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(54) **AN INDIVIDUAL STUD FOR CONSTRUCTING A FRAME, THE VERTICAL AND HORIZONTAL STUDS HAVING THE SAME CROSS SECTION.**

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Description

The present invention relates to an individual stud for constructing a frame, the vertical and horizontal studs having the same cross section. Such studs are used for constructing a framework designed to limit certain areas or to effect walls for buildings, packing, moulds, etc. The frame is generally covered on both sides by slabs or sheets, usually of gypsum.

The object of the present invention is to provide an individual stud which, thanks to its self-centering and locking construction, is easy and quick to assemble. The sheet-stud assembly can be achieved in various ways. If permanent walls are to be made the sheet can be glued, or possibly screwed to the stud and then perhaps coated with putty afterwards. If the partition is to be dismantled and the studs and sheets re-used, then the sheets can be secured by means of a vertical fillet, for instance, which is preferably screwed into the wooden stud. This is possible if each stud is constructed in accordance with the appended claim.

According to the present invention top plates, ground plates and vertical studs are all composed of the same individual studs. Said stud is provided with a longitudinal groove having triangular cross section. The vertical studs have pointed ends so as to fit into corresponding grooves in top and ground plates. Should there be a gap between a vertical and a horizontal stud, the gap can be compensated by a spacer element in various ways such as: 1) One or two hard wedges with adjustable angle for structural stud frames; 2) A wedge (soft material or spring steel) which locks non-structural stud frames, thus eliminating the use of nails, and as the same time taking up any difference in height (e.g. calculation of prevailing tolerances while building). This enables exact cutting.

An alternative way of locking studs in the event of gaps is to press the bottom or top plates against vertical studs at suitable points. This can be effected by "screwing" the bottom or top plates from their support.

The dimensions and cross-sectional shape of the stud enables logs of smaller diameter to be used than is possible for studs having traditional cross section.

A slim log to be used for producing a stud can be sawn into four equal parts, each part having three right-angled corners and a fourth rounded corner. Two parts of the sawn log are then used for each stud. They are glued together so that a central groove is formed on one side of the stud. This groove is then bevelled to give the groove two rectangular wall surfaces. The two parts of the stud are so oriented that that centres of the growth rings are spaced apart so that the outermost growth rings will be substantially at a tangent to each other.

The stud will be stable and resistant to deformation since each stud blank is composed of two parts glued firmly together.

A stud according to the invention, consisting of two parts, can naturally be sawn from any plank with rectangular shape.

The present invention will be described in more detail with reference to the accompanying 4 sheets of drawings in which

Figure 1 shows how a slim log is sawn into four parts, thus constituting the starting material for an individual stud,

Figure 2 shows how two parts from the sawn log are joined together,

Figure 3 shows how the groove obtained is machined to give it flat walls,

Figure 4 shows how two stud parts are obtained from a plank with rectangular cross section,

Figure 5 shows how a stud is obtained from the log according to the previous Figure,

Figure 6 shows how the vertical part of a stud framework is constructed,

Figure 7 shows how the distance between stud and support can be adjusted, and

Figure 8 shows a cross section through a wall constructed from studs and gypsum slabs.

Figure 1 shows a slim log 1 which is normally only usable for the production of pulpwood. This is thus an inexpensive type of timber. Figure 1 shows how the log is sawn into four parts 2, 3, 4 and 5. It is clear from the figure that each part has a rounded corner. Two parts have been designated I and II. These two parts have been joined together by glueing as shown in Figure 2. When the log parts I and II are joined together, a longitudinal groove 6 is automatically formed due to the rounded corners, the groove being located on the upper side of the stud thus formed. Thanks to the manner in which the two log parts I and II have been joined, the growth rings in each part will have their centres spaced apart. The rings will appear to be more or less at a tangent to each other. The groove in the stud blank according to Figure 2 is planed so that two rectangular groove walls 7 and 8 are obtained, as seen in Figure 3. The stud shown in Figure 3 also has a side surface 9, a side surface 10 and a bottom surface consisting of two parts 11 and 12. Figure 3 shows the extension of the stud when in use. The stud is also provided with two pointed ends which will be described later on. It can be seen that the stud according to Figure 3 has five flat surfaces around its circumference.

Figure 4 shows a blank having rectangular cross section. Two parts I and II can be sawn from said log which, when glued together, form a stud as shown in Figure 5, identical to the stud shown in Figure 3. The only difference is that the studs according to Figures 3 and 5 have been produced from different starting material.

Figure 6 shows how the stud according to Figure 3 or Figure 5 can be used in a stud framework, in this case as one of the vertical parts of the framework.

Figure 6 shows that the stud 2 and 3 has an upper pointed end consisting of two rectangular surfaces 13 and 14. Said upper end has the same cross section as the stud shown in Figure 3 and in this case the stud according to Figure 3 is used as a top plate 17 with rectangular surfaces 18 and 19. The lower end of the stud 2 and 3 is identical to its upper end and the rectangular surfaces have been designated 20 and 21. The lower end cooperates with a bottom plate 22. The spaces between top plate, bottom plate and stud 2 and 3 can be eliminated with the aid of wedges to clamp them tightly. All that is necessary for dismantling such a framework is to remove the wedges and the studs can then be re-used.

Figure 7 shows how the distance between the bottom plate 22 and its contact surface can be adjusted by means of a screw joint 23 with a protruding part 24 with the aid of which the bottom plate 22 can be raised or lowered in relation to its ground support.

Figure 8, finally, shows the cross section of an assembled wall consisting of a vertical stud 2 and 3, a top plate 17 and a bottom plate 22. The top plate abuts a ceiling structure 25 and the bottom plate abuts against a floor structure 26. A sheet 27 is secured to the right side of the stud frame and a sheet 28 to the left side.

Building up frames with the aid of studs according to the present invention gives the advantage that, thanks to their pointed ends and longitudinal grooves, the studs are easy to orientate and easy to secure since the spacing between longitudinal and transverse studs can be adjusted. The studs are also firmly locked due to the use of wedges at the contact surfaces by the use of screw joints allowing longitudinal studs to be adjusted vertically in a simple manner. Both screw joints and wedges can be used to advantage for constructions which are intended to be dismantled.

Claims

1. An individual stud for constructing a frame, wherein vertical and horizontal studs have the same cross section, **characterised** in that said stud comprises two identical parts (2,3) joined together in such a manner as to produce five sides, where two adjacent sides (7,8) narrower than the other sides form an inwardly directed groove (6) with triangular cross section and where the middle side (11,12) of the other three following sides forms a right angle each of the two outer sides (9,10) so that pointed ends (13,14) of the vertical studs in the frame fit into the triangular cross section (18,19) in the horizontal studs.

Patentansprüche

1. Ein Einzelzapfen für das Herstellen eines Rahmens, wobei senkrechte und waagerechte Zapfen den gleichen Querschnitt haben, dadurch **gekennzeichnet,** daß der Zapfen zwei gleiche Teile (2, 3) enthält, die in einer solchen Weise miteinander verbunden sind, daß sie fünf Seiten bilden, wo zwei benachbarte, schmaler als die anderen ausgebildete Seiten (7, 8) mit dem dreikantigen Querschnitt eine nach innen gerichtete Kehle (6) bilden und die Mittenseite (11, 12) der anderen drei angrenzenden Seiten mit jeder der Außenseiten (9, 10) einen rechten Winkel erzeugen, so daß die konisch ausgebildeten Enden (13, 14) der senkrechten Zapfen im Rahmen in den dreikantigen Querschnitt (18, 19) der waagerechten Zapfen hineinpassen.

Revendications

1. Crampon individuel prévu pour la construction d'une charpente dans laquelle les crampons verticaux et horizontaux ont la même surface transversale, caractérisé en ce que ledit crampon comporte deux éléments identiques (2, 3) assemblés de manière à créer cinq faces, deux faces adjacentes (7, 8) étant plus rapprochées que les autres faces et formant une rainure (6) dirigée vers l'intérieur et de section transversale triangulaire, et la face centrale (11, 12) des autres trois faces suivantes formant un angle droit avec chacune des deux autres faces externes (9, 10) de manière que les extrémités aiguës (13, 14) des crampons verticaux de la charpente viennent s'engager dans la section transversale triangulaire (18, 19) des crampons horizontaux.

FIG. 1

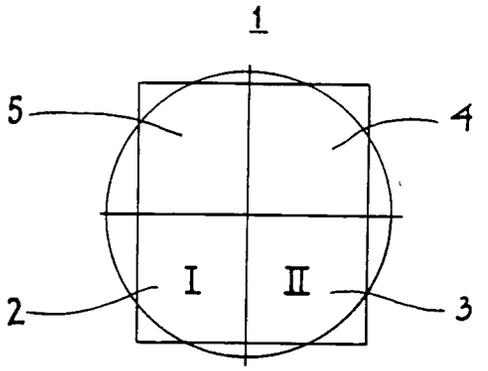

FIG. 2

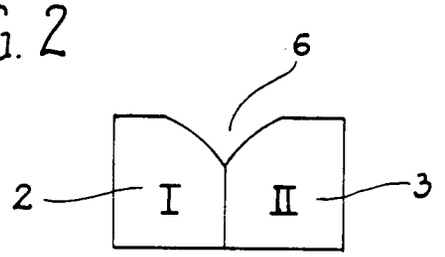

FIG. 3

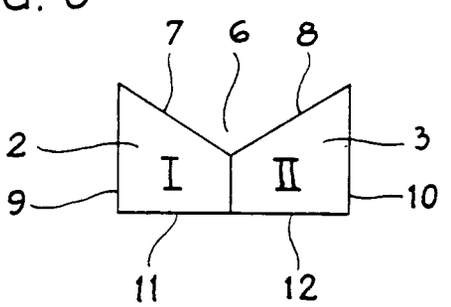

FIG. 4

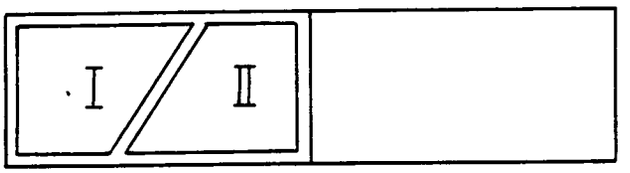

FIG. 5

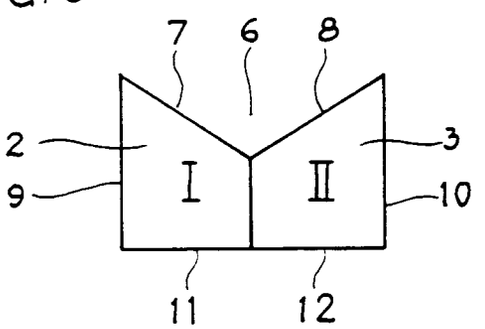

FIG. 6

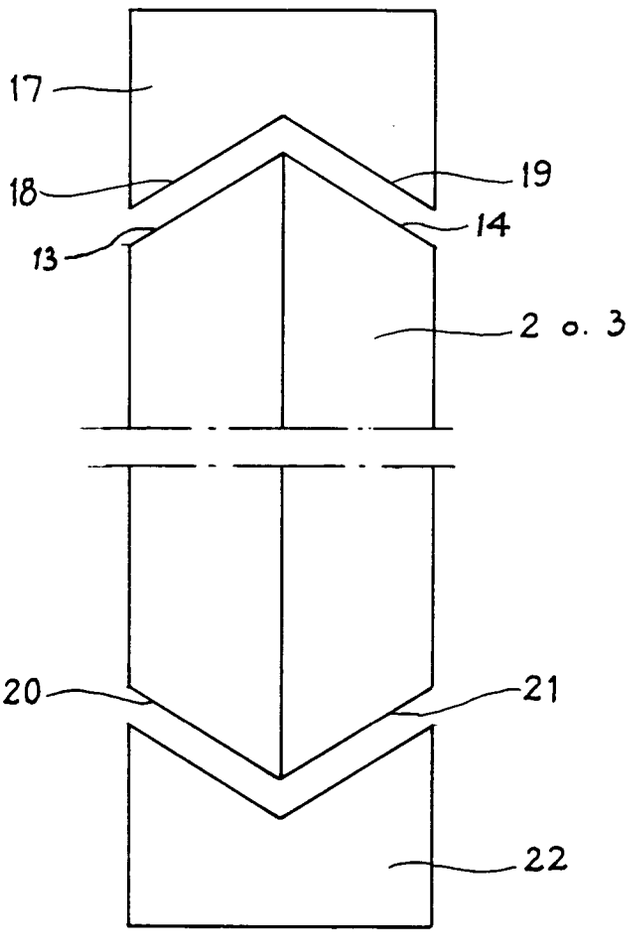

FIG. 7

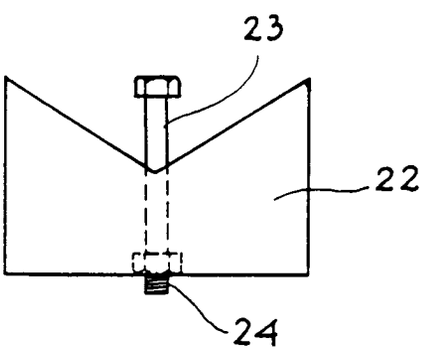

FIG. 8