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A. FISCHER

2,201,968

HINGE

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Fig. 1.

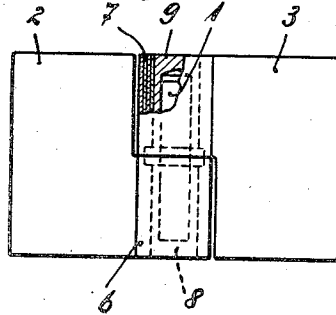


Fig. 2.

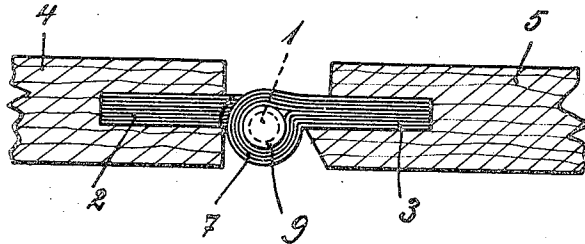


Fig. 3.

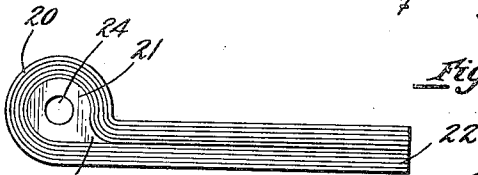


Fig. 5.

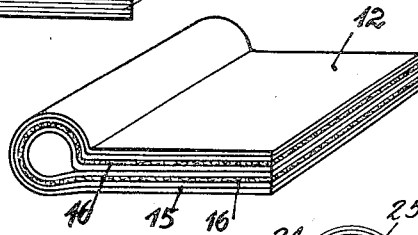


Fig. 4.

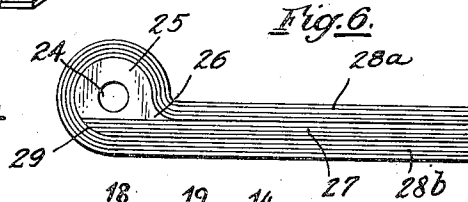
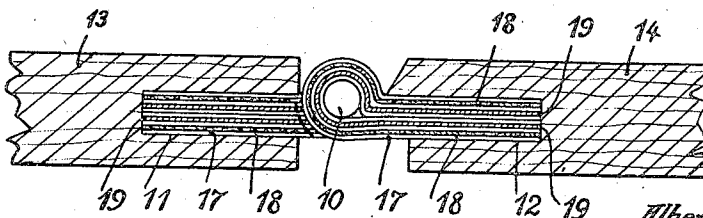


Fig. 6.



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UNITED STATES PATENT OFFICE

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HINGE

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In Germany June 30, 1937

7 Claims. (Cl. 16-157)

My invention relates to the hinge connections of doors, boxes and the like and more especially to hinges. It is an object of my invention to provide a new kind of hinges offering certain advantages as compared with the metal hinges hitherto in use.

The hinges according to this invention are made of veneer plates, i. e. of wooden plates consisting of a plurality of thin layers of wood glued together, this plate surrounding the hinge pin, or the lining enclosing this pin, almost or completely, the two halves of each plate adjoining the barrel portion being united to form a closed lug in such manner, that each hinge member forms a self-contained lug of little thickness. I am thereby enabled to fit the lugs of the hinge directly into the uprights or frames of doors, walls or other wooden parts and, if desired, to so countersink them therein as to render them invisible from without. Hinges of this kind can easily be disconnected from and turn readily about the pin. They can be used in exactly the same manner as the known iron hinges to connect large and small parts, from heavy house doors down to the smallest wooden boxes.

Preferably a liner is inserted in the hinge barrel in order to provide a firmer mount for the hinge pin.

In accordance with the requirements of each individual case and the stresses arising therein I may use, in the construction of the hinge, besides the wooden veneer plates, also one or a plurality of plates of a stronger and more elastic material, for instance of fibre, an artificial resin, synthetic rubber or some other suitable compressed material or of an insert of textile material, these members being substantially equal in thickness to the veneer sheets.

In the drawing affixed to this specification and forming part thereof some embodiments of my invention are illustrated diagrammatically by way of example.

In the drawing

Fig. 1 is an elevation, partly in axial section, of the first embodiment,

Fig. 2 is a corresponding plan view of the hinge in position between the two wooden parts to be connected.

Fig. 3 is a perspective view of a hinge comprising a reinforcing insert,

Fig. 4 is a plan view of a slightly modified embodiment.

Fig. 5 is a plan view of a hinge member comprising a core of streamline section and

Fig. 6 is a similar view of a hinge member com-

prising a similar core in combination with an insert plate fixed to it by gluing.

Referring to the drawing and first to Figs. 1 and 3, 1 is the hinge pin and 2 and 3 are the two hinge plates formed of a plurality of veneer sheets connected with each other after the manner of plywood plates. These plywood layers are glued together in a well-known manner so that the fibres in one layer preferably extend transversely to the fibres of the adjoining layer.

As shown in Fig. 2, these plates completely embrace the hinge pin, forming closed lugs which may for instance be fitted in corresponding cavities of a wall 4 and door plate 5.

Both hinge plates are bent so as to form a cylindrical sleeve or hollow body extending over about one half of the plate. One of these two cylindrical bodies, for instance the body 6 forming part of plate 2, embraces the core 8, in which the hinge pin 1 is fixed.

The cores 8, 9 are preferably made of hard wood, fibre, artificial resin or the like, while the pin 1 may also consist of fibre or of some particularly hard wood or artificial resin or other suitable artificial material or of metal, preferably light metal.

In the embodiment shown in Figs. 3 and 4, 10 is the hinge pin, 11 and 12 are the two hinge plates composed of veneer sheets, which may be fitted in cavities of wooden parts 13 and 14 to be connected.

In the embodiment of Fig. 3 there is inserted between the wooden layers 15 a plate 16 of substantially equal thickness consisting for instance of "Vulcan" fibre or some similar material, which is bent around the cylindrical core in the same manner as, and simultaneously with, the veneer sheets.

The two hinge plates according to Fig. 4 are formed each of five plates fitted together and curved in a similar manner, the plates 17 consisting of wood, the intermediate plates 18 and 19 of one of the other materials named above. If desired these two plates are made of two different materials, for instance a plate 18 of fibre or artificial resin, the plate 19 of a textile fabric.

In the embodiment of Fig. 5 the hinge plate 20 is formed of veneer sheets assembled to form plywood, this plate surrounding the core 21 in such manner, that its two ends are joined directly to form a closed lug 22. The core is substantially cylindrical in cross-section and formed, at the point, where the two halves of the plates 22 converge, with a nose-shaped extension 23, which fills out the gap which would otherwise be formed

between the plates. 24 is the bore formed in the core for the reception of the hinge pin.

In the embodiment of Fig. 6 the substantially cylindrical core 25 is formed, on the side adjoining the nose 26, with a plane surface and connected with a sheet 27 of laminated wood, which extends between the halves 28a, 28b of the hinge plate so that here also a closed lug is formed. At the inner edge 29 the plate 27 is rounded off so as to snugly apply itself against the rounded portion of the inner part of the hinge.

The core and, if desired, also the insert, instead of being made of wood, may in all cases consist of some other suitable material, for instance fibre or the like.

Various changes may be made in the details disclosed in the foregoing specification without departing from the invention or sacrificing the advantages thereof.

I claim:

1. A hinge comprising in combination, two hinge plates consisting of wooden veneer sheets glued together and a hinge pin, the middle portions of the plates forming barrels altogether surrounding the pin and the end portions lying flush against each other and being united to form closed lugs.

2. The hinge of claim 1, in which a core is inserted between the barrel portions of the hinge plates and the hinge pin.

3. The hinge of claim 1, in which plates consisting of stronger material than wood are combined with the veneer sheets.

4. The hinge of claim 1, in which plates consisting of stronger material than wood are combined with the veneer sheets, these additional plates being inserted between the veneer sheets.

5. The hinge of claim 1, in which a core is inserted between the hinge pin and the barrel portion of the hinge plate surrounding said pin, said core being formed with a nose-shaped extension filling completely the gap between the two halves of said plate.

6. The hinge of claim 1, in which a core is inserted between the hinge pin and the barrel portion of the hinge plate surrounding said pin, a nose-shaped extension formed in one piece with said core filling completely the gap between the two halves of said plate.

7. The hinge of claim 1, in which a core is inserted between the hinge pin and the barrel portions of the hinge plates surrounding said pin, said core being formed with a nose-shaped extension and a flat surface adjoining said extension, an insert of laminated wood being fixed to said flat surface and extending between the two halves of said hinge plate.

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