

Wooden Buildings: 1790 to 1850

Chip McPheeters
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Dr. McDaniels
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Pledged: Chip McPheeters

Introduction

Of the materials used in constructing buildings between 1790 and 1850, the time period characterized by American expansion westward, wood played a role of increased importance. This paper will deal with the basic buildings of wood and their structures in the context of the time period mentioned.

One of the most important factors in the initial analysis of wooden buildings is the recognition of the log cabin myth that historians originally purport ed as truth. Though by and large the brunt of the myth touches upon an earlier time period, it seems necessary to recognize as fact. "Log dwellings were never built by the English or Dutch in their earliest colonial settlements. "¹ Further, "English and Dutch alike proceeded from various temporary types inspired by English or Indian models to framed houses. "² In this light, the evolution of shelters can be correctly followed without the certain shading of the facts that have been given.

The use of wood, even in the first primitive shelters of the 1600's, the "...wattle- daub and thatched huts, and even more primitive 'wigwams' of branches, rushes, and turf... had their counterparts in contemporary England. "³ In fact, "no significant method of wood construction employed in America before 1850 was developed here."⁴

Through the European influence three methods of building in wood are recognized as characteristic of the period, "...framed walls; walls of closely set vertical timbers, and with walls of horizontal timbers."⁵

The frame houses have the earliest origin, appearing "within a decade after settlement in each colony"⁶ in the 1600's.

Frame Houses

The house frame was made of sturdy and lasting oak timbers which were hand hewn using a broad-axe. Though this method seems laborious, it was more efficient than the steam powered circular saw used in the early eighteenth hundreds, which required "transporting the oak log to the saw mill and bringing back the heavy beam (which) was too much work."⁷

Ten types of framing timbers were utilized and exist even today, two centuries later.

They are, from foundation to ridge-pole; sills, posts, girts, summer beams, joists, plates, rafters, purlins, braces, and collars, the last two being associated with ridge-pole construction.

The following are brief definitions of the above mentioned types of framing timbers:

Sills- good sized beams resting on the tops of the foundation walls.

Posts- the main vertical supports characterized as "chimney posts or corner posts."⁹

Girts- the main horizontal supports of the second floor.

Summer beam- a heavy beam spanning the middle of a large room, usually from the end girt to the chimney girt."¹⁰ Four beams characterize an ordinary house.

Joists- small beams, three inches by four inches, lying twenty inches apart from each other, to support the floor boards.

Plates- "horizontal timbers at the top of the wall on which the rafters rested."¹¹

Rafters- slanted beams that support a roof.

Purlins- horizontal beams set between the plate and the ridge-pole.

Collars- tie and brace two rafters together.

Frame houses were relatively simple, "...rectangular houses of one or two rooms in plan: a hall, serving also as kitchen, and, if possible also a 'parlour', containing one of the beds. Each house had a steep gable roof, a single great chimney and stairs winding up in front..."¹² In some cases, a lean-to was added at the back of the house and served as a kitchen with a separate fireplace "added to the back of the central chimney mass"¹³ used as a baking oven. Three basic plans, the one room, the two room, and the added lean-to were all used and it appears wise "not to regard any plan-type as a chronological determinant."¹⁴

The exterior walls were typically made of clapboards attached to studs, which were vertical timbers spaced a few feet apart. Insulation evolved from clay and rolled straw, to kiln-burned bricks in the 1700's and continued to be used long after that time. Sheathing, the layer of boards underneath clapboards "became general by the eighteenth century, and gradually the old-fashioned filling of clay and brick was abandoned."¹⁵

Though framing with heavy oak continued into the twentieth century, in barns, the 1830's brought with it the balloon frame house. "The distinctive feature of the balloon frame house was that it systematically eliminated all the heavy members of the traditional New England frame house. It did away, furthermore, with the awkward and time consuming mortising and tenoning method of joining."¹⁶ This method was cheap, and spread quickly across America.

Half Timbering

Half timbering was used in England, even before the colonization of America. This construction was characterized by "a heavy framing of squared timbers with a filling, or nogging, laid horizontally, on diagonal or herringbone patterns, was either exposed on the exterior or covered by a layer of plaster."¹⁸ Half-timbering, though not used to any significant extent is particularly highly concentrated in Virginia and the German areas of Pennsylvania. It is probable that since the Germans and the Scotch-Irish moved and settled southward together, that the latter people also made use of the half-timbering method of construction, due to the German influence.

Horizontal Timbers

In "Folk Housing: Key to Diffusion," author Fred Kniffen cites that "...Germans of Pennsylvania were saved from cultural extinction by their two major building contributions: log construction methods and basic barn types, for the principal dissemination of which they enlisted the widely spreading and aggressive Scotch-Irish." Building with logs can be traced back to European precedents, Scotland and Ireland standing as examples. It is little wonder then, that the Scotch-Irish adapted so well to American life, in the Mid-Atlantic regions from "New Castle County in Delaware... through the gaps of the Blue Ridge,"¹⁹ where timber was in great abundance.

Horizontal appeared to have been used much more "widely in the upland South"²⁰ than the vertical method of construction. One distinction of primary importance in the method of horizontal placement in America is the

attachment of timbers by locked and notched ends verses the utilization of corner posts or supports.

The Germans and Swedes were noted for their sophistication in the former method, while the Scotch-Irish, "at least at first did not possess this sophistication, and both their round and hewn log cabins were crudely notched, having wide gaps between the logs to be chinked with mud, wood, and stones..."²¹ By the time Augusta and Rockbridge Counties in Virginia developed "the largest concentration of Scotch-Irish per square mile"²² in the country the people had become very adept at corner matching.

It is interesting to note that early adaptation for survival in Delaware and Pennsylvania became specialization in methods of corner matching and the placement of chimneys by the time the Scotch-Irish inhabited the upland South. The use of hewn logs rather than round ones provided a "tighter building, more finished in appearance"²³ and the "V" notched corner timber joint came to be characteristic of the northern Shenandoah valley.

Two other methods of producing a corner timber joint were utilized exclusively in Maryland and Virginia; saddle notching and full detailing. Briefly defined, "saddle notching is the simplest method and is usually used on logs left in the round,"²⁴ full dovetailing, "...the most complicated of the methods...the most difficult to execute...effectively locks the logs in both directions..."²⁵ "V" notching, "developed from the paddle notch on the bottom of the log only...the notch is cut sharply into a "V", into which the chamfered head of the lower log fits."²⁶

As the Scotch-Irish pushed farther South into North Carolina, saddle-notched joints, "which collected water and eventually rotted"²⁷ were replaced by tight fitting dove-tail joints. Eventually half-dove