This invention relates to a process for producing compressed laminated wood.

The principal object of the invention is to provide a process of manufacture of synthetic wood made up of layers of wood veneer, with the density of the central layers less than that of the outer layers.

Another object of the invention is to provide a process for manufacture of synthetic wood made up of laminations of wood whose outside layers are more compressed than the inner layers.

Other objects will be apparent from the consideration of the specification and drawings hereinafter.

Fig. 1 shows a side elevation of a stack of sheets of wood veneer of my invention before pressure has been applied thereto;

Fig. 2 shows a side elevation of the stack in Fig. 1, while pressure is being applied; and

Fig. 3 is a plan view of a weaving shuttle made of synthetic wood manufactured in accordance with the invention.

Many wooden articles of manufacture require that their outer surfaces and outer sections be hard and dense to withstand the wear to which such articles are put. Were this the only requirement to be met by the articles, they could be made of wood that is hard and dense throughout. However, as is often the case, metal devices must be attached to the articles by screws or bolts and it is well known that the harder and denser the wood the greater is the liability of splitting and cracking when screws or bolts are secured therein.

As an example, weaving shuttles require hard and dense surfaces to resist wear and are usually covered at the ends by metal tips secured to the main body of the shuttles by screws or bolts. It has been found that weaving shuttles made of a uniformly hard and dense wood have been subject to cracking and splitting at the ends where the metal tips are secured.

The present invention has solved this problem by providing a process by which synthetic wood is made with the outer layers hard and dense and with a central zone of such relatively less density as to permit of the securing of metal tips without the danger of splitting the shuttle.

It has been found when layers of wood have been put under compression, that the density of the wood is increased in proportion to the moisture content. To obtain wood of varying densities, the moisture content of the wood is predetermined, the higher the moisture content the greater the density for a given compression.

In this invention there is also provided at the ends of part of the layers an incompressible block so placed as to take up the pressure exerted on the layers of the central zone after they have been compressed a predetermined amount and thereby permitting the final or full pressure on the stack of layers to be exerted principally on the outer layers of the stack. This distribution of pressure throughout the vertical dimension of the stack results in the layers in the central zone being of lesser density than that of the outer layers.

Referring to the drawing, 1 represents the base of the press upon which are stacked a series of layers of sheets of wood veneer 2, 3 and 4. 5 represents the upper plate of the press.

The layers 3 of the central zone of the stack are cut shorter than those of the layers 2 and 4, thus providing a space for incompressible blocks 6—6 to be placed. These blocks are of such thickness as to permit the layers 3 to be compressed to a predetermined amount when the blocks take up against the surfaces of the layers 2 and 4, after compression, would have a higher density than if the layers were of uniform thickness throughout the vertical diameter of the stack.

The process of making synthetic wood of my invention consists of selecting sheets of wood veneer of the desired thickness, with the sheets for the central zone shorter than those of the outer layers. The sheets are then coated with a binding agent settable under high pressure and temperature. The sheets are then formed into a stack and incompressible blocks placed at the ends of the layers of the central zone. The stack is then compressed at a high temperature and held under compression until the binding agent has set by which the pores and cell cavities of the wood are completely closed and sealed and a board of synthetic wood is formed.

After the binding agent has set the synthetic wood is removed from the press, the blocks 6 are removed and the ends of the stack are trimmed as at 19 to remove the parts of the stack that were immediately adjacent the two compression blocks. The stack then may be cut to the length of a desired article, as at 19.

As an example of an article of manufacture made of wood manufactured in accordance with the invention, 7 represents the body of a weav-
The process of producing a composite material from wood veneers which have been coated with a suitable binding agent, which consists insuperimposing a plurality of veneers to form three zones, the veneers of the central zone being shorter than the veneers of the upper and lower zones; inserting strips of incompressible material, whose thickness is less than the distance between the upper and lower zones, into the space between the upper and lower zones adjacent the ends of the veneers of the central zone; applying pressure to compress the whole mass evenly until the veneers of both the upper and lower zones are brought into contact with the incompressible strips therebetween, and then continuing the application of pressure to compress the veneers of the upper and lower zones to a greater density than that of the central zone.

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