A History of the Harvesting Practices Used in the Cypress Swamps of the Southern United States, 1700 to 1960.

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Introduction

Colonial Louisiana and other areas harbored vast reserves of one the best species of wood in North America: the bald cypress. Early residents of Louisiana struggled to meet the demand for the lumber. Records show that as early as 1699 French settlers at Biloxi were using cypress and selling it to merchants sailing for ports on the islands of Martinique, Santo Domingo, and Guadeloupe (Moore, 1). The market was not always strong over the 260 years it took to harvest the cypress stands. Until the 1750s Louisiana settlers were the benefactors of a lucrative trade with the French West Indies (Moore, 6). That trade was put on hold as France lost control of Louisiana after the Seven Years War (The French and Indian War) in 1763. By 1779 Spain had gained control of the Florida Parishes and so controlled all of present day Louisiana. The new Spanish subjects were not allowed trade with the French-owned West Indies (World Book Vol. L, 4615). The cypress markets were depressed, but by 1820 the sugarcane and cotton plantations and the New Orleans building boom had revitalized the domestic market (Moore, 8). Cypress would remain in high supply and demand until well after World War I. The depression of the 1930s slowed the demand until World War II. The war effort and strong economy of the fifties and sixties would see the last of the industrial cypress operations.

While the nature of its habitat made it seemingly impossible to ever exhaust, the vast cypress stands would eventually fall after a 260-year evolution of logging methods and techniques. The greatest obstacle in harvesting the cypress was the need for power to move the large logs once they had been cut. The roughly 260-year period that cypress was commercially logged can be divided into two periods: pre-steam power and post steam power. Progressing from animal power to steam power, the harvesting methods employed in Louisiana are here discussed in detail.

I. Pre-Steam Power

Animals

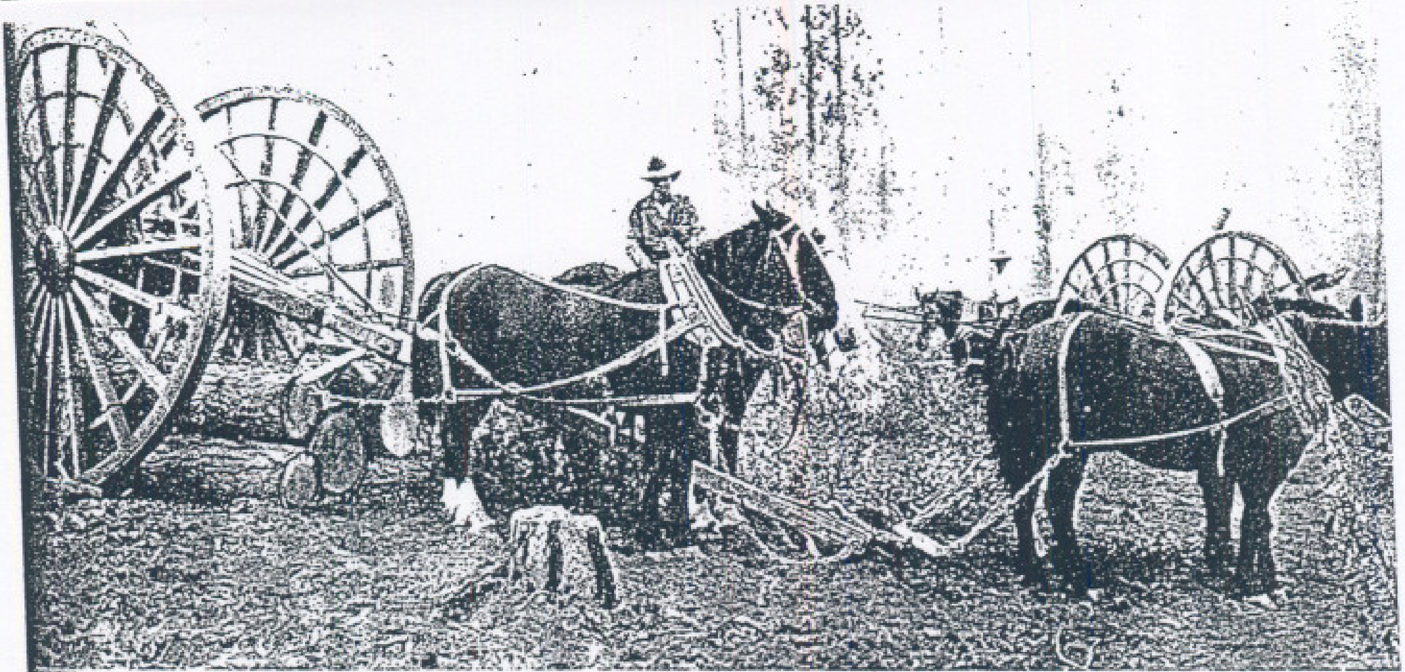
In the early times teams of horses, oxen, and mules were used to transport logs when conditions were feasible (see Figure 1). Because most timber in the early period had to be harvested in low-river stages, sometimes the banks of waterways were exposed and firm enough to facilitate dragging logs (Mancil, 63). "Snaking," as it was called, was often hard work as the weight of the logs caused their front ends to sink in softer ground and slow the process (Mancil, 63). The logs were occasionally moved using animals well into the 20th century, but only in unusually dry conditions (Mancil, 63).

Girdling and Poling

In the early 18th century the French loggers, known as "swampers," moved green cypress timbers by tying logs off to rafts because the green, moisture-laden logs would readily sink (Norgress, 1001). This occurrence gave rise to the name "sinker cypress." One 18th century merchant used large ships to move his cypress because of the frequent losses of logs that broke their moorings in the current and sank (Moore, 10). By 1725 the French had solved the problem of "sinkers" by girdling the trees (see Figure 2) (Moore, 10). The swamper would contract to go in several months prior to harvest time and girdle the trees in order to reduce the green weight at pole-time. By girdling, the tree was usually dry enough to be floated out at pole-time. Other benefits in girdling included the following: logs would float in millponds, moving logs was easier because the steel tongs used did not pull out as easy, the dry heartwood did not bind the saw, and dried cypress did not mildew when sawed (Mancil, 86).

FIG. 98.—An unusually heavy and valuable stand of tidewater red cypress. Cypress grows chiefly in swamps and bottom lands subject to frequent over-flow. Note the bell-shaped butts.

(Brown, 1934:p201)



12 FOOT WHEELS AT BEND. Logs have been chained to hoisting rigging and lead team is ready to pull. These wheels were the slip-tongue type developed by Redding Iron Works. (Photo Paul Hosmer)

Figure 1

(Andrews, 1956:p93)

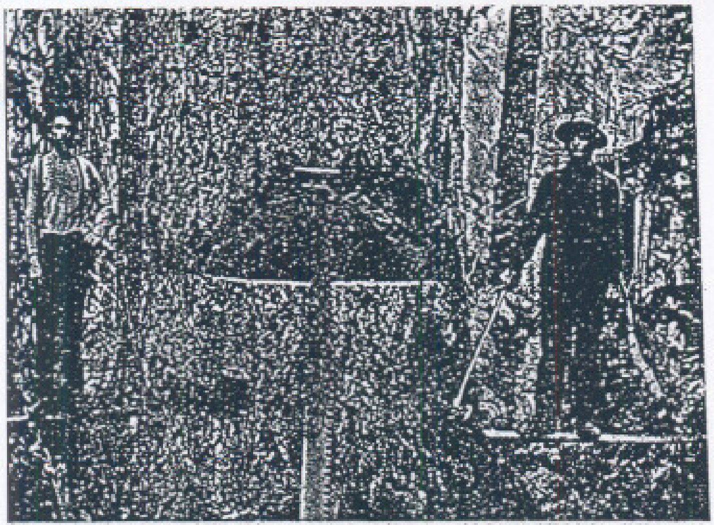
Figure 17. The large tree to the left has been girdled as a wide cut has been made to allow sap to evaporate from the tree to allow it to float. Bayou des Allemands, Louisiana swamp. Courtesy of Dr. Irving Mancil.

Figure 2

(Brown & Montz, 1986:p33)

When felling time came, swampers would make their way into the cypress brakes for the duration. The river determined the harvest season because its water was the primary method of transportation. Typically the river rises in the spring and usually peaks in June before falling. This meant the felling was done in anticipation of the spring rise and all the timber moved to the mills in the spring and summer (Mancil, 62). Swampers employed by Natchez mill-owner Andrew Brown in 1840 were paid $20-30 per month plus rations (Moore, 64). Axes and cross-cut saws were used. A pair of experienced axe men could fell, top, and buck 2-4 trees per day (Moore, 64). Typically two men would cut notches in opposite sides of the tree and place springboards inside the notch to stand on (Brown and Montz, 31). The notches can still be found in many stumps in Louisiana swamps. The two men would place the springboards high enough on the tree to get their cut above the butt-swell (see Figure 3). Wedges were used to direct the tree as it fell (Brown and Montz, 31). In times when the swampers were rushing to beat the river rise, they would stand up in boats to cut the trees (Moore, 10). A pirogue or flat-boat was the vessel of choice. Often the axe men would carry two axes each; one to chop with and one to place on the tree stump for a footing. The axe man would stand with one leg in the boat and brace his other foot on the axe in the tree, and just as the tree began to fall, the axe men would push out of the way with one foot (Mancil, 234).

The logs were tied into small trains and either push-poled out or towed (by wading) out of the woods using "creeks" or "runs" to the nearest waterway (Mancil, 62). The "creeks" were lanes through the swamp cleared of trees or natural outlets when they were available. When swampers



21.—The Undercut on a Douglas Fir Tree. The fallers are standing on spring boards to enable them to make the cut above the root swelling. Washington.

Figure 3

Note springboards

(Bryant, 1923:p105)

Note length of saw.

(Andrews, 1956:p1

came across the occasional sinker that would not float despite having been girdled, they tied it off or "dogged" it to a raft of more buoyant logs (Brown and Montz, 34).

It was routine for one man to tow out five to six logs (Mancil, 88). Some loggers used their own variations of preparing timber to be rafted out of the swamp. James Wheless of the Yazoo river area in Mississippi built a dike prior to felling trees. This allowed the logs to be bound together in larger quantities without the current to contend with. A run was cleared to the Yazoo River, and when the current behind the dike was strong enough to move the raft, Wheless' crew cut a hole in the dike and moved out to the river (Moore, 33).

If a natural outlet gave access to the river system it was used, but this was not always the case. The ultimate destination of the rafts was often one of the many mills located along the Mississippi river. As cotton and sugarcane cultivation became more and more profitable, plantation owners began the levee system. In the 1850s it was common to read complaints and reports of a breach in the levee one of the many logging crews like Wheless' had made to get their timber out to the river (Mancil, 63). When the logs had been moved out to the major waterways they were bound together in rafts. Wheless' crew bound the small rafts or "cribs" into larger rafts of 400 to 500 "tiers" as they were called (see Figure 4) (Moore, 34). A tier was the equivalent of a present day log cut to the specified length. The logs were often formed into cigar-shaped rafts and fitted with a steel nose-plate. The cigar shape helped navigate the raft in the river currents and when towed gave less resistance. The nose-plate protected the log butts on the front end from damage.

The cypress lumber industry relied on these methods until the late 19th century. The girdle-pole-float method was inconsistent due to the unpredictable river. Timber might be felled one year but not brought to the mill because of successive low water years. Prior to 1858, tens of thousands of logs were ready to be floated but immovable because of the low rises in the river. In 1858 the river flooded and the waiting timbers were dumped on a saturated market (Moore, 62). The lack of a consistent means of moving the cypress out of the swamp kept the immense cypress brakes still largely intact up to the late 1880s. The steam-powered engine would eventually provide an affordable means of moving the cypress logs and see the exhaustion of the virgin cypress stands.

II. Post-Steam Power

1889: The Pullboat

In an effort to access timber in the pot-hole region of the Lake States, an overhead system of cables was designed in the 1880s known as the Butters-Miller type (Norgress, 1002). In the lake states the system operated on a series of cables suspended from two trees, the spar tree and tail tree. Butters realized the potential for his system in the swamps of the south and designed a machine and a steel spar tower that mounted on a "scow" (barge) (Bryant, 214). These original pullboats were first used in North Carolina and used a rigging of overhead cables that could hoist and retrieve logs up to 1000 feet away (Bryant, 214). The system was powered by a steam engine that turned a drum holding a length of steel cable. The drum and engine were mounted on a boat or barge and so required a navigable waterway to access the swamps. Miles of canals were dredged to accompany the "pullboats" (Norgress, 1002). The Butters-Miller pullboat operated by running an overhead cable from the "spar" tower into the swamp to the "tail" tree up to 1000 feet away. A block was suspended from the overhead cable with the hardware to pick up the logs. A skidding cable attached to the drum was hooked to the hauling block, and as the drum reeled, the block would slide back up the cable, carrying the log to the boat (Mancil, 89).

While this system worked, it was not popular due to three major disadvantages. First, it took long periods of time to set up the rigging at new pull-points. Second, the Butters-Miller type was designed with only one turning drum, which required five to six men to pull the heavy skidding line out. Third, this system had a relatively short pulling distance and required much expense spent on canals (Mancil, 89).

Although sources differ, 1889 seems to have been the first year the pullboat was used in Louisiana (Mancil, 83). William Baptist of New Orleans modified the Butters system and improved on the disadvantages listed previously. Baptist' system was called the "pullboat system proper" (Norgress, 1002). First, Baptist's system did not use an overhead cable, which eliminated the lengthy time spent setting up the spar and tail trees. Baptist' system operated as a ground system and simply dragged the logs out (Bryant, 214). The problem of carrying the heavy tow-line out into the swamp was solved simply by placing another drum on the boat (discussed below), and the Baptist boat could pull farther, up to 5000 feet; which saved companies huge sums of money that otherwise would have been spent on canals (Mancil, 90).

The Baptist Pullboat

The Baptist boat utilized what is known as the slack-rope system (Bryant, 232). An experienced crew could secure 75 to 100 logs per day, but the actual output was usually reduced due to cable breaks (Bryant, 238). The pullboat had two pulling drums, an upright boiler, and was driven by one or more engines. One drum was geared low for power and housed the skidding cable, which was about 7/8 to 1 ½ in. diameter. The other drum was geared high for pulling speed and housed the lighter, 5/8 to ¼ in. "messenger" line. The messenger line was carried by hand to the back of the "run" where a pulley called a sheave block (known as a "shiv") was attached to a sturdy tail tree (see Figure 5). The messenger line was passed through the shiv and carried back to the boat where it was spliced into the bigger skidding cable. By this method the heavy skidding cable could be pulled by the messenger drum to the back of the run. Heavy side-lines were attached at varying widths along the skidding cable to carry logs. As the skidding cable came in, the attached messenger line followed through the shiv to the boat. After the logs had been freed, the high-geared messenger drum quickly pulled the skidding cable back down the run to the logs (Mancil, 94). Later a three-drummed pullboat was designed. The third drum was smaller and housed a small, usually 3/8" line. When a run was started, two men would walk to the sheave block, one carrying the 3/8" line from the third drum, and the other carrying the messenger line. The messenger line was passed through the sheave block and hooked onto the line from the third drum. The third drum then pulled the messenger line back to the pullboat where the heavy pulling cable could be attached and pulled to the end of the run (Bryant, 236). This simply saved time by eliminating the need to carry the cable the long distance to the sheave and back. The long runs required more than one man to drag the cable. Ten or twelve men could string 2600 feet of the 3/8" line in about three hours (Bryant, 236). The drum could pull in the cable much quicker than a man could walk the sometimes waist-deep, 5000-foot run of swamp water.

The Baptist pullboat used a cable system low to the ground or water and often had difficulty when the heavy logs dug into the mud and acted as anchors. To prevent this, Baptist began making iron cones to go over the butt ends of the logs (Mancil, 95). The cones slipped up and down the cable and did help solve the problem, but the large size of the logs required a large,

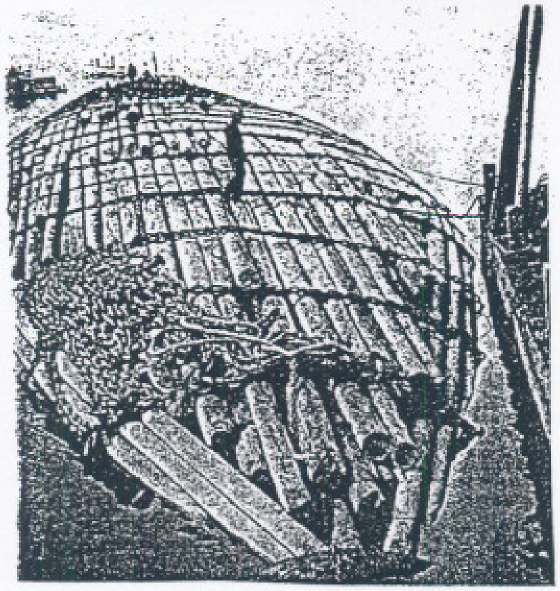


Figure 4

Raft in Pacific Northwest
Design was similar to rafts in South

(Andrews, 1956:p133)

Figure 5

The X was marked by th
job superintendent on
tail trees.

Notice the prop for th
sheave block.

(Bryant, 1923:p235)

heavy, and awkward cone that did not always stay on the log butt. Mr. Mancil reports that a slave working the swamps at the time suggested replacing the iron cone with a homemade cone by trimming down the edges of the log to a point with his axe (Mancil, 96). The swampers referred to this as "sniping" the log (Mancil, 96).

Pullboat Logging in Practice

When a logging crew moved into an area, the superintendent drew up a schematic plan locating where the runs or pulls were to be made (see Figure 6). The point where the pulling would take place was called a "set" (Mancil, 96). The pulling runs were often cut by a separate crew and regarded as one of the more profitable aspects of cypress logging. A crew was usually paid at a stated contract price per 100 feet of road cleared and an additional sum for each merchantable log felled and bucked (Bryant, 234). The crew cleared the runs of stumps to a width of 6-10 feet. The crew sometimes used dynamite to blow out the larger stumps (Mancil, 103). The runs were often set up in a radial fashion, like the spokes of a wheel, as this prevented moving the pullboat and equipment (see Figure 7). A crew of four could fell, buck, "snipe," bore the logs for the "puppies," and drag 75 to 100 logs to the main run or road daily (Bryant, 235). The weight and high numbers of logs being dragged out dug relatively deep ditches that later made cypress regeneration difficult. Even today, these runs can still be seen in the swamp and easily picked out from the air. The pulling was always started at the headwaters of a canal or waterway because the dragging logs pushed debris and silted in the waterways (Mancil, 112).

Following his plan, the superintendent paced to the end of the first run and marked a suitable tree to hold the sheave block (pulley for cables) (Mancil, 103). He then paced about 150 feet and marked a tree for the "shiv" at the site of the next run. He continued in this manner setting the

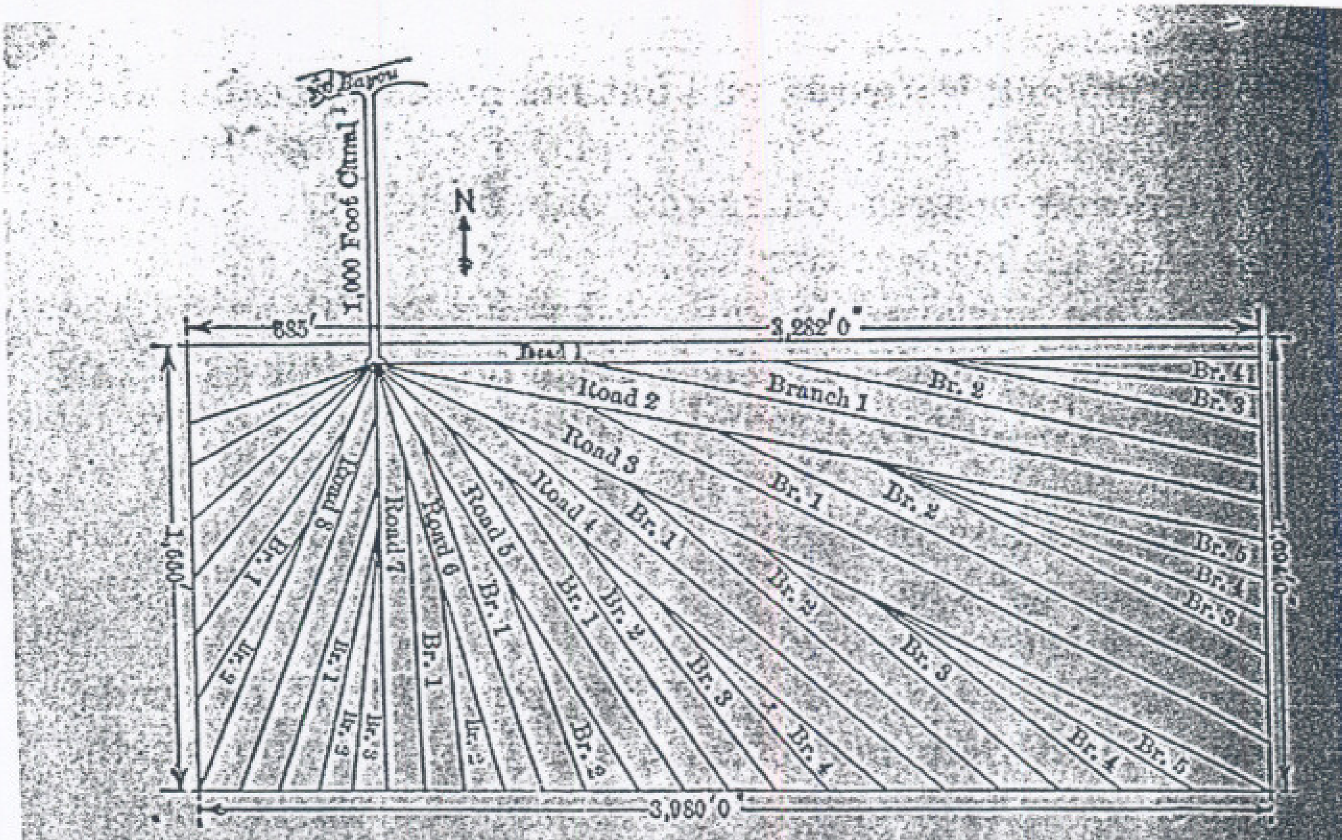


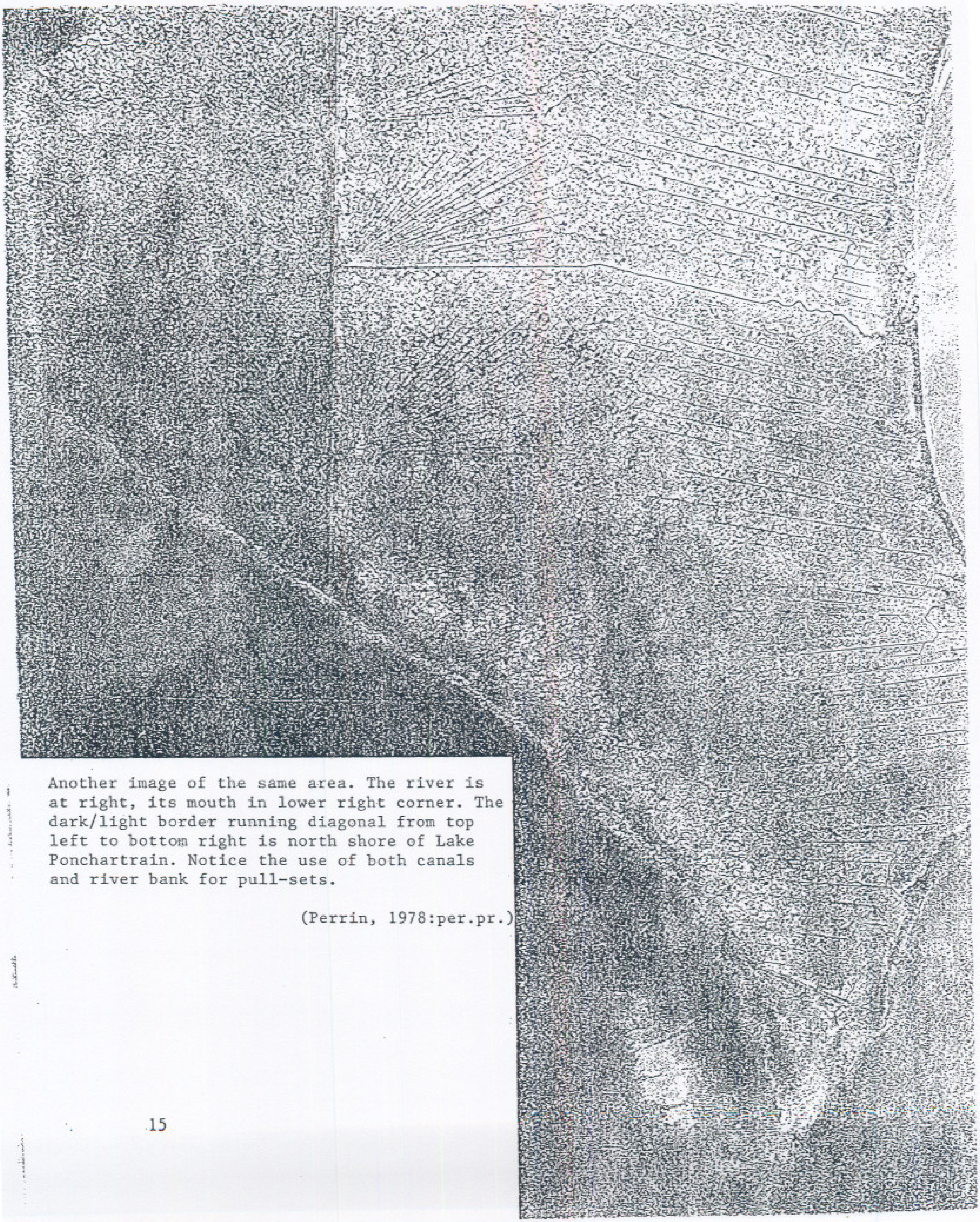
FIG. 74. — The Arrangement of the Roads down which Logs are dragged to the Pullboat. This system is known as fantailing. The figure is adapted from an actual operation in a Louisiana cypress swamp.

Figure 6 (Bryant, 1923:p.234)

Ervin Mancil reports the word "run" was used far more frequently than "road" in interviews.

Figure 7

A satellite image taken in 1978 of the lower Tangipahoa River.
Note the radial lines on the right side of the river. The pullboat set remained at one until area was cleared.
The paralell lines on the left side were pul from the river. (Perrin H., 1978:personal



Another image of the same area. The river is at right, its mouth in lower right corner. The dark/light border running diagonal from top left to bottom right is north shore of Lake Ponchartrain. Notice the use of both canals and river bank for pull-sets.

(Perrin, 1978:per.pr.)

end of the runs about 150 feet apart until an imaginary wedge had been drawn in front of the pullboat set (Mancil, 103). The end of the runs had to be fairly close because “sidelining” logs (pulling logs in from the side to the run) could not be easily done past 75 feet (Mancil, 103). While the superintendent marked ‘shiv” trees, the woods crew readied the sheave block and carried the cable out.

When the first run was marked, the pullboat was set at the foot of the first run by mooring to existing structure or pilings if needed. Using a dredgeboat, a “slip” was cut out of the bank of the canal as a place to store the logs. This kept the logs out of the current and allowed extra room in the sometime narrow canal. Logs were stored there until made into rafts and towed by boat to a sawmill or wharf for loading. Mancil reports that even late into the industrial period logs were floated more often than not. Some crews used barges with built-on cranes to load and transport logs, but this was more costly (Mancil, 96).

A woods-crew of about seven men were responsible for setting the sheave block, running the messenger cable, and readying the logs for pulling (Bryant, 237). When the “shiv” was set, the lighter messenger cable was passed through and carried back to the pullboat where it was spliced into the bigger pulling cable (see Figure 8 for a schematic of the pullboat setup). The big cable could then be pulled out to the end of the run and logs readied for pulling (Mancil, 103).

Early on, the logs were attached to the pulling cable by short cable lengths with steel tongs on the end. When the cable was stopped to hook new logs, the tongs lost their grip and had to be reset. Soon the tongs were replaced with plugs called “puppies” (Mancil, 105). The puppies were iron plugs with eye-holes on the end, about 12” long and 2” in diameter. Holes were drilled into the log with a hand auger and the plugs inserted. Normally, two plugs that were connected by a

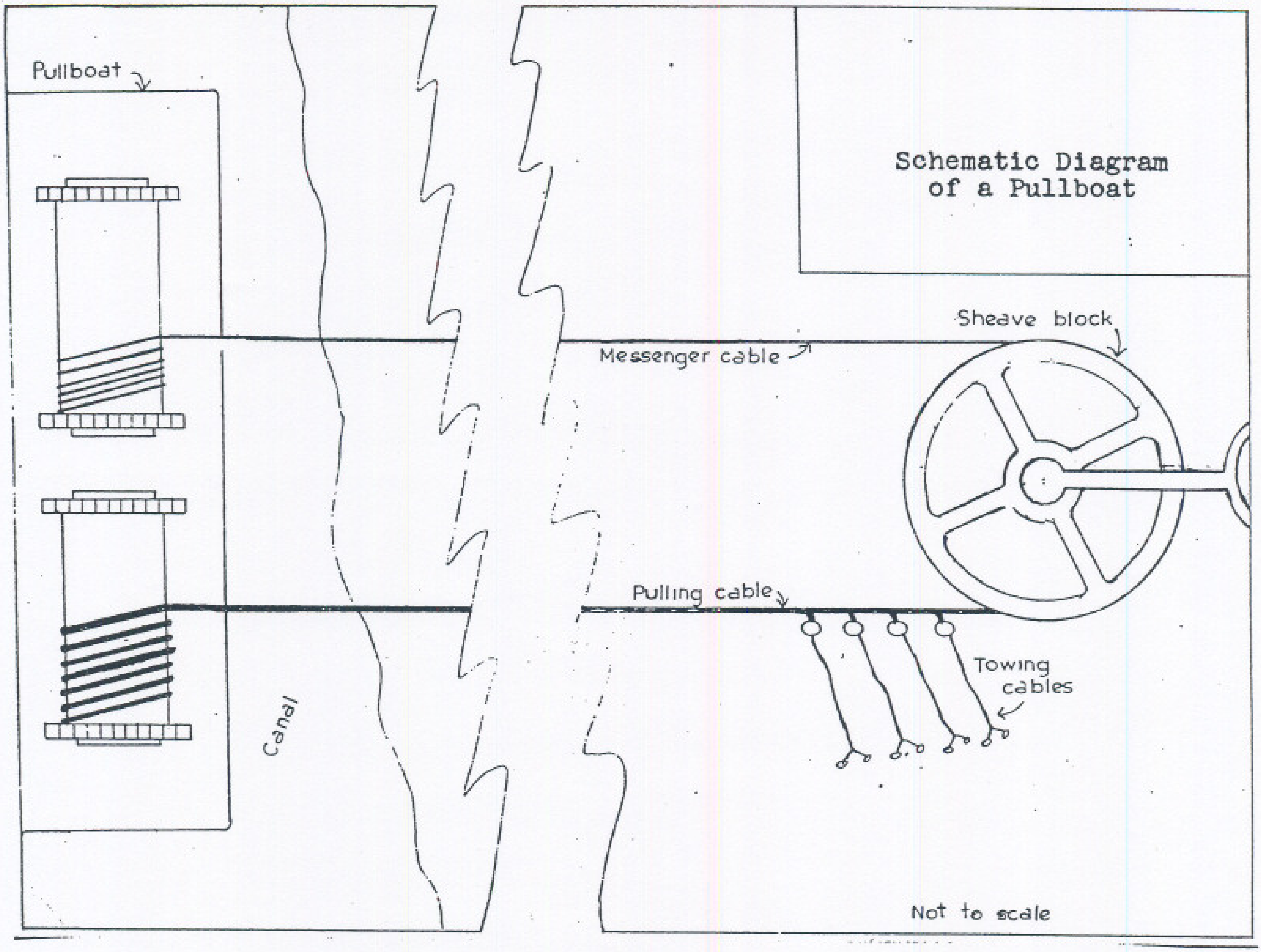


Figure 8 (Mancil, 1972:p94)

length of chain were inserted in the drilled holes and then hooked onto the pulling line (Mancil, 105). As was stated earlier, the logs were snipped to help them drag without digging into the mud. Most pulling cables could handle 6-7 logs (Mancil, 107).

One pullboat operation required a crew of five: an engineer, fireman, log rafter, wood-passer, and deck-man. The engineer and fireman operated the equipment. The deck-man unchained the logs as they came out of the woods and poled them to the rafter. The rafter formed up the logs into cigar-shaped rafts mentioned previously (Fig. 4) about 125 feet long. The wood-passer was responsible for supplying the pullboat with fuel wood for the boiler. One boiler typically required about three cords per day (Bryant, 237). Communication between the woods- crew and the pullboat crew was tough. Since the runs could be as much as 5000 feet long, a wire was stretched from a whistle on the pullboat along the length of the run to the sheave block. As logs were hooked to the pulling cable, jerks of the wire blew the whistle and signaled that the cable should stop or go (Bryant, 236).

As a tow of logs reached the waters' edge, the dragging logs had pushed up a considerable amount of mud and debris. To combat this, two things were done. First, the pulling was always started at the headwaters of a canal or waterway (Mancil, 112). This way, the crew would progressively move backwards out of the timber and the silted-in waters. Second, a "deck" of logs was built for the logs to skid onto when they reached the pullboat (Mancil, 112). This prevented excess debris from spilling into the water.

When the first run had been pulled, a second sheave block was carried to the back of the next run and bound to the marked tree. The sheave at the first run was left in place. The pulling cable was unspliced from the messenger cable and pulled back to the boat. The messenger cable was then carried across to the second sheave block, run through, and carried back to the pullboat. There it was spliced into the pulling cable and the pulling cable could be pulled to the back of the second run. In this manner, after pulling the first run the heavy pulling cable was never crossed with the lightweight messenger cable and damage to the cables was less likely (Mancil, 107). This method also saved time. These two cables were disconnected on the last load of logs from a run. By the time the pulling cable had reached the boat, the messenger cable could be through the next sheave block and ready to pull the big cable back out (Mancil, 107).

Railroad Logging

Many cypress swamps were logged in the pullboat manner, but at the same time some companies were using the overhead cable system on the railroads. Beginning in 1900, pullboat and railway operations overlapped somewhat.

1. Railroad Construction

Just as the canals and runs had to be prepared before the timber could be brought out, so the railroads had to be built first. Main lines and spur lines were built in a grid-like pattern over the swamp (see Figure 9) (Mancil, 121). The extent of preparation of the railway bed depended on the stability of the ground in that area and the expected traffic. The main lines needed to be more sturdy and so were often more expensive and labor intensive than spur-lines. In wet conditions the rails were built on pilings. The pilings were 12 to 15 inches in diameter and may have been driven to a depth of 60 to 80 feet before solid ground was found (Bryant, 315). Piles up to 30 feet long were made with one log and longer piles were made by sinking one log atop the other. In those cases cypress was used for the top logs and tupelo gum for the bottom (Bryant, 316). The pile driver crew used for these operations was usually made up of eight men who could cut and

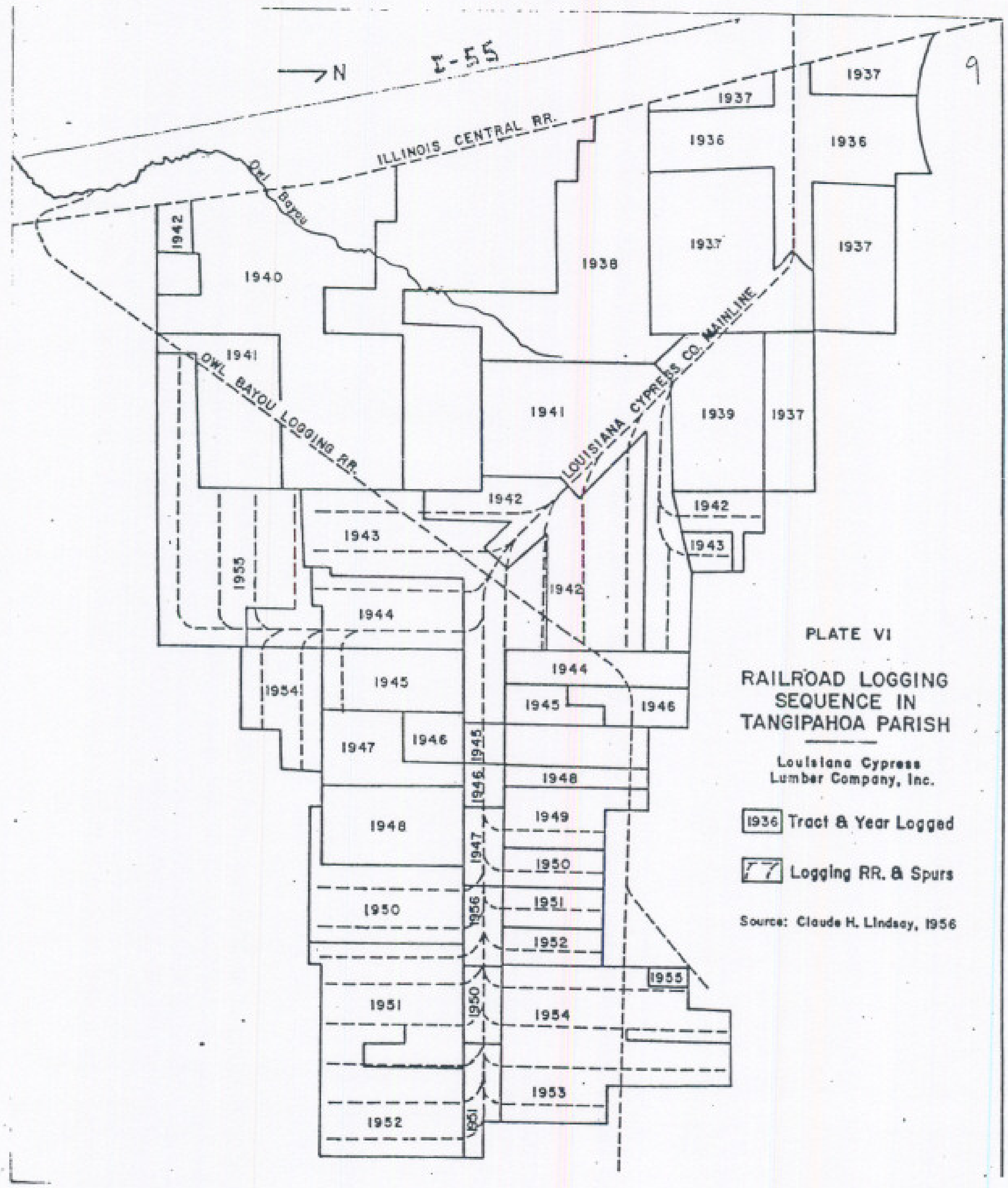


Figure 9

(Mancil, 1972:p141)

drive 20-36 piles per day, which was about 60-100 feet of track per ten-hour day (Bryant, 316). When conditions were soft but the company was not prepared to drive pilings, a technique known as "crib-work" was used (Bryant, 319). Crib-work called for a latticework of logs and, depending on the distance, was cheaper than pilings (Mancil, 121). When conditions were wet, as they often were, the spurs were built using cribbage beds on top of "dunnage" (Mancil, 121). Small, 5-6" diameter poles were laid lengthwise along the right of way to provide a bed for the dunnage. The crossties were laid on the poles and the rails spiked down (Bryant, 319). As the sawmill produced lumber, railcars were loaded with the dunnage (slabs, sawdust, etc.), and carried out to the ends of the lines in a special dunnage car (Mancil, 121). This railcar had sides that were hinged on the top and so could be opened at the bottom, allowing the dunnage to spill out. The dunnage was tamped under and around the crib-work to stabilize the railroad (Bryant, 319). In times when dunnage was slow coming from the mills, an early chipper called a "hog" chipped dunnage on site (Mancil, 121). The dunnage rail-beds were the cheapest method, but also the least stable. Mancil reports that in most cases dunnage beds were used only for the less traveled and lighter-weight traffic on spur lines (Mancil, 121). Sometimes a technique called "corduroy" was used (Mancil, 121) Bolts 4-12 inches in diameter and 10-12 feet long are laid across the right of way and staggered so that one bolt sticks out farther than the next (Bryant, 320). The idea was to have the bolts reach far enough outward so that more surface area gained better stability.

Railroad Logging

2. Log Removal

Once the lines were laid, several different methods for removal evolved. The trees were still girdled and felled in the traditional manner (Mancil, 120). The pulling distance in railroad logging was significantly less than pullboating. The railcars could not pull the logs out on the ground as the tethered pullboat had because the rails would not hold the railcar in place. This constraint required that logs had to be hoisted out by an overhead cable system like those mentioned earlier. The steam skidders that powered cable system were transported to the site by rail, then either set off the rail on pilings or left on the tracks, depending on the equipment of the operation (Mancil, 139). Though heavy-duty skidders were capable of pulling longer distances, the models used in Louisiana normally pulled distances of 600 to 800 feet and could sideline logs up to 75 feet from the main cable (Mancil, 140). This placed the spur lines around 1200 to 1600 feet apart. The remnants of these lines can still be seen today both from the ground and air (Mancil, 118). Mr. Harold Perrin of Ponchatoula, La., formerly of the U.S. Coast Guard, has noticed this to be the case in the cypress swamps of the lower Tangipahoa River and Manchac Swamp area (see figure 10). Mr. Perrin says the spur lines are 1200 feet apart in that area and can still be found today in some areas (Perrin, 00).

The Lidgerwood System

Some railroad operations were documented using an overhead cable system called the Lidgerwood system (Mancil, 118). The Lidgerwood system required a tall, sturdy spar tree at the head of the run and a tail tree selected at the back of the run (see Figures 11 and 12). The main cable was usually from 1 to 1¼ inches in diameter and spanned a distance of 600 to 750 feet

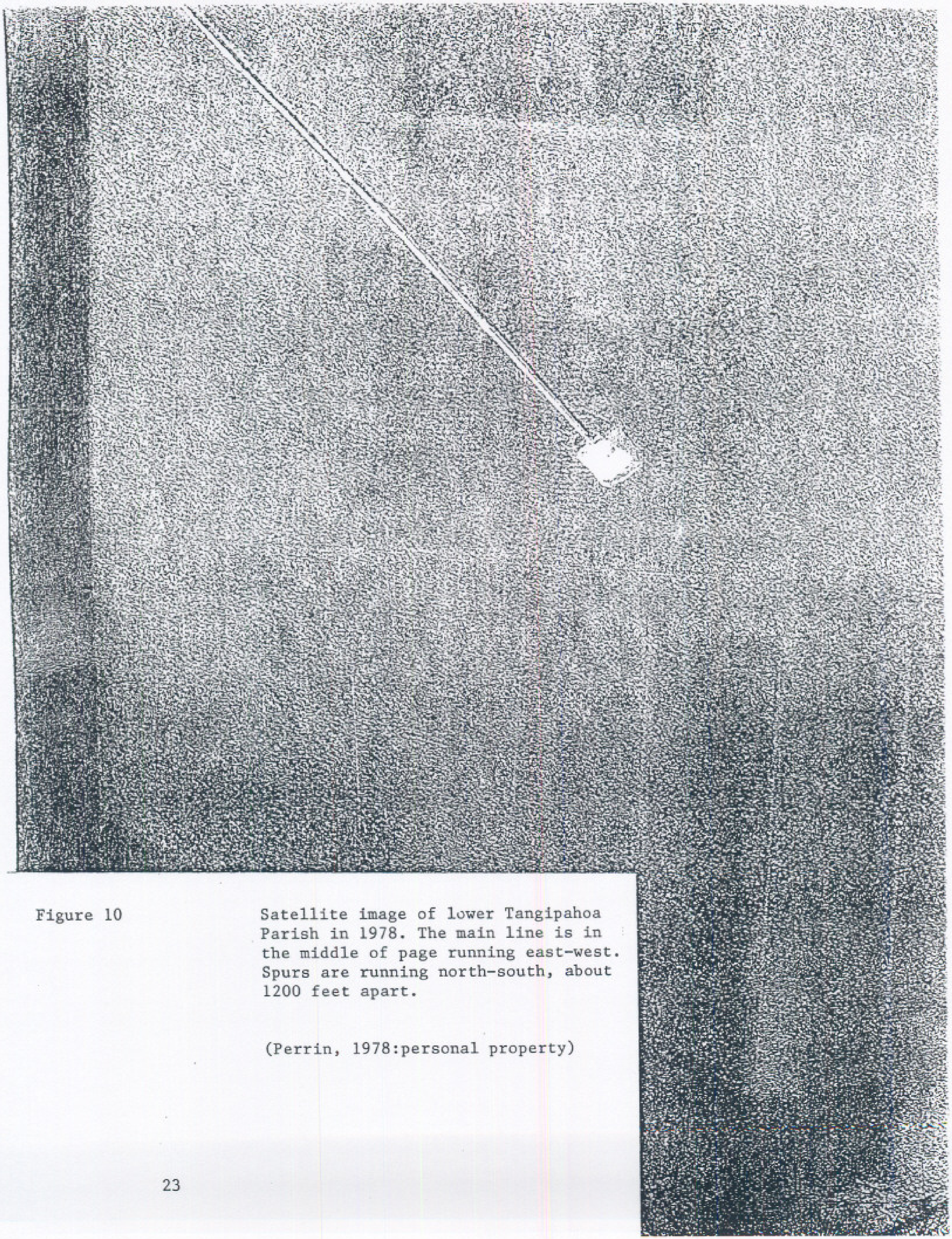
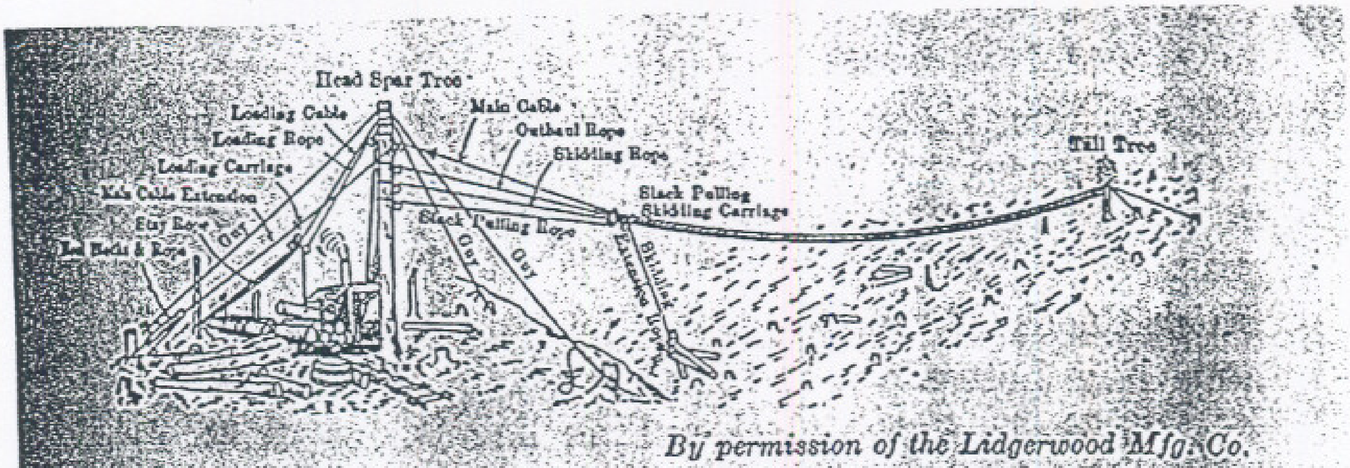


Figure 10

Satellite image of lower Tangipahoa Parish in 1978. The main line is in the middle of page running east-west. Spurs are running north-south, about 1200 feet apart.

(Perrin, 1978:personal property)



IG. 64.—A Cableway Skidder, showing the Arrangement of the Lines for Skidding and Loading.

Figure 11 (Bryant, 1923:p.217)

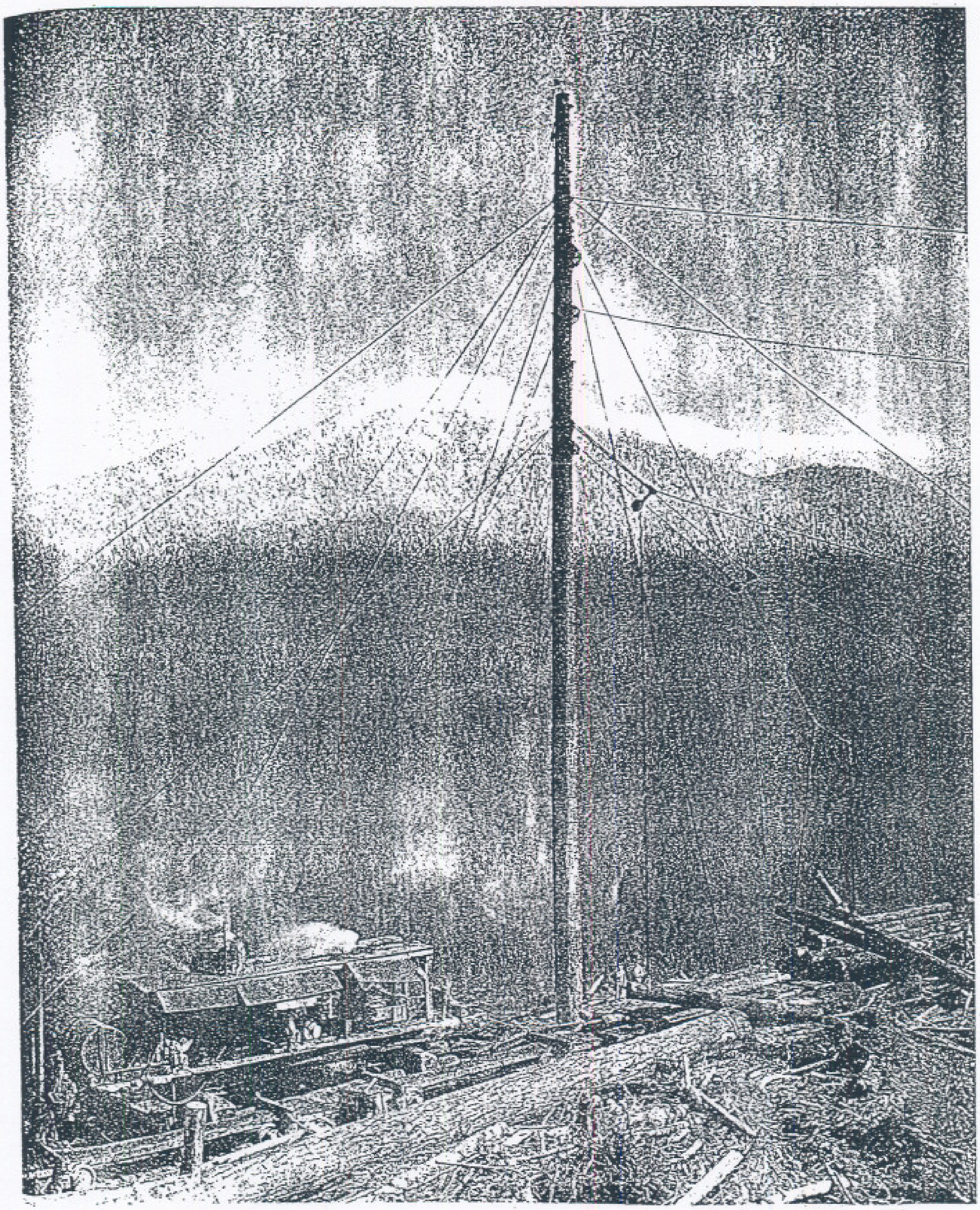


Figure 12 (Andrews, 1956: p.63)

A Spar tree in the Pacific Northwest in the early 1900s.

(Bryant, 216). The head spar trees were approximately 1000 feet apart along the railroads and were required to be at minimum 18" in top diameter 60 feet above the ground (Bryant, 216). The spar trees were climbed and cut at the desired height before the rigging was erected to make them more stable. The tail trees were required to be at minimum 18" in top diameter 30 feet above the ground (Bryant, 216).

The rigging consisted of the main cable, a skidding cable, inhaul-outhaul ropes, securing guylines, and the necessary block and tackle. The spar and tail trees were anchored using guylines to surrounding structure like stumps. The main cable was stationary. It made a wrap around the tail tree and was secured on a stump, like rope to a tent peg. Near the spar tree, the main cable hooked into a buckle called a clevis. The clevis was attached to the spar tree by an extension cable, which wrapped the spar tree and secured like a guyline to a stump. A trolley called a "bicycle" rode the main cable and was responsible for carrying the logs to the rails. An outhaul rope and skidding line controlled the movement of the bicycle. The outhaul rope was 5/8 to ¾ inches in diameter and ran from the drum on the engine, through a block at the top of the spar tree, through the bicycle, through a block on the tail tree, and back to the bicycle, where it was attached. When the drum turned such that the outhaul rope was retrieved, the bicycle was pulled outward. Similarly, the skidding cable extended from a drum, through a block on the spar tree, and terminated at the bicycle (Bryant, 218). In this manner, the main cable never moved, but the drum was used to both send and return the bicycle as it rode the main cable (Mancil, 118). When operators used the Lidgerwood system with the spar tree as opposed to the skidders with a steel spar tower, the skidder would remain at one set for as long as possible due to the time invested in setting the rigging on the spar tree. A full circle could be logged around the spar tree by changing tail trees. An area of 25 to 40 acres could be logged at one set (Bryant, 220).

This gave the site a radial pattern that can be seen from air, much like the methods previously mentioned, as logs were brought in from all directions (Mancil, 134).

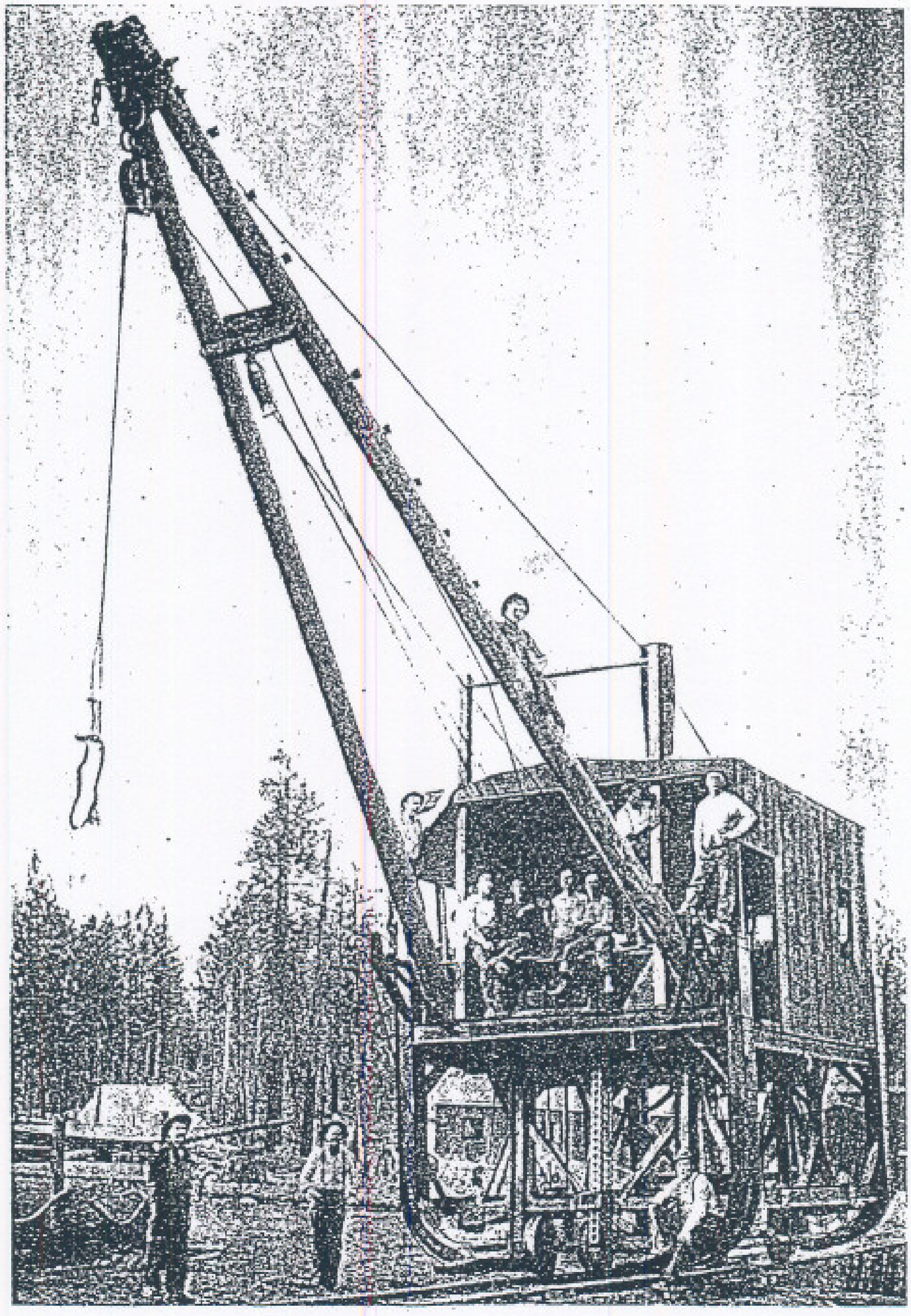
As the first decade of the 20th century wore on, the developing industrial logging methods made cypress logging a very lucrative business. The companies made improvements on the efficiency of their operations.

One such improvement was a simply a skidder-loader that had a permanent steel spar tower mounted on the railcar (see Figure 13) (Mancil, 134). One such model called the McGiffert self-propelling steam loader set the standard at 50 railcars loaded with cypress scaling 240,684 bd.ft. in 9 hours (see Figure 14) (Brown, 204). The steel spar tower saved time because a suitable spar tree did not have to be selected and the rigging only had to be taken down from the tail tree when changing sets. It took a full day to remove the rigging from the spar tree, move the skidder, and rig the tackle at the next set. The steel spar took only 15 to 30 minutes to take down and set up at the next set, the only additional time required being the transport to the next set (Bryant, 216). The steel spar skidder only logged an arc of from 275 to 300 degrees because of the difficulty of operating the machinery behind the tower, but more sets per unit time made up for that loss (Bryant, 220). Many logging operations lost time getting the skidder car off the same set of tracks the railcars were on. Early skidder systems had to be placed on pilings or jacked up above the tracks, turned toward the woods, and set down on a prepared rail platform. The skidder could then be rolled out of the way of traffic on the spur line (Bryant, 219). To shorten set time, some skidder cars were jacked up over the tracks high enough to allow room for the cars to pass beneath, then lowered back to the rails for transport (Bryant, 219). The operation was quickened still when a two-level skidder was designed that allowed the entire train to pass beneath it. The

Figure 13

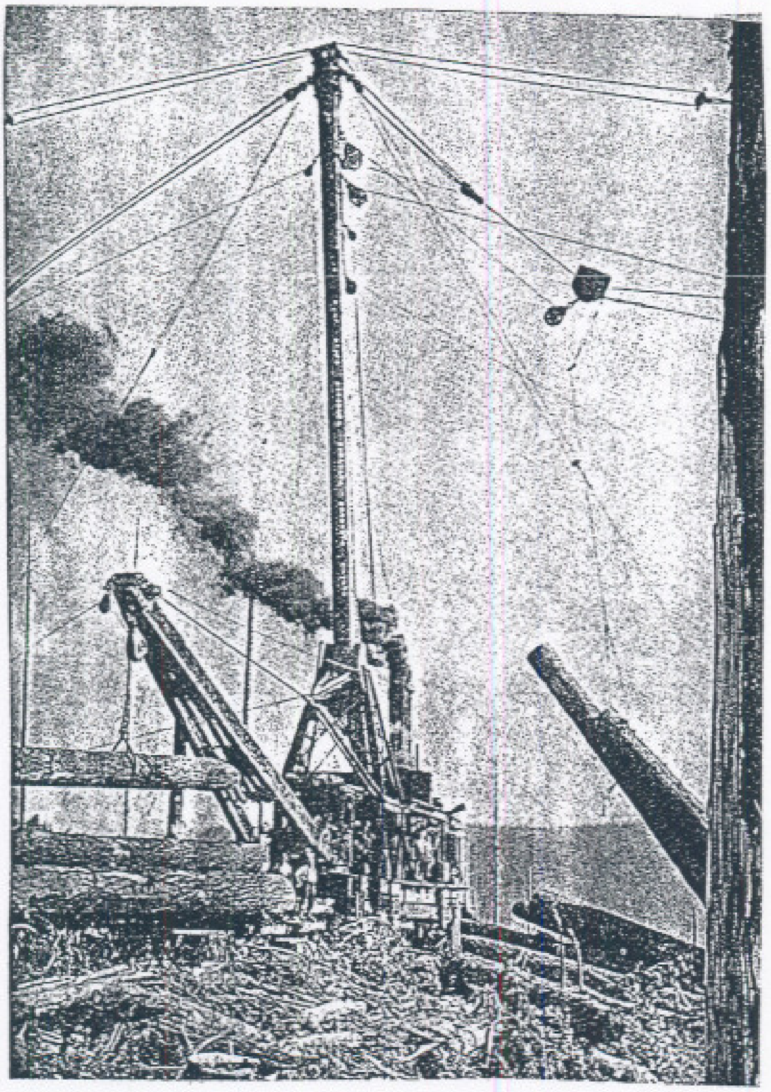
This Model was used in the Pacific Northwest.

(Andrews, 1956: p159)



McGIFFERT MOBILE LOADER AT WEED—1907. Machine rested on 4 shoes which were set down on ties. Wheels were lifted and empty cars passed underneath loader. Operator had to be "catty" to drop log on swing at proper time on far side of car. Loaded all from one side, averaging 100,000 feet a day. Loader had crew of 6—two hookers, top loader, engineer, fireman and toggle knocker. (Photo Parsons Collection, Collier State Park Logging Museum)

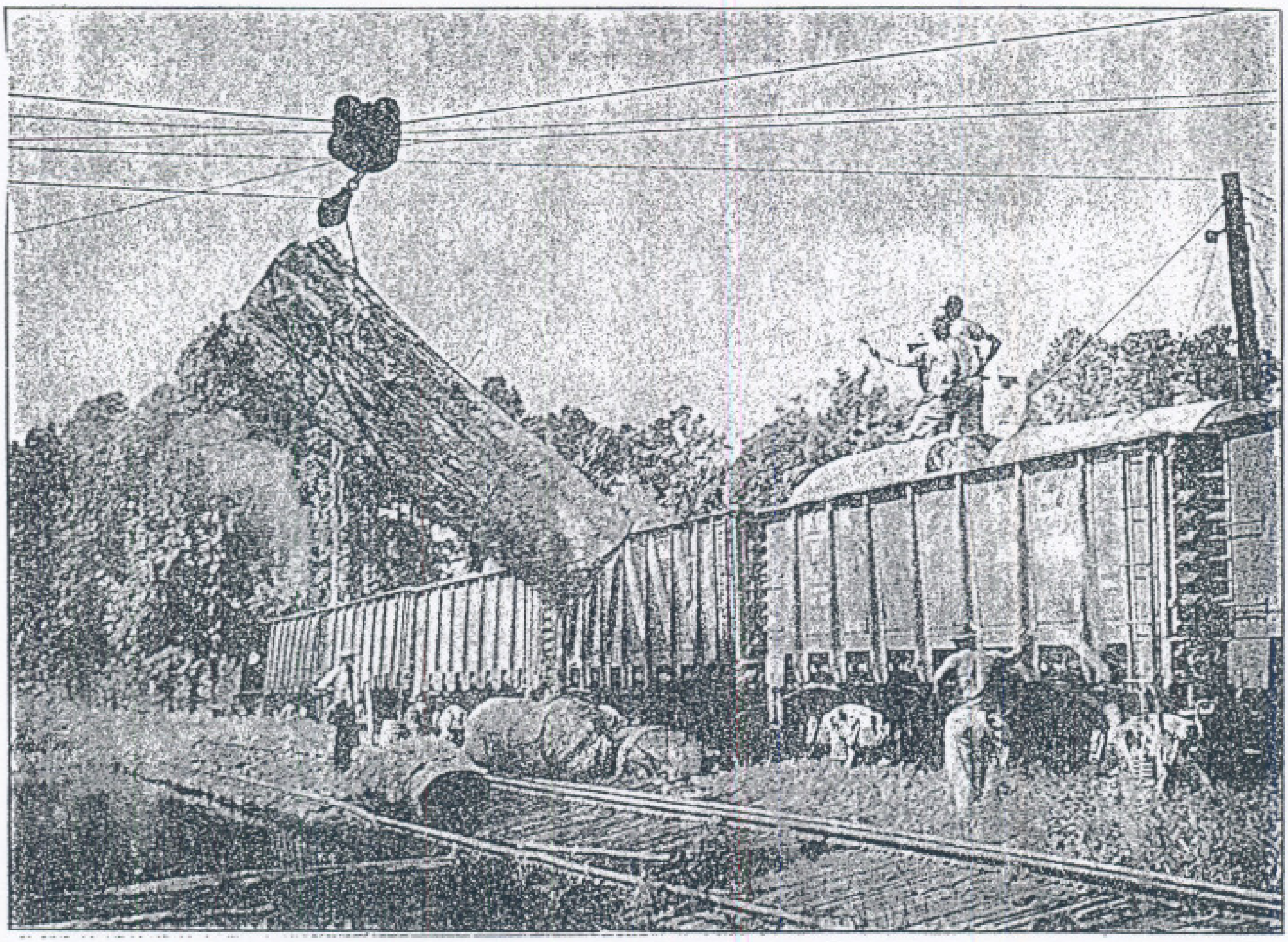
Figure 14



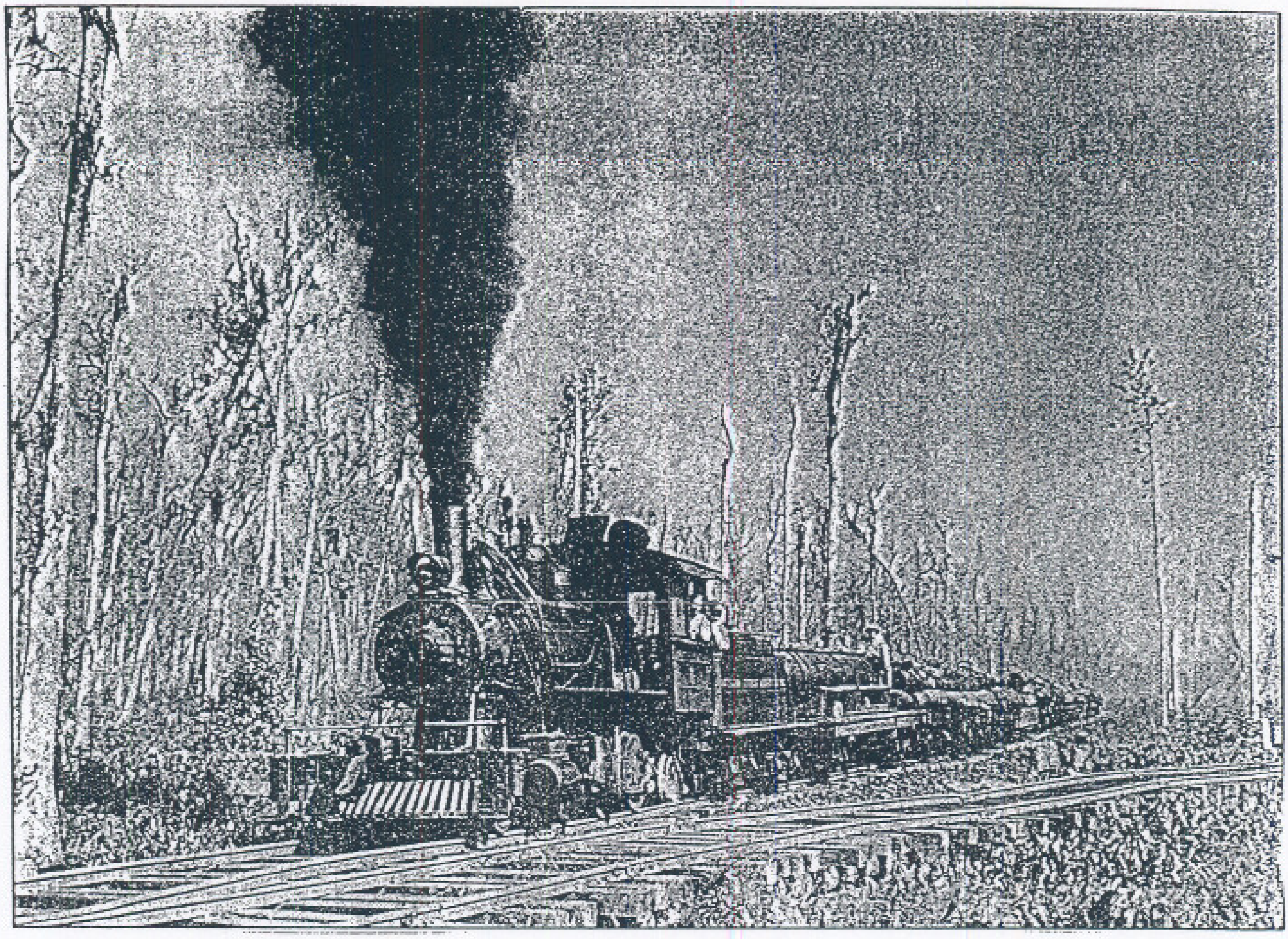
The steel spar tower replace the tree spar because it was quicker to ready for hoisting and allowed for longer distances to be logged. (Labbe & Goe, 1961:p.179) skidder was built like a two-story house with the drums and boilers on the second story. When the skidder was in place, two rail extensions lowered down from the bottom level onto the rails at the site and the train could climb this slight incline and pass below the skidder. The empty cars were backed underneath the skidder-loader until the last empty car was aligned for loading. Then the cars were loaded until the last car in the train had passed through (Mancil, 134). When the skidder was ready to move on to the next set, the rail extensions were elevated and secured. These operations where the skidder did not have to be set off the tracks pulled in less the radial fashion and more a straight line perpendicular to the rails. This method was both more efficient in removing the timber and quicker. As mentioned earlier, the spur lines were often 1200-1400 feet apart because these cable systems pulled from 600-800 feet deep (Bryant, 216). The sets on the spur lines were about 150 feet apart because the cables could not effectively sideline logs 75 feet away from the main cable (Bryant, 220).

In an interview conducted in 1996 by The Ponchatoula Times, Lloyd Ballard talks of his days as a train engineer in the swamps south of Ponchatoula, La. Mr. Ballard said the crew of about 50 men would leave for the swamps at 6 am and return home around 5 pm. The crew worked six days a week and he was paid $ .65 cents an hour toward the end (1950s). Mr. Ballard said WW II prolonged the job of cutting the area and the last of the cypress was logged in 1955. An overhead cable system was still used to skid the timber. A spar tree was used in place of the steel tower on that operation, which is interesting since it was late in the 20th century. When the train reached the mill, the logs were rolled off the cars into a millpond or unloaded by a cable system (see Figure 15) and then floated until needed. Mr. Ballard said he shoveled coal at a heavy pace on the trips to the mill to keep the steam up. The way the steam engine worked was the boilers held a series of pipes surrounded by water. The heat from the burning coal was sucked into the pipes

Figure 15



The logs were sometimes rolled off the cars or hoisted, as seen in this photo of a train in Ponchatoula in the early twentieth century. The logs were dropped in the millpond, seen at right, and floated until needed. (Perrin J.,2000:p.133)



This load is coming out of the swamp below Ponchatoula. Taken in the early 1900s.

(Perrin,J. 2000: p.133)

and heated the water to steam. The force of the escaping steam served as the power source (McMahon, 1-4).

Mancil cites a few instances in which railroad logging and the pullboat were combined. The railcar pulling drums and steel spar tower were mounted on a barge. The cable system was rigged to a tail tree at the end of the run as in the railroad manner, and when a run was completed, the rigging was taken down and set again at the next run (Mancil, 146).

The Industry Peaks: Less Valuable Stands Change Logging Methods

Historical records show that Louisiana cut more lumber than any other state in 1914 at 3.95 billion board feet. Three years later Louisiana cut a state record of 4.21 billion board feet in response to World War 2 demands (Norgress, 1053). Southern yellow pine was beginning to be cut and is included in those numbers, but builders much preferred the more resistant cypress in place of pine.

The majority of the virgin cypress in Louisiana was logged out by the 1960s. Pullboating and railroad logging were the technologies that granted access to those resources. Mancil reports seeing Louisiana's last pullboat operation used by Fernwood Industries in the Blind river area of St. James Parish as late as 1961 (Mancil, 112). The two methods seemed to overlap each other even within the same companies (Mancil, 144). The canals built to access the timber were expensive to build and maintain. Mancil reports that expenses ran many operators out of business (Mancil, 144). At the same time, however, building railroads was no small task. The method chosen seemed to depend largely on accessibility. If natural waterways allowed access and the canal-construction mileage was low, pullboating was cheaper (Mancil, 144). The railroad logging methods once perfected tended to be more efficient than the pullboats because more logs could be pulled each day (Mancil, 146).

As the pure cypress stands became far less common, the last logging operations often operated in mixed bottomland hardwoods and less dense cypress stands. These other hardwoods evidently did not bring the price the cypress did and the less dense stands were too thin to pay the costs. A method called "dike or levee floating" was used because neither pullboating nor railroading was thought profitable (Mancil, 146). This method was last used in St. James Parish in 1963 by the May Brothers, Inc. and Harless Lumber Industry (Mancil, 148). A levee about four feet high was erected around an area between 1000 to 2500 acres. The area was then flooded with pumps and rainwater while crews cut out float roads that could be accessed by small boats. A skidder-loader was brought in on the canal created by the levee construction. When the area had flooded, the crew rafted the logs and then towed them to the loader (Mancil, 159).

Remnants of the Past: Sinker Cypress

So ended an era. The only remaining standing cypress harvests are made of second growth, less resistant "grow-back" cypress and are used for products such as crossties. It should be mentioned that a niche market was created by the cypress' natural tendency to sink when green. Today the submerged logs known as "sinker cypress" are recovered and sold to cabinetry and furniture shops. Mr. Shelby Stanga of Ponchatoula, La. recovers sinker logs in the Tangipahoa River, Manchac Pass, and surrounding areas of Lake Ponchartrain. He uses a large, A-frame pontoon vessel designed such that a cable can be lowered from the center beam formed by the A-frame, between the pontoons and hooked to the logs (see Figure 16). The pontoon boat has no motor and is guided by an aluminum boat to the lake. Mr. Shelby finds the logs by diving with a simple

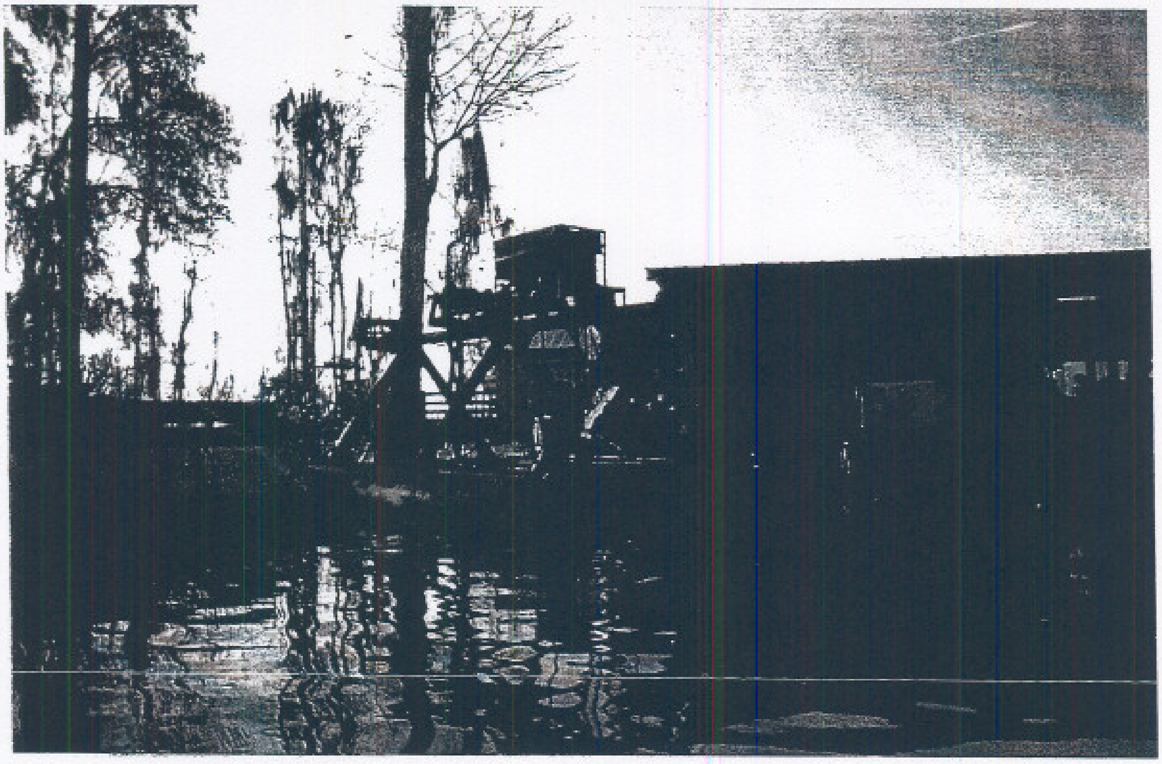


Figure 16
This is a photo of a pontoon vessel very similar to Mr. Stanga's. Taken on the Tangipahoa River.

(Johnson, 2000)

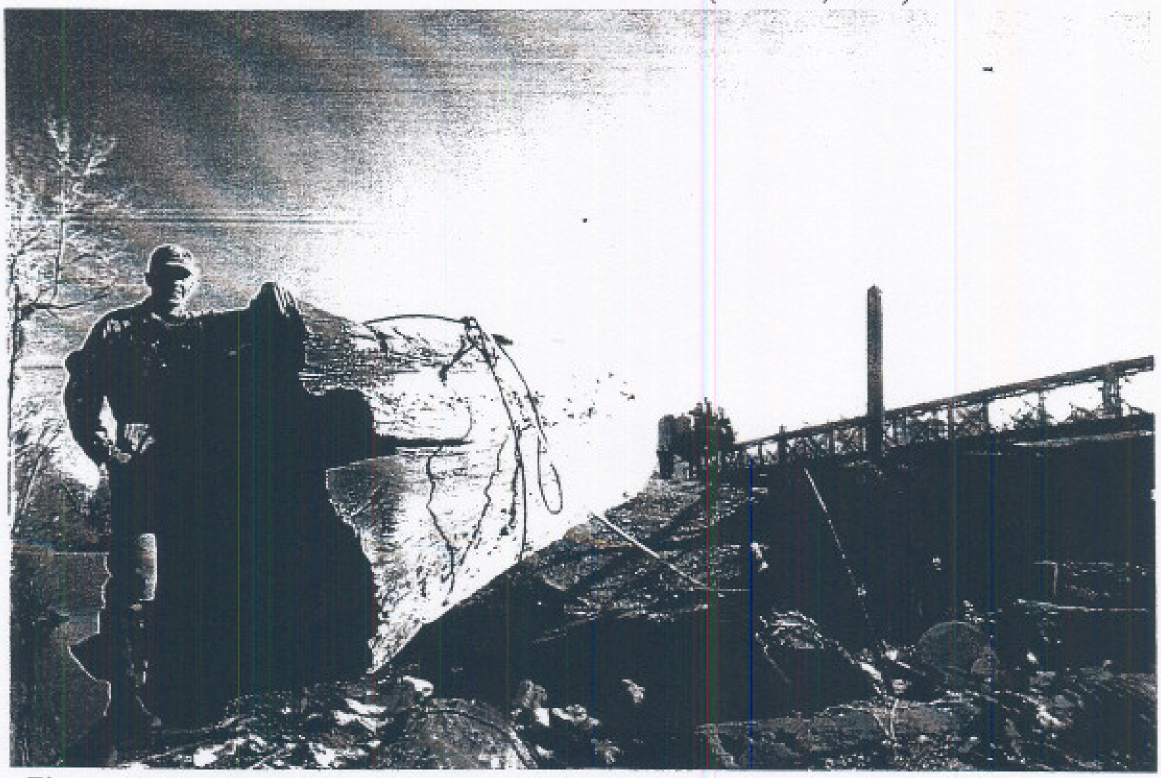


Figure 17
Luke Watkins stands next to a recovered sinker log on Mr. Stanga's barge. The cable that hooked to the crane is still attached. The carriage and saw are at right.

(Johnson, 2000)

mask and fins. When he hooks into the logs, he binds the cable tight with the winch and lets the wave action of the lake break the logs loose from the mud bottom. Finding and securing the sinker logs is done in the summer and early fall while the water and weather is agreeable. Mr. Shelby may stay out on the lake in a houseboat for several days while raising enough logs for a load. When a load is ready, he pushes the pontoon and secured logs with a 9.9 horsepower motor on his bateau and can handle about 12 logs averaging 25" in diameter and 14-20 feet long. He finds most logs in the lake and then pushes the logs to a floating mill just inside the mouth of the Tangipahoa River. The mill is on a large barge with a crane for handling the logs. A circular saw can cut the wood into lumber (see Figure 18), but usually the logs are taken to a more efficient mill upriver. Mr. Shelby sells his logs to cabinet-makers like Richard C. Amacker of Poplarville, Mississippi. Amacker's website quotes sinker cypress at $4.50 per bd.ft. of one-inch thick planking (CustomCypress.com).

Conclusion

The evidence that remains of the extensive harvesting done in the cypress swamps is subtle. The fisherman sees a cut in the canal bank, once a pullboat run, and he fishes the out-flowing water. The hunter now uses the unnaturally straight and clear lane through the woods, once a spur line, as a go-devil run.

These remains say little of the evolution of the cypress industry. Through methods like the Lidgerwood cable system and the pullboat system proper, entrepreneurs of the early logging days made the supply of lumber possible for a young, booming America. While the difficult nature of the vast cypress swamps proved to many early businessmen to be a challenge, a strong economy and World War I served as the impetus that would see the cypress logging industry evolve from

Figure 18

The carriage and circular saw on Mr. Stanga's barge. The crane used for lifting the logs is directly behind this viewpoint.

(Johnson, 2000)

the seasonal, river-dependent floating days to the non-stop, "can to can't" (see) days of the industrial period. The cypress-logging era stands as an important chapter in the history of the development of timber harvesting practices.

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