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J. J. HINDE

ARTIFICIAL TIMBER AND CONTINUOUS PROCESS FOR MAKING THE SAME FROM WASTE MATERIAL

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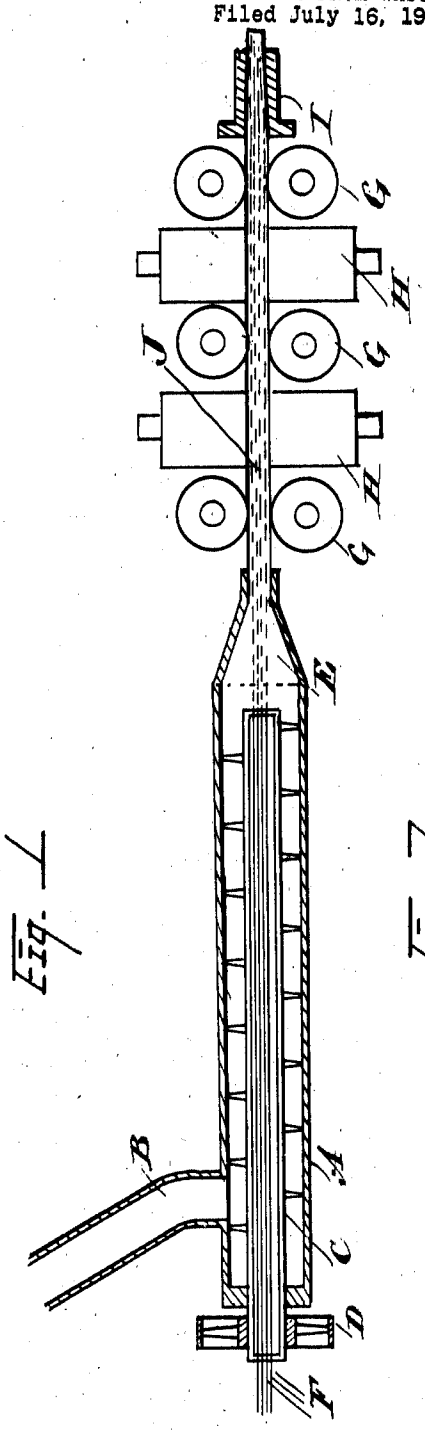


Fig. 1

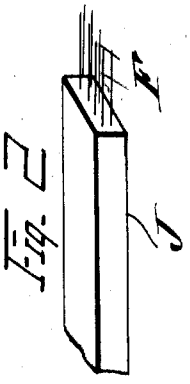


Fig. 2

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ARTIFICIAL TIMBER AND CONTINUOUS PROCESS FOR MAKING THE SAME FROM WASTE MATERIAL.

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The invention has reference to an improved process or method of manufacturing an unbroken continuous column of material which will be possessed of such density as to give it a degree of strength comparable to or greater than that of natural wood.

The material employed is of a fibrous nature and consists of waste wood or other fibrous waste material, made into a pulp like solution with water or other liquid. This pulp may if necessary have embodied in this solution a viscous or cementitious substance of mineral, animal or vegetable compounds, to add strength or resilience to the product, and may have metal reinforcing strands extending through the mass to give added strength to the column.

This product is obtained by first shredding the wood or other fibrous material, then softening the same by boiling in water to assist in refining the mass, thus separating the fibres, in any suitable refining engine as commonly made use of in pulp making.

The pulp thus produced is then forced through dies of any suitable design as shapes required in the mechanical arts.

In this manner continuous columns are produced of any desired diameter or shape that when dried can be used as they are produced, or may be finished, or sawed into any desired portion adapted for specific uses that natural wood lumber is now used for.

A pair of rolls, or a train of rolls either vertical or horizontal or in combination may also be employed to further compress the material if desired. In the accompanying drawing Fig. 1 is a diagrammatic view in section of an apparatus for manufacturing the artificial timber and Fig. 2 is a perspective of a part of a piece of timber. In these views A is a cylinder, having an inlet B through which the pulp is passed by means of a hollow propeller screw C. The reinforcing wires F are passed through the propeller shaft and the pulp is pressed first through the die E and the column J thus produced is shaped between alternate horizontal and vertical rolls G and H and is finally passed through the finishing die I.

An important advantage of the invention is that all kinds of wooden waste in cities can be utilized to construct a valuable timber and thus the forest growths can be conserved to a great extent.

This waste will include old boxes, barrels, crates, old furniture, wood waste from old buildings etc. that otherwise would make a serious fire hazard unless destroyed.

Having described the invention what I claim as new and desire to secure by Letters Patent is:

1. As an article of manufacture, a reinforced column of artificial timber, composed of fibrous material and a reinforcement therefor composed of longitudinal metal strands equally spaced therein obtained from vegetable fibre or forest growth for use in the mechanical arts.

2. As an article of manufacture, a reinforced column of indefinite length of artificial timber said reinforced column being composed of waste fibrous material and a metal reinforcement composed of spaced longitudinal metal strands, and a unifying body of cementitious matter compressed together, said column being adapted to be converted into shapes for mechanical uses.

3. The hereinbefore described method of continuously producing a reinforced column of artificial timber consisting in shredding waste wood material, subjecting the same to boiling to soften and refine the same, introducing a reinforcing member therein composed of longitudinal metal strands, and continuously forcing the pulp thus formed through suitable dies to shape the mass into columnar shape.

4. The hereinbefore described method of producing an endless reinforced column of artificial timber, consisting in shredding waste fibrous material and boiling the same to refine it, adding cementitious matter thereto and continuously forcing the pulp thus produced through suitable dies simultaneously with metallic reinforcing elements to form the pulp in columnar shape simultaneously with the introduction of spaced longitudinal metal strands through the same.

5. The hereinbefore described method of continuously producing a column of artificial timber consisting in shredding waste wood material, subjecting the same to boiling to soften and refine the same, and continuously forcing the pulp thus formed through suitable dies to shape the mass into columnar shape simultaneously with the introduction of an evenly distributed continuous reinforcement, and compressing the columnar

product between rollers to compress and further shape the same.

6. A process for manufacturing an endless column of artificial timber from waste fiber, consisting in reducing the fiber to a moist pulp incorporating a mineral binder, forcing the same under pressure accompanied with a continuous reinforcement through a forming die, to shape the same into columnar form.

7. A process for manufacturing an endless column of artificial timber from waste fiber, consisting in reducing the fiber to a moist pulp, forcing the same under pressure accompanied with a continuous reinforcement composed of spaced longitudinal strands through a forming die, to shape the same into columnar form, and further compressing the same between rollers.

In testimony whereof I hereunto affix my signature.

JAMES J. HINDE.