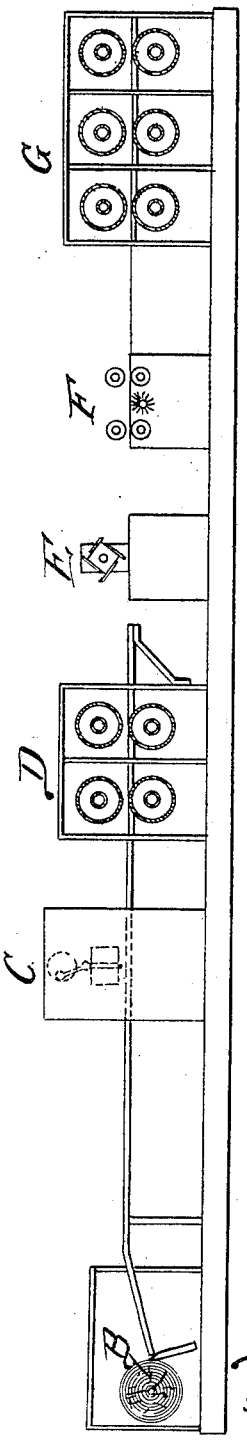
No. 647,625. Patented Apr. 17, 1900.

D. GILMOUR.

LUMBER.

(Application filed July 27, 1899.)

(No Model.)



Attest
Wm. F. Hall,
C. Middleton

Inventor
David Gilmour
by Ellis Spear
Atty.

UNITED STATES PATENT OFFICE

DAVID GILMOUR, OF TRENTON, CANADA.

LUMBER.

SPECIFICATION forming part of Letters Patent No. 647,625, dated April 17, 1900.

Application filed July 27, 1899. Serial No. 725,313. (No model.)

To all whom it may concern:

Be it known that I, DAVID GILMOUR, a subject of the Queen of Great Britain, residing at Trenton, Province of Ontario, Canada, have invented certain new and useful Improvements in Lumber, of which the following is a specification.

My invention relates to the manufacture of finished or high-grade clear lumber, deals, and the like, which is designed to take the place of what is now known in the market as "good," "clear," "picks," and "selects;" and it consists in a process or method of manufacture, as hereinafter explained.

The rapid consumption and increasing scarcity of clear high-grade lumber are well known. The demand therefor is so much greater than the demand for the lower grades that these lower grades continue to be abundant, while the higher grades grow relatively more scarce and expensive. My invention is designed to utilize these cheaper grades of material and the general lumber wastes from the forest or sawlog limits for the base of the lumber, while the surface of said lumber is composed of the finer and higher grades either of the same or of a different kind from the base.

The article of manufacture produced by me in the use of this invention consists of a surfaced lumber the body or thicker part of which may be made of a cheaper or more imperfect kind of material of the lower grades, such as worm-eaten or knotty trees or parts of trees taken from the forest or from the comparatively-waste lumber from the sawmills, these thicker parts being combined with a surface material of a higher grade, either of the same kind or of a different kind, from that of the body or thicker part of the finished lumber, the two parts being joined by fine tongues or grooves which interlock and are united by any suitable glue or cement, preferably waterproof. The parts are united firmly and are finished so as to be ready for solid piling or for shipment by means of heat and pressure, which at the same time expel the moisture and superfluous glue and leave the surface in a solid, compressed, condensed, and finished condition and the whole thoroughly seasoned.

The method aforesaid is carried on by any suitable machinery, such as that diagrammatically shown in the accompanying drawing, in which the figure shows the various parts of the apparatus in conventional form and diagrammatically.

I describe the process used by me in the practical production of this lumber, giving all the steps, both essential and non-essential, in connection with the apparatus, as illustrated in the figure. For the surface of the finished lumber I assume the logs of superior or high grade or of a comparatively-expensive kind of material to be taken as they come from the forest. These are first sawed into suitable lengths and are subjected to the action of hot water or steam in a suitable tank. When thoroughly steamed and softened, the logs are transferred to a veneer-lathe B of ordinary construction, from which the lumber is cut by the revolution of the log against a knife in the ordinary manner, and thence in a continuous strip is taken to a clipper C, which cuts it into pieces of suitable dimensions. These pieces are next passed between pairs of steam-heated rolls D, where the pieces are deprived of a greater part of their moisture and partially compressed. Thence they are passed to a sticker E, in which one face is formed with fine tongues and grooves, preferably rectangular in cross-section. From the sticker the pieces are next immediately passed over a glue-brush F, which gives them a coating of glue or cement on the tongue-and-grooved surface. Next to the said brush is a table, which receives the combined parts, consisting of the finer surface material heretofore referred to and the thicker body portion which has been tongued and grooved in a similar manner to fit the tongues and grooves of the finer and thinner part, and which, if desired, may also be coated with the glue or cement.

It will be understood that the grooves both in the thicker or body portion and in the thinner or surface portion are made longitudinally of the grain, and the surface piece or any multiple thereof, made of a width to suit the width of the body portion, is placed upon said body portion with the tongues and grooves registering with each other. The

parts thus combined are passed between a series of heated pressure-rolls G, preferably of gradually-increased heat, where they are subjected to the heat and a high degree of pressure, which combine and weld together the two parts in one piece, which differs as to the quality of the material, but is homogeneous practically in its structure. The heat and pressure of the rolls are sufficient to expel the remaining moisture and surplus glue endwise of the grain through the end of the piece and to condense the surfacing material, while the lumber is held in place under the rolls and is passing thereunder, so that the lumber emerges in a finished condition and with a specially-desirable compressed and finished surface and requires no subsequent drying, but is ready either for solid piling or for shipping.

In the above explanation I have assumed that the base or thicker part has been sawed out in the usual manner, grooved and tongued, and then combined with the surface material; but the base may be made in the same manner, or the surface of the higher-grade material may be sawed out with an ordinary band-saw and tongued and grooved and applied to the base in the manner above described. I do not limit myself as to the manner of forming either part, whether by sawing or peeling. I may also in the process interpose apparatus, either electrical or of any other kind, for the introduction of fireproofing material into the wood and may fireproof the whole or the surface part of the lumber.

I claim—

1. The hereinbefore-described process of forming lumber composed of two parts tongued and grooved to fit each other, said process consisting in first placing the two parts together with the tongues and grooves interlocking, and afterward passing these parts so interlocked between heated rolls, longitudinally of the fiber of the lumber, and thus subjecting the parts to heat and pressure, successively from end to end, whereby the moisture is expelled, the surface condensed and finished and the parts united and welded together, substantially as described.

2. The hereinbefore-described process of forming lumber composed of two parts tongued and grooved to fit each other, said process consisting in first applying glue or cement, placing the two parts together with the tongues and grooves interlocking, and afterward passing these parts so interlocked, between heated rolls, longitudinally of the fiber of the lumber, and thus subjecting the parts to heat and pressure, successively from end to end, whereby the moisture is expelled, the surface condensed and finished, and the parts united and welded together, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID GILMOUR.

Witnesses:
HENRY E. COOPER,
C. S. MIDDLETON.