Feb. 26, 1935. F. OVENHAUSEN 1,992,715

SHEET OF VENEER

Original Filed Jan. 6, 1928 3 Sheets-Sheet 1

Fig. 1

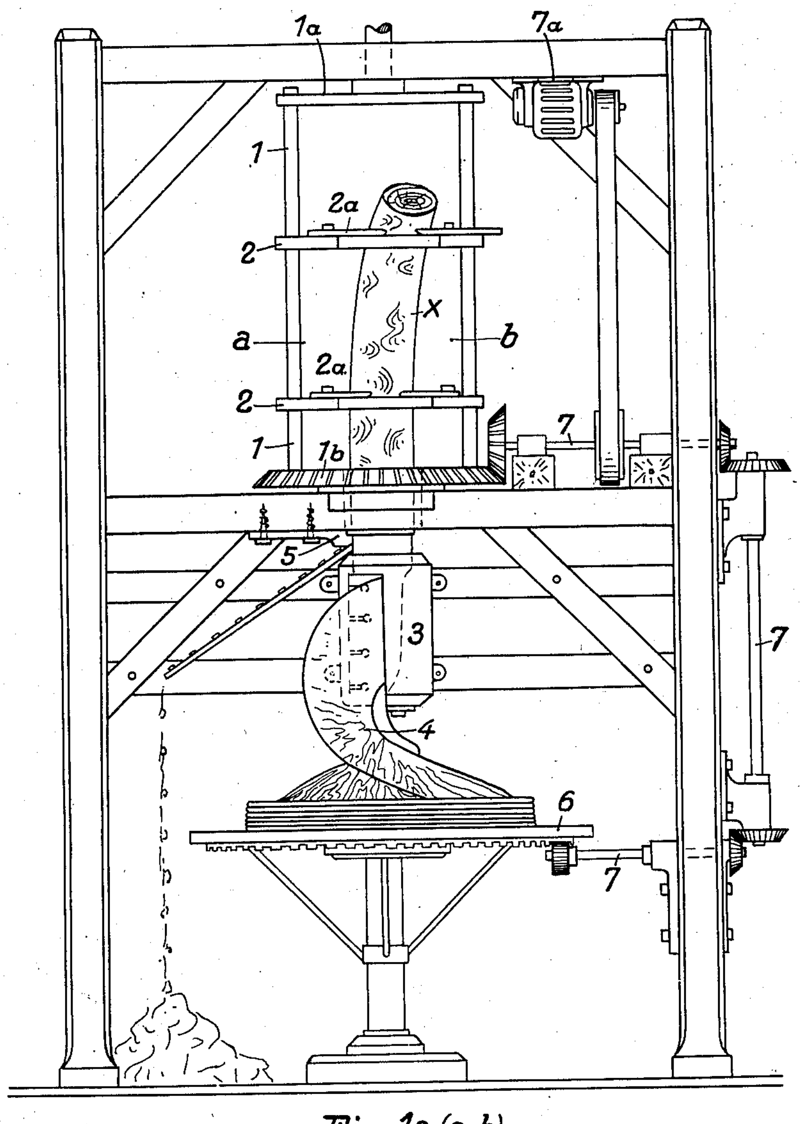
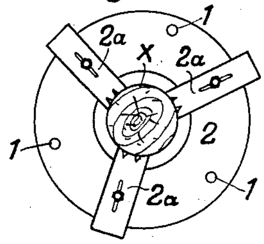


Fig. 1a (a-b)



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SHEET OF VENEER

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Fig. 2

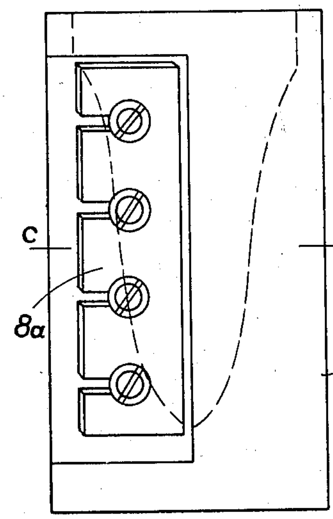
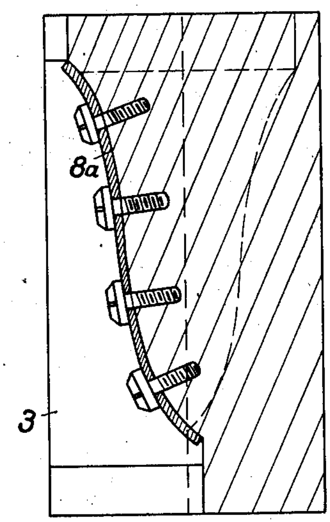


Fig. 4 (e-f)



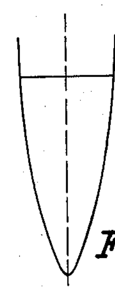


Fig. 6

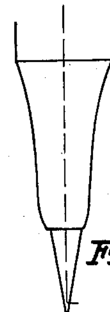


Fig. 7

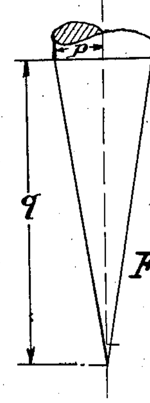


Fig. 8

Fig. 3

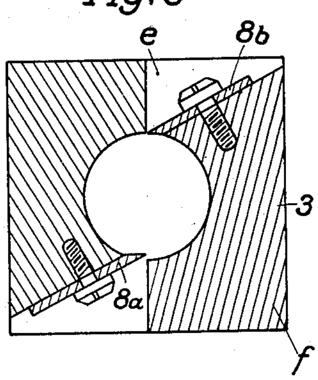
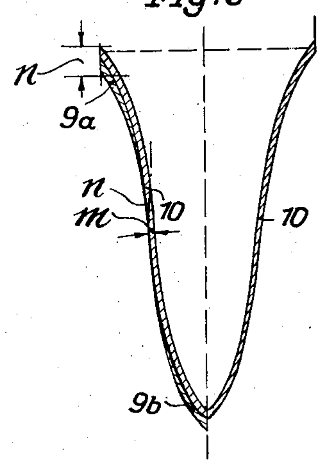


Fig. 5



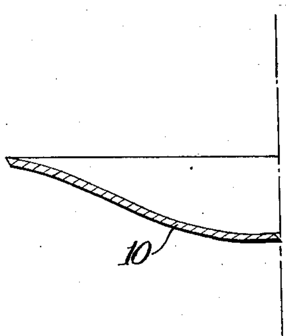


Fig. 9

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SHEET OF VENEER

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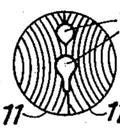


Fig. 10a

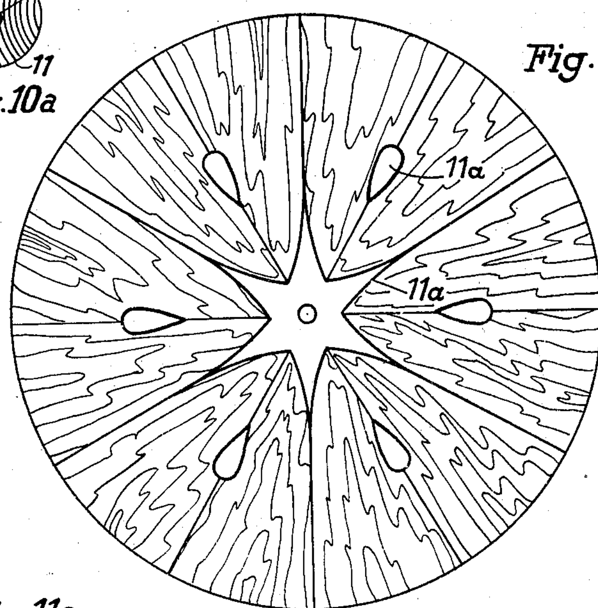
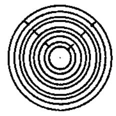


Fig. 10

Fig. 11a



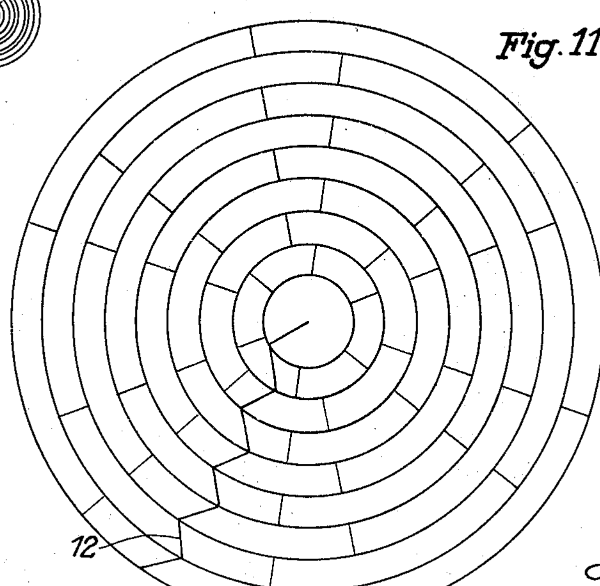


Fig. 11

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UNITED STATES PATENT OFFICE

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SHEET OF VENEER

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Original application January 6, 1928, Serial No. 245,018. Divided and this application December 23, 1930, Serial No. 504,433. In Germany May 25, 1926

12 Claims. (Cl. 20—89)

This invention relates to a sheet of veneer and consists more particularly in a sheet of veneer comprising a whole multiple of sectors joined together and having substantially equal areas with their axes intersecting each other in one point.

This application is a divisional application of Ser. No. 245,018, filed by the applicant on January 6, 1928.

With the above and other objects in view as will be hereinafter apparent, this invention consists in the construction of a sheet of veneer as hereinafter more fully described, claimed and illustrated in the accompanying drawings:

Fig. 1 represents a view of a device for manufacturing a sheet of veneer in accordance with the invention,

Fig. 1*a* is a section along the line *a*—*b* of Fig. 1, together with a view upon a clamping device seen from above,

Fig. 2 is a view of a knife-carrier,

Fig. 3 is a section along the line *c*—*d* of Fig. 2,

Fig. 4 is a section along the line *e*—*f* of Fig. 3,

Fig. 5 illustrates the cutting-process,

Fig. 6, 7 and 8 represent different shapes of points of work-piece,

Fig. 9 shows a form which the cut veneers may assume when using knives or cutters of varying profile,

Fig. 10*a* illustrates a section of a work-piece and

Fig. 10 illustrates a veneer which has been cut from a work-piece in accordance with Fig. 10*a*,

Fig. 11*a* shows a view on another work-piece and

Fig. 11 also a veneer peeled off a work-piece as illustrated in Fig. 11*a*.

In the drawings 1 represents three rods which are held together with the aid of a plate 1*a* and a bevelled gear-wheel 1*b*. Along these rods sliding rings 2 are provided with holders 2*a* capable of holding or supporting a trunk or work-piece. 3 represents a knife-carrier supporting one or several knives and encompassing the work-piece *x* like a funnel, 4 illustrates a cut veneer, 5 a knife or cutter intended to cut off the bark of the work-piece *x* and also to cut down the work-piece to a uniform cylindrical shape. The rings 2 together with the trunk *x* are adapted to move towards the knife-carrier. 6 is a table upon which the veneer is deposited, 7 a gear-wheel transmission which is actuated through the medium of the motor 7*a* and causes the gear-wheel 1*b* and the table 6 to revolve in such way, that the speed of the table is adapted to the general inclination of the cutting knife to the work-piece.

To obtain the peeling action it is not only necessary that either the knife rotate relative to the object or the object rotate relative to the knife, but in addition, there must be a further relative movement between the two parts which extends parallel with the axis of the cone. This movement is of importance because only thereby is it possible to cut an endless veneer strip of substantially the same width. The result of a movement of the knife transversely to the cone axis would be a progressively smaller diameter of the veneer strip.

According to Fig. 3 the knife-carrier 3 has been provided with two knives 8*a*, 8*b*. This is for the following purpose: In case of using a curved knife the veneer cut from the work-piece does not obtain a uniform thickness throughout its breadth when the work-piece and the curved knife are moved while cutting relatively to each other in a direction corresponding with the axis of the work-piece but will adopt a cross section of unequal thickness as shown for example in Fig. 5.

In order to obtain a veneer of a thickness *m*, it is necessary to move the knife toward the object or reversely for a section *n*. In such case, in order to obtain a veneer 10 of the uniform thickness *m*, the superfluous thicknesses 9*a* and 9*b* must be removed before or after the peeling. According to the invention one of the knives 8*a* and 8*b* for example knife 8*a* owing to its position staggered to the position of the knife 8*b* in the direction of the axis of the work-piece which both have identical cutting edges firstly cuts off strips with cross sections according to the parts 9*a*, 9*b*, before the second knife 8*b* cuts off the remaining strip of uniform thickness according to the section 10. If a veneer, which is cut in this manner, is spread out flat but without pressing, the veneer will have the cross section shown in Fig. 9. The veneer is shaped like a dish. If the knives are straight as per Fig. 8 it will be obvious that a flat veneer uniformly thick will be obtained a curved knife or cutter in accordance with Figs. 2—5 renders it possible to produce veneers which are free from portions in the middle overlapping each other, because the points of the work-piece have in this instance been rounded off. In case of an absolutely conical surface it is requisite to cut off the point for the purpose of obviating an overlapping of the portions cut at the point of the work-piece.

Fig. 10*a* represents a work-piece composed of 2 halves, f. i. of walnut. Between these two halves rodlike insertions 11*a* consisting of a different material, such as ebony have been deposited. The inclination of the knife relative to the object should be expressed by the ratio $p:q$ according to Fig. 8, which advantageously shows the value 1:6. With an inclination of the knife to the work-piece of 1:6 a veneer showing a design as illustrated in Fig. 10 will be obtained. The work-piece may naturally be composed of ringshaped or other parts as shown in Fig. 11*a* yielding a veneer as seen in Fig. 11.

In regard to the inclination of the knife to the radius of the base of the point of the work-piece to be cut it should be noted that this may vary to some extent. A completely cut wooden veneer will always be subject to certain amount of shrinkage, owing to drying of the moisture still contained therein. This shrinkage may be preliminarily duly compensated for. This may be effected by taking the generatrix a little smaller than a whole multiple of the radius of the base of the core. After the shrinkage the spread out veneer will then contain the grain of the work-piece in a complete multiple.

In Fig. 11 represents 12 a zigzag shaped joint.

I claim:

1. A sheet of veneering cut from a cylindrical member along a surface formed by a helical movement of a line intersecting the axis of the member at an acute angle and being driven in the direction parallel to the axis of symmetry of said member.

2. A sheet of veneering as defined by claim 1 in which the cylindrical member is composed of a plurality of different kinds of wood.

3. An integral sheet of veneering as defined by claim 1 in which the grain appears as a plurality of similar segment like sections.

4. A sheet of veneering comprising a single flat piece of wood having a plurality of grain faces radiating from a common center.

5. A sheet of wooden veneer having the fibrous structure of the wood extending radially from the center of the sheet and at an angle to the axis of said sheet.

6. A sheet of veneer comprising a portion of a continuous, annular piece adapted to extend in a length greater than 360 degrees.

7. A sheet of veneer comprising a whole multiple of sectors joined together and having substantially equal areas with their axes intersecting each other in one point, said sectors comprising envelopes peeled off from a cone.

8. A sheet of veneer comprising an envelope peeled off from a cone interspersed in the direction of its axis with a wood different from the main portion of the sheet.

9. A single sheet of veneer comprising a spiral-shaped, multi-layered, continuous surface.

10. A single sheet of veneer as defined by claim 9 in which the radius of the layers from the center of the spiral surface is substantially constant.

11. Veneer sheet according to claim 1 in the form of a hollow cone with curved generatrices.

12. A sheet of veneering as defined by claim 1 and having a hole in the middle.

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