UNITED STATES PATENT OFFICE.

WILLIAM GROSSMANN, OF CHESTERFIELD COUNTY, VIRGINIA.

ARTIFICIAL WOOD.

SPECIFICATION forming part of Letters Patent No. 225,822, dated March 23, 1880.

Application filed January 3, 1880.

To all whom it may concern:

Be it known that I, WILLIAM GROSSMANN, a resident of the county of Chesterfield, State of Virginia, have invented new and useful Improvements in the Manufacture of Artificial Wood, of which the following is a specification.

My invention has for its object the utilization of sawdust as it comes from the mill for the purpose of reconverting it into a solid body, and producing therewith a material adapted, like wood, for all purposes or for most purposes of construction.

The bulk of the sawdust, so far as I am aware, has, up to the present time, gone to waste, except such small portions as are used for heating steam-generators; and my invention consists in utilizing this sawdust, without subjecting it to any preparation except the freeing it from moisture, for the purpose of making construction materials, such as paving-blocks, railroad-ties, and similar articles, or fence-posts.

In carrying out my invention I use chiefly pitch or resin or other like resinous substance as a binding material, which is mixed in a dry pulverized condition with the sawdust as it comes from the mill, but previously freed from moisture. The mixture of sawdust and resinous substance is then subjected to the action of dry steam until the resinous substance is sufficiently melted to cause the particles of sawdust to adhere to each other, when the mixture is transferred to molds, preferably heated, and subjected to great pressure in a hydraulic or other press.

For such materials as require great tensile strength, like railroad-ties or other like construction materials, I mix with the sawdust and pitch a certain proportion of fibrous substances, such as tow, and also fire-proof chemicals or substances may be added thereto, if desired, the pitch or resin making the compound practically water-proof and insect-proof.

In practice I employ the following or about the following proportions of ingredients for such purposes as the manufacture of fence-posts, railroad-ties, paving-blocks, and other like articles, to wit: One hundred pounds of sawdust, twenty-five pounds of pitch, and from one to two pounds of tow, hemp, or other fibrous material; and when the material is to be rendered fire-proof I add silicates or other well-known fireproofing materials in the proportion of one to ten per centum of the mass. These proportions may, however, be varied according to the density and tenacity required in the article.

I thus obtain from a substance practically wasted materials for construction having all the properties of wood, to which greater density and tensile strength may be given than those of wood, and which may be made practically water and fire proof.

Under some circumstances, especially when it is desired to produce an article in imitation of stone, and also for the better preservation of said article, I provide them with a coating of fine sharp sand, which may be applied by coating the mold therewith, or which may be applied when the article is partially compressed by applying a coating of such sand thereto, then replacing it in a heated mold and subjecting it to final pressure.

I am aware that sawdust has been used for the purpose of making fuel, in combination with peat and other combustible substances; and I am further aware that pulverized wood or wood in finely subdivided state has been employed for the purposes of ornamentation by molding; and I do not wish to claim, broadly, the combination of sawdust with a binding material or the combination of sawdust with a binding and fire-proof material.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a material for construction composed of sawdust and a resinous substance molded to shape, substantially as and for the purpose specified.

2. As a new article of manufacture, a construction material composed of sawdust, a resinous substance, and fireproofing substances or chemicals, substantially as and for the purpose specified, and molded to shape, as set forth.

3. As a new article of manufacture, a construction material prepared as described, molded to shape, and having an outer coating of sand, substantially as and for the purpose specified.

In witness that I claim the foregoing I have hereunto set my hand and seal this third day of January, 1880.

W. GROSSMANN. [L. S.]

Witnesses:
HENRI GUILLAUME,
HENRY ORTH.