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(12) # EUROPEAN PATENT APPLICATION

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(54) **Device for fixing a wall cabinet to a wall.**

(57) A device for fixing a wall cabinet (29) to a wall, of the type comprising a box (11) designed for fixing to the cabinet (29), and a hook (12) extending from said box (11), said hook (12) being adjustable in position in terms of height and depth along planes perpendicular to each other, wherein the hook (12) comprises a fork (13) connected in a straddling manner to a load-bearing member (10) contained in the box (11), for adjusting the position of the hook (12) in terms of height and depth there being provided respective means accessible from that side of the box (11) opposite the side from which the hook (12) emerges.

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EP 0 033 179 A1

Fig.1

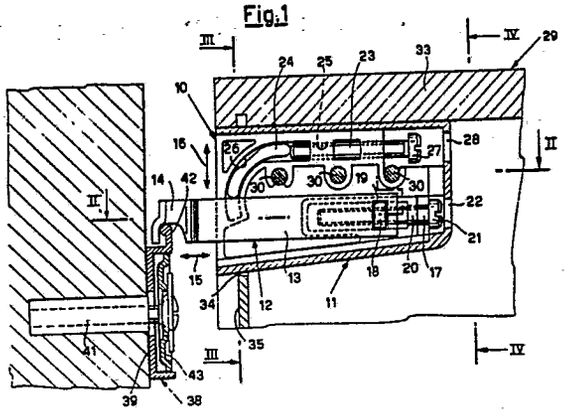
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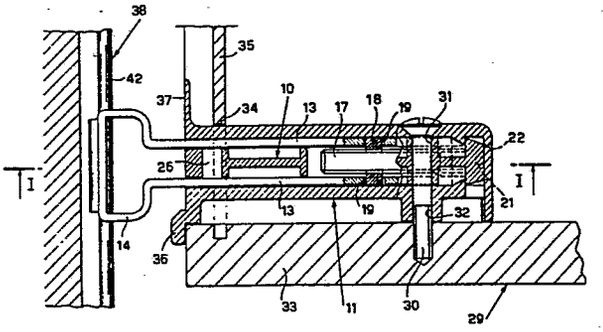
Fig.2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DEVICE FOR FIXING A WALL CABINET TO A WALL.-

Wall cabinets are generally fixed to the wall by means of metal plates or brackets fixed to the rear of the cabinet and hooked to plugs inserted in the wall.

However, this type of fixing requires extreme accuracy in the mutual positioning of the plates and plugs, and requires the wall to be perfectly vertical and flat, in order for the wall cabinet to be disposed in the required manner both in itself and relative to others adjacent to it.

The aforesaid conditions are obviously difficult to obtain. Moreover, this type of fixing can become precarious if the wall cabinet is too heavily loaded, because a large part of the load acts on the screws which fix the plates to the cabinet, which in most cases is made of wood or its derivatives, i.e. a material which is not suitable for supporting high loads transmitted to it by the screws.

In order to compensate for mutual positioning errors between the plates and plugs, fixing devices have been proposed constituted by a plastics box member which can be fixed to the cabinet, and from which there extends a metal hook which is adjustable both in height and in

depth.

However, in devices of this kind, the fixing is even more precarious because the forces are discharged through a plastics member, which can fracture by fatigue.

A further drawback of such devices is the fact that at least one of the two screws by means of which the position of the hook can be adjusted is either not easily accessible for this operation or can become accessible only by providing an aperture in one wall of the casing.

The object of the present invention is to obviate the aforesaid drawbacks by providing a device having a structure adequate for reliably resisting the loads concerned, and in which the screws used for adjusting the position of the hook are both easily accessible from the cabinet interior.

This object is attained according to the invention by a device for fixing a wall cabinet to a wall, of the type comprising a box designed for fixing to the cabinet, and a hook extending from said box, said hook being adjustable in position in terms of height and depth along planes perpendicular to each other, wherein the hook comprises a fork connected in a straddling manner to a load-bearing member contained in the box, for adjusting the position of the hook in terms of height and depth there being provided respective means accessible from that side of the box opposite the side from which the hook emerges.

The structural and operational characteristics of the invention and its advantages over the known art will be more apparent from an examination of the description given hereinafter by way of example with reference to the accompanying drawings, in which :

FIGURE 1 is a section on the line I-I of FIG. 2;

FIGURE 2 is a section on the line II-II of FIG. 1;

FIGURE 3 is a section on the Line III-III of FIG.1;

FIGURE 4 is a section on the line IV-IV of FIG.1;

and

FIGURE 5 is a front view which illustrates, by way of non-limiting example, a section bar to which a wall cabinet fitted with the device according to the invention can be hooked.

With reference to the drawings, the device according to the invention is formed structurally from a metal member 10 housed in a plastics box 11.

The member 10 is a generally rectangular plate formed for example by die-casting. A hook, indicated overall by 12, is connected to it and comprises a fork 13 which terminates in an annular hook portion 14. The fork 13 is straddle-mounted over the member 10, with the portion 14 extending outside the box 11 through an open end thereof. The hook 12 is connected by way of the fork 13 to the member 10 in a manner such that its position can be adjusted in the direction of the arrows 15, 16 (FIGURE 1).

As can be clearly seen from FIGURES 1 and 2 of

the drawings, the hook 12 is moved in the directions of the arrow 15 in a horizontal plane by means of a screw 17 which is screwed into a nut 18 connected loosely to that end of the fork 13 distant from 14. More precisely, the nut 18 is held within two opposing apertures 19 in the fork 13, and the screw 17 passes through an aperture 20 in the member 10. The head 21 of the screw 17 can be easily operated using a screwdriver, by way of an aperture 22 in the box 11.

The hook 12 is moved in the directions of the arrow 16 in a vertical plane, accompanied by a slight rotation about 18, by means of a screw 23 which acts on one end of an arcuate sector 24, the other end of which abuts against the fork 13. The screw 23 is screwed through a threaded bore 25 in the member 10, and urges the sector 24 to move along a complementary seat 26 provided in the member 10, this seat being laterally (externally) intersected by the fork 13. Consequently, in order to act on the arms of the fork 13, the sector 24 must project laterally from the seat 26 as shown in FIG. 3 of the drawings. The head 27 of the screw 23 can be easily operated by a screwdriver, by way of an aperture 28 in the box 11.

The device according to the invention is fixed to a cabinet, for example a wall cabinet indicated diagrammatically by 29 on the drawings, by means of a set of transverse screws 30 which pass through aligned through bores 31, 32 provided in the member 10 and box 11 re-

spectively..

The device is generally fixed to a shoulder 33 of the cabinet, with its hook part 14 projecting from an aperture 34 formed in the rear wall 35 of the cabinet. For this purpose, the box 11 comprises, at the open end from which the hook portion 14 emerges, a pair of lateral flanges 36, 37 designed to abut against parts of the cabinet.

The hook portion 14 can be hooked to a normal expansion plug, or more advantageously to a support section bar 38 fixed to the wall. The section bar 38 comprises a channel section 39 with a plurality of spaced-apart apertures 40 for its fixing to the wall by means of a plug 41. From said section 39 there extends upperly a flange 42 to which the hook 14 is hooked. It is obviously advantageous to cause the load to act at the plugs 41 which fix the section bar 38 to the wall. Characteristically, at these points, the section bar 38 is reinforced by a plate 43 fixed in place by the said plug 41. The plate 43 can be adjusted in position longitudinally, and comprises a slot 44 through which the plug 41 passes (FIGURES 1 and 5). A relatively large resisting zone is therefore formed on which the load of the cabinet transmitted through the hook 14 is made to act. It is therefore not important for the hooks 14 to lie exactly over the plugs 41.

By adjusting the screws 17 and 23, it is possible in the manner heretofore explained to adjust the

depth and height of the hook portion 14, in order to accurately position the cabinet 29 both on the wall and relative to adjacent cabinets. This adjustment can be confortably made from the interior of the cabinet, and thus under easy access conditions.

A further interesting characteristics of the invention is the fact that the forces transmitted by the screws 30 are supported by the metal member 10 and not by the plastics box 11.

C L A I M S :

1. A device for fixing a wall cabinet to a wall, of the type comprising a box designed for fixing to the cabinet, and a hook extending from said box, said hook being adjustable in position in terms of height and depth along planes perpendicular to each other, wherein the hook comprises a fork connected in a straddling manner to a load-bearing member contained in the box, for adjusting the position of the hook in terms of height and depth there being provided respective means accessible from that side of the box opposite the side from which the hook emerges.

2. A device as claimed in Claim 1, wherein the means for adjusting the position of the hook in terms of its depth in a horizontal plane are constituted by a first screw which is screwed into a nut loosely connected to that end of the fork distant from the hook, and that the means for adjusting the position of the hook in terms of its height in a vertical plane are constituted by a second screw which is screwed through said load-bearing member and acts on one end of a slidable arcuate sector, the other end of which acts on the fork of the hook.

3. A device as claimed in Claim 1, wherein said hook is arranged for hooking to a flange projecting upperly from a channel section fixed to the wall by means of plugs, the section comprising, in positions corresponding with these latter, a reinforcement plate the position of which is adjustable longitudinally by means

of a slot through which the plug passes.

Fig.1

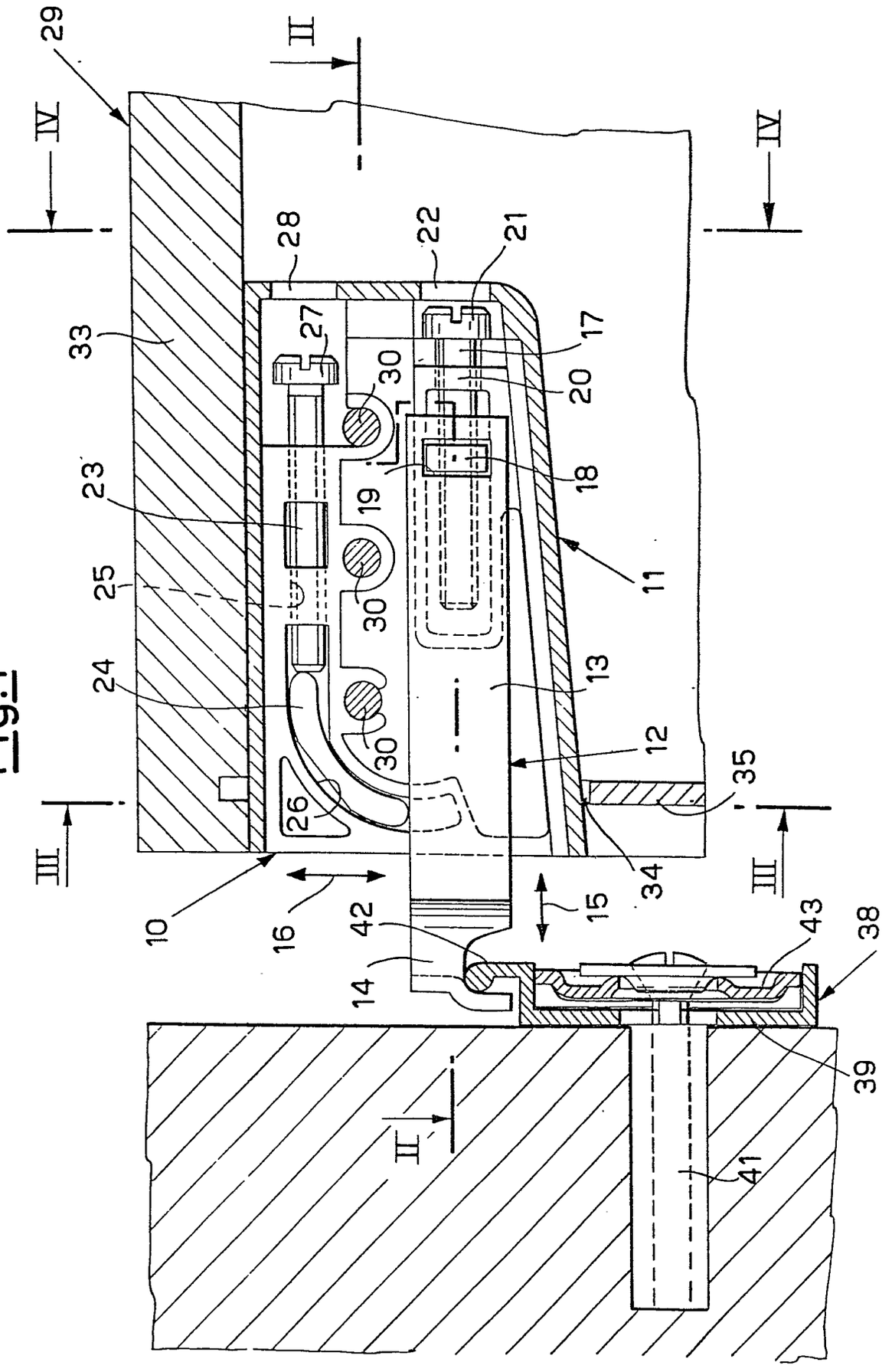
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Fig.2

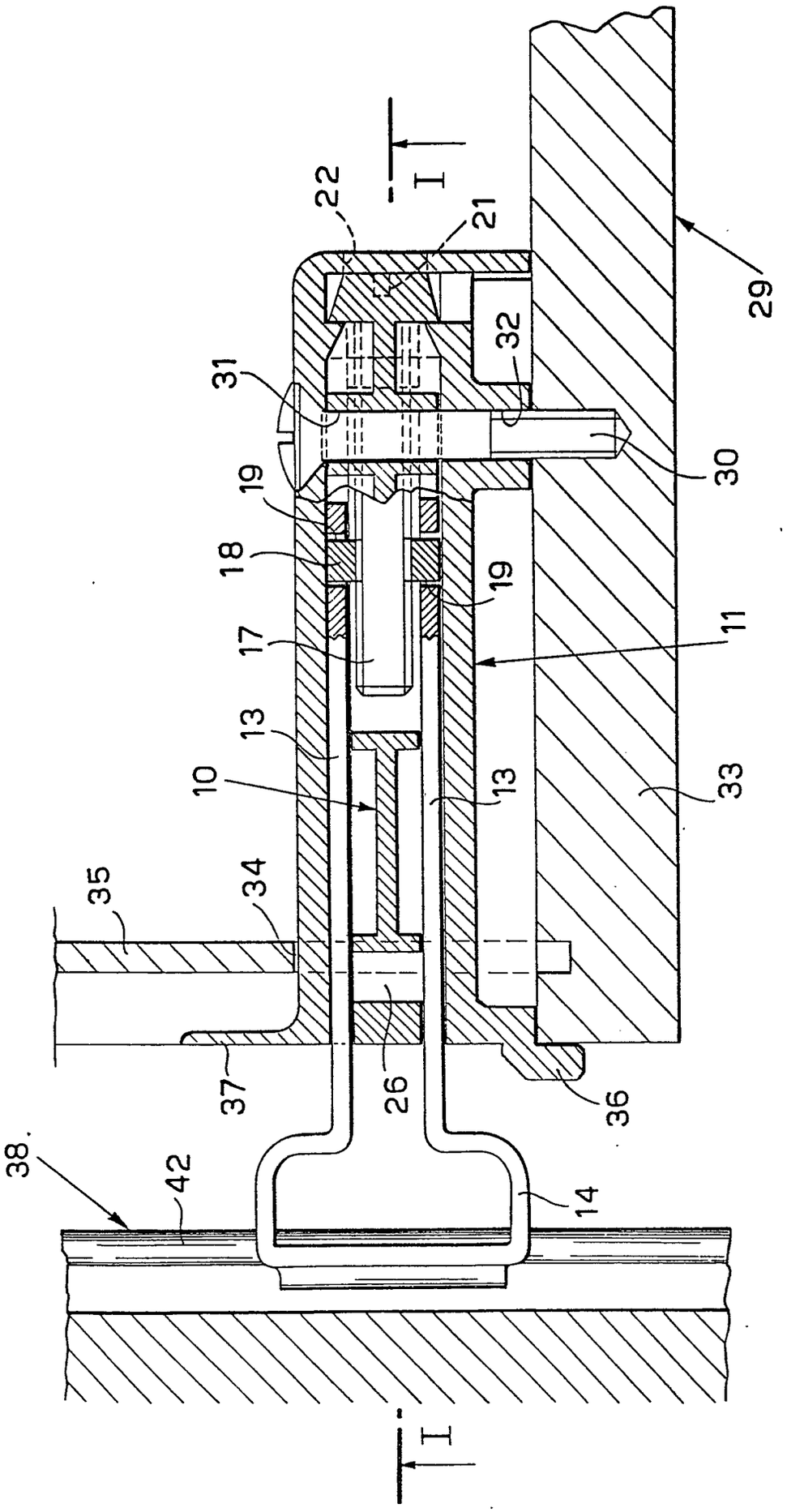
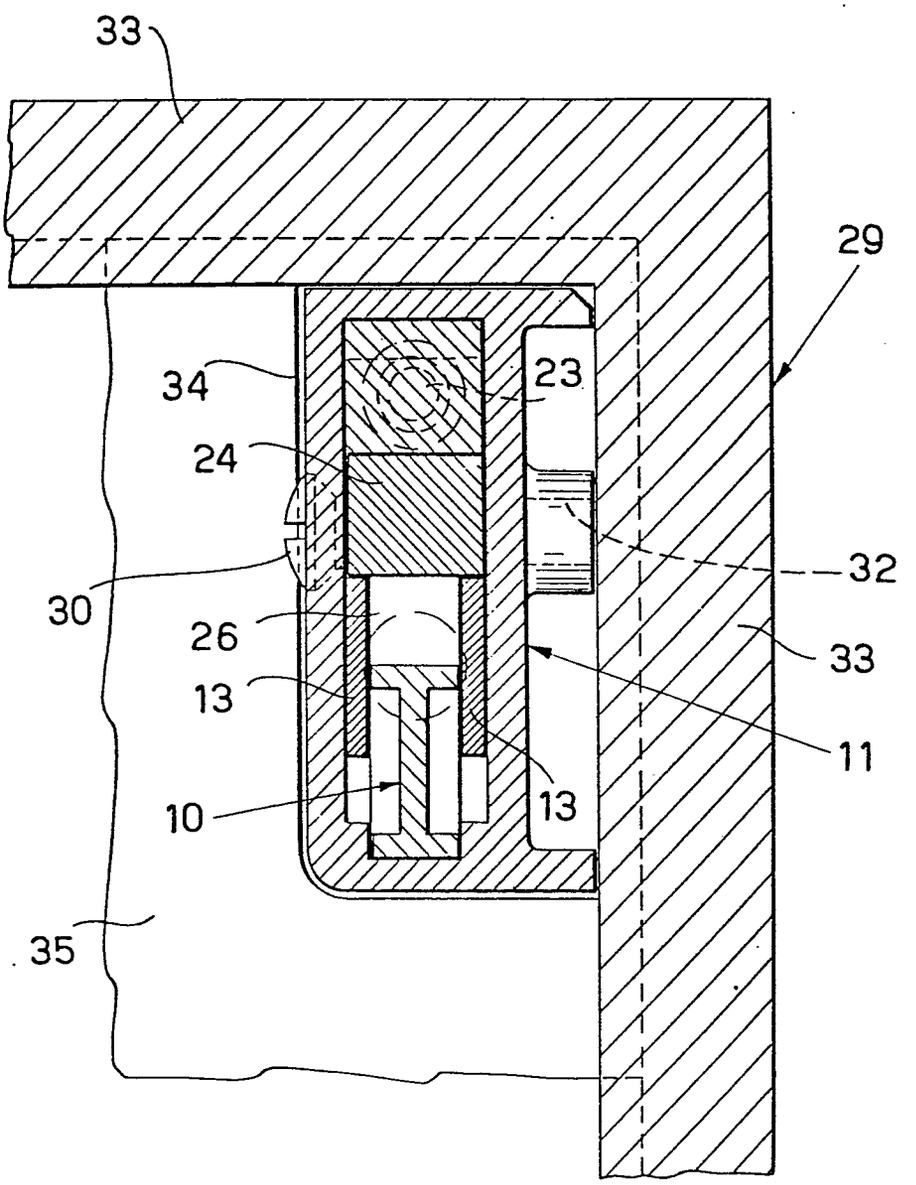


Fig.3



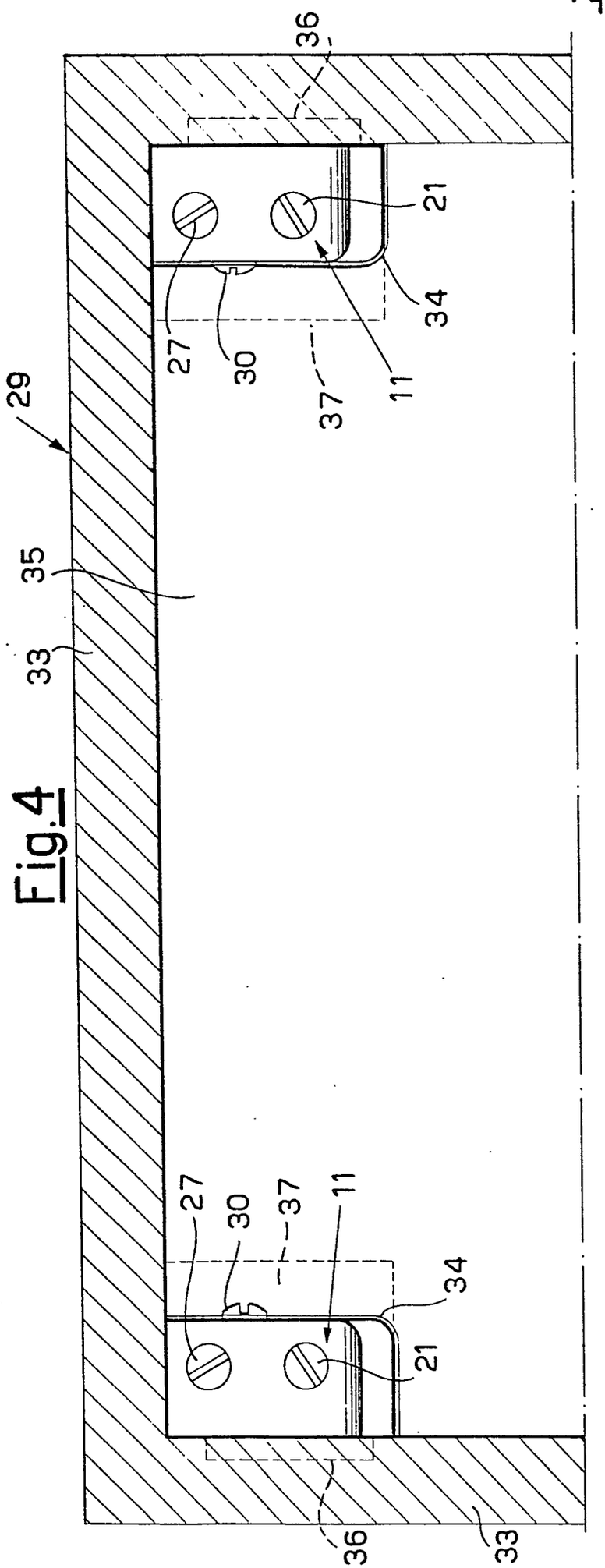

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Fig.4

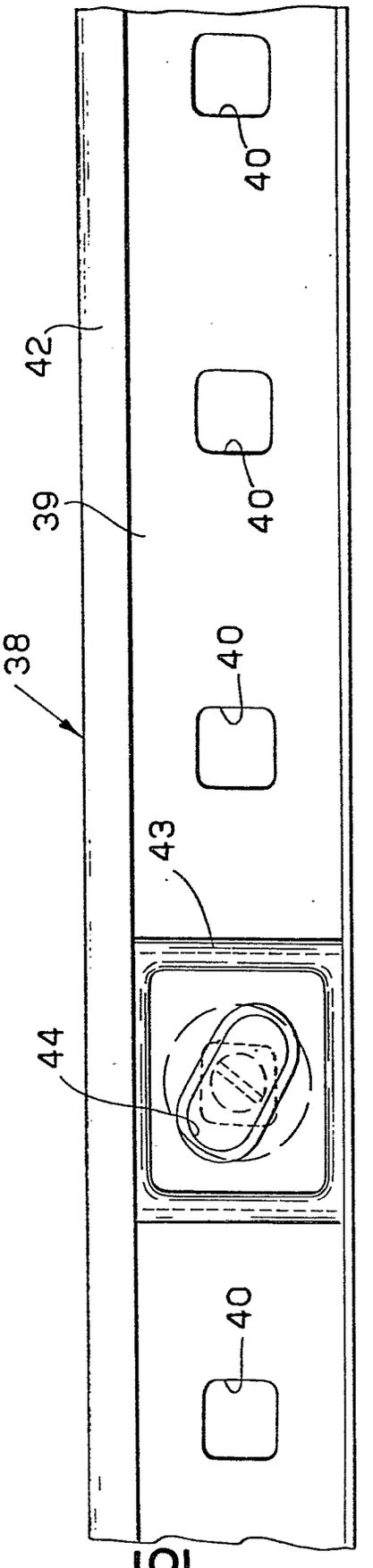
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Fig.5

European Patent Office

EUROPEAN SEARCH REPORT

Application number

EP 81 20 0082.6

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.³)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
	DE - A - 2 101 235 (R. HEINZE) * fig. 1 *	1,2	A 47 B 96/14
	DE - A - 2 123 400 (KUNSTSTOFF GMBH) * fig. 1, 2 *	1,3	
	DE - U - 7 138 677 (EHLEBRACHT) * fig. 1, 2 *	1,3	
	DE - U - 7 335 126 (STANLEY-WORKS GMBH) * fig. 1 *	1	TECHNICAL FIELDS SEARCHED (Int. Cl.³)
	DE - U - 7 414 425 (J. BLUM GMBH) * fig. 1, 2 *	1	A 47 B 96/14
	DE - U - 7 624 142 (R. HEINZE) * fig. 3 *	1	
	DE - U - 7 637 651 (WF RATIONAL ANBAU-KÜCHEN W. FISCHER-RIEMSLOH) * fig. 1 *	1	
	DE - U - 7 723 534 (E-NORM BESCHLAG GMBH) * fig. 1 *	1	

CATEGORY OF CITED DOCUMENTS

- X: particularly relevant
- A: technological background
- O: non-written disclosure
- P: intermediate document
- T: theory or principle underlying the invention
- E: conflicting application
- D: document cited in the application
- L: citation for other reasons
- &: member of the same patent family, corresponding document

X The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Berlin	29-04-1981	ZAPP