



Plywood's Role in the Modern Home

(By «ART.»)

PROGRESSIVE strides made during the war in the uses to which plywood may be put, suggest that in peace, too, there will be greater demands for veneers in the home, office and factory. It is not hard to visualise sweeping changes in furniture designs, with the architectural trend favouring prefabrication of built-in equipment.

Veneering is a method of producing pleasing wood-grain effects not obtainable in plain boards. Plywood is built up in uneven numbers of veneer sheets—3 to 11—primarily for strength but also to retain flatness. With even numbers of cross-grain sheets, buckling is more likely to occur.

When the timber log arrives at the mill it is treated in a hot bath or vat. This process loosens or softens the wood before it is introduced to whichever cutting machine will be employed. One, known as the slicer, cuts the log lengthwise into thin layers, like a knife cutting cheese. Another is the rotary lathe, which operates rather like a vast pencil sharpener, in paring off the log as it revolves a long thin strip of veneer.

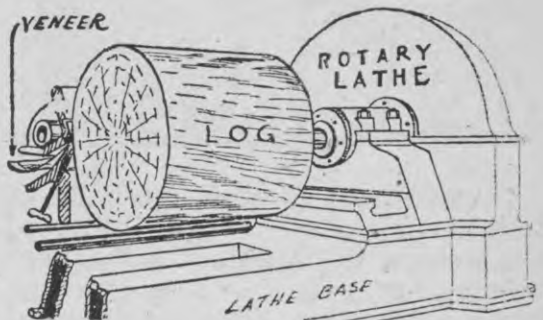
Pared Like Tissue

If a slicer is used, the log is usually broken down to four quarter-sections. The slicer knife may come up and down or across, cutting thicknesses of from one-eighth to one-hundredth of an inch. The great, continuous sheet skinned off by the rotary lathe, from a-quarter to one-sixty-fourth of an inch in thickness, is further cut into workable strips, generally 72 by 36 inches.

The next process is to dry the veneer sheets in kilns. Fibre saturation point is reckoned to be 26 per cent of dry weight. After drying, about 5 to 10 per cent of the moisture content remains.

Up to this point, the processes described have not altered in principle for years. It is known that ancient Egyptians even produced a form of plywood. However, it is in the next step, where glue is applied, that experimentation has led to definite advancement in recent years.

Plastic plywood is a misnomer for resin bonding, the advent of which has revitalised the plywood industry. Direct issues of its discovery have been the development of the sensational Mosquito-fighter-bomber and patrol torpedo boat.



Simply, the advantage of resin bonding lies in the absence of extra water, in mixing the glue. With cold glues, the solids are variously mixed with about two parts of water, whereas in sheet resin no extra water is added to the ply, eliminating swelling and subsequent shrinkage. As wood shrinks 40 to 1 across the grain, a sheet of three-ply glued by cold-water glue has one veneer in stress. This will cause warping if the sheet is not kept flat for 12 to 14 hours after leaving the