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HISTORIC FLOORS

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In the 19th century the majority of floors were of wooden planking on wood joists, or of brick laid directly on the earth in kitchens, basements and certain service rooms.

19th Century Wooden Floors

The most common wood flooring in Alabama for the entire 19th century was dense heart-pine. Some use was made of poplar, ash, cypress and other woods. At least one circa 1830 floor of oak has been observed, a unique example thus far. Oak flooring was not popular until the 20th century.

Pine is biologically classified as a “softwood”. However, if one hefts a plant of dense, hard, heavy early 19th century pine the classification seems a misnomer. It is heavier per board foot than modern oak. It is very hard. The growth rings are generally from 15 to 25 per inch, whereas modern “dense pine” is classified as six growth rings per inch. It is permeated with pitch and glistens when split.

No such wood still exists in forests in any significant quantity. Therefore every effort should be made to preserve this now-extinct remarkable wood. It should never be sanded, for once it is ground down close to the tongues-and-grooves it is lost and cannot be replaced from nature. One sanding now doesn't seem like much, but it is important to remember that it may have been sanded in the past and may be sanded in future decades by unknowing owners. One less sanding will help.

In the period before 1870 when many large virgin-growth trees were available the typical flooring method was to use a single thick layer of wide planking over the floor joists. The use of separate thinner layers of “subflooring” and “finish flooring” began in the latter 19th century. The early floors were sawn to “five-quarter” thickness, about one and one-eighth inches. Rarely was planking hand-sawn. The 1814 Leroy Pope house in Huntsville has “sash-sawn” original flooring, for example. (Large members such as sills, joists etc. were hand-sawn, i.e., “pit sawn”). A sash-saw is a steam of water powered up-and-down saw which leaves characteristic vertical uniformly spaced saw marks on the back of the planks which are readily distinguishable from the similar but irregular “pit-saw” (two-man handsaw) marks. Rotary (circular) sawmills did not become common in most parts of Alabama until the 1850s or even after the Civil War.

Rotary sawmarks are clearly different from either sash or pit saw marks and thus these three types of marks are useful indicators (but not proof) of the general period of fabrication of the members bearing these marks. Keep in mind that flooring was sometimes replaced, and the flooring may be much younger than the building it occupies. In the early 20th century it was also popular to cover your old wide-plank circa 1820-50 floors with fashionable thin, narrow oak overlay flooring. This later veneer is generally easy to remove, if appropriate, without significant damage to the original floor underneath.

A dating indication (in addition to sawmarks, lack of subfloor, and thickness) is the width of the flooring, but again there are proven exceptions so it is only an indication. Most pre-1850 floors are five to seven inches, with variations in width typically found in the same rooms. Attic floors can be 15 or

more inches wide. After about 1850 the floor planks begin to get progressively narrower. By 1880, about 3 ½ to 4 inches was common. By the early 20th century, it was 1 2/1 to 3 inches.

The pre-1870 floors were apparently usually laid with uncured lumber, for shrinkage joints of 1/16 to 1/8 inch width are common. Even with the tongue-and-groove joints that were common (some square-edge early flooring has been seen) these floors are drafty. Only the wall-to-wall carpeting that history shows was common would help to stanch the draft.

Early Floor Covering

Early 19th century artists' sketches and paintings of house interiors show that even relatively modest houses of the period had fully carpeted floors of narrow (about one yard) strips of carpeting sewn together, and commonly were of large floral patterns. Perhaps because the floor cracks were not usually visible, there was no great concern about their appearance. In the summer the carpeting might be replaced or covered with straw matting for a cooler effect, although it is doubtful it actually made the house cooler.

Early Floor Finishes

Historic buildings and William Seale's excellent book *Recreating The Historic House Interior* (Am. Assoc. for State and Local History, Nashville, 1979) tells us that the fashion for staining, varnishing and waxing wooden floors became popular only after the Civil War. Many unrestored pre-Civil War floors have been observed which show no trace of such finishes, and which frequently have hundreds of carpet-tack holes around the edges by the baseboards. Pre-Civil War wooden floors were usually scrubbed with lye-water, sometimes mixed with sand. The grayish appearance of many of these floors is the result. Still others have been seen with a bare "wear patina" but not the lye-water grayishness.

Oriental Rugs

Seale dispels another common misconception about pre-1870 house floors; the thought that they "should" be covered by Oriental rugs. Seale points out, and the many contemporary artists' views confirm, that this was not the case. The penchant for Oriental rugs is a Victorian one. Prior to circa 1870, these "Turkey rugs" were apparently used mostly to drape over the central parlor table in finer houses. They were perhaps too expensive to walk on, and it appears that the floral pattern wall-to-wall carpeting may have simply been more fashionable.

Victorian Floors

In the latter 19th century, wooden floors (usually dense pine) with stain, varnish, wax, and "Turkey" rugs became popular along with a continuing use of floral pattern domestically-made rugs. Also emerging in popularity in this period were parquet floor of thin wooden planks and pieces in a wide variety of patterns, wood types and differing degrees of darkness. These were sold in kit form and installed by local carpenters. For public, commercial and some residential buildings, ceramic tile and marble flooring in a wide variety came into use.

Early 20th Century Floors

The early 20th century continued to see the use of dense pine flooring, now about 1 ½ to 3 inches wide, with tight joints and usually varnished but unstained. Somewhere in this period oak flooring came into common use, and is still the most common wood flooring. Generally pine is no longer used for flooring because the hard, dense "heart pine" is no longer available except by salvage.

Repairing Wooden Floors

Most floor restorations begin with an urge to "fill up the cracks" (open joints) with wood putty. This urge should be resisted on technical, economic and esthetic grounds. As the flooring moves due to

impact and temperature changes, the brittle putty will be cracked and random pieces will come out, leaving the floor much less attractive than with uniform, clean joints. It is better to reconcile yourself to the fact that the joints are open, always have been, and always will be. Clean out the joints, and admire them. They are an integral part of the appeal of a historic building of that period, as are crooked walls and dents and scrapes in the trim.

Termite-eaten or otherwise damaged boards which are “spongy” to the step and thus dangerous can be replaced, preferably with like-grained planks obtained from salvage. A number of salvage companies deal in this material. The tongue must be cut off the damaged board to remove it, and the new piece inserted in a similar manner. Try to avoid lining up the end-joints of several adjacent new short pieces since this emphasizes the patched appearance. Even a one-joint stagger of adjacent boards helps to camouflage the patch.

In extreme cases an entire floor can be “lifted” and relaid with replacement boards inserted as required. This is undesirable, for historical aspects are muddled or lost in any such reconstructive process, such as the original nails, original spacing, etc.

If proper salvage wood is not available, it may be necessary to remove good replacement planks from a lesser room, and put the new inappropriate planks in their place in the secondary room.

Sanding

The best rule for any old wooden floor is not to sand it. Floors which are repeatedly sanded over many decades will eventually be cut down close to the tongue-and-groove layer, at which point there is no way to save it. In addition, old wood floors have acquired a patina of wear and age which is attractive. Sanding leaves the floor looking slick and new, which is inappropriate. If old varnish needs to be removed it should be done with appropriate chemical strippers so that the wood is not cut down or artificially smoothed. If splinter-gashes are present, light spot hand-sanding can be used to smooth the gash edges. Small wood pieces can be glued into the larger gashes.

Termite Tracks

Some old wooden floors reveal termite tracks (holes visible along the surface) which were once covered by carpeting. If the floors are not spongy, the tracks should be accepted as part of the house, for the alternative is complete replacement of the floor and a loss of an important part of the original house. These tracks can be seen in some of the finest restored rooms in Alabama.

Reproduction Carpeting

Several companies now make accurate reproduction carpeting in 19th century patterns.

Brick Floors

Brick floors in service areas prior to c. 1870 were laid directly on the earth on a sand or cinder bed to lessen moisture accumulation. Common patterns were: 4 x 8 inch square herringbone, 4 x 8 inch 45 degree herringbone, and 8 x 8 inch half-bond, square. Joints were butted tight with sand swept in and wet down to fill any cracks. No “mortar joints” were employed.

Damp Basements

If moisture presence dictates re-doing one of these floors, great pains should be taken to reuse the original bricks in the same pattern, same tight mortarless joints and same undulations of surface. A method to do this and yet obtain a moisture resistant floor is to carefully remove and stack the bricks, excavate to a point 11 ½ inches below the finish floor line, pour four inches of clean gravel, install a heavy manufactured moisture barrier made for basements (do not use six mil. Polyethylene which is

inadequate for this purpose), and pour four inches of reinforced concrete over the membrane. This leaves 3 ½ inches for the brick and a one inch settling bed of mortar. Set the bricks tight together on the wet mortar setting bed in the original pattern and configuration. Do not put mortar between the bricks, but jamb the bricks tightly together. After the setting bed hardens, sweep clean sharp dry sand and a little dry mortar into the brick joints and fog-spray the floor to settle and firm-up the sand and mortar in the joints. Then clean up the excess sand.

Before going to the above expense and trouble, make sure the basement moisture is not due to poor site or roof drainage as described in the “Foundations” section herein. Moisture may be coming through the foundation walls or from under the floor. If so this wall moisture must be stopped by a moisture barrier of some type before any improvement is to be had by rebuilding the floor. Some interior wall coatings are effective for this. If an interior coating does not perform, the earth must be excavated from the exterior face of the foundation wall down to below the basement floor. A heavy membrane should be installed on the outside of the wall as well as gravel fill and a perforated pipe drain if the site slopes enough to discharge the drain at grade.

Hearths

Hearths before ca. 1870 were typically brick, infrequently stone, and supported by a framework of wood joists and laid flush with the wooden floor.

Pre-1870 Hearths

It is incorrect to install brick hearths raised any dimension above the wood floor. Raised hearths are apparently a circa 1940 idea.

Pre-1870 brick hearths fall primarily into two patterns: 4 x 8 inch bricks laid with their long edges parallel to the three hearth edges (thus “turning the corner” per the attached sketch), or 8 x 8 inch bricks laid half-bond across the width of the hearth. In both cases the bricks were laid on a sand bed with tightly butted joints, with no mortar in the joints. It is incorrect to space the bricks even slightly apart or to put mortar in the joints. The tight joints should have sand swept into them to fill what narrow joints may occur due to irregularity in the brick sizes. Wet the sand to settle and tighten it. It will become very firm.

The opening in the wood floor is sized to fit the bricks. Infrequently is a wood filler strip seen around a brick hearth. The hearth is laid beginning at the outer edges so that any variation will occur at the fireplace front and firebox, where it is less detrimental to the appearance to the hearth. If the original hearth-bricks are lost, replacement bricks will probably be of a different size. In this case, wood filler strips (or cut-length bricks) must be employed for the hearth to fit the floor opening. Indeed some original hearths have been observed to have cut-length bricks for this purpose, and some have wood filler strips at their ends.

Hearth or floor bricks for replacement use should be well-baked. Avoid using “salmon” colored old bricks which are underbaked, soft and never intended for exposed use (they were used for fillers inside thick walls). If new bricks must be used, Bickerstaff Brick Co. makes a “woodmold” line in various shades which is fairly close in appearance to pre-1870 bricks, although somewhat smaller and not quite the 1:2 dimensional ratio (4 x 8 inches) which is ideal.

Victorian Hearths

In the latter 19th century, ceramic tile hearths (and fireplace surrounds) in an enormous variety of colors, sizes, glazes and patterns were used. As some of the tiles were broken or lost, the hearths were frequently pulled and replaced with smooth cement, or topped with a thin layer of cement. If a

Victorian hearth is missing a few tiles, an economical way to retain the tiles but make the hearth look better is to gently loosen some tiles in the central part of the hearth, use these tiles to fill out the pattern where the missing ones occur, and replace the central symmetrical gap with modern but harmonious tiles (a few are on the market). In this way a symmetrical pattern is regained and all the original tiles are retained. If some tiles are cracked or worn, it is best to retain them rather than put in all new inappropriate tiles.

Hearths throughout the 19th century were typically flush with the wooden floor. If a cement topping has been added, the cement will be about ½ inch above the wood floor.