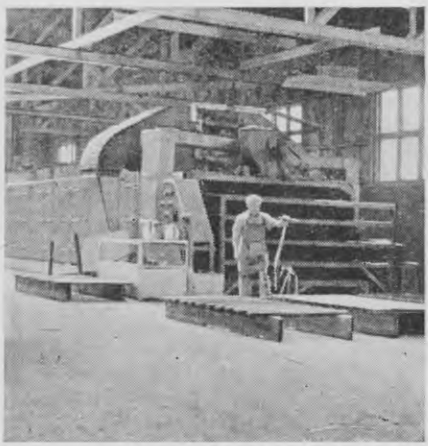
only a flash of that saw. These small sheets are then stuck together until the required size has been obtained. The spreader covers the surface with glue, the sheets are placed on top of each other (the number depending on whether it is three-ply or five-ply that is required), and all is ready for the next process—pressing.

A steam hydraulic press does the work. A 1,300 lb. pressure to the square inch and a high temperature hardens the glue. In eleven minutes there is a solid panel. Except for a further period of drying and the last process of trimming and squaring, the product is now ready for the market—plywood ready for delivering in plywood crates and plywood packing.

Plywood is split proof. It is not hard to split a piece of timber in the direction of the grain ; it takes a lot of cutting and chopping to cut wood across the grain. Plywood profits from that fact ; it is for this reason that when the sheets are laid together the grain of one sheet is at right angles to the grain of the succeeding sheet. It is strong. As you know from the wooden handle of your metal teapot, wood is a good insulator ; plywood, of course, has that advantage over metals, too. It is pliable to work with, easily pressed into rounded forms ; and when it is properly made it is durable and slow to decay.



One of the ovens.

The strength or weakness of any plywood depends on the bond holding the sheets together—the glue. In the last war and many years after when plywood aeroplanes changed their shape and wrinkled in the air, when other products for various reasons were not satisfactory, the main trouble was the glue. There were three principal types—starch glue (made from tapioca), casein glue (made from milk products), and glue made from slaughterhouse waste. Each of them had their limitations : they were not temperature and humidity proof, they were not waterproof, they were susceptible to bacteria, or they simply came unstuck. It was a problem. Progress in the plywood industry could not be made until there was an improvement.

From Germany came the answer in 1930. It was a newly developed plastic glue, a synthetic resin. This glue is the same sort of plastic used to make fountain pen barrels, unbreakable tumblers, and telephones ; it is not only waterproof but bacteria resistant as well. However, the one drawback of this plastic glue is the high cost and complex nature of its production, and although the cost has been reduced in recent years synthetic resin glue is still used only for the manufacture of high-quality products such as planes and boats. At the Auckland factory, for instance, casein glue is found satisfactory for much of the production, with the plastic resin kept only for special orders.

Prefabricated houses which allow for individual design and ideas. Motor-car bodies of molded plywood which are cooler in summer and warmer in winter. Railway carriages and tram-cars. Film scenery. Fuel and water tanks. Boat building (plywood assault boats have been built by the thousand since the beginning of this war). To list fully all the present uses of plywood and the experiments in new fields now being made would be tiresome.

But the most spectacular prospects for plywood are in aeroplane construction. It is not suggested the plywood plane will overnight replace the metal machine, but the wood product (with the bond of plastic glue) has advantages over alumin-