

Rafting on the Mississippi

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EDITOR'S NOTE: The subject matter contained in this article by Mr. Boeckh constitutes but one of the many phases of work in which he is engaged as Forester and Timber Superintendent for the Burlington Basket and the Burlington Land and Timber Companies—the latter company being a subsidiary of the Burlington Basket Company. Mr. Boeckh has unlimited occasions to apply the technical subjects in forestry and engineering that he took while a student at Iowa State College. Diversity is the keyword to his position, and for this reason he claims that his work is always interesting even after being on the job for four years.

IN 1844, nearly a hundred years ago, the first log raft was floated down the Mississippi River. No power was used. The raft moved with the current and was guided by long oars or sweeps fastened on the back or stern of the raft. Strenuous working of the sweeps was required to keep the cumbersome raft in the main channel of the river.

It was not until 1863 that steamboats were used to push the rafts. By that time pine logs were being transported on the Mississippi from the mouths of the Wisconsin, St. Croix, Chipewewa and Black Rivers to points as far south as St. Louis.

Many thrilling tales have been told of those glamorous rafting days; how the logs were first "driven" down the smaller streams to the big river, sorted and formed into rafts and towed to the sawmills farther south. Often the rafts were grounded on the numerous bars or "broken-up" on the point of an island or the pier of a bridge. Then the logs had to be "picked up" and entirely re-raftered before completing the downstream journey. Thousands of logs were lost going down the river. Months were required to make the trip.

In the days following the Civil War and continuing until around 1910 rafts could be seen on the river at almost any time of the day or night. Today a raft on the Mississippi is a rare sight and can only be seen on parts of the river. Many changes have been made in the methods of rafting and towing the logs. Motor driven launches have for the most part supplanted the more expensive steamboat. Rafts of five hundred logs are large now, whereas in the olden days a raft often contained ten thousand logs with more than a million board feet of material.

No other method of transporting logs from the forest to the factory has been found to be as cheap as this old time way,

especially when the timber and the mill are both close to the river. The cost per thousand board feet per mile is less than three cents or at least five times as cheap as the same distance by railroad.

Almost all of the two million board feet of logs used yearly by the Burlington Basket Company are transported to the factory at Burlington by raft. The company owns over five thousand acres of Mississippi River bottom land between Burlington and Dubuque. Logs from this land are rafted and floated down the river distances ranging from ten to two hundred miles.

Mature trees from the company-owned forest are cut or from privately owned timberlands are cut mainly in the winter. The logs are hauled to the main channel of the river and piled along the high banks until the ice moves out in the spring. Hardwood

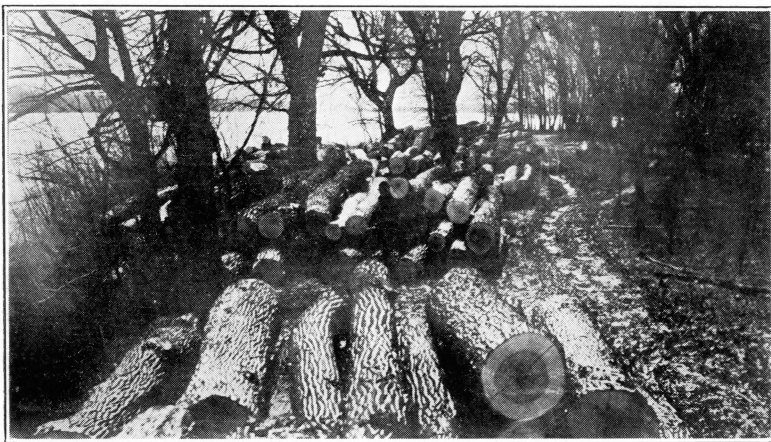


Figure 1. Hardwood logs are piled along the river bank during the winter.

varieties such as soft maple, cottonwood, white elm, red birch, sycamore, hackberry and white ash are cut. Care must be taken to insure plenty of the good floating varieties like the soft maple and ash, which are piled with the low-floating elm, birch and cottonwood. At the time of rafting a good floater is placed alongside the poor floater in order that the entire raft floats high in the water. Even the buoyant varieties will become "waterlogged" after being in the water for any length of time; so the rafts must be taken out of the water soon after they reach their destination to avoid sinking.

The floods on the Mississippi River, which overflow the island and bottom lands, generally occur soon after the ice leaves the river in the spring. Not every year do we experience these floods, but when they do occur it is almost impossible to prevent loss of logs if they are not all rafted before the water overflows the banks of the river.

No time can be lost in getting the logs rafted in the spring. With the water ice cold and the strong spring winds, this is a difficult task. Nor is it an easy job to guide the rafts during high water, with the treacherous currents, adverse winds and high waves. Landings are difficult and many times two and three lines have to be stretched to shore before the raft is landed for the night. Rafts are now rarely towed at night and each evening they must be tied to the shore at a place in the channel protected from the wind and waves.

Progress down the river is very slow. The speed of the stream is between two and a half and four miles per hour. The power of the boats increases this by several miles so from ten to fifteen hours are required to travel a distance of forty miles.

In the old rafting days, when pine logs were being towed, the logs were not fastened together. A boom or enclosure was first formed by joining the ends of long logs, and other logs were placed close together inside this boom. Ropes were stretched from one side of the boom to the other across the logs. Drawing these ropes very tight made the raft solid and as the pine logs floated high there was no danger of the logs "ducking" under the boom in rough water. The boom thus formed was called a brail and was usually from fifty to seventy-five feet wide and from six hundred to a thousand feet long. Three to five brails were securely fastened together side by side. The rafts were made up in sections in order to quickly separate them into parts when traversing narrow places in the river or going under bridges, where the distance between piers was too small for the entire raft to go through at one time.

Now that hardwood logs are being rafted instead of softwoods it is necessary to fasten each log to another to keep the entire raft afloat. They are now made rigid by placing small saplings or binder poles at right angles of the logs and at both ends. An eight inch square boat spike is driven through the pole into the log. The logs vary in length from ten to twenty feet; so the binder poles are spaced about ten feet apart in order to catch both ends of all the logs. A few years ago wooden pins were used in place of the boat spikes to fasten the binder pole to the log. The holes were drilled with large hand augers through the pole and part way into the log. An ash or oak pin was driven into this hole. Such an operation was a slow, difficult job, which

required a large crew of men and wasted a portion of the log. The wooden pin has now been almost entirely discarded for the quicker and cheaper boat spike.

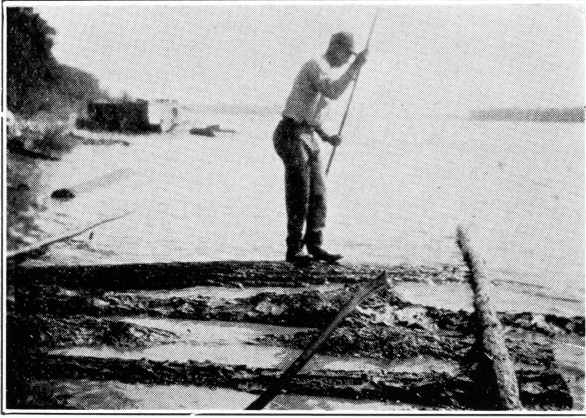


Figure 2. Placing the logs under the binder poles.

When the raft reaches its destination the spikes are pulled out and straightened for use again. A still better method of fastening the logs is that of using the old time chain dog or ring dog. This consists of a few links of chain with a piece of pointed steel called a dog at each end. One dog is driven into the log, the chain goes over the binder pole and the other dog is also



Figure 3. The raft showing the boats.

driven into the log. Driving both dogs into the log will draw the chain tightly over the pole and the log is thus securely held in place. These chains are more expensive, costing about thirteen cents apiece, but they can be used over and over again, are easier to remove and do not break off in the log during rough weather as the spikes occasionally do.

Brails are now from 150 to 200 feet long, and a raft is generally made up of three brails side by side, making a total width of about sixty feet. The boats are "hitched" into the stern of the raft and lines extend from the back of the launches to the outside corners of the raft. This gives the launch more rudder power in swinging the raft. Often more than one launch is used for towing, and even small stern wheel steamers are used. Either the boat is equipped with a small kitchen and sleeping quarters for the men or a cabin boat is carried along for these accommodations.

A crew of from three to five men is necessary on the raft. When the raft is being tied up each man has his particular station and job. The boats swing the raft around and point it upstream. In this way the boats can push against the current and help check the speed of the raft. The "head linesman" takes the end of a long rope in a skiff or small row boat, rows to the shore, lands and ties the rope to a convenient tree. The "checker" carefully pays out the line from the raft, his helper keeping the line from becoming tangled. Gradually the speed of the raft is checked by wrapping or snubbing the rope around a pole securely fastened down near the center of the raft. If the "checker" attempts to stop the raft too soon the line will break. When that happens a second and even a third line may be run to shore before the raft is stopped. To tie up a raft without parting a line or breaking up part of the raft is a difficult task when you consider the tremendous weight of the logs and the speed of the current. It is a time when minutes count and each man must know exactly what to do and where to be. It is always a great relief to the raftsmen when the tow of logs is safely moored for the night.

Rafting today, like in the old days, presents a life of hard work, with many a thrill and a need for quick thinking and action. While it will always be the cheapest means of moving logs to the factory from the timber lands along the river there will never be a great revival of rafting on the Mississippi. Small scale rafting like that carried on by the Basket Factory will doubtless be carried on in various sections of the river for a long time to come. Thus the art of rafting and towing logs on the big river will not be entirely lost.