(No Model.) 2 Sheets—Sheet 1.

C. WAGNER.

METHOD OF AND MACHINE FOR ORNAMENTING WOOD.

No. 291,436. Patented Jan. 1, 1884.

Fig. 1.

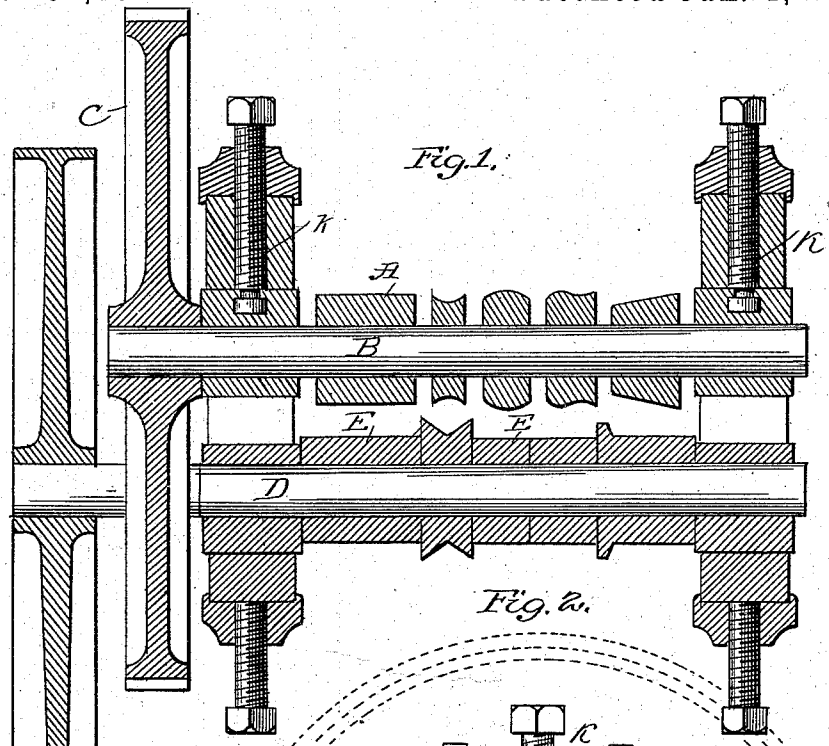
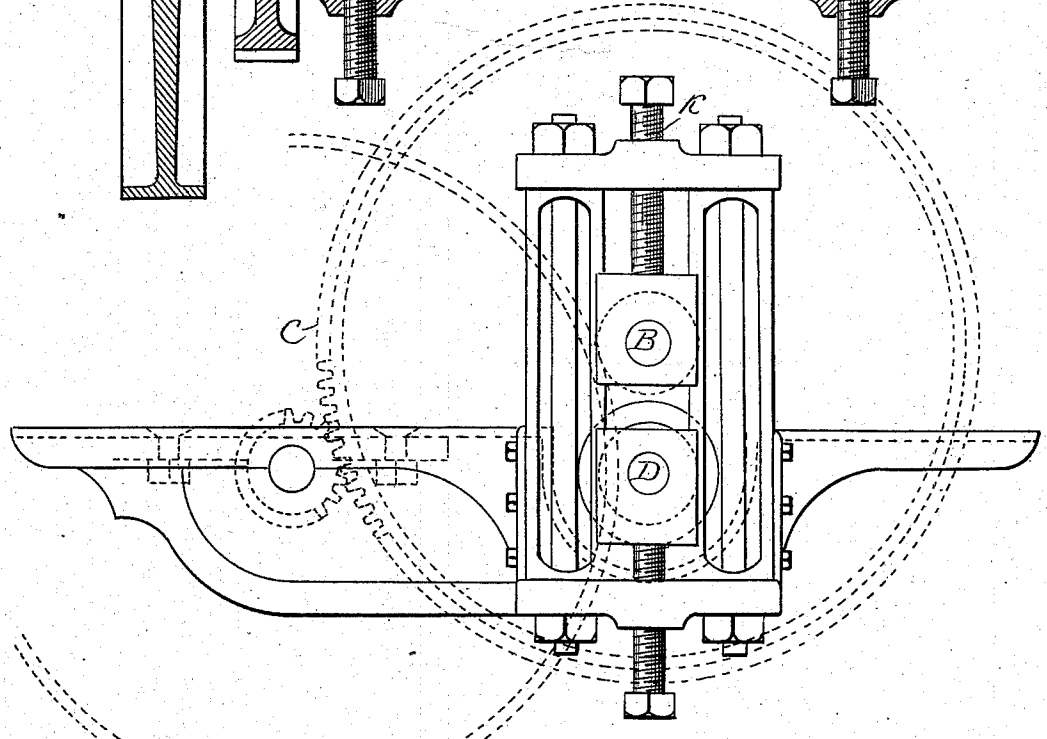


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

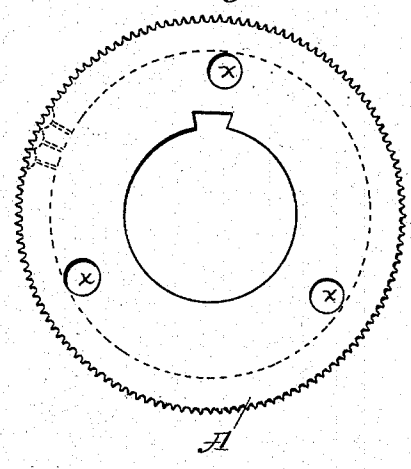


Fig. 4.

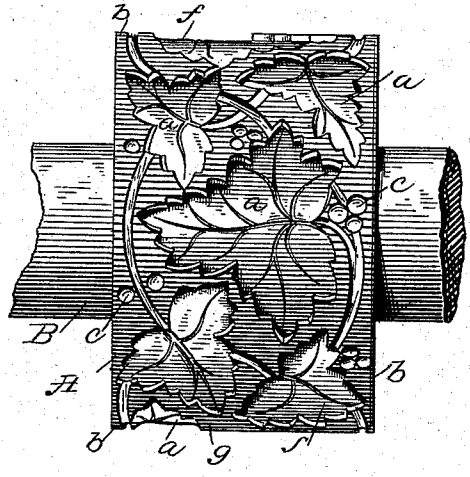


Fig. 5.

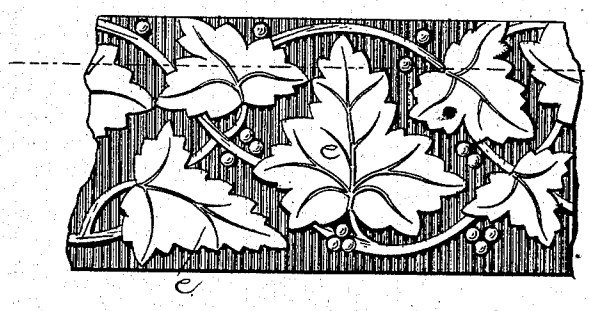


Fig. 6.



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UNITED STATES PATENT OFFICE.

CARL WAGNER, OF COLUMBUS, INDIANA.

METHOD OF AND MACHINE FOR ORNAMENTING WOOD.

SPECIFICATION forming part of Letters Patent No. 291,416, dated January 1, 1884.

Application filed June 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, CARL WAGNER, of Columbus, in the county of Bartholomew and State of Indiana, have invented a new and useful Improvement in Methods of and Machines for Ornamenting Wood; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to the ornamentation of wood; and its object is to provide an ornamental wood surface for moldings and the like, which surface shall be a close imitation of the wood-carving.

My invention consists in a special method of forming an imitation of carved wood surface by crushing in or compressing the parts composing the backgrounds of the figure or figures of the wood by means of roughened surfaces. It includes, also, the special construction of tools for the purpose of depressing or crushing in the background, leaving the figures in relief.

My invention may be carried out by means of any shape of die or tool suited to crush in, sink, or compress, in the manner and by the means hereinafter specified, the background of the figures which are to be shown upon the wooden surface. I have shown a convenient form of machine for the purpose indicated. This machine is represented in the accompanying drawings, in which—

Figure 1 represents a vertical cross-section of the machine, taken through the shaft which carries the carving-tool; Fig. 2, a side elevation of the machine; Fig. 3, an end view of the tool, and Fig. 4 a face view of the same. Fig. 5 represents a piece of molding with my improved ornament in plan. Fig. 6 shows a section of the same.

Heretofore it has been proposed to ornament a wood surface by the use of a die to stamp or press the ornamental figures into the wood—that is to say, by forming an ornamental wood surface with the figures in intaglio. This gives a poor effect, and is quite unlike wood-carving. Various other methods have been devised—such as that shown in Patent No. 198,381, of December 18, 1877—in which figures in relief are described as formed upon a veneered surface of the end of a block. Impressions of like character have also been made upon the end of a block, it being practicable and easy to crush in the background of the figures upon the end of the grain. It has also been suggested to impress painted surfaces of wood to give figures in relief, and to distinguish the raised portions by another color of paint. This is shown in Patent No. 234,610, of November 16, 1880.

I have sought to form an ornamented wood surface in imitation of carving, without paint and with figures in relief by crushing in the parts surrounding the figures across the grain, which is the only mode of forming imitation wood-carving on any practicable scale. At the same time I have sought to leave the surface of the raised figures smooth, with the depressed portions roughened, so as to give a *chiaro-oscuro* effect. I have practically accomplished this crushing in across the grain and the roughened background of the figures by means of a grooved or roughened surface on the raised portions of the die, and in this lies the gist of my invention.

In practice I use a cylindrical tool, such as that shown in Figs. 3 and 4. Upon this tool I form in intaglio the figures which are to be given to the wood. These, as shown in the drawings, consist of the leaves *a*, border *b*, and ornaments *c c*. The depth of these depressions may be one-sixteenth of an inch, more or less. This is ample for good effect, but less may be used. The depressed surfaces representing the leaves, border, and other ornaments are smooth; but the other and raised parts are all sharply grooved or corrugated, so that when pressed upon the wood they cut and crush in the fiber in a manner not practicable when smooth surfaces of the raised parts of the die are used. At the same time this part of the die leaves a roughened background, duller and in contrast with the smooth raised surfaces of the ornamented parts. The edges of the metal of the tool next to the sunken parts which form the figures are left abrupt and sharp, so as to cut the wood and leave sharp edges around the raised ornament. This is shown clearly in Figs. 5 and 6, in which *e* represents a leaf left by the depression of the surface *f*. The surface of the leaf in the wood is smooth, being only marked by the veins; but the background is grooved by the sharp indentations or corrugations of the surface of the tool or die. Instead of be-

ing formed by parallel grooves, this roughened surface of the die may be formed by numerous projections or by grooves crossing each other; or the surface may have any other equivalent roughening adapted to break up and crush in the surface of the wood in the manner described. To facilitate the indentation or crushing in of the wood, I form ventilating-holes X X in the tool, these holes opening in the surface in the roughened or corrugated parts. These allow the confined air to escape. These are not always needed in shallow work. The completed figure or pattern extends around the cylindrical die R, which is placed upon a shaft, B, and set in the machine, so that in revolving it continuously repeats itself on the wood.

There may be various forms of the die A adapted to the various forms of molding required. The die-shaft is driven by a wheel, C, meshing into a pinion on the main shaft. Underneath the die-shaft is another shaft, D, carrying supporting-wheels E. These shafts are in movable bearings adjustable on screw K K, to adapt them to the various thicknesses of the wood to be worked. Any kind of wood may be used, but the effect is better in the hard woods. Manifestly, the die or tool may be in any form other than round, or may be forced into the wood by other means, but those shown are best.

I do not claim, broadly, the production of imitation wood-carving by depressing the surface of the wood and leaving the figures in relief; nor do I claim, broadly, a roughened surface on the roller or on the wood. My roller or die is distinguished from those heretofore devised for this purpose by the roughening of the raised portions which form the background of the figures, and the article produced by this improved process is distinguished by the roughened background. This form of die is the only one which will work effectually across the grain of the wood, and the article produced is better in appearance.

I claim as my invention—

1. The method hereinbefore described of ornamenting wood, consisting of crushing in or depressing, without the removal of any part thereof, by means of roughened raised surfaces of a die, all the parts about the figures to be produced, whereby an imitation of carving is formed, substantially as described.

2. A die or tool for making wood-carving, consisting of sunken ornamental parts or figures and raised roughened parts, substantially as described.

3. A die or tool for making wood-carving, consisting of sunken ornamental parts or figures and raised roughened parts, said tool having ventilating-holes X X, all substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL WAGNER.

Witnesses:
WILL A. STEVENS,
B. M. HUTCHINS.