

Oct. 29, 1935.

G. DÉSAGNAT
PROCESS (AND APPARATUS) FOR CHAMFERING THE
SHARP EDGES OF SMALL PLATES OF A LINING
Filed May 28, 1934 2

2,019,398

2 Sheets-Sheet 1

Fig.1

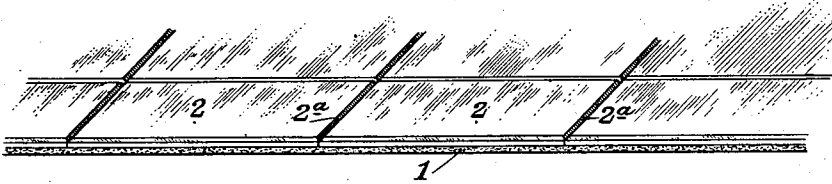
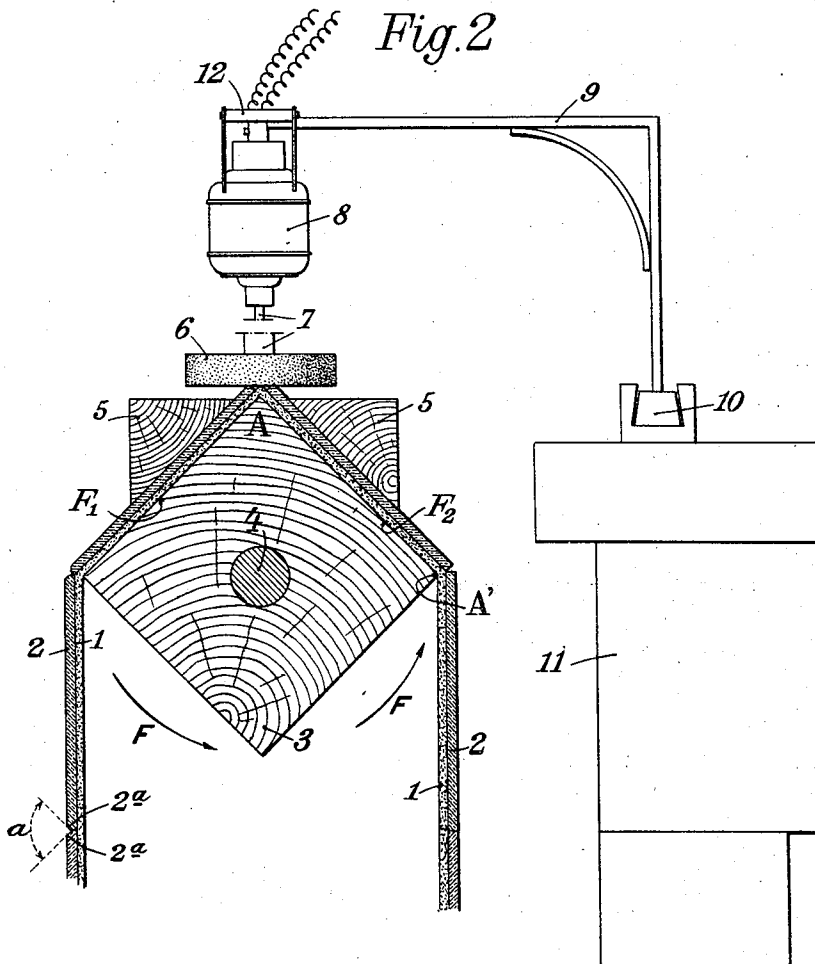


Fig.2



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Fig. 3

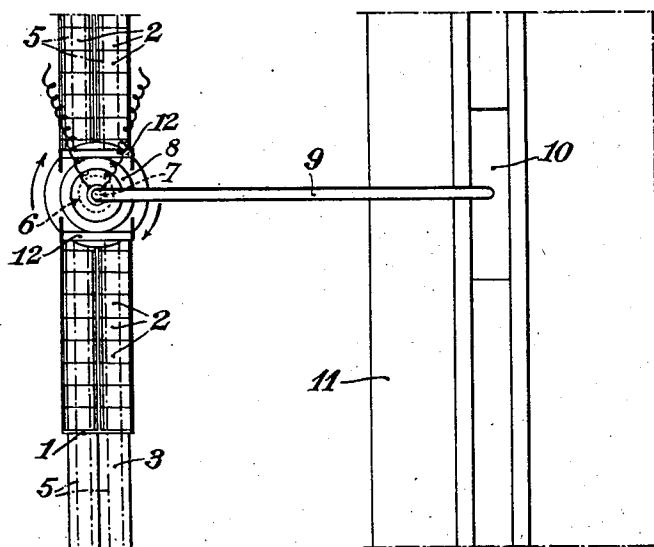
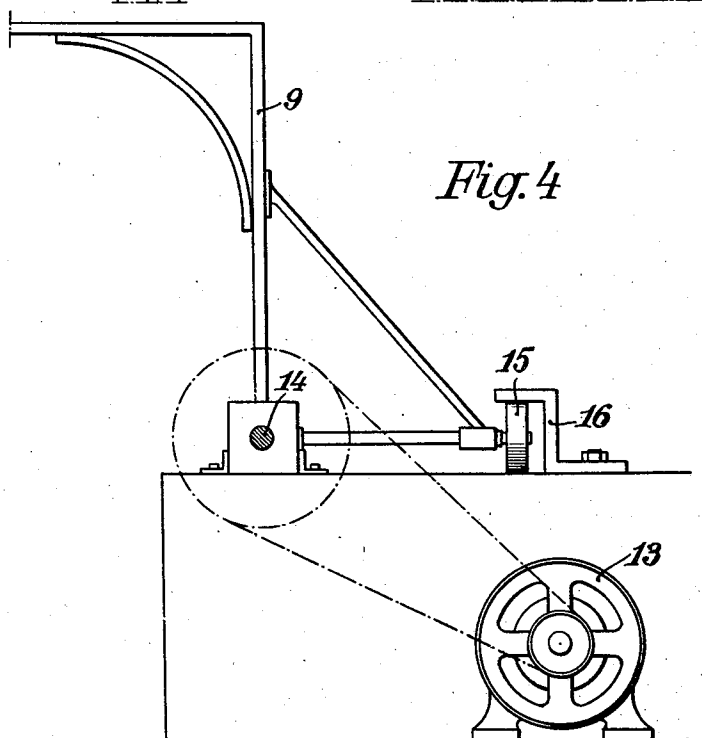


Fig. 4



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UNITED STATES PATENT OFFICE

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PROCESS (AND APPARATUS) FOR CHAMFERING THE SHARP EDGES OF SMALL PLATES OF A LINING

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4 Claims. (Cl. 51—278)

This invention has for its object an improvement to wall or similar linings which in known manner comprise abutted plates rigidly arranged to suit the use contemplated and glued on a backing made of such sheet material as swanskin, knitting and the like.

Such plates usually have sharp edges and substantially abutted sides; for instance, they are obtained simply by cutting a sheet of the decorative material with a diamond after gluing said sheet on the backing.

Now, when particularly opal glass is used for the production of such linings, it is not possible to obtain the glass in sheets of uniform thickness; consequently, differences appear in the thicknesses of the plates, which can but deteriorate the appearance of the lining; particularly when the latter is illuminated with skimming light these differences in thickness will produce shadows by which they will be brought out and even amplified and whereby the appearance of the lining will be even more irregular than its real one.

According to this invention the inconvenience mentioned above is overcome in that the edges of the plates are so chamfered that instead of the joint between adjacent plates being limited by plain and substantially abutting edges of which the least differences in thickness are amplified, it is limited by widened edges between which a sufficient space is provided to ensure that said unequalities will no longer be visible and will not produce shadows by which they would be brought out.

The edges by virtue of their slope are visible and meet at about the middle of their thickness, so that notwithstanding the gap therebetween at the outside thereof they will not uncover the backing and will not create voids in the lining. On the contrary they will in some respects form moldings that add to the decorative appearance of the lining.

Another advantage is that the chamfers suppress the sharp edges and corners produced by the cutting and on which one may have his skin excoriated or cut by passing his hand on the lining.

Cleaning is also facilitated, as the joints with flaring edges are accessible more conveniently and the dust settled therein can be wiped away easily; moreover, the edges and corners of the joints cannot retain or tear away the wiping rags. It is also to be noted that, as a result of the slope of the joint edges, water cannot stay therein and rot the backing.

An embodiment of the lining according to this invention and of a device for producing the same will now be described, reference being had to the drawings appended hereto by way of example and in which:—

Figure 1 is a perspective view of the lining.

Figure 2 is an elevational view of a joint chamfering device.

Figure 3 is a corresponding plan view.

Figure 4 is a fractional elevational view of a modification of the device.

The lining is made in known manner of a rigid sheet of decorative material glued on a swanskin or knitting or like backing 1 and cut into abutting plates 2.

According to the invention, the edges of the said plates are chamfered on a certain depth so that bevels 2a are formed which meet at their lower portions and between which such a space e is provided on a level with the lining surface that height differences between the plates shall not be visible.

The invention moreover provides a device adapted easily and quickly to produce perfectly regular bevels having the exact depth and width desired.

After cutting up the plates 2 the lining is laid on a prism-shaped support 3 rotatable about a shaft 4 so that the line of the joint to be chamfered registers with an edge A of the said support and that the rows of plates adjacent to said line rest on the two adjacent faces F₁, F₂ of the support, on which they may be retained by clamping means 5. The two edges of the joint line bearing on the edge A thus are pulled apart and the sharp edges of the plates 2 are set out.

Said edges then are ground away by means of a flat grinding wheel 6 that is laid thereon and traversed lengthwise of the joint line.

Said grinding wheel for instance is fulcrumed universally on the shaft 7 of a miniature electric motor 8 which in turn is secured to a bracket 9.

In the case of low output plants the bracket 9 may be arranged in a slide 10 in the framework 11, the grinding wheel being traversed by hand along the joint line to be chamfered, by moving the bracket in the said slide with the aid of a handle 12.

The angle between faces F₁, F₂ of the support is suitably chosen in order that when the lining 50 reassumes its normal shape the desired angle α shall be obtained between the facets or chamfers 2a produced by the wheel 6.

According to a particular arrangement the width of faces F₁, F₂, . . . of the support corre-

sponds to that of the plates 2, so that after the chamfers 2a are ground along a joint line it is only necessary to swing the support 3 about its shaft 4 e. g. in the direction of the arrows F to bring another edge A' thereof under the wheel 6; by virtue of the arrangement described the said edge A' holds up another plate joint line to the wheel and it is only necessary to repeat the operation already described on the said joint line.

If the plate width is a submultiple of that of faces F₁, F₂, e. g. one half thereof, one joint out of two will be chamfered as described, whereafter the lining may be shifted by hand by the width of one plate in order to bring a still unchamfered joint line in register with an edge, the operation then being repeated to chamfer the joints left at the first grinding operation.

A device for a large output plant is shown in Fig. 4.

In this case the movement of the bracket 9 supporting the wheel is produced by a motor 13, e. g. by means of a nut and spindle gear 14, the bracket being kept vertical by a roller 15 engaging the underside of a guide rail 16.

The drive will be arranged to allow the bracket being moved in one direction then in the other so that the reversing may take place when the wheel reaches one end of a joint line. Such reversing may if desired be produced automatically, as well as the shifting of support 3, e. g. by shifting members actuated by the bracket at the end of its travel.

It will be understood that the device described, although a preferred one, is by no means compulsory and that any machine suitable for the production of such chamfered plate linings may be used without thereby departing from the invention; for instance, instead of using a flat wheel and a support arranged to open the joints between the plates a bevelled wheel may be used; the device may also be arranged in such manner that it can operate on other than straight joint lines, etc.

If, in particular, a lining constituted by plates made of wood, or fibrous material is treated, it will first be convenient to form the bevels by means of a grinding wheel cut on a bevel, of a plane, or of a rotating wheel, and only subsequently to divide the plate into small plates, by simple pressure, by taking advantage of the starting point formed by the bevel.

A lining is thus obtained which can very advantageously replace floor, owing to its low cost price, its strength, and the ease with which it

can be cleaned, simple sweeping with a broom in the bevel allowing to clear the dust which may have entered therein.

I claim:

1. A process for chamfering the sharp edges of small plates of a lining composed of a flexible substratum on which is glued a rigid plate which has been cut out on said substratum into small rectangular elements after it has been glued in position, which consists in folding this lining rearwardly according to each joint line of the rows of small adjacent edges are angularly spaced apart, and in cutting said edges according to faces aligned according to one and the same plane.

2. An apparatus for carrying out the process according to claim 1 comprising a support in the shape of a dihedron, means whereby a pair of lining portions located on either side of a plate joint line are pressed on the corresponding pair of faces of the said dihedron, a grinding wheel in front of the edge of said dihedron adapted to produce chamfers on the outer plate sides adjacent to the said joint line when the lining is laid on the dihedron with its plates facing outward and means to traverse the wheel along the edge of the dihedron.

3. An apparatus for carrying out the process according to claim 1 comprising a support in the shape of a dihedron having the same angle of aperture as the angle to be given to the chamfers of two adjacent plates means whereby a pair of lining portions located on either side of a plate joint line are pressed on the corresponding pair of faces of the said dihedron, a grinding wheel in front of the edge of said dihedron adapted to bear with a straight portion on the outer plate sides adjacent to the said joint line when the lining is laid on the dihedron with its plates facing outward and means to traverse the wheel along the edge of the dihedron.

4. An apparatus for carrying out the process according to claim 1 comprising a prism-shaped support of which the face width bears a whole number ratio to face width, a wheel in front of one edge of the prism adapted to produce chamfers on the outer lining plate sides adjacent to a joint line when the latter is in registering relation to the said edge and when the lining at either side of said joint line is laid on either adjacent face of the prism with its plates facing outwards, means to swivel the prism in order to bring the edges thereof under the wheel successively and means to cause the lining to partake of such swivelling motion of the prism.

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