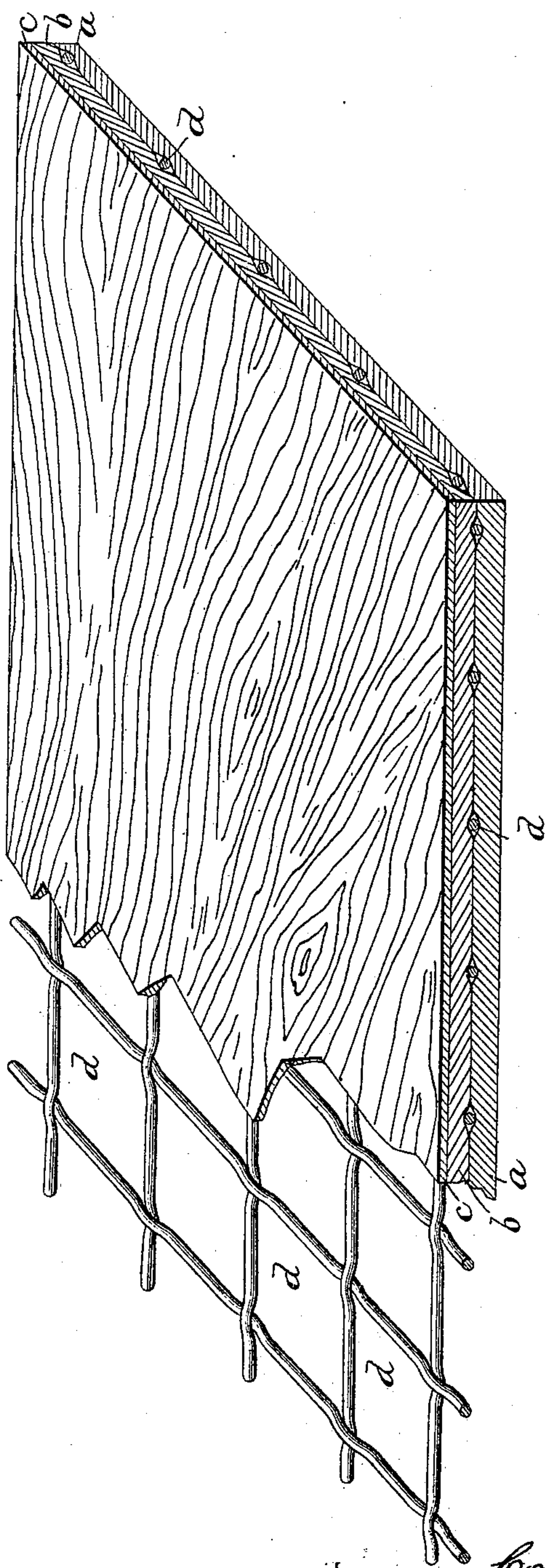


(No Model.)

C. HEEPE.
SUBSTITUTE FOR WOOD OR LEATHER.

No. 488,809.

Patented Dec. 27, 1892.



Witnesses
A. J. Schwartz
E. B. Clark

Inventor
Conrad Heepe
by *W. H. Engle*
his Attorney.

UNITED STATES PATENT OFFICE.

CONRAD HEEPE, OF FRANKFORT-ON-THE-MAIN, ASSIGNOR TO VEREINIGTE HOLZINDUSTRIE, FABRIK FRANKENTHAL, OF FRANKENTHAL, GERMANY.

SUBSTITUTE FOR WOOD AND LEATHER.

SPECIFICATION forming part of Letters Patent No. 488,809, dated December 27, 1892.

Application filed January 15, 1892. Serial No. 418,157. (No specimens.) Patented in Germany August 18, 1889, No. 51,711; in France September 16, 1889, No. 200,805; in Belgium November 22, 1889, No. 88,556; in England November 22, 1889, No. 18,730, and in Austria-Hungary March 15, 1890, No. 51,669 and No. 11,253.

To all whom it may concern:

Be it known that I, CONRAD HEEPE, a subject of the Emperor of Germany, and a resident at Frankfort-on-the-Main, Germany, have invented new and useful Improvements in Wood Veneers, (for which I have obtained Letters Patent in Germany, dated August 18, 1889, No. 51,711; in France, dated September 16, 1889, No. 200,805; in Belgium, dated November 22, 1889, No. 88,556; in England, dated November 22, 1889, No. 18,730, and in Austria-Hungary, dated March 15, 1890, No. 51,669 and No. 11,253,) of which the following is a specification.

The material consists of a combination of wood plates (veneers, strips) and an elastic and not readily torn foundation material, or core of open-meshed wire fabric. The combination is of such a kind that the new material possesses the outward appearance of wood, but is also as flexible and tough as leather.

My invention is preferably carried out as follows, reference being had to the accompanying drawing which represents in perspective a compound wood-veneer embodying my invention in what I consider its preferred form.

A sheet of wood-veneer, *a*, is coated on its upper surface with a thin layer of glue or similar cement which is preferably treated with glycerine or any equivalent hygroscopic material which will prevent the glue from drying and becoming brittle. The foundation, *d*, of open-meshed wire-fabric, whose wires are preferably from six to eight millimeters apart, is then laid on the veneer, *a*, whereupon the second layer, *b*, of wood-veneer, preferably also coated on its underside with a thin film of non-drying glue is laid on. The two layers of wood-veneer with the interposed foundation of open-meshed wire-fabric are then subjected to pressure between two pressure surfaces or platens, which are coated with sheets of yielding material, such as india-rubber, which permits the pressure to be exerted with sufficient force between the meshes of and in the interstices of the same to cause the inner surfaces of the veneers to bend down and dip

into the interstices of the fabric, *d*, to such an extent that these inner surfaces touch each other and are forced together with sufficient force to adhere through the combined action of the pressure and adhesive coatings. The pressure is increased until, the shape of the core or foundation, shows on the outer surfaces of the wood, thereby indicating that the two inner faces of the wood have come into complete contact. When dried the outsides can be again rendered smooth by planing or shaving.

The foundation *d d* gives the material produced good strength against breakage, and hinders shrinking and warping.

The firm union of the two sheets *a b* by means of an elastic glue gives them a great bending elasticity and toughness.

The invention can also be employed for uniting more than two veneers *c* on the drawing representing a third veneer which can be placed and pasted on the finished sheet. The same is also not limited to the production of flat sheets, but by the employment of curved pressure surfaces, bent sheets can be produced as desired. The application of these for book backs has been found to be very advantageous. An ornamental shape can be given to the core or foundation *d d* which then appears in relief on the surface.

A characteristic feature of the invention is the employment of a wide meshed net as a foundation in connection with the pressing of sheets connected by an elastic glue, by means of an elastic coating of the pressure surfaces, so that contact of the surfaces takes place between the meshes of the net. By inserting the open meshed wire fabric, *d*, between the sheets of wood, I obtain a veneer which has all the advantages of wood veneer, while the open wire fabric effectually obviates the tendency of the wood of splitting along the grain and at the same time allows the two layers of the wood to be united as compactly in substance as though no interposed foundation were used.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed,

I declare that what I claim and wish to secure by Letters Patent of the United States of America is.—

1. A compound wood veneer consisting of
5 two sheets or veneers of wood, in combination
with an interposed foundation of open-meshed
wire-fabric, the inner surfaces of the veneers
of wood bending down or dipping into the in-
terstices of the wire fabric, so as to touch
10 each other and be cemented together, sub-
stantially as set forth.

2. A compound wood veneer consisting of
two sheets or veneers of wood in combination
with an interposed foundation of open-meshed
15 wire-fabric, the inner surfaces of the veneers
of wood bending down or dipping into the in-
terstices of the wire-fabric, so as to touch
each other and be cemented together, and a
third veneer as *c*, cemented to the outer veneer

to cover the marks of the interposed fabric 20
produced on the outer face of the veneer, sub-
stantially as set forth.

3. The method of producing compound
wood-veneers, which consists in coating the
inner surfaces of two veneers with a suitable 25
cement, interposing a foundation of open-
meshed wire-fabric between them, placing the
compound veneer thus formed between elas-
tic coverings and subjecting the whole to
pressure substantially as set forth. 30

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

CONRAD HEEPE.

Witnesses:

FRANZ HASSLACHER,
FRIEDRICH CORRELL.