

Diagram and Description of Half-Timber Structures

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A half-timber building is constructed of timbers which have been halved or “cleft.” These timbers form the framework for the wall with the interspaces filled with materials such as wattle and daub, laths and plaster, or brickwork. Most designs for half-timber structures are box-framed types with horizontal and vertical timbers. Extra support is added with struts and braces. A low wall of stone or brick is usually used as a base for the construction foundation because it is not as easily penetrated with moisture. A sill or plate is formed by laying baulk timber horizontally on the brick or stone. Vertical studs are set in place in the sill using the tenon and mortise method. The top portion of these studs fits into a horizontal timber plate. This is known as a wall plate in a single story building and supports the lowest end of the roof rafters. In a two or three story building, this is known as a summer or bressummer because it supports the floor joists of the next floor. Most half-timbered structures of two or three stories use jetties which is where the upper stories overhang or project over the lower stories. A Dragon Beam, an internal crossbeam stretching diagonally to the corner post, is used when a structure is jettied for added support. Several reasons are noted for the use of jetties in half-timber construction: first, it allowed for more floor space in the upper levels; second, it protects the lower stories from rain and snow; and third, residents were usually taxed on the size of the building at street level. Half-timber houses of the fifteenth and sixteenth centuries were often very decorative. Such designs as quatrefoil, trefoil, and star decorations were often carved into the barge board of a structure. Symbols representing specific local events or dealing with religious beliefs also adorned many of the half-timbered structures.

Diagram Key

- A – wattle and daub
- B – summer or bressummer
- C – jetty
- D – barge board
- E – dragon beam
- F – quatrefoil
- G – trefoil
- H – baulk
- I – sill
- J – struts
- K – wallplate

Lesson adapted from unpublished lesson written by Mary Mullins, art teacher, Gwinnett County, Georgia, Public Schools, 1991.

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