H. KNOWLES.

MODE OF GLUING VENEERS.

No. 6,738. Patented Sept. 25, 1849.

Fig 1

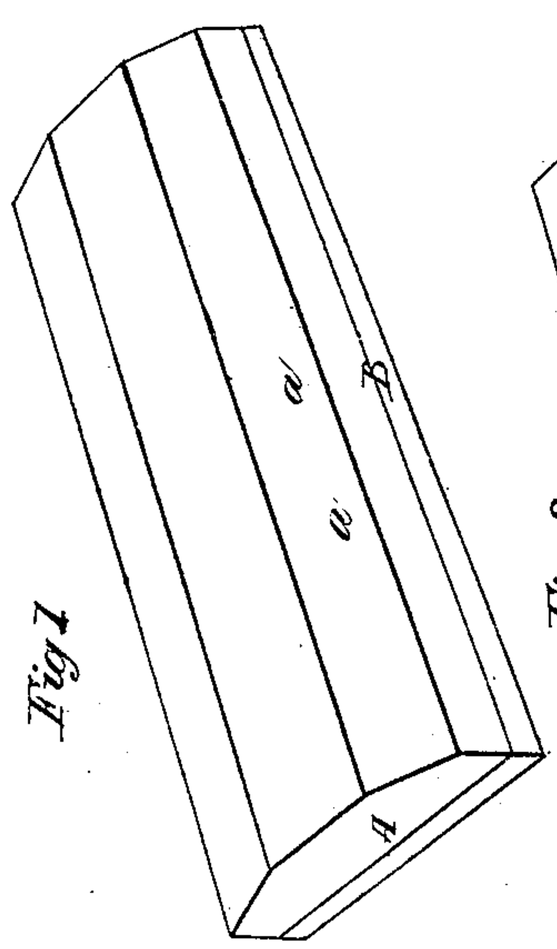


Fig 2

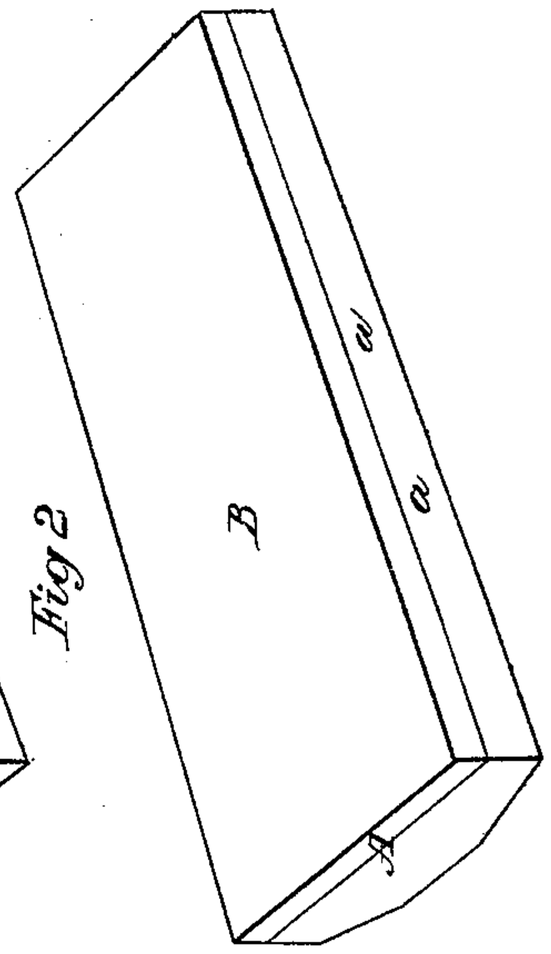


Fig 4

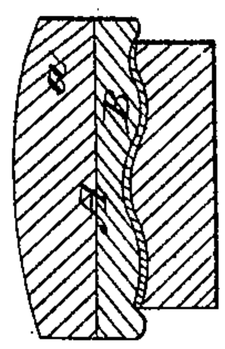
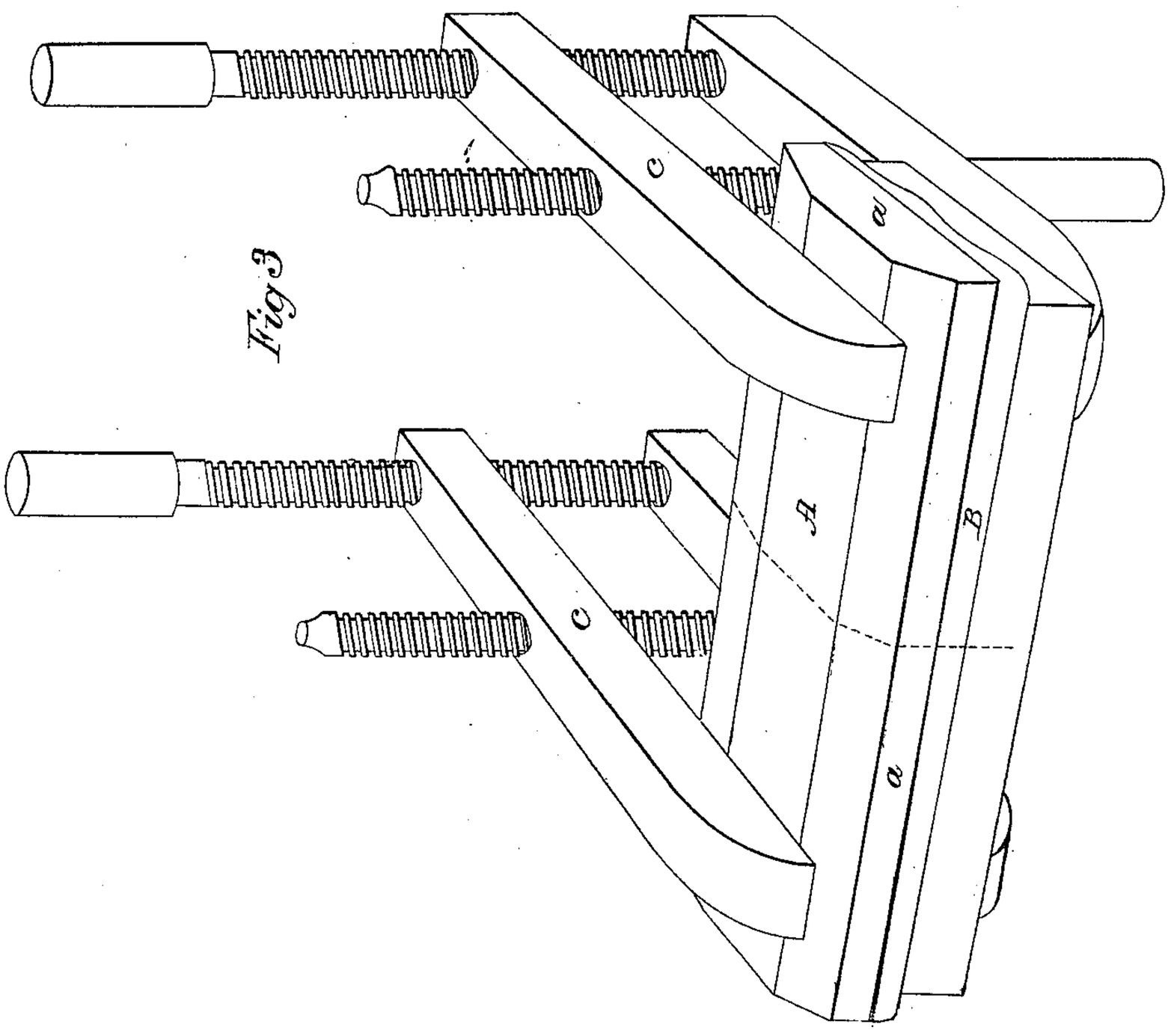


Fig 3



UNITED STATES PATENT OFFICE.

HAZARD KNOWLES, OF WASHINGTON, DISTRICT OF COLUMBIA.

CAUL FOR VENEERING.

Specification of Letters Patent No. 6,738, dated September 25, 1849.

To all whom it may concern:

Be it known that I, HAZARD KNOWLES, of the city of Washington, in the District of Columbia, have discovered a new and Improved Mode of Gluing Veneers upon Either Plane or Irregular Surfaces, to be Used in Cabinet-Work, of which the following is a full and exact description, reference being had to the annexed drawing of the same, making part of this specification, in which—

Figure 1 is a perspective view of one of my improved press blocks with its elastic surface downward, Fig. 2 is a view of the same with its elastic surface upward, Fig. 3 is a view of the apparatus in the act of compressing a veneer upon an irregular surface. Fig. 4 is a section taken through the line *x*—*x* of Fig. 3.

The same letters of reference indicate the same parts in all the figures.

It has at all times been considered a difficult operation to glue veneer upon irregular surfaces in a solid and durable manner, and this difficulty has mainly resulted from the inadequacy of the means employed for the purpose, to bring the adjacent surfaces of the veneer and ground work into absolute contact, by expressing all the glue from between them which they are not capable of absorbing, for if this be not done the work will necessarily be imperfect, because the accumulations of glue will shrink as they dry, leaving a hollow space between the veneer and ground, rendering it, what in the language of the workshop is termed "shelly." One of the methods heretofore employed to overcome this difficulty has been to take a piece of soft wood, and carve out a counterpart of the surface to be veneered, then placing the veneer properly glued between these intaglio and rilievo surfaces and compressing them together by hand screws, the work will be very perfectly done if the veneer be of an uniform thickness, and the surface upon which it is glued, and that of the counterpart exactly correspond. This correspondence in practice can never be attained from the rough manner in which the carving must of necessity be done, and from constant inequalities in the thickness of veneering. In the finer kinds of cabinet furniture where perfection of workmanship is aimed at irrespective of the cost, counterparts have been cast in plaster and soft metal, but even this expensive process fails to fix the veneering upon the groundwork as solid and firm as it is desirable to have it done, because of the inequalities of the veneer itself, which cause the thick parts to receive undue pressure, while the thin parts are not compressed enough.

I propose to remedy all these difficulties by using as a counterpart for pressing the veneer into contact with the surface upon which it is required to glue it, a stratum of some elastic substance sufficiently thick to be readily compressible into the cavities of the surface under operation and to allow the protuberances to penetrate into its mass, thus exerting a sufficient and nearly uniform pressure upon every part, bringing the veneer into close contact with all the inequalities of the ground work, and effectually expressing all surplus glue from between them.

There are many elastic substances which can with more or less advantage be used for this purpose, but I prefer indian rubber in most cases, from its superior adaptation to the purpose, and the facility with which it may generally be obtained.

In the accompanying drawings A is the counterpart (which for convenience I shall call the press block) it has a back *a* made of wood or metal of sufficient strength not to yield easily under the pressure of hand screws, the outer side of which should be raised in the middle in order to facilitate the proper application of the hand screws, as seen at C. The inner side of this rigid back is lined with an elastic stratum B of suitable thickness. For veneering surfaces with but slight inequalities the elastic lining of the block may be made quite thin, but for veneering such surfaces as have bold inequalities in them, it must be made proportionately thick.

A press block of this kind will answer for surfaces of all shapes, because the moment the pressure is removed from it, the surface resumes its original plane form.

When it is required to veneer surfaces of considerable curvature, it would be best to make the press blocks in short sections, detached from the elastic cushion which should be laid upon the veneer, and then the blocks to which the pressure is applied placed upon it.

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

The method herein described, of interposing between the veneer, and the screw or other device by which it is compressed into

contact with the surface on which it is required to glue it, a stratum of some elastic substance, thick enough to be readily compressible into the cavities, and to allow the protuberances of the surface to penetrate into its mass, whereby a sufficient pressure is exerted upon every part of the veneer, bringing it into close contact with the surfaces of all the inequalities of the ground, and effectually expressing the surplus glue from between them.

In testimony whereof I have hereunto set my hand this 25th day of January, A. D. 1849.

HAZARD KNOWLES.

Witnesses:

P. A. WATSON,

WM. D. WASHINGTON.