

UNITED STATES PATENT OFFICE.

HENRY E. MOORE, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO
GEORGE FARNSWORTH, OF SAME PLACE, AND JOHN THOMAS, OF DE-
FIANCE, OHIO.

COMPRESSED VENEER.

SPECIFICATION forming part of Letters Patent No. 254,834, dated March 14, 1882.

Application filed October 27, 1881. (No specimens.)

To all whom it may concern:

Be it known that I, HENRY E. MOORE, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Cold-Compressed Veneers of Wood; and I do hereby declare the following to be a full, clear, and exact description of the manner of making and using the said invention, so that others skilled in the art may be enabled to practice the same.

Veneers of wood used in the manufacture of barrels, kegs, cheese-hoops, boxes, and the like are ordinarily obtained by boiling or steaming a suitable log of wood until the fiber is well softened, and then revolving the log in contact with a broad knife-blade, by which means a veneer is cut away from the log in the form of a thin continuous sheet. Whenever knots or other defects occur in the log the veneer, in parting under the action of the knife, is apt to split or crack, and even though no such cross-fibers or defects be met with the softening treatment to which the log has been subjected so far disrupts or weakens the natural tenacity of the fibers and their cohesion that the knife in cutting is apt to tear away and lacerate the fibers in the sheet, and in so far not only gives to the sheet a scarfed surface, but materially lessens the compactness and strength of the fibers which make up the body or middle portion of the veneer. The result is that incipient splits are made, which start and develop when the dry veneer is being used, so that oftentimes a considerable portion of the sheet must be discarded and the profit of manufacture be correspondingly reduced. Efforts have been made to obviate the difficulty, and prior to my invention it had been proposed to pass the sheet of veneer, after leaving the cutting-knife, between one or more sets of steam drying and compressing rolls. Inasmuch, however, as the pores of the veneer are saturated with water and woody juices, it is clear that the benefits resulting from a compression of the sheet are much more than neutralized by reason of the sudden and extreme heat to which the sheet is subjected at the very moment when

the portion heated is most tightly held in the bite of the rolls. At such juncture, the fibers being firmly compressed between the rolls, there is no adequate chance for the juices in the wood to freely escape as rapidly as they are evaporated by the steam heat. Hence it follows that the fibers are torn apart, violently distended and broken, and the sheet made much more fragile in the effort of the watery vapor to escape. Not only this, but the rapid artificial drying of the sheet prevents that even and gradual curing of the wood which adds to its durability in use, and is of such importance when the wood is in form of a thin veneer. When the veneer is extremely thin and of fine-grained wood—as when used for an ornamental facing to furniture, &c.—there is little juice to expel, so that the destructive influence of the compression under steam heat is not so manifest; but for veneers of character employed in making barrels, cheese-boxes, &c., and which need to be of substantial thickness, the defects heretofore mentioned are found by experience to be fatal to the commercial value of the material, and that it has no practical utility in the manufacture of such articles.

My invention has for its object to overcome the above-mentioned difficulties; and it consists in subjecting the veneer of wood, after it has left the cutter and while yet in a softened condition, to severe compression, preferably by means of a set of heavy steel rolls, between which the sheet is to be passed. This compression of the sheet is to be effected at the ordinary temperature. Leastwise there is to be no steam heat applied to the rolls or other compressing device to prematurely dry the veneer. By such cold compression the dangers from a sudden heating of the moist veneer are entirely avoided, the layers of fiber as displaced by the cutter are restored to their natural position, and are tightly compacted and knit together, so that the tendency to split or crack is substantially lessened, and the veneer as finished presents a smooth homogeneous surface, and is peculiarly tough and firm in texture.

It is to be noted, also, that the pressure on the passing sheet of veneer is such that as it leaves the rolls a slight bend is given to the fibers in the direction which they will assume
5 when folded around the former to make a barrel or box, so that the set thus given is of material advantage in so far as it lessens the strains which thereafter arise in curving the sheet.

10 In the practice of my invention it is simply necessary to mount a set of rolls, driven by any convenient means, a short distance away from the veneer-cutter, so that after the sheet leaves the cutting-machine it may be fed directly into the rolls.
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The pressure of the rolls upon the passing sheet may be regulated, as desired, by mount-

ing the journals of the rolls in sliding boxes, which may be set at any point, as is well known in the art. 20

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

As an article of manufacture, cold-compressed wood veneer for barrels, cheese-hoops, 25 &c., having the qualities herein described—viz., toughness, density, and pliability—in degree essentially distinguishing it from natural veneer of like thickness, substantially as set forth.

HENRY E. MOORE.

Witnesses:

F. F. WARNER,

H. FRANKFURTER.