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(54) A knife blade and handle.

(57) A blade (41) for a knife (40) has a slot (42,43) for receiving the hooked part (44,45,46) of the free end of a tape measure. Preferably, the blade (41) has two slots (42,43). A tape measure is correspondingly adapted by having a double hook end part (44,45,46). By this means, a workman can insert the end part of the tape measure in the slot or slots so that a plaster board or the like can be cut to a desired width more easily.

In addition, a handle (51) for a knife of the type having a replaceable blade (53,100) comprises a mounting portion to hold the blade in the handle. A reinforcing portion (52) extends from the mounting portion so as to lie at least partially over the top of the blade (53,100). The reinforcing portion (52) has a recess (59) into which at least part of the top of the blade locates in use.

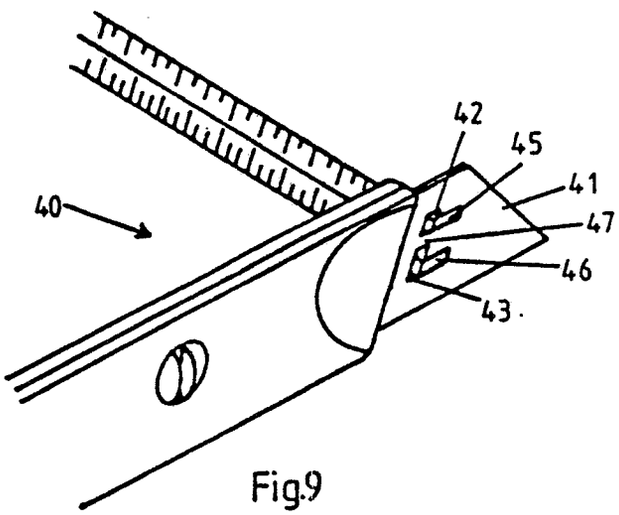

Fig.9

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A KNIFE BLADE AND HANDLE

The present invention is directed to a knife, and more particularly to a replaceable blade for a knife, and to a handle for a knife of the type having a replaceable blade.

In order to cut plaster or other boards to a desired width, a workman will often use a knife of the type having a replaceable blade together with a tape measure of the type which is extendable and lockable and which has a hooked portion at its free end, instead of marking the board for cutting. The hooked part of the tape is either placed over the upper edge of the blade and held in position by the workman placing his thumb on top of the tape or simply abuts the face of the blade and is held in that position by the workman. The other hand is used to grasp the tape measure housing and then both hands are drawn down the plasterboard or the like, applying pressure on the blade so as to cut into the board. This is a very quick method, since it obviates the need for drawing the line of cut beforehand. However, since the workman must hold the tape in position on or against the knife blade, it is often difficult, if not impossible, to apply sufficient pressure to cut sufficiently far into the board. In addition, the tape easily slides off or away from the knife blade, giving rise to inaccurate cutting or injury to the workman.

In addition, it has been noted that knife blades in general are very prone to snapping, particularly along a line substantially parallel to and close to the end of the handle adjacent the knife blade. It is therefore desirable to provide means which reduces the likelihood of snapping of the blade, particularly in the region adjacent to the handle of the knife.

According to a first aspect of the present invention, a blade for a knife has a slot for receiving the hooked part of the free end of a tape measure.

According to a second aspect of the present invention, a knife of the type having a replaceable blade comprises a handle and a blade provided with a slot for receiving the hooked part of the free end of a tape measure.

By this means, the hooked end of the tape measure may be located in the slot in the blade, and does not need holding in place by the workman during cutting of the board.

The slot is preferably an elongate aperture in the blade, and may be parallel to the edge of the body of the knife adjacent to the blade. Alternatively, the slot may be provided at some other angle, for example, parallel to the upper and/or lower edges of the blade.

Preferably, the blade has a pair of adjacent slots for receiving the hooked part of the free end of a tape measure adapted to be received in the slots.

According to a third aspect of the present invention, there is provided, in combination, a replaceable blade for a knife, the blade having a pair of adjacent slots, and a tape measure provided with a hooked part adapted to be received in the slots.

The invention further includes a tape measure comprising a tape having a double hook end part.

By this means, the tape is more securely held in position when the hooked part is passed through the blade, travel of the blade along the tape in use being inhibited.

Alternatively or additionally the slot may be open at one end.

The slot may alternatively be provided in a flange which protrudes from the plane of the blade.

According to a further aspect of the present invention, a handle for a knife of the type having a replaceable blade comprises a mounting portion to hold the blade in the handle, and a reinforcing portion extending from the mounting portion so as to lie at least partially over the top of the blade, the reinforcing portion having a recess into which at least part of the top of the blade locates in use.

It is to be understood that in the above and following description, the term recess is to be taken to include the space formed by projections dependent from the reinforcing portion.

The reinforcing portion passing over and securely engaging the top of the knife blade provides extra rigidity and resistance to snapping by helping to prevent twisting or bending normal to the plane of the blade. A knife is thereby provided with a strong blade without necessarily having to resort to using expensive materials for the blade itself.

Preferably, the reinforcing portion of the handle includes a curved region, between the region adjacent the top of the blade and the front of the handle adjacent the blade, for increasing further the rigidity of the blade in use. This is achieved because the curved region minimises the stress applied to the blade.

The reinforcing portion may be provided with a "rest" along its upper surface and which is positioned directly above the blade. A workman can apply pressure using his thumb or finger on the rest, thereby facilitating cutting or scoring especially as the rest can be positioned directly above the blade. It is to be understood that the term "blade" includes blunt-edged blades, suitable for scoring, as well as sharp-edged blades, suitable for cutting and scoring.

The gripping portion of the handle preferably includes a hatched region provided towards the

end of the handle adjacent the knife blade, so as to provide a region which is more easily gripped by the user, allowing for increased accuracy in use.

Examples of the present invention will now be described with reference to the accompanying drawings, in which:-

Fig. 1 is a partial perspective view of a knife having a replaceable blade, and a tape measure;

Fig. 2 is a side view of the blade of Fig. 1;

Fig. 3 is a side view of a second example of a blade;

Fig. 4 is a side view of a third example of a blade;

Fig. 5 is a side view of a fourth example of a blade;

Fig. 6 is a side view of a fifth example of a blade;

Fig. 7 is a plan view of a sixth example of a blade;

Fig. 8 is a plan view of a seventh example of a blade;

Fig. 9 is a partial perspective view of a knife having a replaceable blade provided with two slots, and a correspondingly adapted tape measure;

Fig. 10 is a side view of a blade having two slots;

Fig. 11 is a partial perspective view of the tape measure of Fig. 1;

Fig. 12 is a plan view of the tape measure of Fig. 9;

Fig. 13 is an external side view of a knife handle according to the invention with a conventional blade in position;

Fig. 14 is an external side view of the handle of Figure 13 with a blade as shown in Fig. 10 in position;

Fig. 15 is an internal view of one half of the knife shown in Fig. 14; and,

Fig. 16 is an internal view of one half of the knife of Fig. 13.

A first example of a knife 1 of the type having a replaceable blade 2 is shown in Figures 1 and 2. The blade 2 has a slot 3 which is parallel to the edge 4 of the handle 5 of the knife 1 adjacent to the blade. The slot 3 is elongate and of a size suitable to receive the hooked part 6 of a tape measure 7.

In use, the workman passes the hooked part 6 of the tape measure 7 through the slot 3 of the blade 2, and draws the tape out to the required length. The tape is then usually locked at the length by means of a locking device commonly provided on the body of such tape measures. The workman is then free to apply full pressure to the plasterboard or the like to be cut, since he is not required actively to hold the hooked part 6 of the tape measure 7 in position on the blade 2. Using his other hand to hold the tape box (not shown) so that some tension is present in the tape 7, an accurate cut is quickly and easily achieved.

The slot may be positioned at other angles. Examples of such other orientations are shown in Figures 3, 4 and 5. However, it may be desirable to use a blade with the slot at a different angle as shown in Figures 3, 4 and 5. In Figure 3, the slot 3 is provided in the blade 2 such that the slot 3 is parallel to the upper edge 8 of the blade 2.

In Figure 4, a slot 3 is provided which is at a non-zero angle to the edge 9 of the body of the knife adjacent to the blade 2. With the slot in this position, in use, the tape is able to be used by the workmen so as to check the accuracy during cutting whilst preventing the sharp edge of the tape itself from cutting into the plasterboard. In addition, the likelihood of the blade snapping is kept to a minimum.

Figure 5 shows a blade 2 wherein a slot 3 is again provided at a non-zero angle to the edge 9 of the body of the knife adjacent to the blade 14, but in a different orientation to the slot 11 shown in Figure 4.

Figures 6 and 7 show elongate slots 10 which are open at one end. In Figure 6, the slot 10 is provided in a blade 2, the slot being open at the end nearest to the edge 9 of the body of the knife adjacent to the blade 2. In Figure 7, a blade 2 is provided with a slot 10 which is formed by means of an L-shaped flange 11 integral with the blade 2 and positioned at the upper edge of the blade and at right-angles to the plane of the blade. Again, the slot 10 is open at the end nearest the edge 9 of the body of the knife adjacent to the blade.

In each of the examples shown in Figure 6 and 7, where an open slot 10 is provided, the open end should be positioned as shown since the knife is usually drawn "backwards" along the plasterboard or the like, and thus the tape measure will be retained in the slot 10 during cutting.

In Figure 8, a blade 2 has a flange 12 protruding out of the plane of the blade as shown. A slot 13 is formed in the flange 12, and is closed at both ends as shown.

Figures 9 and 10 shows a knife 40 of the type having a replaceable blade 41, the blade having a pair of adjacent slots 42, 43. As shown in Figures 9 and 11, a double hook end part 44 of a tape measure is provided with two hooks 45,46 adapted to pass through the slots 42,43.

The bridge portion 47 between the slots 42, 43 prevents the blade 41 from being able to move along the length of the tape during cutting, and so a more secure locking is ensured. The provision of the two small slots 42, 43 also serves to reduce weakening of the blade to a minimum.

Further examples of positions of the slots are possible and may correspond to those shown in

Figures 2, 3 and 5 to 8.

As shown in Figure 12, the hook end part 44 of the tape measure should protrude somewhat from the end of the tape so as to leave a substantially rectangular gap 48 between the hooks 45, 46 and the square end 49 of the tape. In addition, as shown most clearly in Figure 11, the hook end part 44 has a cut-out 50 which accomodates the bridge portion 47 of the blade. This cut-out 50 preferably extends beyond the free end 49 of the tape so that the blade can be tilted relative to the tape, ensuring that the hooks 45, 46 can be easily inserted into the slots 42, 43. These two features in particular allow the blade 41 to be accommodated within the gap 48 so that the plane of the blade is substantially perpendicular to the length of the tape, which ensures accurate measuring and cutting.

In each of the examples shown in Figures 1 to 5, 9 and 10, a re-inforcing member (not shown) may be clipped to the upper edge of the blade so as to provide increased strength and rigidity. This member is elongate and is provided with a channel along its length which accepts the blade in use. Alternatively, the re-inforcing member may be formed integrally with the blade.

As shown in Figures 13 and 14, a handle 51 has an extension 52 which passes partially over the top of a knife blade 53, 100. The extension 52 provides a reinforcing portion along the top of the knife, substantially reducing the likelihood of snapping of the blade in use. The extension may also pass over the full length of the top of the blade. In the example shown in Figure 15, the extension 52 is of a length such that its free end is in line with the bridge portion 47 between the slots 42, 43. The extension 52 includes a curved region 54 which acts to increase further the rigidity of the knife.

The handle 51 is also provided with a hatched gripping portion 55 located near the working end of the handle. This enables a workman to grip the handle more firmly in use, thereby enabling the workman to use the knife more accurately and safely.

The handle comprises two halves, one half being shown in Figure 15. As is usual with knives of this type, the handle 51 is provided with a mounting peg 56 which is received by one of two cut-outs 57,58 provided in the knife blade 53 which is similar to that shown in Figure 10. As is common, this knife blade 53 is mounted so that the peg 56 is received by the "forward" cut-out 57, so that a sufficient region of the blade is free for cutting.

The extension 52 is provided with a recess 59 which receives the top of the knife blade 53 and serves to increase further the rigidity of the blade. The recess may be located partly in each handle half or, alternatively, only one or other of the handle halves may have the recess.

In Figure 16 is shown a knife blade 100 of the conventional type which is provided with two cut-outs 111,112 and which has the conventional relatively shallow angle α at the leading edges. When using the handle 51 with a conventional blade 100, the blade 100 can be mounted in the handle 51 with the peg 56 located in the forward cut-out 111. A small region of blade 100 is thereby provided for cutting. Alternatively the blade can be mounted with the peg 56 located in the rearward cut-out 112. By this means, a sufficient area of blade is provided to enable cutting to be carried out, the extension 52 reinforcing the blade to the required rigidity.

Claims

1. A blade (2,41) for a knife (1,40) having a slot (3,10,13,42,43) for receiving the hooked part (6,44,45,46) of the free end of a tape measure (7).

2. A blade according to claim 1, wherein the slot (3,10,13,42,43) is an elongate aperture.

3. A blade according to claim 1 or claim 2, further comprising a flange (11,12) which protrudes from the plane of the blade (2,41), the slot (10,13) being provided in the flange (11,12).

4. A blade according to any of claims 1 to 3, wherein the slot (10) is open at one end.

5. A blade according to claim 1 or claim 2, further comprising a re-inforcing member along the edge of the blade remote from the cutting edge.

6. A blade (2,41) according to claim 1, wherein the blade (41) has a pair of adjacent slots (42,43) for receiving the hooked part (44,45,46) of the free end of a tape measure adapted to be received in the slots (42,43).

7. A knife (1,40) of the type having a replaceable blade, comprising a handle (5) and a blade (2,41) provided with a slot (3,10,13,42,43) for receiving the hooked part (6,44,45,46) of the free end of a tape measure (7).

8. A knife (40) according to claim 7, wherein the blade (41) has a pair of adjacent slots (42,43) for receiving the hooked part (44,45,46) of the free end of a tape measure adapted to be received in the slots (42,43).

9. In combination, a replaceable blade (41) for a knife (1,40), the blade (41) having a pair of adjacent slots (42,43), and a tape measure provided with a hooked part (44,45,46) adapted to be received in the slots (42,43).

10. A combination according to claim 9, wherein the hooked part (44) of the tape protrudes from the square end (49) of the tape so as to leave a gap (48).

11. A tape measure comprising a tape having a double hook end part (44,45,46).

12. A handle (51) for a knife of the type having a replaceable blade (53,100) comprising a mounting portion to hold the blade in the handle, and a reinforcing portion (52) extending from the mounting portion so as to lie at least partially over the top of the blade (53,100), the reinforcing portion (52) having a recess (59) into which at least part of the top of the blade locates in use.

13. A handle (51) according to claim 12, wherein the reinforcing portion (52) includes a curved region (54), between the region adjacent the top of the blade (53,100) and the front of the handle (51) adjacent the blade (53,100).

14. A handle (51) according to claim 12 or claim 13, further provided with a rest.

15. A handle (51) according to any of claims 12 to 14, further comprising a gripping portion (55) towards the end of the handle (51) adjacent the knife blade (53,100).

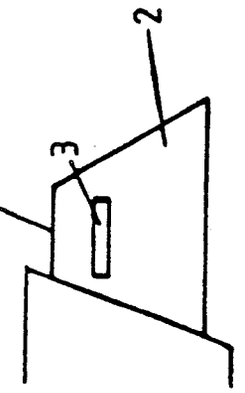

Fig.3

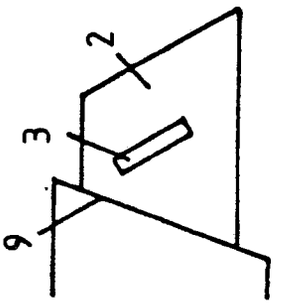

Fig.5

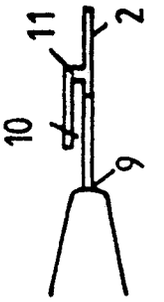

Fig.7

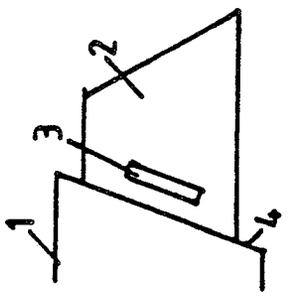

Fig.2

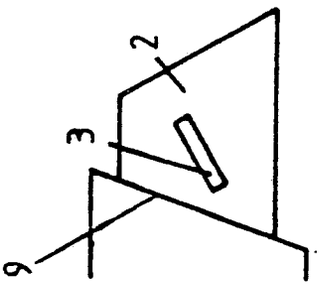

Fig.4

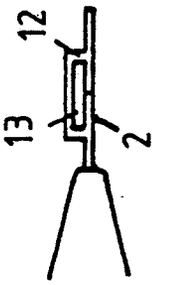

Fig.8

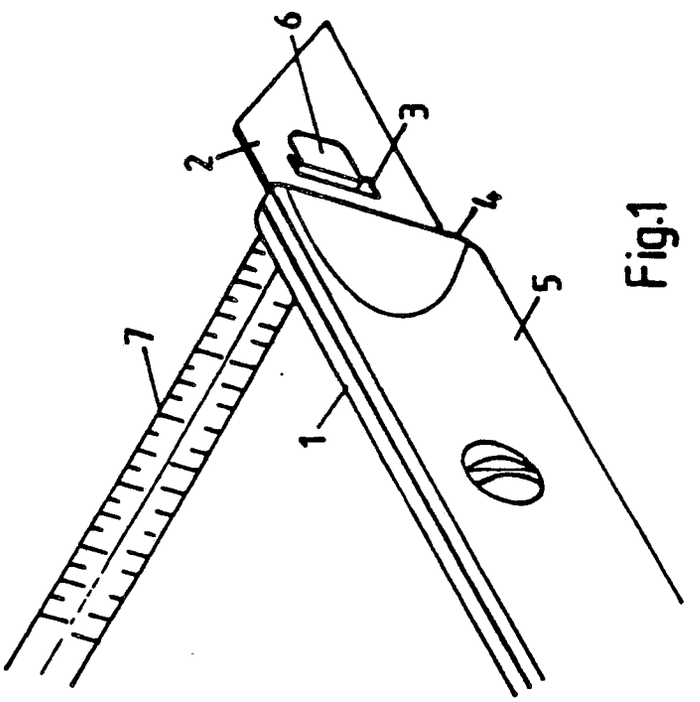

Fig.1

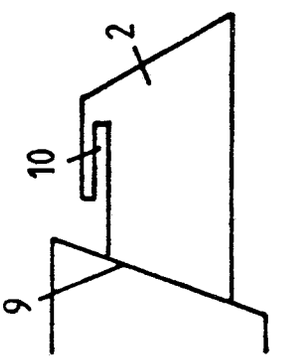

Fig.6

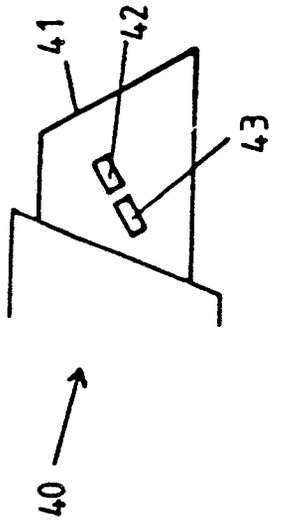

Fig.10

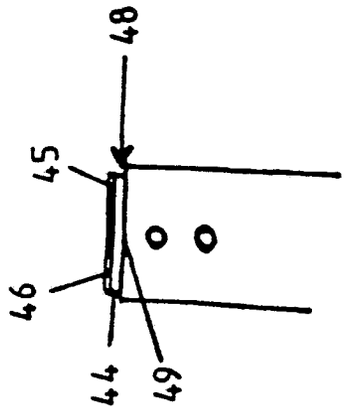

Fig.12

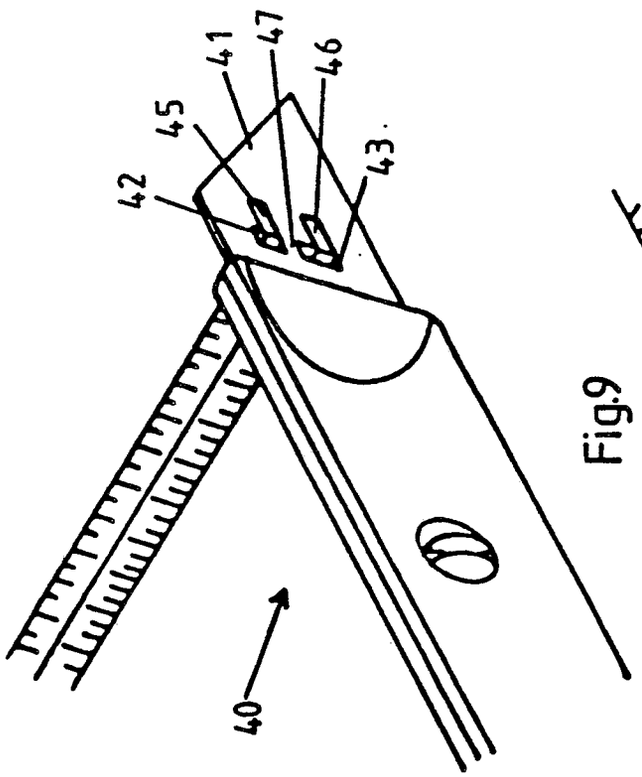

Fig.9

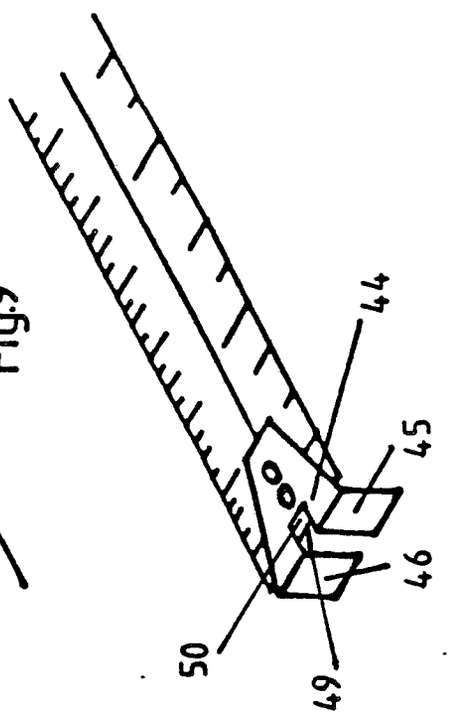

Fig.11

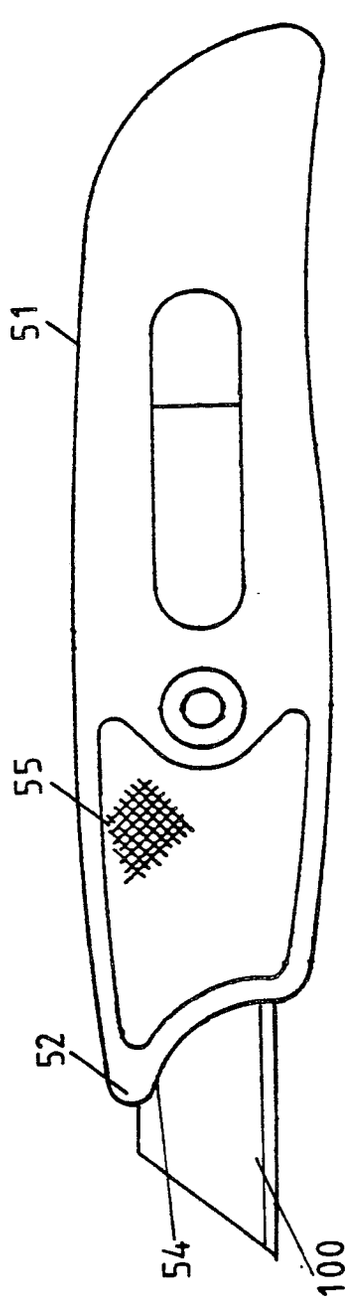

Fig.13

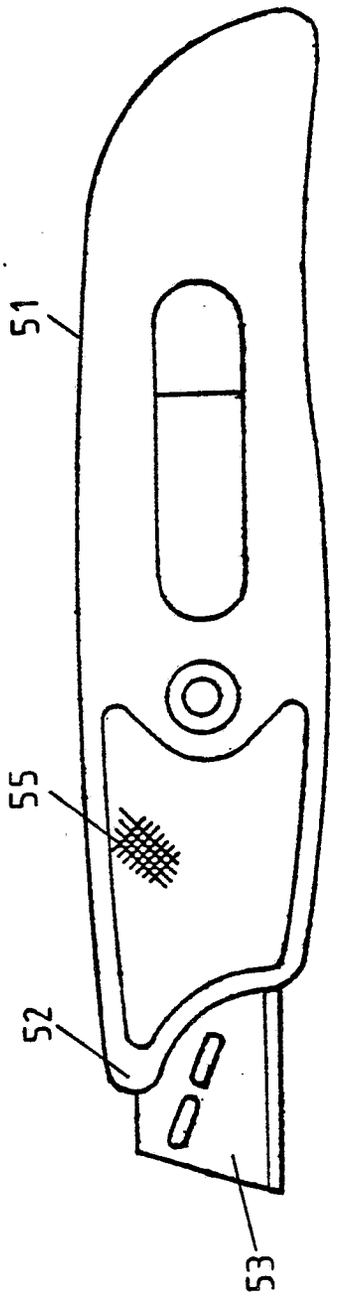

Fig.14

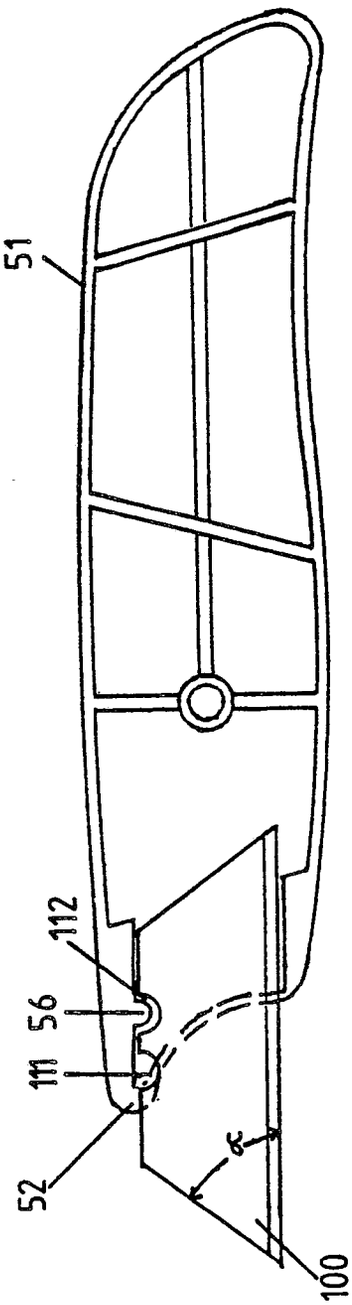

Fig.16

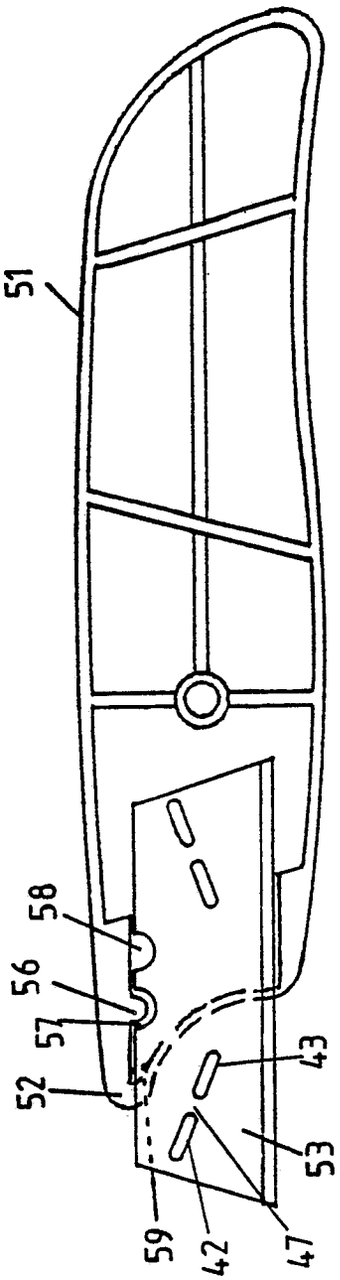

Fig.15

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 89 31 0653

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	US-A-4255856 (M.MACKIE) * column 2, line 20 - column 4, line 2; figures 1-3 *	1-5, 7, 12-15.	B26B11/00 G01B3/10
Y		6, 8, 10.	
X	GB-A-2203839 (T.A.LJUNGBERG) * page 2, line 33 - page 3, line 18; figures 2, 3 *	9, 11.	
Y		6, 8, 10.	
A	US-A-2952025 (F.H.JOHNSON)		

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

B26B
G01B
B43L

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	10 JANUARY 1990	WOHLRAPP R.G.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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