July 26, 1938. M. LEDERER 2,124,921

COMPOSITE BUILDING MATERIAL

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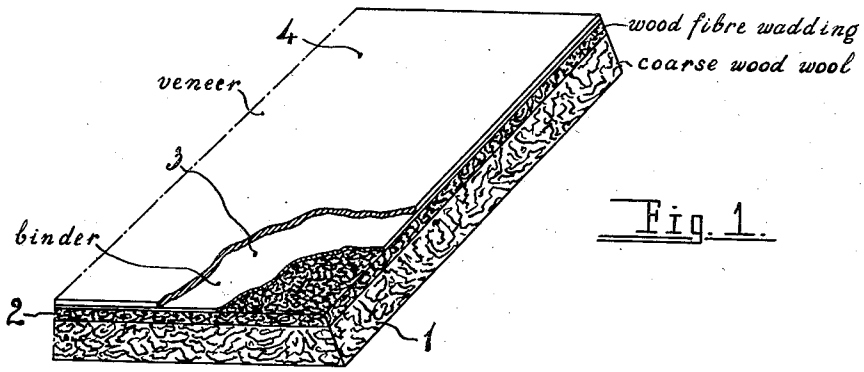
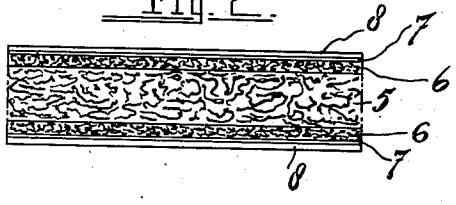


Fig. 1.

Fig. 2.



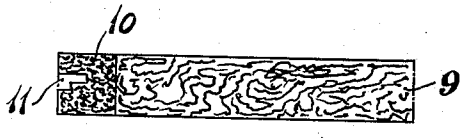


Fig. 3.

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COMPOSITE BUILDING MATERIAL

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Application December 4, 1935, Serial No. 52,821
In Yugoslavia May 3, 1935

1 Claim. (Cl. 154—45.9)

My invention relates to slabs, blocks or plates adapted for use in the erection of walls and other parts of buildings and more especially to a product of the kind aforesaid, the body of which is formed, in a manner well known per se, from a mixture of wood wool and a binder, preferably an inorganic binder such as Portland cement. My invention also relates to the process of producing such products. It is an object of my invention to provide a product such as here defined, which is capable of wider use than similar products hitherto on the market and which can be produced in a particularly simple and inexpensive manner. In its preferred form the new product is distinguished from other products consisting of a mixture of wood wool and cement by a wider range of applicability, by a more pleasing appearance and by other favorable properties, as will appear from the following description in which the nature of my invention will be set out with reference to the drawing affixed to this specification and forming part thereof, in which several products embodying my invention are illustrated diagrammatically by way of example. In the drawing:

Fig. 1 is a perspective view of a plate, block or slab covered on one side with wood veneer, the body consisting of a mixture of wood wool and cement.

Fig. 2 is a side elevation of a similar product, in which both surfaces of the product are covered with a suitable covering which may be wood veneer, sheet metal, asbestos cement or some other suitable material.

Fig. 3 is a similar view of a third modification, which will be described farther below.

Referring to the drawing and first to Fig. 1, 1 is the body proper of the slab or the like, consisting of a well known mixture of coarse wood wool in the form of an interlacing arrangement of coarse, elongated cut strands of wood and a binder of Portland cement. 2 is a layer of fine wood wool, known in the trade as wood fibre wadding in the form of a closely compacted interlacing arrangement of thin elongated cut strands of wood, the individual fibres of which measure about 5 mms. in width and .5 mm. in thickness, being of any desirable length and some of them being about 500 ms. long. 3 is a layer of a suitable binder or cement and 4 is a sheet of wood veneer, serving as a covering.

In the production of a slab such as shown in Fig. 1 the ordinary coarse wood wool is mixed with Portland cement in a mold and, before or after this layer has hardened, a layer 2 of wood fibre wadding to which the same or another binder is admixed is deposited thereon. The slab thus formed is of coarse texture in the body 1 while the layer 2 is smooth and substantially lacks all larger cavities. On this smooth surface the covering such as wood veneer is secured with the aid of an adhesive or binder such as glue or some other suitable cement or binder.

In the modification illustrated in Fig. 2, 5 is a body of coarse wood wool and cement similar to the body 1 shown in Fig. 1. 6,6 are layers of a mixture of wood fibre wadding and cement similar to the layer 2 in Fig. 1. 7,7 are layers of an adhesive or binder, and 8,8 are covering layers of wood, sheet metal or some other suitable covering. The modification shown in Fig. 2 is thus distinguished from that shown in Fig. 1 by the fact that both its surfaces are covered with a covering of a constitution other than that of the body.

Fig. 3 illustrates a third modification in which the body is made of two parts, 9 being the larger part consisting of a mixture of coarse wood wool and cement and being faced on one edge with a layer 10 of wood fibre wadding and cement having a fine texture and being formed with a groove or slot 11, into which may be fitted a key formed on a block or slab of similar constitution. The block or slab shown in Fig. 3 may be covered with a covering such as 4 or 8 on one or both sides.

Owing to their being formed of a mixture of wood wool and Portland cement all these blocks, slabs or plates may be worked mechanically with the aid of tools such as are used in the working of wood. They may be planed, bored or machined in any suitable manner. More especially the layer formed of wood fibre wadding and cement is capable of such treatment, being a rigid, fine-pored dense material in which the wooden component may advantageously predominate.

Instead of forming such products in molds, I may also produce them by rolling or the like, and I may apply lower or higher pressure according to the circumstances of each individual case.

Obviously the production of these products can be carried through in a single operation without the use of any foreign material and without necessitating any subsequent treatment. Composite bodies formed from mixtures of wood and cement can immediately be covered with the covering material or may be worked with carpentry, joinery or like tools.

While these new products are dissimilar in outer appearance to the products made of mixtures of wood wool and cement or the like which

are hitherto on the market, their structural properties are those of light building slabs, more especially as light weight, porosity and insulation capacity are concerned.

Various changes may be made in the details disclosed in the foregoing specification without departing from the invention or sacrificing the advantages thereof.

I claim:

A composite, rigid, building sheet, comprising a main, inner body portion composed of a binder and an interlacing arrangement of coarse, elongated, cut strands of wood distributed therethrough to provide a light, porous, inner mass, and a relatively thin coherent sheet layer of covering material secured thereto composed of a binder and an interlacing arrangement of thin, elongated, cut strands of wood distributed therethrough, said layer of covering material presenting a substantially smooth surface and being substantially poreless throughout its thickness.

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