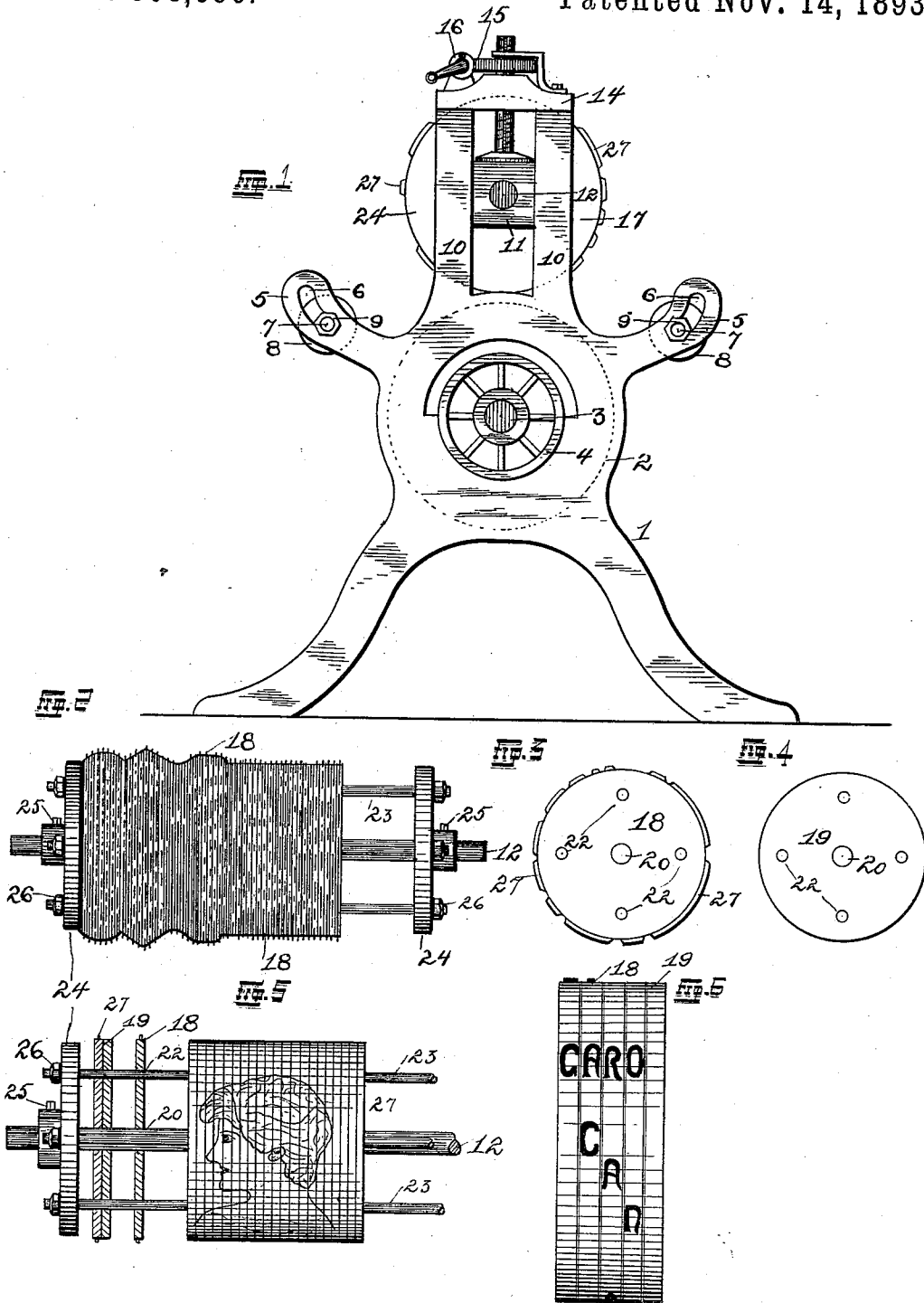


(No Model.)

A. GIACOMINI.
MACHINE FOR GRAINING WOOD.

No. 508,696.

Patented Nov. 14, 1893.



WITNESSES

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UNITED STATES PATENT OFFICE.

ACHILLE GIACOMINI, OF ST. LOUIS, MISSOURI.

MACHINE FOR GRAINING WOOD.

SPECIFICATION forming part of Letters Patent No. 508,696, dated November 14, 1893.

Application filed December 28, 1892. Serial No. 456,521. (No model.)

To all whom it may concern:

Be it known that I, ACHILLE GIACOMINI, of the city of St. Louis and State of Missouri, have invented certain new and useful improvements in Machines for Graining Wood, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in a machine for graining wood and consists in the novel arrangement and combination of parts, as will be more fully hereinafter described and designated in the claim.

The object of my invention is to construct an improved means for imprinting indentations in wood of a cheap grade, which when treated in a certain manner imitates woods of higher and more expensive grades.

In the drawings: Figure 1, is a side elevation of my complete invention. Fig. 2 is a detailed view of the indenting roller showing its particular construction. Fig. 3 is an end view of one of the removable indenting plates, a number of which comprises the roller. Fig. 4 is a detail end view of a separating-plate used as hereinafter described. Fig. 5 is a detail sectional view with parts broken away, of a number of plates provided with indenting projections, which are so placed as to imprint the figure of a woman's head. Fig. 6 is a detail view of a number of the removable plates which are provided with raised letters or signs.

Referring to the drawings:—1, indicates the two side standards which support the working parts of my invention. Mounted substantially intermediate of the height of said standards is a feed-roller 2 indicated in the drawings by dotted lines, and mounted upon a shaft 3 upon the projecting end of which is secured a pulley 4, by means of which the roller is operated. Projecting outwardly from both sides of the standards 1 are curvilinear upwardly extending arms 5, each of which is provided with curvilinear slots 6, the slot in each of said arms 5 at each end of the machine being in alignment to receive the projecting ends of shafts 7 upon which are mounted contact rollers 8 which are adjustable vertically in said slots 6 by means of the nuts 9 upon the ends of said shaft 7. Two upwardly projecting guides 10 provide guides

for the vertical reciprocatory movement of bearing blocks 11, in which the ends of the shaft 12 have their bearings. The bearing blocks 11 are provided with upwardly projecting screw-threaded rods 13 which are adapted to operate in an interiorly screw threaded opening (not shown) in the cap 14 surmounting the two upright guides 10. The bearing blocks upon both sides of the machine are similar and provided with gear-wheels 15, keyed thereon and adapted to be engaged by small worms 16 mounted upon a horizontal shaft, and the revolving of which revolves said wheels 15 and raises the bearing blocks 11 and consequently the roller 17 upon the shaft 12, said roller 17 being formed by a number of removable adjustable plates 18 and 19. A number of plates such as 18 or 19 or both are provided with five openings, a central one 20 to fit over a shaft 12, and four smaller radially arranged openings 22 to fit upon rods 23. Adjustable heads 24 are adapted to be secured in a desired position upon the shaft 12 by set-screws 25. The rods 23 extend through the two heads 24 and through any number of plates 18 or 19 that it is desired to make use of. The plates are placed between said heads 24 and upon said rods 23 and shafts 12 and held in place by the adjustment of nuts 26 upon said rods 23. The plates 18 may be of any desired thickness and if it is desired by their use to imitate the grain of any certain wood, irregular projections 27 are provided upon their peripheries, which when in position upon the roller appear something like the design shown in Fig. 2 imitating the grain of wood. As is also shown in the same figure, the plates are made of different widths or diameters and with slanting or rounded edges, in order to form projecting designs upon moldings and other irregular surfaces of wood work. The indentations upon the roller impinge the surface of the wood which is run over the rollers 8 and between the rollers 17 and 2. The indentations made in the surface of the wood are filled with any desired color of material and then the material to be grained is treated with varnish and finishing compounds in a manner well known to the trade. The plates 19 are of the same diameter as the plates 18 without the projecting portions 27 and are

adapted to be placed between the plates 18 when it is not desired to leave any graining mark upon certain portions of the wood. The plates may be formed with such projections upon their peripheries as will leave the imprint of a human head as shown in Fig. 5 or with letters as shown in Fig. 6, or in fact any design which it may be desired to reproduce upon wood or other material.

The especial feature of my invention lies in the fact that any number of the plates may be used to form a roller and any design of graining or other figure can be made by the adjustment of one set of plates as well as the adaptability of same to be used in graining, moulding or other forms of wood which heretofore have necessarily been grained by what is known as a hand process.

The plates 18 and 19 are adjustably mounted upon the shaft 12 and the rods 23, so that they may be moved horizontally thereon and adjusted to different relative positions axially, to produce designs of different configurations with a single set of plates, as shown.

The plates 18 of less diameter, are, as before stated, set in such relative position as to form peripheral or annular depressions in the graining roll, which are adapted to fit over the irregular surface of moldings or other woodwork and impart to such surfaces indentations simulating the grain of natural wood and special designs. I desire to point out that all of said plates are axially adjustable upon the shaft 12, so that their relative positions may be changed at will. All that is necessary in making the change to produce a different design is to loosen the nuts 26 upon the rods 23, remove the heads or face plates 17, or one of them, then remove as many of the plates 18 and 19 as desired, and replace same in a different relative position from that which they formerly occupied. When I describe said plates as having different diameters I mean that there is a series of plates 18 having different diameters, and also a series of plates 19 having different diameters, as I do not consider the projections 27 upon the plates 18 as adding to their diameters. It will be observed that when I locate a series of plates 18 in such relative positions adjacent each other, a number of such plates have different diameters and are located closely adjacent each other, with plates 19 of different diameters located alternately between adjacent plates 18, for the above specified purpose. It will be observed that the shaft 12 and the rods 23 are of such length that a graining roll of sufficient length to engage the inner surface of a comparatively wide board or plank, is provided. It will be further observed that the plates upon said shaft and said rods are removable or interchangeable at either end of said shaft and rods. Both ends of said shaft and rods are provided with adjusting devices, so that by means of the nuts 26 and the threaded opposite ends of the rods 23, the disks mounted

thereon may be clamped together and urged toward the center of the length of said shaft and said rods, by adjusting the said nuts at either end of said rods. This provides a construction which is very accessible and convenient in operation, for obvious reasons. The series of rods 23 parallel with the shaft 12 and engaging the radially located holes or apertures 22 in all of the disks at separate radial points therein, act very effectually to prevent relative axial movement of said disks upon said shaft, and to hold said disks with their projections 27 in the fixed relative position to which they have been adjusted by the operator. I desire also to point out that by the use of the series of clamping rods 23 with nuts threaded upon their ends, the series of disks or plates 18 and 19 are very securely clamped together at different points in their surfaces, thereby preventing bending or buckling of any disk at any point.

I am aware that cutter-heads composed of a series of saws or a series of blades having knife-edged teeth in their peripheries, have been made of different diameters and arranged upon a short arbor or shaft, so as to be rapidly revolved for cutting curved surfaces in wood, and I make no claim to such construction, as such cutter-heads are not adapted to the purpose of my invention.

I am further aware that a wood graining machine has been constructed with a graining roller formed by thin circular disks of tempered steel, knife-edged and sharpened at their centers and strung upon a single central shaft of sufficient length to form a wood graining roller and alternating on said shaft with smaller thin washers which serve to separate said circular disks a slight distance, and the whole tightly clamped together by means of nuts located one adjacent each end of said shaft, but in such construction said circular disks are all of the same diameter, and there is nothing provided to prevent axial movement of said disks upon said shaft, except the frictional contact of one disk with another, and I do not claim such as my invention.

I am further aware of the English patent granted to Johnson January 5, 1892, No. 178, and the English patent granted to Jones April 8, 1890, No. 5,315, but as the graining rolls shown in such English patents are of the usual solid or integral form devoid of sections or adjustable plates, I hereby disclaim the same.

The filling material generally consists of liquid shellac, linseed oil or other analogous compounds, which as is well known are darker in color than the finishing material and which only fill up the indentations made by the rollers, leaving the surface of the wood smooth for the final touches.

Having fully described my invention, what I claim is—

In a machine for graining wood, the improved graining-roller comprising a series of plates 18 and 19, each provided with a cen-

tral opening 20 and four radially arranged openings 22, said plates 18 having peripheral indenting projections 27 and the peripheries of the plates 19 being smooth, a shaft 12 upon which all of said plates are mounted with their central openings 20 loosely engaging said shaft, adjustable circular heads 24, located one adjacent each end of said shaft and secured thereon by set-screws 25, said heads each having a central opening which is engaged by said shaft and radially arranged openings registering with the openings 22 of said plates, a series of rods 23 arranged each parallel with said central shaft and mounted in opposite ones of the radially-arranged openings 22 of the opposite heads 24, and having opposite ends screw-threaded and projecting a distance beyond the outer adjacent faces of said heads, and nuts located upon

said screw-threaded ends upon the outer faces of said heads, a series of said plates 18 and 19 being of different diameters and located in separate groups at different points in the length of said shaft and said rods 23, whereby a number of marked peripheral annular depressions are thereby formed in the periphery of the roller thus made up and at separate points in the length of said roller, and whereby all of said plates are held at separate points against bending or buckling, and against actual movement upon said shaft, substantially as herein specified.

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

ACHILLE GIACOMINI.

Witnesses:

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