Feb. 6, 1923. 1,444,482

S. E. SAUNDERS

PLY BOARD OR SHEET

Filed Aug. 11, 1919

Fig. 1.

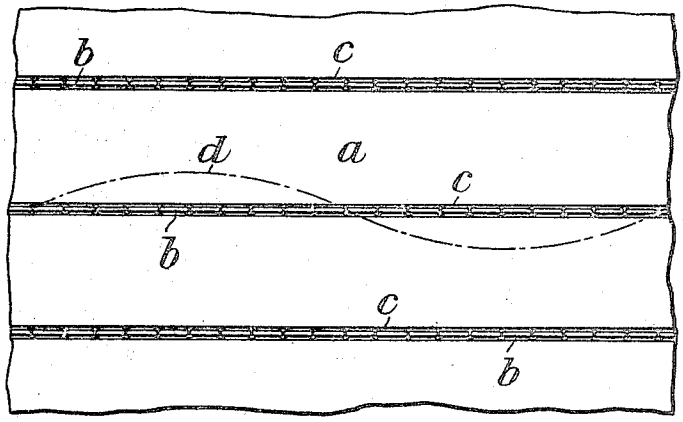


Fig. 2.

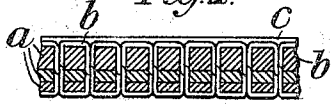


Fig. 3.



Witnesses.
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Patented Feb. 6, 1923. 1,444,432

UNITED STATES PATENT OFFICE.

SAMUEL EDGAR SAUNDERS, OF WHIPPINGHAM, ENGLAND.

PLY BOARD OR SHEET.

Application filed August 11, 1919. Serial No. 316,817.

To all whom it may concern:

Be it known that I, SAMUEL EDGAR SAUNDERS, a subject of the King of Great Britain, residing at Padmore House, Whippingham, Isle of Wight, England, have invented a new and useful Ply Board or Sheet (for which I have filed an application in England April 15, 1916, Patent No. 105,412), of which the following is a specification.

My invention relates to the manufacture of ply boards or sheets comprising a series or plurality of thin veneers secured together and chiefly intended for the construction of the hulls of boats, launches and the like or of aircraft, but also applicable for a variety of other purposes.

In the specification of former British Letters Patent granted to me No. 222 A. D. 1898, I describe a construction wherein a series of thin sheets or veneers of wood, after having been laid upon one another and moulded to the form of a boat, launch or other structure, are secured together by wire lacing. Also in the specification of my former British Patent No. 19,516 A. D. 1914, I describe the use of thread or wire stitching.

This method of connecting a series of sheets or layers gives most satisfactory results in practice, but the connecting of the several layers in situ is a somewhat slow process and is, consequently, relatively expensive.

The object of my invention is to provide means whereby the construction of aircraft, boats and other structures in which sewn wood sheeting is employed is accelerated, and to this end it comprises the improvements hereinafter described.

According to my invention I construct ply boards or sheets comprising several layers of thin board or veneer connected by thread, twine or like stitching and sufficiently pliable to enable them to be moulded or bent to the desired form.

My invention will be readily understood by reference to the accompanying drawing, in which:—

Figure 1 is an elevation of a piece of ply board made in accordance with my invention, and

Figures 2 and 3 are respectively longitudinal and transverse sections thereof.

a, *a*, *a* indicate a number of layers of thin board or material which are arranged in a well known manner so that the grain of each layer crosses the grain of the adjacent layer or layers and which layers are usually connected with one another by cement, with or without intervening layers of canvas or other fabric or material.

The several layers having been arranged the whole is stitched together by means of thread, twine or the like, as indicated at *b*.

In practice this stitching may be applied by means of a sewing machine which, of course, must possess sufficient strength to allow of the needle penetrating the several layers of material.

As shown in Figure 2 the stitching is represented as being of the kind applied by means of a lock-stitch machine.

In order to provide a smooth surface, the sheets after having been sewn can be passed through rollers or pressed or otherwise treated, for the purpose of compressing the stitching so that it does not project. In practice, however, I prefer to form grooves *c* in the outer face of the sheet, as shown in Figures 1, 2 and 3, in which grooves the stitches will lie and which can be filled with cement so as to effectually seal the threads. When the grooves are formed, the sheet which is grooved must be sufficiently stout to prevent it from being unduly weakened by the grooving.

In the drawing the stitches *b* are represented as being in straight lines but it is to be understood that they may be in curved or sinuous lines as indicated by the dotted lines *d* in Figure 1, or they may be in zig-zag lines, or placed in any other convenient manner. Either or both surfaces of the sheet may have a layer of waterproof or other fabric applied, either before or after the stitching operation.

Ply boards or sheets made in the manner

described are very pliable and can be readily bent, within certain limits, to conform to the configuration of the framing to which they are to be applied. Furthermore, the sheets can be made of considerable width and of practically any required length, thereby allowing large areas of framing to be covered in a relatively short time.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is:—

A ply board or sheet comprising a number of layers of thin board connected together by pairs of threads, one of the members of each pair lying in a groove in the surface of the sheet and the said members being interlocked together at intervals in the body of the sheet.

SAMUEL EDGAR SAUNDERS.