2 Sheets--Sheet 1.

A. H. ALLEN.

Methods of Perfecting Veneers.

No. 138,357. Patented April 29, 1873.

Fig. 1

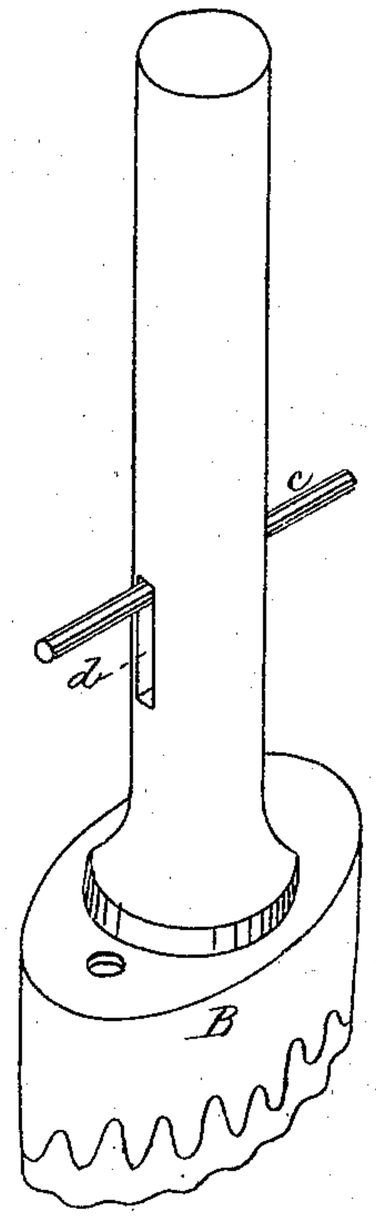


Fig. 2

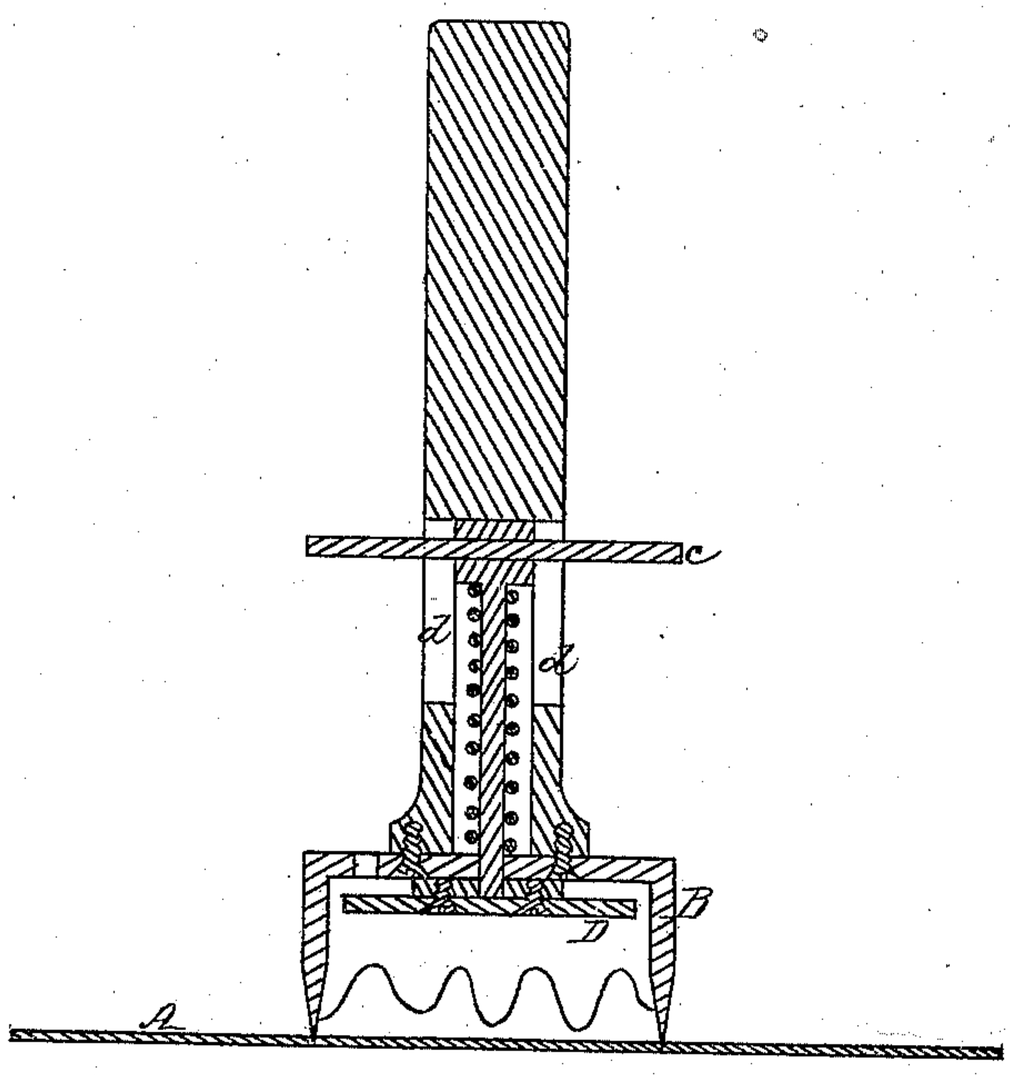
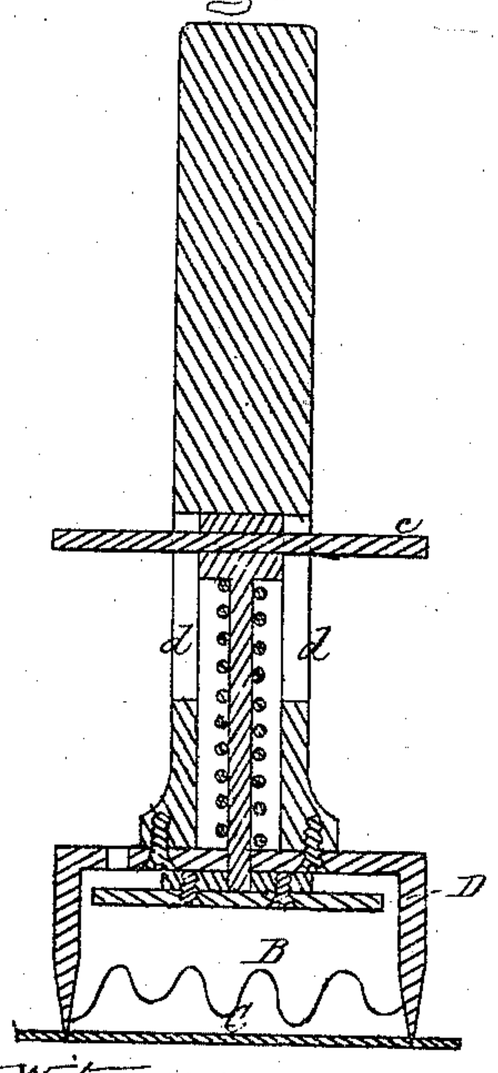


Fig. 3



Witnesses;
P. C. Teschemacher
" "
W. J. Cambridge

Inventor;
Aaron. H. Allen

2 Sheets--Sheet 2.

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Fig. 4

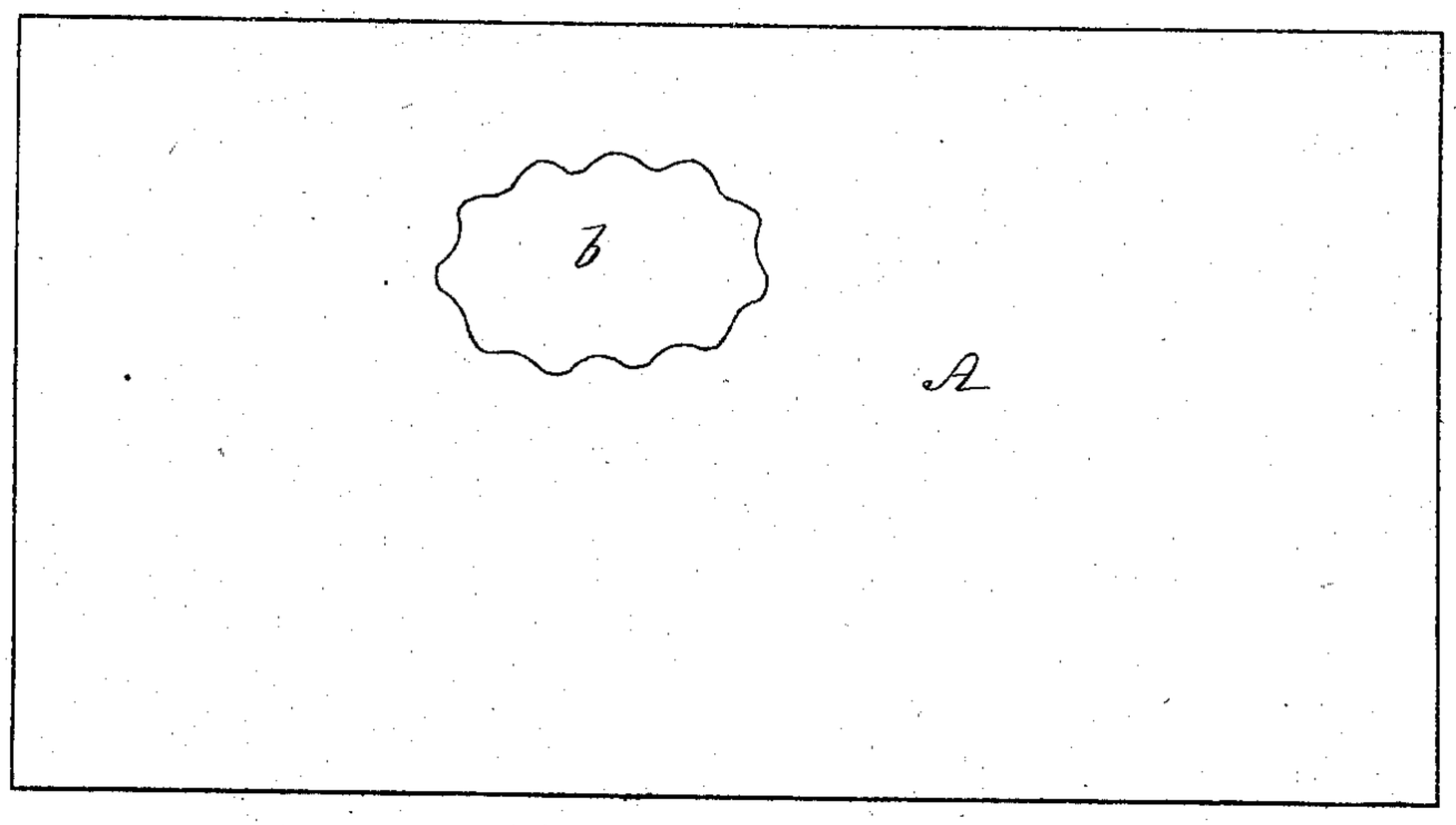


Fig. 5

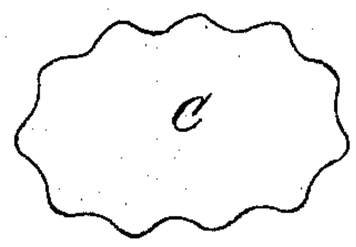
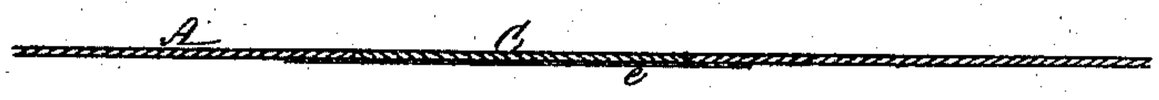


Fig. 6



Witnesses;

P. C. Tschemacher

W. J. Cambridge

Inventor;

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UNITED STATES PATENT OFFICE.

AARON H. ALLEN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN THE METHODS OF PERFECTING VENEERS.

Specification forming part of Letters Patent No. **138,357**, dated April 29, 1873; application filed December 14, 1872.

To all whom it may concern:

Be it known that I, AARON H. ALLEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an improved method of cutting out imperfect portions of veneers and fitting new pieces therein, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of the punch which I employ for removing knots or imperfect portions of veneers, and also for cutting out new pieces to be substituted therefor. Fig. 2 is a vertical section through the center of the punch when forced through a veneer to remove a knot or imperfect portion. Fig. 3 is a vertical section through the punch, representing the method of cutting out a new piece to replace the imperfect or removed portion of the veneer. Fig. 4 represents a veneer from which an imperfect portion has been cut by the punch represented in Fig. 1. Fig. 5 represents a piece cut out by the same punch to be fitted into the opening in the veneer shown in Fig. 4. Fig. 6 is a section through a veneer having a new piece fitted therein in accordance with my invention.

The appearance of veneers is nearly always marred or injured by loose knots or imperfect or decayed portions; and, as these veneers are often of rare and costly woods, it is customary to remove these imperfect portions and substitute new pieces therefor. Much time, skill, and labor are, however, required to cut and fit these pieces; and, notwithstanding the care used, it is almost impossible to make a perfectly close or tight joint.

My invention has for its object to overcome these difficulties; and consists in a peculiar method of cutting out imperfect portions of veneers and replacing them with new pieces, in which method I avail myself of the principle that wood compressed when in a dry state will, if wetted, return to its original size and shape, whereby an ordinary mechanic can readily perform the operation in so perfect a manner that the joint is rendered nearly or entirely invisible.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawing, A, Fig. 4, represents a veneer from which an imperfect portion has been cut by means of a punch, B, Fig. 1, when the wood is in a dry state, leaving an opening, *b*. This punch, which may be round, oval, or of other form, and of any required size, is made inclined or wedge-shaped from the cutting-edge upward both on the outside and inside, as seen in Fig. 2, and thus, when the punch is forced through the veneer to cut out its imperfect portion, the wood all around the edge of the opening *b* is compressed or forced outward, as seen in Fig. 2, so that the size of the opening will slightly exceed that of the cutting-edge of the punch. A piece, C, Fig. 5, is then cut by the same punch out of a dry veneer of the same thickness as the veneer A, the wedge-shaped form of the interior of the punch causing the wood to be compressed or forced inward, as seen in Fig. 3. The piece C, when cut, is forced out of the punch by a plunger, D, which is operated by a cross-bar, *c*, projecting through slots *d* in the sides of the shank or stem of the punch; or the plunger may be dispensed with and the piece of wood forced out by a rod or other instrument inserted through an opening in the top of the punch. The veneer is now laid on a table or other smooth surface, (I prefer marble,) and the piece C dropped into the opening *b*, after which a piece, *e*, of paper or other suitable material having its surface covered with thin glue, paste, or other wet adhesive compound, is placed over it and held down by a glass or other suitable weight. The paper *e* is of sufficient size to overlap the edges of the opening *b*, and serves to hold the piece C in place. The moisture of the glue on the paper *e* serves to dampen that portion of the veneer A around the edge of the opening *b* which was compressed by the punch, and also the piece C; this moistening of the wood previously compressed causing it to expand and return to its original size and shape, when the piece C will completely fill the opening *b*, the edges of the wood being forced by its expansion so tightly together that the joint is rendered nearly or entirely invisible.

If the wood should not be rendered suffi-

ciently wet by the glue on the paper *e*, water may be used, if desired.

In order to still further guard against the detection of the line of the joint the cutting-edge of the punch is made with a series of curves or corrugations, which causes the edges of the opening *b* to conform as nearly as possible to the curved or wavy lines of the grain of the wood of which many veneers are composed. I, therefore, provide a number of punches having differently curved or corrugated cutting-edges, in order that one may be selected whose cutting-edge corresponds nearly to the lines of the grain of the particular veneer to be cut.

From the foregoing it will be seen that an ordinary mechanic can easily and in a very short time remove an imperfect portion of a veneer and replace it with a new piece in so perfect a manner that the joint cannot, in a majority of cases, be detected at all—a desideratum heretofore unattained—thus not only giving the work a superior finish, but also effecting a very great saving in time, labor, and expense.

If desired, the punch can be made inclined or wedged-shaped from the cutting-edge upward on either the inside or outside only, instead of both on the inside and outside, as shown, without departing from the spirit of my invention, and the cutting-edge can be made plain, instead of corrugated, if desired.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

The method of cutting out imperfect portions of veneers and fitting new pieces therein, substantially as herein described.

Witness my hand this 7th day of December, A. D. 1872.

AARON H. ALLEN

In presence of—
P. E. TESCHEMACHER,
W. J. CAMBRIDGE.