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(54) **System of modular profiles for floors or partition walls**

(57) This is a new system of modular profiles for joining panels for floor or partition wall coverings having a male-female coupling, in which the female coupling is composed of a pair of parallel linear parts with saw-toothed knurling on the surfaces facing each other, while the male coupling is composed of a single linear raised part, both surfaces of which are provided with saw-

toothed knurling and thick enough to mate with the female part. The sections of the various profiles are generally flat, arched or with an angle. On the main flat walls of the profiles large linear holes and/or small round holes are provided. The surfaces opposite the raised parts are finished with a film reproducing the pattern, colours and veins of the wooden floor.

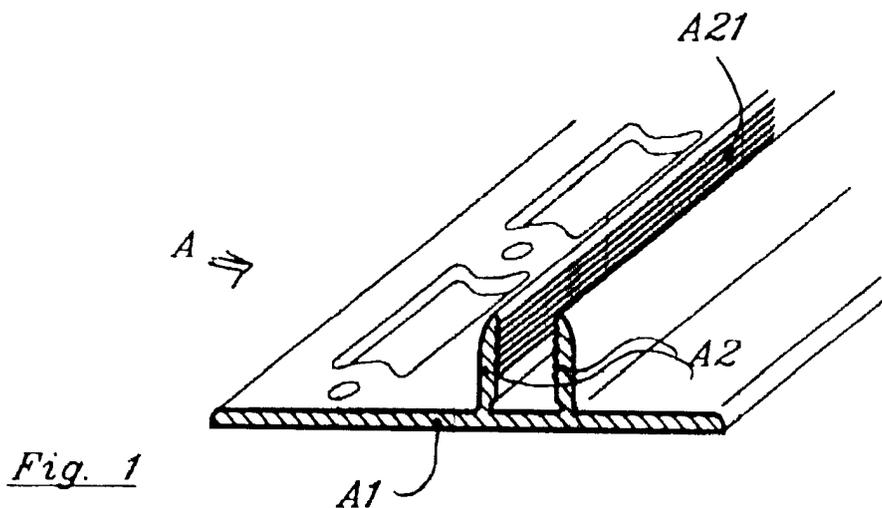


Fig. 1

Description

[0001] For laying traditional, floating or laminate floors, profiles are used that have the function of filling the course joints and joining the covering elements. These profiles are at present fixed with unattractive screws, or with adhesives that are not always effective, or with bayonet fittings that are not easy to apply.

[0002] To overcome these problems, a complete system of various metal profiles has been studied, wherein said profiles are covered with an anti-wear film that reproduces the various types of wood and can therefore blend perfectly with flat panels having the same finish.

[0003] Another aim of the invention is to be able to produce, with a single range of products, both the partition and covering walls and the floors.

[0004] The object of this patent is a complete system of modular profiles for the quick and sure joining of wood panels, wood-coated panels or equivalent products, which may be used either for floors or for partition walls.

[0005] The new modular profiles have different sections, depending on the specific position of use. The profiles are principally divided into two series, that is, those to be fixed to the support provided with holes for glue and/or for screws, and those with exposed finishing for covering and/or connections.

[0006] All the new profiles have a section which, apart from the adapting or supporting shape, is characterised by one or two raised parts which are knurled or corrugated with saw teeth.

[0007] These raised parts, male on some profiles and female on others, allow quick and sure coupling of the various profiles.

[0008] The sections of the various profiles are generically flat, arched or with an angle.

[0009] The description of the new profiles is now given, with reference to the drawings shown in the enclosed tables. The drawings in the enclosed tables are to be understood as examples, without limitation of the innovative concept, as they may be subject to modification when the invention is put into effect.

[0010] A first profile (A, figure 1) has a section composed substantially of a linear principal wall (A1) provided, on one of its two surfaces, with two linear raised parts (A2), parallel to each other and at right angles to the main wall.

[0011] These raised parts (A2) have surfaces facing each other, that is the ones inside the resulting U shape, provided with saw-toothed knurling (A21) parallel to the length of the profile.

[0012] In particular, this pair of raised parts (A2) is located on the main wall (A1) in a central or asymmetric position, but in any case not near the edges of the main wall, so as to form a general T-shaped section.

[0013] A second profile (B, figure 2) has a section similar to that of the profile just described in figure 1, with the difference that the two raised parts (B2) are placed at one of the edges of the main wall (B1) and form a

general L-shaped section.

[0014] Another profile (C, figure 3) is composed of two walls (C11, C12), generally of the same length and at right angles to one another, forming an L shape.

[0015] On one of the two walls (C11) there is a raised part (C31) at right angles to it (C11), parallel to and on the same side as the other wall (C21) of the profile (C). This raised part (C3) is single, its width is greater than the walls present on the profiles described above, and in particular it is wide enough to fit between the two parallel raised parts of the profiles described above. The side surfaces of this single raised part (C3) are provided with protrusions or saw-toothed knurling (C31), parallel to the length of the profile.

[0016] Another profile (D, figure 4) is composed of a single main wall (D1), flat and rectilinear; on one of its two surfaces, in a generically central position, it has a single raised part (D3) with protrusions or saw-toothed knurling (D31) on the sides, parallel to the length of the profile, as in the profile shown in figure 3.

[0017] Another profile (E, figure 5) is composed of a single main wall (E1), flat and rectilinear, with an edge (E11) folded at right angles and with a raised part (E3) with protrusions or knurling (E31), identical to the one described for the previous profile, on the same side of the folded edge (E11).

[0018] Another profile (F, figure 6) is composed of a main arched wall (F1) with a raised part with protrusions or knurling (F31) situated on the concave side of the wall (F1) and tilted with respect to the radial direction.

[0019] Figure 7 shows another profile (G) in two complementary versions (Gu, Gi).

[0020] In both versions the profile is composed of a main wall (G1) which is partly flat (G11) and partly arched (G12).

[0021] On the convex side of the arched part (G12) of the main wall (G1), in one version of the profile (Gu), there are two linear raised parts (G2), parallel to each other, at right angles to the main wall (G1), with protrusions or knurling (G21) on the surfaces that face each other, while in the other version of the profile (Gi) there is a raised part (G3) with protrusions or knurling (G31).

[0022] A further profile (H, figure 7) is composed of three walls (H1, H2, H3) arranged in such a way as to form a C-shaped section with asymmetric wings.

[0023] The profiles described so far are coupled to each other by means of the two raised linear parts (A2, B2, G2), parallel to each other so as to form a U shape, and the single raised part (C3, D3, E3, F3, G3) which presents protrusions or saw-toothed knurling on its sides. In particular, the profiles shown in figures 1 and 2 may be coupled with any of the profiles shown in figures 3, 4, 5, 6, 7, so that each single raised part (C3, D3, E3, F3, G3) fits between the two linear raised parts (A2, B2, G2) which are parallel to each other, in a typical male-female connection.

[0024] The saw-toothed knurling on these raised parts allows a rigid coupling between the various ele-

ments and prevents the profiles from slipping off and coming unfastened.

[0025] Furthermore, the main flat surfaces (A1, B1, H1) of the profiles shown in figures 1, 2, 7 present two types of alternate holes (figure 9): the first type of hole (N1) has a linear shape of adequate width while the second type of hole (N2) is circular and of smaller dimensions (figure 9).

[0026] In the case of floor coverings, the profiles shown in figures 1, 2, called also fixing profiles, are positioned first, with the flat wall resting on the floor and secured with glue (which penetrates the large linear holes (N1) described above) or with screws (inserted in the small circular holes (N2)); afterwards the panels are applied in the spaces between the profiles, in particular the edges of the tiles or of the panels rest on the main flat wall of the profiles; finally the profiles shown in figures 3, 4, 5, 6, 7-Gi, also called covering profiles, are applied, with their raised part (C3, D3, E3, F3, G3) inserted between the two linear and parallel raised parts (A2, B2) of the profiles already applied (A, B). The upper profiles are without holes and are preferably made of metal and coated with varnish, or preferably with a film, so as to reproduce the various types of wood.

[0027] In particular, for the course joints in the floor, the profile shown in figure 4 and the profile shown in figure 1 are used; for edges close to walls, the profiles shown in figure 7-Gi and in figure 2 are used, while for free edges in which the covering gives way to the floor or where there are coverings of different thicknesses, the profile shown in figure 6 and the one shown in figure 1 or in figure 2 are used; in the case of a step, the profile shown in figure 5 is used together with the profile shown in figure 2.

[0028] When making partition walls, besides the profiles already mentioned, both the profiles shown in figure 7 are used for the edges next to the walls, while the profile shown in figure 8 is used for the free edges.

[0029] Both cases are illustrated in figure 10.

[0030] The profiles, which in this case are without holes, are made preferably made of metal and are coated with varnish, or preferably with a film, so as to reproduce the various types of wood.

[0031] The system of modular profiles described so far presents considerable advantages: they may be applied to the floor with either glue or screws; they allow complete covering of the course joint even in case of imprecise laying of the covering as regards either the alignment or the levelling of the various elements; they allow expansion of the individual covering elements; the male-female connection between the various types of profiles allows rapid installation.

Claims

1. System of modular profiles for joining panels for floor or partition wall coverings, characterized in

that they have a male-female connection in which the female coupling is composed of a pair of parallel linear parts with saw-toothed knurling on the surfaces facing each other, while the male coupling is composed of a single linear raised part, said single linear raised part having both surfaces provided with saw-toothed knurling and thick enough to mate with the female part.

2. System of modular profiles according to claim 1, characterized in that they have a linear main wall, one of the two surfaces of which is provided with the female coupling in generically central position.

3. System of modular profiles according to claim 1, characterized in that they have a linear main wall, one of the two surfaces of which is provided with the female coupling on one of the edges.

4. System of modular profiles according to claim 1, characterized in that they have two walls, generally of identical length and at right angles to one another so as to form an L shape, and a male coupling on one wall and parallel to the other wall, in the corner between the two walls.

5. System of modular profiles according to claim 1, characterized in that they have a main flat and rectilinear wall provided with a male coupling on one of its two surfaces and in generically central position.

6. System of modular profiles according to claim 1, characterized in that they have a main flat and rectilinear wall with an edge folded at right angles and a male coupling on the main wall, on the same side as the folded edge.

7. System of modular profiles according to claim 1, characterized in that they have a main arched wall with a male coupling on the concave side, tilted with respect to the radial direction.

8. System of modular profiles according to claim 1, characterized in that they have a main wall which is partly flat and partly arched and a male coupling or a female coupling on the convex side of the arched part of the main wall.

9. System of modular profiles according to claim 1, characterized in that they have three walls in sequence at right angles to one another, forming a C-shaped section.

10. System of modular profiles according to claims 2, 3, 9, characterized in that they have large linear holes and/or small holes on the flat main walls.

11. System of modular profiles according to claims from 1 to 8, characterized in that they have the surfaces opposite the raised parts finished with a film reproducing the pattern, colours and veins of the wooden floor.

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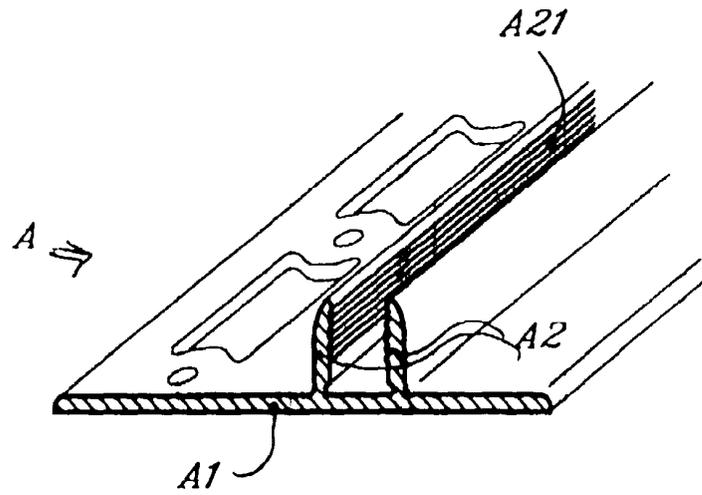


Fig. 1

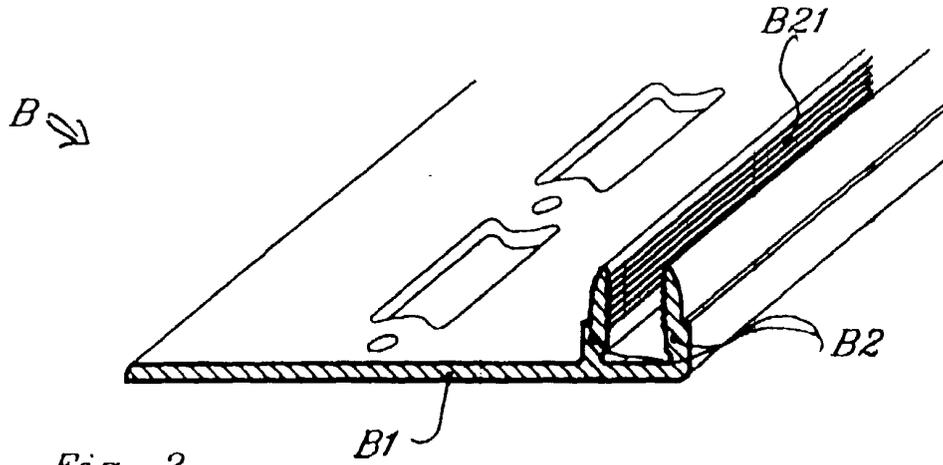


Fig. 2

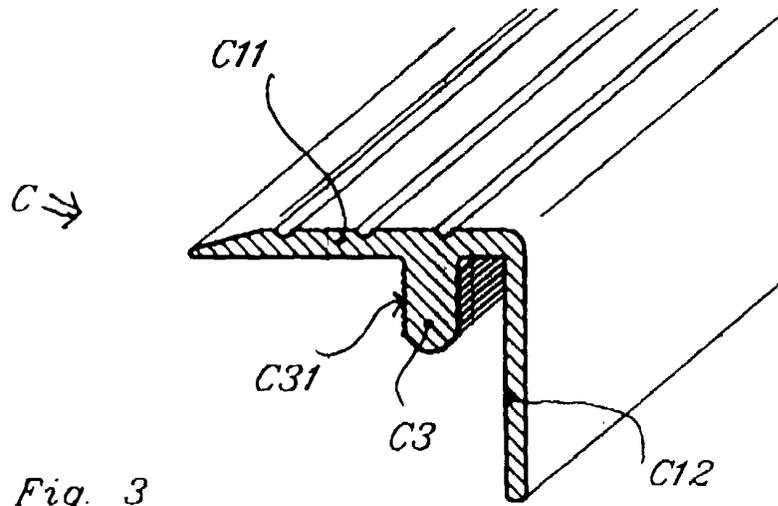
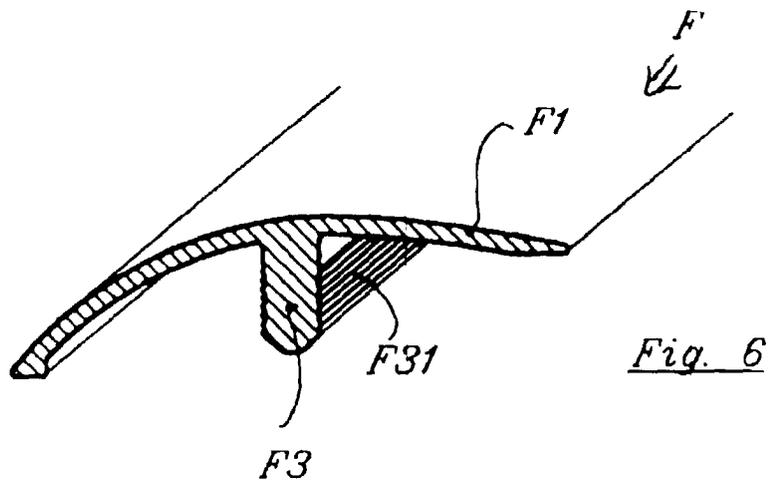
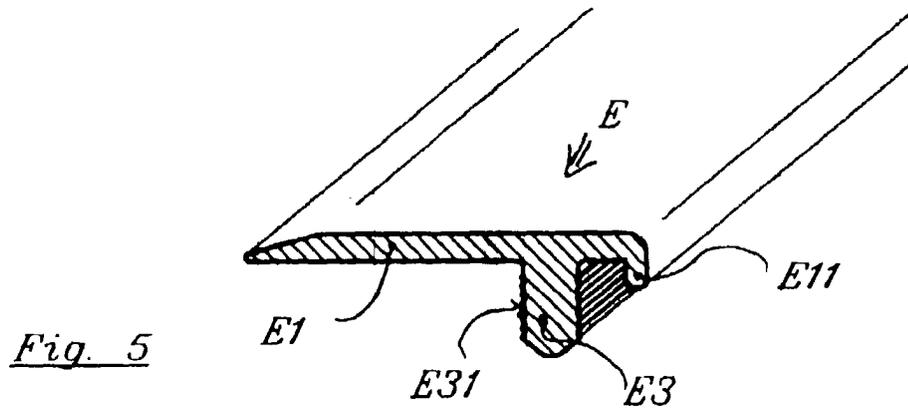
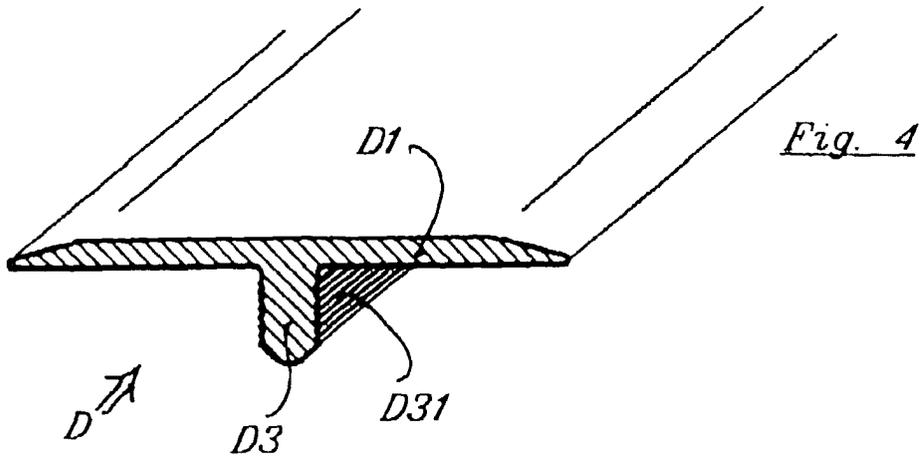


Fig. 3



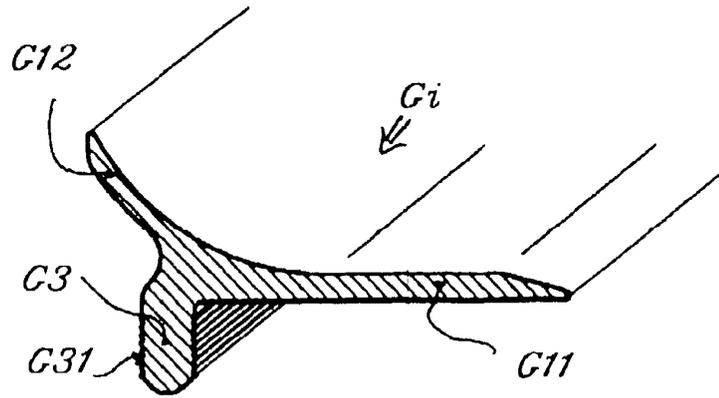


Fig. 7

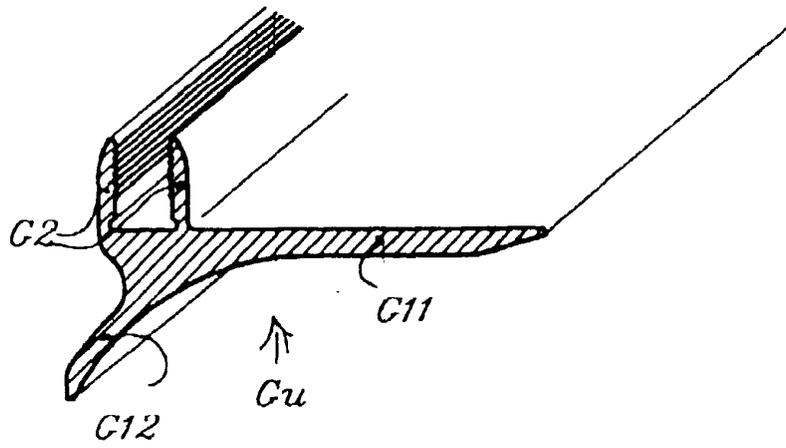
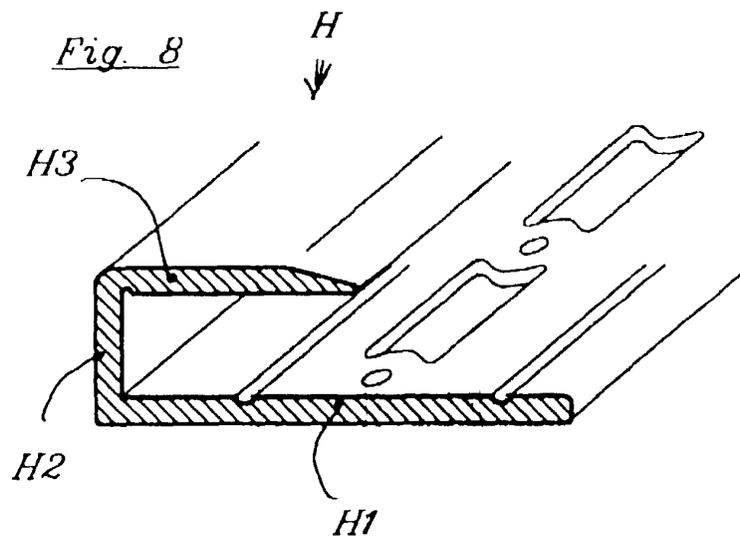


Fig. 8



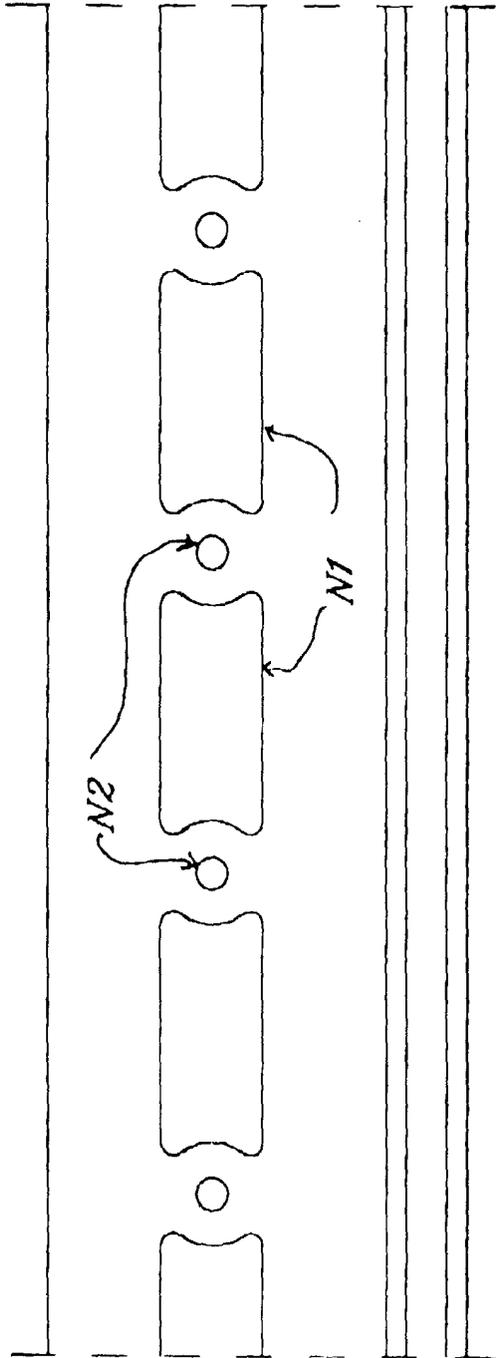


Fig. 9

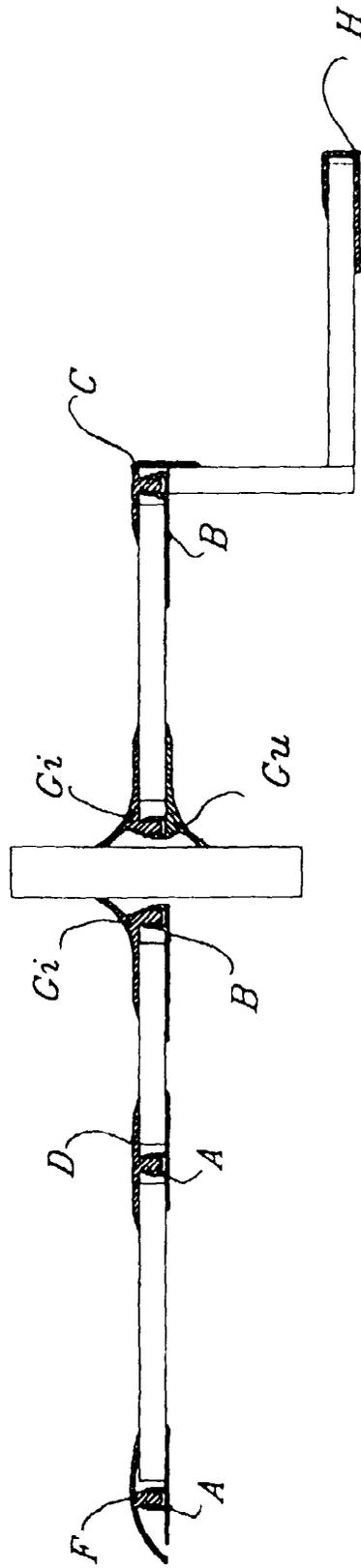


Fig. 10