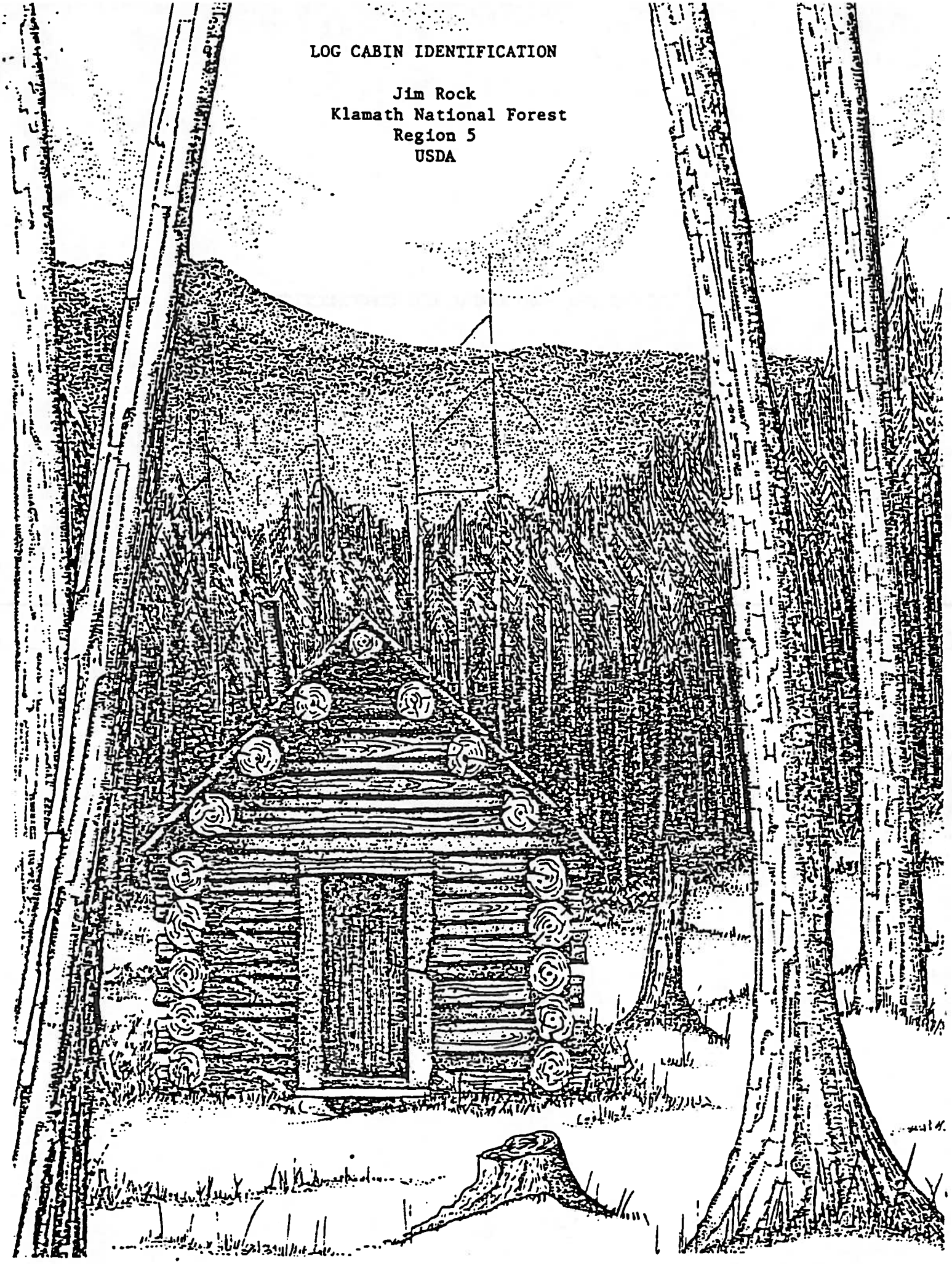
LOG CABIN IDENTIFICATION

Jim Rock
Klamath National Forest
Region 5
USDA



INTRODUCTION

Round log construction was introduced into the Americas by Swedes and Germans (Jordan 1978:33; Weslager 1955:263). In 1638 Swedes settled on the Delaware River and built cabins using horizontal log construction techniques. Log houses were also being built in New Sweden, Maryland by 1669 and in North Carolina by 1680 (Glassie 1963:5; Kniffen and Glassie 1966:58; Weslager 1969:148). Eighteenth century Germans in Pennsylvania used horizontal log construction techniques in house building that are common in Bohemia, Moravia, and Silesia today (Glassie 1963:5; Kniffen and Glassie 1966: 58-59).

In Europe, round log construction was the earliest form of horizontal log construction, but was quickly refined to make better and longer lasting structures. Early Roman invaders of Germany reported seeing log structures made with square-hewn logs (Bramwell 1976:60). Hewn logs, squared logs, and planked logs appear to have been refinements that developed from round log construction and quickly replaced round logs in the majority of cases in Europe and the America.

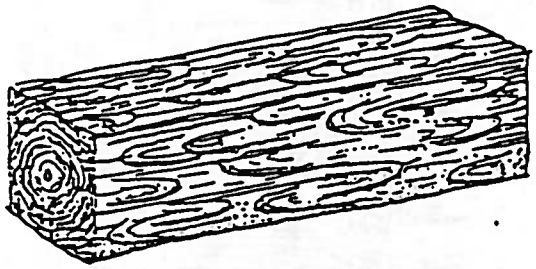
Another method of construction, known as half timbering, was less common. It utilized heavy framing which was usually horizontal, but was sometimes vertical or diagonal. Spaces of up to two feet between the framing were filled with various materials (Kniffen and Glassie 1966:41). This style of timbering was earlier used in Britain, France, Germany, and Sweden. And was intorduced in New England by English settlers. This style of log construction spread throughout Virginia and German Pennsylvania and was introduced by the Pennsylvania Dutch into Ohio, Wisconsin, Missouri, and Texas during the 19th century (Kniffen and Glassie 1966:41, 43).

Half round or semilunate horizontal log construction was most often used in the Deep South, but was supplanted by round log construction in Texas during the Great Depression (Jordan 1978:35). I assume this is true in the majority of areas where log construction was once again employed after it had fallen into disuse.

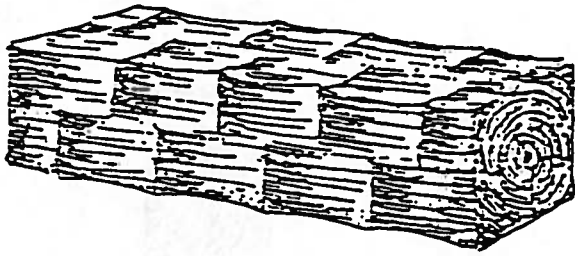
Two-sided hewing is called "planking." This differs from rough hewing in that the log is shaped to about 5" x 7" in dimension and the bark usually is retained on the top and bottom of the log (Jordan 1978:35-56). Furthermore rough hewing usually removes only a small amount of material from each side of the log and can be done after the logs are in place, while planking must be done prior to placement (Jordan 1978:36).

Square hewing or four-sided hewing is often found in top and bottom logs of structures--the sill and the plate. Square-sided hewn logs are prepared before they are placed in the structure (Jordan 1978:36). Square-hewn logs are usually made with a foot adze or broad axe, though occasionally a whip saw, or today a chain saw, is used to square timbers. (Jordan 1978:35).

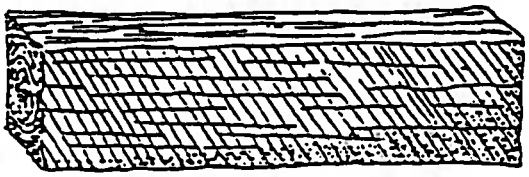
Rounded logs may be cut in half or split lengthwise to produce half-round or semilunate logs. These half logs can in turn be hewn to make them resemble planks. The flat side, split side, or cut side is placed toward the interior of the structure to provide more space and a smoother interior surface (Jordan 1978:36).



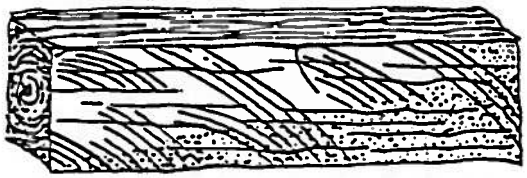
adzed beam



broad axed

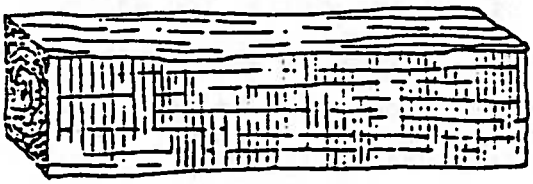


whip saw



chain saw

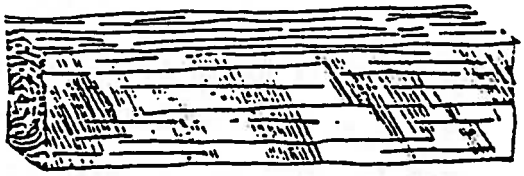
MILLED LUMBER



milled st saw

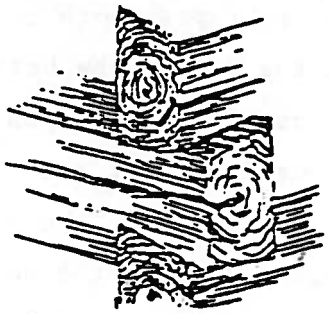
milled circle saw

marks of an up &
down saw millsaw



pit saw

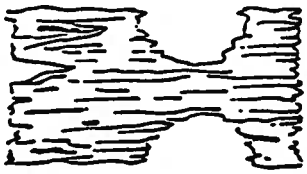
half-dovetail



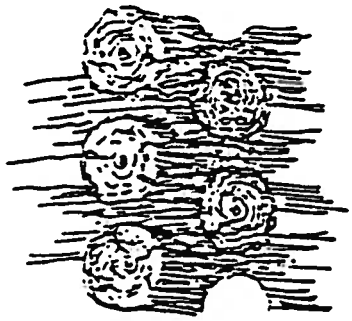
half-dovetail notch

Half-Dovetail Notch - This notch is often called a "mitre" dovetail notch. The half-dovetail notch varies from the full dovetail notch in that it has a splay or slant only on top of the log where it slopes upward. The bottom of the notch is flat rather than sloping and is called the tongue of the log. Even though this corner notch is not as strong as the full dovetail, it still forms a joint that is tightly locked and drains water outside the building. The half-dovetail is more easily made than the full dovetail, since it can be partly sawed rather than completely chipped out. The half-dovetail is usually found on hewn or squared logs (Bramwell 1976:61; Jordan 1978:54; Kniffen 1969:3; Kniffen and Glassie 1966:48, 56: and Weslager 1969:338-339).

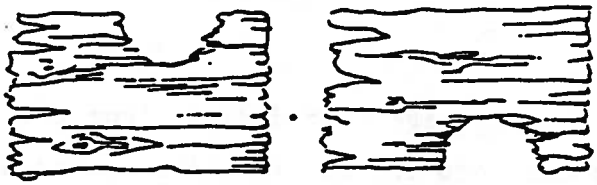
Half dovetailing developed from full dovetailing, and is found most often in West Virginia, Kentucky, Virginia to the Cumberland, and even Ohio. It is also known in north Texas as the "Missouri notch." It originated in Czechoslovakia (Glassie 1963:10; Jordan 1978:54; Kniffen and Glassie 1966:63).



double saddle notch



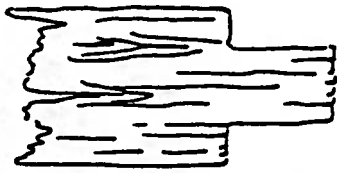
saddle notch



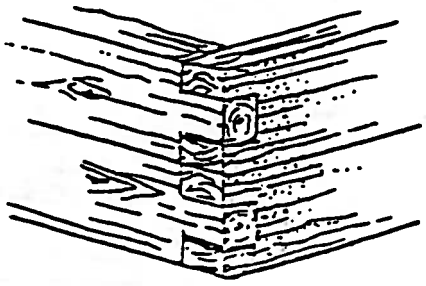
single sadle notch

sharp V so that the tapered, chamfered head of the lower log fits into the notch of the log above it. It is most often used on round logs, but can be found on shaped or hewn logs. If the log is hewn, this notch is shaped like the gable end of a house, and for this reason, it may be called a "roof topping" notch. The log end on the tongue, or crown, appears pear-shaped. This notch, though not as strong as a dovetail or saddle, sheds water rather well and usually is cut close to the end of the log to form a square corner (Jordan 1968:65; Kniffen 1969:3; Kniffen and Glassie 1966:44-45; and Sloane 1964:25; Weslager 1969:338-339).

The Schwenkfeldens, a German religious sect, developed the V notch in Europe and brought it to America as part of their cultural package. This Silesian sect introduced its use into Pennsylvania in the 1730's. From Pennsylvania this style spread into Appalachia, the Ohio Valley, western Maryland, Virginia, Kentucky, Indiana, Illinois, Missouri, and Texas. For the most part it was spread by people of German heritage (Glassie 1963: 10; Jordan 1978:85; Kniffen 1969:3; and Kniffen and Glassie 1966:54, 59).

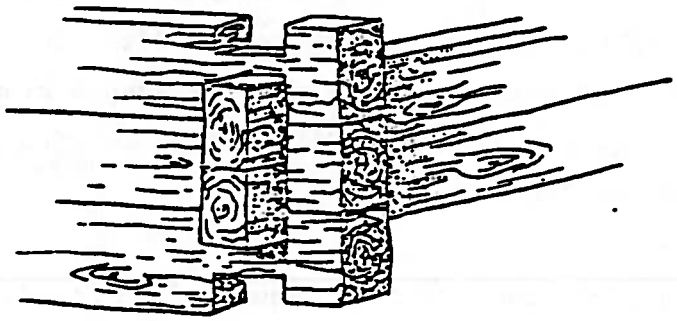


square notch



square notch

Half Notch - This corner notch is a variant of the square notch and is not self-locking. It is often seen in more recently constructed cabins. The half notch may be used with half logs, and if this is the case, the end of the log may look like a half moon (Kniffen 1969:5; Kniffen and Glassie 1966: 56; and Weslager 1969:339).



double notch

Double Notch - The double notch is similar to the square notch, but differs in that it extends beyond the corner of the structure and thus forms a locking joint. This notch retains water and will rot the logs more rapidly than many other notches. It is a rare notch in the United States, and is best known in Lincoln logs (Bramwell 1976:61; Jordan 1978:71; Kniffen and Glassie 1966:57; and Weslager 1969:339).

Scandinavians and Finns introduced the double notch into the Upper Great Lakes states in the 19th century. In Europe it is found from the Alps to the eastern European plain as well as in Norway and Russia. This style is also found commonly in northeastern New Mexico, but here it was introduced from Mexico where it had undoubtedly been brought from Spain (Bramwell 1976:61; Glassie 1963:11; Jordan 1978:65, 68, 71; Kniffen 1969:5; Kniffen and Glassie 1966:57; and Weslager 1969:152-153).

Semilunate Notch - This notch is used with half round timbers. It is very similar to a full dovetail joint and could also be called a half saddle notch (Jordan 1978:74).

This is the only notching style that may have been invented in America. It was used early in half log construction in the Deep South and later in east Texas (Jordan 1978:74).

Chinks and Chinking

The chink is the space left between two logs in the wall of a cabin. Chinking is the material used to fill the spaces between logs. Chinking material may be the tree's bark, stone, wood, clay, mud, or mortar. Chinking may also be wooden sealing boards applied by nailing horizontal strips of wood over the chinks (Glassie 1963:9; Jordan 1978:43; and Wigginton 1972:104-106).

Floors

Cabin floors were often packed earth or clay, but in some cases wooden floors were made. Split logs or puncheons were made specifically for this purpose. A puncheon is a short, heavy log split one to three times to form a smooth surface. These logs were then placed on the earth and chinked or pegged, or both, to hold them in place (Connor 1949:114).

Roofs may lack a ridgepole entirely. Construction of this type of roof requires adjacent rafters on opposite slopes of the roof that are lap-jointed or mortised together at the roof ridge. These are secured with a pin to the plate and to each other. These rafters may be hewn, sawed, or poles and they are spaced at about two-foot intervals. Lathing between these rafters at right angles adds additional support. The pitch of a roof of this type may be around 45°. Vertical studs may be employed to add support to the gable end rafters. Clapboards, either horizontal or vertical, enclose the gables (Jordan 1978:87).

Conclusion

The origins of log construction techniques known in the midwest, eastern, and southeastern United States are described here. It will be very useful to know whether ethnic origins for construction techniques were retained by migrants who moved into the western United States. In the case of cabins located on National Forest land, interviews and historic records research may either support or challenge the idea that specific techniques were retained by ethnic groups. It may be true that by the time settlement was taking place here in the West, ethnicity had been filtered out of log cabin construction techniques, and that a true melting pot of cultural ideas was present.

Certain construction techniques may be confined to specific time periods in the west, while others may be represented from the earliest years to the present. Some construction styles may be associated with particular types of settlement in a given area. For example, hewn, dove-tail notched log structures may correlate primarily with a long-term year-round habitation sites, while round-log, square notched structures may reflect the builder's intention of using the site only temporarily or seasonally. Some construction styles may also correlate with certain functions. We might expect, for example, that trapper's line cabins, built to provide shelter to one man for only a few days per year, would be built small and sparingly, exhibiting such characteristics as round logs and Anglo-western roofs. We might expect early miner's cabins (particularly those on unpatented claims) to have been constructed in a similarly frugal manner. Homestead farm houses, on the other hand, would be expected to be larger, to be built with more care, and to have several rooms for family accomodations.

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