly possible, it was arranged that all the logs in a boom belonged to one owner.

It was considered a serious breach of the law to tamper with a boom. The law on the subject provides that "whoever willfully and maliciously opens, breaks, cuts, or otherwise destroys or injures any side or other boom, or turns the whole or any part of the logs or timber contained therein loose or adrift, except . . . in case such boom materially obstructs the navigation of any navigable stream or unlawfully intrudes upon the property of any such person . . . or who willfully and maliciously cuts loose or turns adrift any boom,

¹² *Mason's Minnesota Statutes*, 2:1334 (St. Paul, 1927). See also *General Laws*, 1862, p. 151.

¹³ Interview with Mr. Thornton. On the St. Croix, unmarked logs became the property of the boom company. *Minnesota Reports*, 110:61.

brill, string or raft of logs, timber or lumber, is guilty of a misdemeanor."¹⁴

Logs reached the Mississippi River from most of its numerous tributaries. Statistics indicate that the logs cut from 1848 to 1899 in the region drained by the Mississippi above Minneapolis yielded about seventy-five million dollars.¹⁵ The wealth derived from manufactured lumber contributed in a very large degree to the agricultural and commercial development of Minnesota and North and South Dakota.

During the height of the lumbering era boom companies were operating at sorting works in Minneapolis above the Falls of St. Anthony, at St. Paul, at West Newton, and at other points on the Mississippi. After being sorted, the logs were brailed into rafts and towed down the river to such places as Rock Island, where the first of the Weyerhaeuser mills was located, Dubuque, Burlington, and St. Louis. Boats owned by the Diamond Jo Line and other steamboat companies on the upper river did the towing, usually operating in pairs. Two stern-wheelers, a small one at the bow and a larger one at the stern, ordinarily moved the huge rafts downstream. Mr. M. J. Thornton recalls one such combination of steamboats with the distinctive names of "Saturn" and "Satellite." To guide enormous rafts of logs around bends in the river, both boats had to do considerable maneuvering.

The logs in the Wabasha district were boomed at Beef Slough on the Mississippi between Alma, Wisconsin, and Wabasha. In 1896 the rafting works were moved down the river and over to the Minnesota side at West Newton, fourteen miles below Wabasha. There all logs entering the state through the Chippewa River from Wisconsin were sorted, boomed, and scaled. Logs in the Stillwater district, constituting the St. Croix River and its tributaries, were boomed at Stillwater. The stamp-hammer marks on the millions of feet of logs that went through the Stillwater boom in 1881 are recorded in a little book kept by Edward Rutherford, foreman of the St. Croix Boom

¹⁴ *General Statutes*, 1866, p. 248.

¹⁵ Daniel Stanchfield, "History of Pioneer Lumbering on the Upper Mississippi and Its Tributaries," in *Minnesota Historical Collections*, 9:362.

Company. This interesting record is now preserved by the Washington County Historical Society.¹⁶

An idea of the charges made for boomage services may be gained from the fact that in 1854 the St. Croix Boom Company was authorized by law to collect the "sum of fifty cents per thousand feet for every thousand feet of logs or timber, so sorted out and rafted, and made ready for delivery . . . at the foot of said boom; and fifty-five cents per thousand feet . . . for all logs sorted out, rafted . . . and delivered in the Cedar Bend Sloughs; and sixty-five cents per thousand feet . . . for all logs or timber, sorted out and rafted . . . and delivered at any point between Cedar Bend Sloughs and Arcola; and seventy cents per thousand feet . . . for all logs sorted out rafted . . . and delivered at any point between Arcola and the head of Lake St. Croix."¹⁷

Often in the sweeping curve of a swift stream log jams occurred. One of the largest known was formed in the St. Croix River above Taylors Falls in the spring of 1886. It has been estimated that a hundred and fifty million feet of logs jammed the river for miles from bank to bank. It was most difficult to break, and it dammed up the river for months. In an effort to break the jam, two steamboats stationed below the bridge at the dalles were chained to a few logs at a time, pulling them downstream. But as soon as the logs reached the eddy between the cliffs they jammed up again. Several hundred men and many horses labored all summer to break the jam. And all summer Taylors Falls was crowded with sightseers who came to look at the log jam. Mr. Cook recalls that in one of the larger hotels the tables were set four times each noon to accommodate visitors who did not have lunches with them. Another enormous log jam described by Mr. Cook formed an obstruction in the Mississippi River about 1900. It extended from North Minneapolis, above the Falls of St. Anthony, almost as far as Fridley, a distance of about six miles. It was described as a "bad one," by comparison with which the jam in the St. Croix River appeared orderly, for in the Mississippi the logs seemed to stand on end and point in every direction,

¹⁶ See *ante*, 23:395.

¹⁷ *Laws*, 1854, p. 9.

like straws in a strawstack. Pictures showing the magnitude of these and other logs jams which dammed up Minnesota streams at various times have been preserved.¹⁸

In order to keep the streams navigable for log driving, dams often were built to back up the water, particularly during times of low water. When a dam was opened, the released torrent of water carried the logs safely over the low spot. Sometimes the water was held back during flood stage for later use. In 1894 the Mississippi above Minneapolis was so low that the water hardly covered the river bed in some places. A contemporary account records that "sand bars and rocks are becoming prominent all along the river," and that "just above the falls it is so low that it is seriously interfering with log sorting by the Boom company."¹⁹ Low water meant a slack current, which often left logs stranded on sand bars. Sediment and debris drifted against them, and other logs lodged on top of the first layer. As the process continued and vegetative growth took hold, a small island was formed. Not long ago an island in the Mississippi River below Brainerd was explored and logs were found under a growth of willows. Salvage operations followed and produced several hundred thousand feet of logs. There was no appreciable deterioration because the logs had been under water so long and they were just as useable for lumber as newly cut timber. Not all deadheads, however, were recovered so late. Mr. Cook estimates that about seventy-five million feet of deadheads were taken out of the Mississippi over a twenty-year period after the drives. A million feet of lumber is equivalent to about thirty-five thousand logs. As late as 1917 two small mills at Minneapolis were sawing deadheads.²⁰

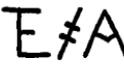
The log marks themselves, as preserved in the surveyor general's records, reflect an aspect of logging history which stirs the imagination. They are much like western cattle brands, with which most people are familiar. Both use the "lazy A's." In addition among log marks are found "turtle girdle A's," "wildgoose A's," and "double dart A's." There are "double diamonds combined," "pitchfork twen-

¹⁸ Such photographs are to be found in the picture collections of the Minnesota Historical Society and the Minnesota Forest Service.

¹⁹ *Mississippi Valley Lumberman*, vol. 25, no. 3, p. 5 (July 27, 1894).

²⁰ Loehr, *ante*, 24:137.

ties," and many other marks. They are to a certain extent self-explanatory. The "turtle mark," for example, is a circle with four short notches extending outward about where a turtle's legs would be. A "girdle" is simply a straight diagonal mark. Such a mark with

DAVID TOZER  Pitchfork	E. W. BACKUS  B scalp A	W. D. WASHBURN  C. double Y reversed H
CHAS. BRYENTON  Reel	JONATHAN CHASE  Cross cross on two girdles cross	ERASTUS BYERS  Two double darts
THOMAS CARMICHAEL  Snowshoe	J. S. PILLSBURY & CO.  TEL combined girdle twenty A	J. B. BASSETT & CO.  Roof Y girdle twenty
M ^c FARLAND & PICKETT  New hat	T. B. WALKER  TWB combined	FARNHAM & LOVEJOY  F thirty combined H
END MARKS	BARK MARKS	END MARKS

two notches cut across it is known as "girdle twenty" or simply as "twenty." Three notches make it "thirty." Two straight up-and-down marks, with two straight marks crossing them, after the manner of the "cat and dog" game that children play, are called "forty." A logger's shorthand system, the log-mark notations might be called. There are marks known as "double hatchets," "umbrellas," "blocks," "crosses," and "oxshoes," and there are combinations of letters which

make unique symbols. Enough different combinations of comparatively simple marks exist to make some twenty thousand individual log marks for Minnesota alone. A comparison shows that many of the marks used in Minnesota were identical with those found in the early logging records of Maine, the state from which many of Minnesota's pioneer lumbermen came.²¹

A Stillwater log mark of more than passing interest is that of Isaac Staples, who figured prominently in the early history of the St. Croix Valley city. The end mark used on the Staples logs is described as "S notch bar notch combined," but actually it is an "S" with an "I" through it. Other Stillwater lumbermen and lumber companies whose log marks are recorded are Peter Rookey, who used a mark called "diamond notch K"; Robert Burch, whose mark was described as "notch two Y's notch"; Thomas Carmichael, whose mark was described as a "snowshoe"; James Gillnaught, who had his initials in a circle; and Weyerhaeuser and Rutledge, one of whose marks was "YW combined girdle cross D." The mark "YW combined" was a well-known Weyerhaeuser mark, and many other symbols were added to it as other marks were needed. Similarly, everyone knew that the mark "V girdle V" belonged to the Shevlin Carpenter Company, and numerous additions to this basic symbol are found in the record books. The mark of the Pine Tree Lumber Company was the "treetop" mark, which preceded all its more complicated symbols.

Records of the Minneapolis lumber district disclose such familiar names as W. D. Washburn, T. B. Walker, E. W. Backus, and J. S. Pillsbury. The larger companies used a great many different marks, many of which were acquired by purchase, and the records show page after page of the various marks owned by a single lumber company. There are old-time names like the St. Anthony Lumber Company and the Mississippi River Lumber and Boom Company. James Goodnow's mark had the startling name of "blaze on a girdle R two blazes." Among the symbols on the logs of Farnham

²¹ With them were transferred to the West many of the methods and practices followed in the Maine woods from 1830 to 1850. Stanchfield, in *Minnesota Historical Collections*, 9:346.

and Lovejoy was one called "cross V two notches on a girdle three notches." One of Erastus Byers' marks had the long name of "three notches W two blocks combined three notches," but it probably took no longer to make the mark than to describe it.

The log mark is believed to have been derived from the "king's broad arrow," a mark blazed on trees of certain dimensions by crown surveyors in colonial days. It was an indication that the trees—always the very finest white pines—were to be reserved for masts for the royal navy. During the New England hurricane of 1938, a pine tree was blown down which seems to have been blazed with the king's broad arrow mark.²² Eventually the colonists adopted the king's system, marking their own trees and logs. From this practice evolved the individual log marks that were to play a significant part in the industry which transformed a wilderness into an empire.

²² Specifications for trees thus marked are to be found in Austin H. Wilkins, *Forests of Maine, Their Extent, Character, Ownership, and Products* (Maine Forest Service, *Bulletins*, no. 8—Augusta, 1932). The hurricane incident is described by John H. Foster, state forester of New Hampshire, in a letter to the writer, January 21, 1944.



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