(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 185 636**
A1

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **85850391.5**

(51) Int. Cl.⁴: **B27B 3/10**

(22) Date of filing: **04.12.85**

(30) Priority: **19.12.84 SE 8406474**

(43) Date of publication of application:
25.06.86 Bulletin 86/26

(84) Designated Contracting States:
AT BE CH DE FR GB IT LI LU NL SE

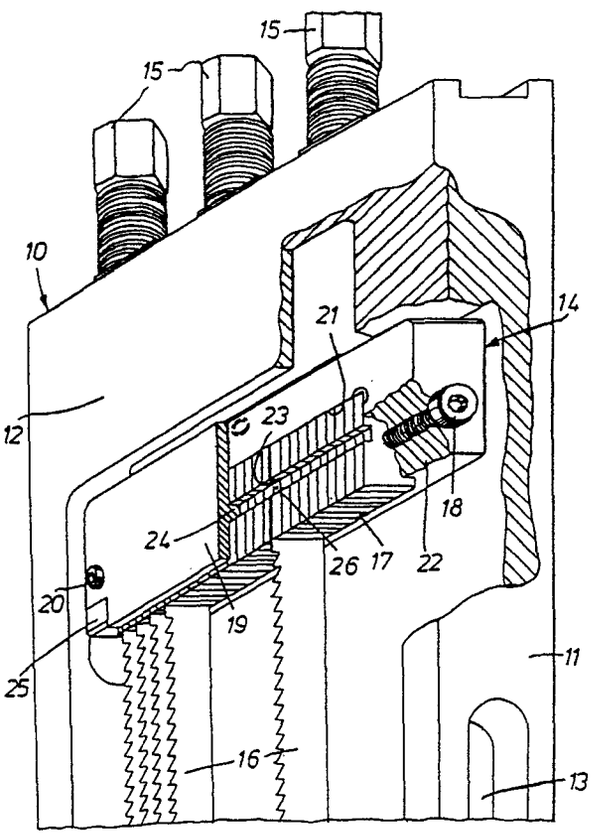
(71) Applicant: **Astrand, Carl Viktor**
Prostgatan 3
S-531 37 Lidköping(SE)

(72) Inventor: **Astrand, Carl Viktor**
Prostgatan 3
S-531 37 Lidköping(SE)

(74) Representative: **Lenz, Franz et al**
AWAPATENT AB Box 5117
S-200 71 Malmö(SE)

(54) Loose frame for gang saws.

(57) A loose frame for gang saws is provided in the frame opening with clampable saw blade holders (14) each provided with a recess (21) in the side facing the frame opening. The ends of the saw blades (16) can be secured in these recesses (21) between setting-up blocks (17), such that the saw blades (16) will extend across the frame opening parallel to the frame side members (11). To secure the saw blade ends in the saw blade holders (14), the ends of the saw blades (16) are provided in one edge, like the setting-up blocks (17), with at least one recess (23, 26) into which a locking rib (24) can be pushed down and locked.



EP 0 185 636 A1

LOOSE FRAME FOR GANG SAWS

This invention relates to a loose frame for gang saws, comprising saw blade holders which are mounted in the frame opening and movable towards and away from one another by clamping means on the frame end members and in which opposite saw blade ends are attachable for tensioning the saw blades in the frame opening parallel to the frame side members.

Exchanging saw blades in a gang saw is difficult and time-consuming work because the saw blades after mounting must be exactly and accurately oriented relative to one another and the frame. Normally, the saw blades are mounted in a frame which, in larger gang saws, is held in the sash during the so-called setting-up but which, in smaller saws, can be removed from the sash and set up in advance, in which case the down-time naturally will be much shorter than in the first-mentioned case. Nevertheless, the setting-up is still a difficult operation because of the many loose components which also make for poor precision and extensive adjustments. Furthermore, these components are expensive, and after mounting in the frame it is frequently difficult to obtain the highest blade tension exactly where one wants it, i.e. in the leading edge of the blades which is the edge carrying the saw teeth.

The present invention aims at providing a novel loose frame of the above-mentioned type by which the setting-up is greatly facilitated so that it can be carried out quickly and normally without subsequent adjustments. To this end, at least one saw blade holder has a recess which is open towards the frame opening and ends at a distance from the saw blade holder ends to form end walls; that setting-up blocks of a shape corresponding to the cross-section of the saw blade holder recess and of predetermined thickness are fixable in the recess, with the saw blades therebetween; that fixing means are provided in the end walls of the saw blade holder for fixing the saw blades and the blocks within the recess; and that the saw blades and the blocks are provided with at least one reces in one of their edges, said recesses being identical and located, after the saw blades and the blocks have been fixed in the recess of the saw blade holder, opposite one another in the longitudinal direction of said recess, such that a rib attachable to said holder can be pressed down thereinto for locking the setting-up blocks and saw blades in position.

The invention will be described in more detail below, reference being had to the accompanying drawing which is a perspective view of a part of a gang saw sash according to the invention.

The drawing shows the upper part of a loose frame generally designated l0 and intended to be mounted in conventional manner in the sash of a gang saw. The lower part of the frame l0 is not shown because it is normally of the same design as the upper part illustrated in the drawing. The frame 10 comprises side members 11 and end members 12 which are integral with said side members and together define an rectangular frame opening. The side members 11 of the frame 10 may be provided with recesses adapted to reduce the weight of the frame. At each end of the frame opening, a saw blade holder 14 is provided by means of which saw blades l6 can be clamped therein parallel to said side members 11. At least one saw blade holder 14 is engaged by three clamping screws 15 mounted in threaded bores in the end member 12 of the frame 10. It will be appreciated that by turning the screws 15 in one direction, the saw blade holder 14 will be moved towards the centre of the frame opening, and by turning the screws in the other direction, the saw blade holder will be moved in the opposite direction so that the saw blades 16 are tensioned.

The saw blade holder 14 illustrated in the drawing has a rectangular recess 21 which is open towards the frame opening and along the left-hand side of the holder 14, as seen in the drawing, i.e. the recess 21 is defined by two walls perpendicular to one another. The recess 21 terminates at a distance from the ends of the saw blade holder 14 to form relatively thick end walls 22. Rectangular setting-up blocks 17 of predetermined thickness are adapted to be mounted in the recess 21. After the blocks 17 have been disposed in the recess 21, one edge surface of said blocks is on a level with the left-hand lateral plane of the holder 14, while the edge portion of the blocks 17 facing the frame opening slightly protrudes from the surface of the holder 14 facing the frame opening. The saw blades 16 are mounted between the blocks 17, as shown in the drawing, whereby the saw blades can be easily mounted in desired spaced apart positions in the transverse direction. A package consisting of setting-up blocks 17 and saw blade ends may thus be mounted in the recess 21 in the manner illustrated in the drawing and fixably positioned by means of a screw 18 extending through the end wall 22.

Instead of the usual hole in the saw blade end, the saw blades 16 are provided at a predetermined distance from their ends with a rectangular recess 23, and the setting-up blocks 17 have, at the same distance from their edge side facing away from the frame opening, a recess 26 which is identical with the saw blade recess 23. After the saw blades 16 and the blocks 17 have been placed in the recess 21, the saw blades and the blocks are readily locked by means of these recesses 23, 26 and a ca, pr rib 24 on the underside of a plate 19. The cam or rib 24 has exactly the same cross-sectional shape as the recesses 23, 26 and can be pressed down into these recesses with a suitable fit. The plate 19 has approximately the same extent as the side of the holder 14 which is turned to the left in the drawing, and suitable guides 25 may be provided. The plate 19 is locked in position by means of the cam or rib 24 extending into the recesses 23, 26 by means of bolts 20 that can be screwed into threaded bores in the end walls of the holder 14.

The inner surface of the side members 11 and one end surface of the holder 14 (to the left of the drawing) may be finished such that the saw blades 16 will always extend exactly parallel to the frame members 11. In this manner, subsequent adjustments of the clamped blade package are avoided.

For exchange of saw blades, the bolts 15 are first loosened to relieve the tension of the blades 16. Then the bolts 20 are removed, whereby the plate 19 can be taken out. After the screw 18 has been loosened, the entire blade package can be removed in one motion, and new saw blades 16 are easily inserted between the setting-up blocks 17. After that, fixing and locking is effected in the manner described above.

As has been indicated, the arrangement according to the invention brings considerable advantages, and an exchange of saw blades can be effected safely and quickly. The provision of the recess 23 in the saw blade edge carrying the saw blade teeth automatically brings the advantage that the highest saw blade tension is obtained at the desired position, i.e. the leading edge of the blades. The drawing shows but one recess in the setting-up blocks, and

saw blades with several recesses may be provided, if this is deemed necessary. The recesses in the blocks and the saw blades need not have the rectangular shape illustrated but may have a slight downward taper, or some other suitable shape.

Claims

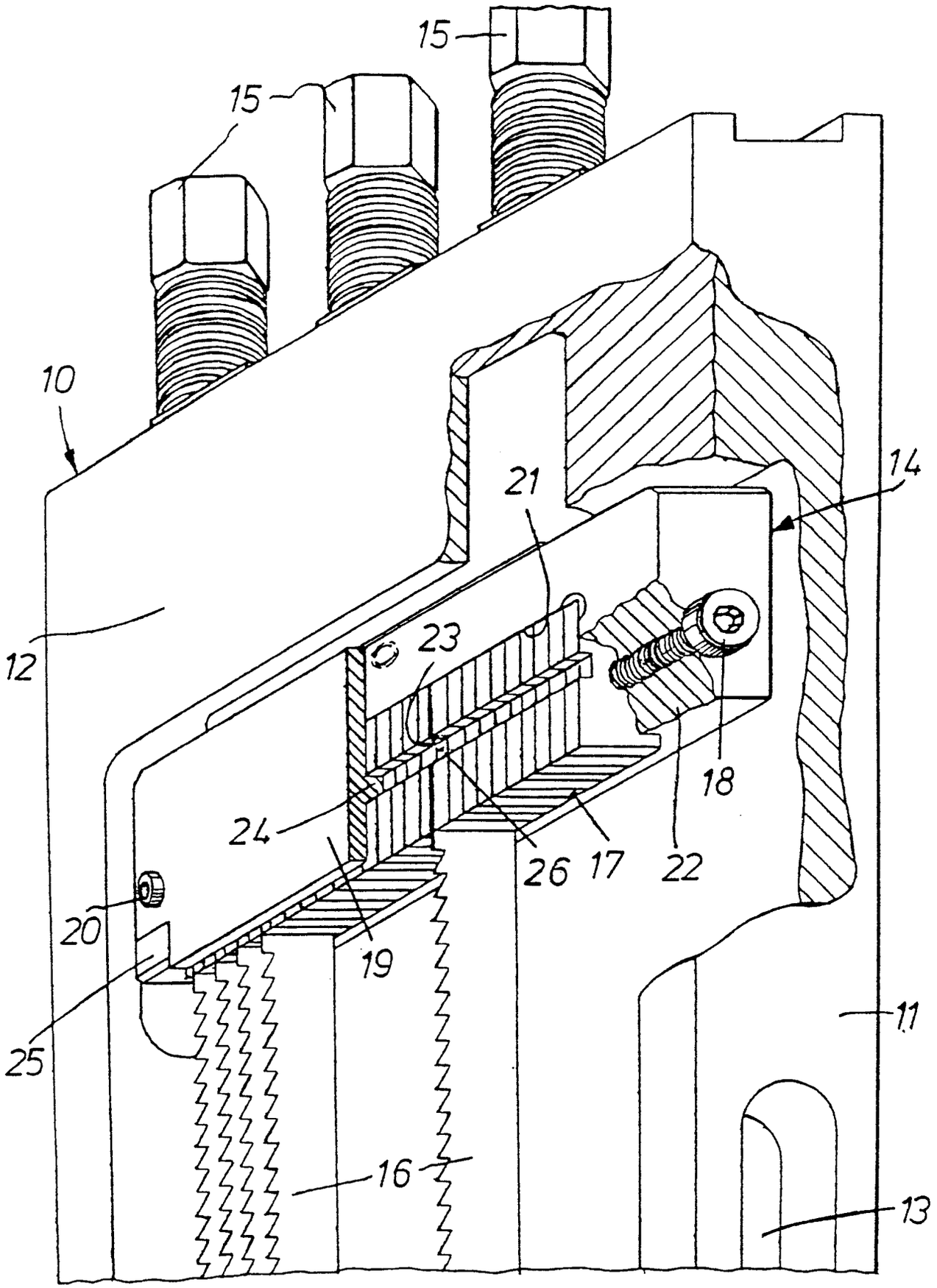
1. A loose frame for gang saws, comprising saw holders (15) which are mounted in the frame opening and movable towards and away from one another by clamping means (14) on the frame end members (12) and in which opposite saw blade (16) ends are attachable for tensioning the saw blades in the frame opening parallel to the frame side members (11), **characterised**in that at least one saw blade holder (14) has a recess (21) which is open towards the frame opening and ends at a distance from the saw blade holder ends to form end walls (22); that setting-up blocks (17) of a shape corresponding to the cross-section of the saw blade holder recess (21) and of a predetermined thickness are fixable in the recess (21) with the saw blades (16) therebetween; that fixing means (18) are provided in the end walls of the saw blade holder for fixing the saw blades (16) and the blocks (17) within the recess; and that the saw blades (16) and the blocks (17) are provided with at least one recess (23, 26) in one of their edges, said recesses being identical and located, after the saw blades (16) and the blocks (17) have been fixed in the recess (21) of the saw blade holder (14), opposite one another in the longitudinal direction of said recess (21), such that a rib (24) attachable to said holder (14) can be pressed down thereinto for locking the setting-up blocks (17) and saw blades (16) in position.

2. A loose frame as claimed in claim 1, **characterised**in that the recess or recesses (23) of the saw blades (16) are formed in the saw blade edge carrying the saw teeth.

3. A loose frame as claimed in claim 1 or 2, **characterised** in that the recess (21) of the saw blade holder (14) is rectangular in cross-section and open also along a side which is perpendicular to the open side of the frame opening, across which side a plate (19) having a cam forming said rib (24) is clampable by means of screws (20) that can be screwed into the end walls (22) of the saw blade holder.

4. A loose frame as claimed in claim 1, 2 or 3, **characterised** in that the recesses (23, 26) of the setting-up blocks (17) and the saw blades (16) are substantially rectangular in shape, and that the rib (24) has a cross-sectional shape exactly corresponding thereto.

5. A loose frame as claimed in any one of the preceding claims, **characterised** in that the inwardly facing surface of at least one side member (11) and also the end face of the saw blade holder (14) facing said inwardly facing surface are finished.


15
15
10
14
21
12
23
18
24
26
17
22
20
19
25
11
16
13

European Patent Office

EUROPEAN SEARCH REPORT

Application number

DOCUMENTS CONSIDERED TO BE RELEVANT

EP 85850391.5

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	AT - B - 102 151 (THÜR) * Totality *		B 27 B 3/10
A	AT - B - 187 679 (BUSATIS) * Fig. 1,2 *		
A	AT - B - 314 804 (JANSEN) * Fig. 1 *		

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

B 27 B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
VIENNA	27-01-1986	TRATTNER

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO Form 1503 03 82