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LOWER PART FOR AN INSTALLATION DUCT
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- (56) Prior Art Documents
DE 2516404
- (57) Claim

1. A bottom part for an installation duct, particularly a wall duct, comprising a sheet metal section having a C-shaped cross-section, having on the inside of the bottom wall a C-sectioned mounting rail which extends over the length of the sheet metal section to fasten installation equipment, characterised in that the mounting rail which comprises strip-shaped flaps which are situated in pairs opposite each other and are cut out in sections from the bottom wall, each of which is shaped to form a leg of the C-section of the mounting rail.



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(21) Internationales Aktenzeichen: PCT/EP95/00800 (22) Internationales Anmeldedatum: 4. März 1995 (04.03.95) (30) Prioritätsdaten: G 94 04 062.1 U 11. März 1994 (11.03.94) DE (71) Anmelder (für alle Bestimmungsstaaten ausser US): ALBERT ACKERMANN GMBH & CO. KG [DE/DE]; Alberstrasse 4-8, D-51643 Gummersbach (DE). (72) Erfinder; und (75) Erfinder/Anmelder (nur für US): FASTENROTH, Kurt- Helmut [DE/DE]; Breite Strasse 3, D-51647 Gummersbach (DE). (74) Anwalt: WILHELM, H., H.; Wilhelm & Dauster, Hospital- strasse 8, D-70174 Stuttgart (DE).		(81) Bestimmungsstaaten: AU, CA, CN, JP, SG, US, europäisches Patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Veröffentlicht Mit internationalem Recherchenbericht. Vor Ablauf der für Änderungen der Ansprüche zugelassenen Frist. Veröffentlichung wird wiederholt falls Änderungen eintreffen.	

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(54) Title: LOWER PART FOR AN INSTALLATION DUCT

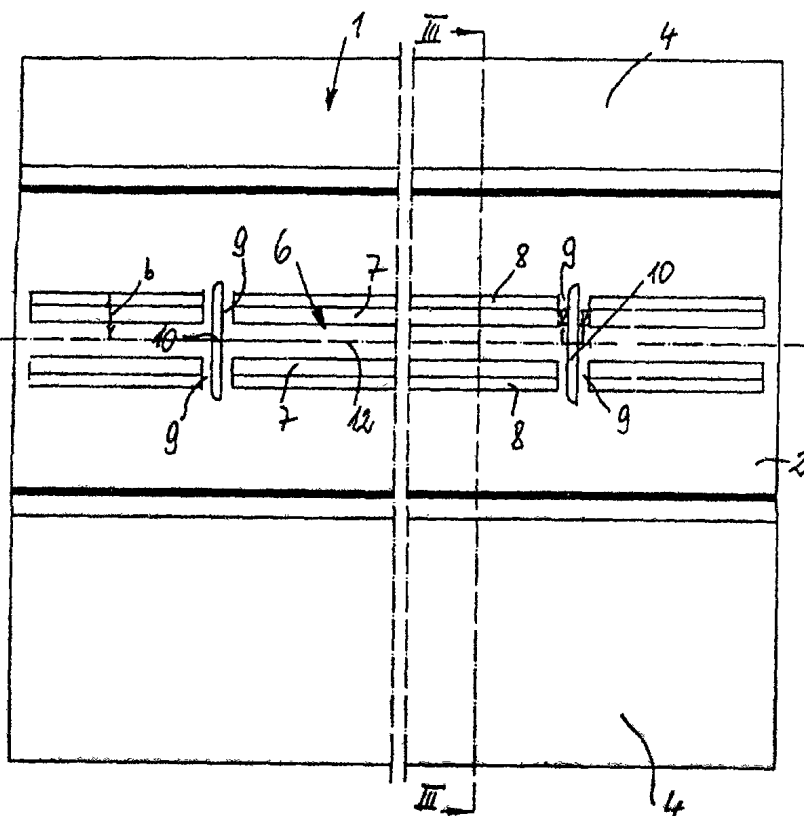
(54) Bezeichnung: UNTERTEIL FÜR EINEN INSTALLATIONSKANAL

(57) Abstract

A lower part for an installation duct, in particular a wall duct, is described which consists of a sheet metal profile (1) having a C-shaped cross-section on which an assembly rail (6) extending over the length of the profile and likewise having a C-shaped profile is mounted for securing installation apparatus. This assembly rail (6) has a novel structure in that it consists of strip-shaped bars (7) which are cut out of the base wall (2) in pairs arranged opposite each other in sections and which are each shaped to form a leg of the C-shaped profile of the assembly rail (6).

(57) Zusammenfassung

Es wird ein Unterteil für einen Installationskanal, insbesondere einen Wandkanal, beschrieben, der aus einem Blechprofil (1) mit C-förmigem Querschnitt besteht, an dem eine sich über die Länge des Profils erstreckende Montageschiene (6) ebenfalls mit einem C-Profil zur Befestigung von Installationsgeräten angebracht ist. Diese Montageschiene (6) besteht in neuer Weise aus paarweise gegenüberliegenden und abschnittsweise aus der Bodenwand (2) herausgeschnittenen streifenförmigen Laschen (7), die jeweils zu einem Schenkel des C-Profiles der Montageschiene (6) umgeformt sind.



Bottom part for an installation duct

The invention concerns a bottom part for an installation duct, particularly a wall duct, comprising a sheet metal section having a C-shaped cross-section, having on its inside a C-sectioned mounting rail which extends over the length of the sheet metal section to fasten installation equipment.

Installation ducts with bottom parts of this kind are known for example from the Utility model 87 04 502 or from the Utility model 87 08 607. In these cases in the practice mounting ducts are fabricated on the bottoms of the ducts separate from the rib-shaped sheet metal section and then welded, riveted, glued or otherwise fastened to the bottom of the duct. Therefore to manufacture the duct section several operations are required on the different parts, what is expensive.

The object of the present invention is to construct a bottom part for an installation duct of the type mentioned in the introduction which is easier from the production engineering point of view to reduce the manufacturing expenses.

To achieve this objective according to the invention a bottom part of the type mentioned in the introduction consists of that the mounting rail which comprises strip-shaped flaps which are situated in pairs opposite each other and are cut out in sections from the bottom wall of the sheet metal section, each of which is shaped to form a leg of the C-section of the mounting rail.

Due to this construction the separate manufacture of the mounting rail and the associated manufacturing costs become superfluous. In addition, the invention is based on the idea that for the function of the mounting rail it is not important whether the mounting rail has a continuous construction or it is constructed in parts from sections behind each other, which sections are separated from each other by parts of the bottom of the wall duct. By this new design it is possible to blank

the lower part for the installation duct, from sheet metal for example, in one operation and to shape the mounting rail simultaneously with the forming of the sheet metal section into the duct form. Additional manufacturing effort for the attachment of the mounting rail is superfluous.

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According to a development of the invention a reinforcing web could be provided which runs between the flaps at right angles to the longitudinal sides of the flaps, which web keeps the remaining area of the bottom of the bottom part rigid enough despite the flaps blanked out in sections. At the same time this reinforcing web can be formed in a simple manner by a straight cut at right angles to the longitudinal centreline of the section and by a scoop-like deformation of the material bordering the cut. The reinforcing webs can be also formed simultaneously in this manner as a matter of fact by relatively simple stamping and pressing operations.

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At the same time it is of great advantage for reasons of stability if the reinforcing web is constructed on both sides of the longitudinal centreline of the mounting rail somewhat longer than the openings blanked out in the bottom, from which the flaps are constructed.

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The invention is illustrated in the drawings based on an embodiment, which is described below. These show in:

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Fig.1 - a top view on the open side of a bottom part of a wall installation duct, showing only the two end regions,

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Fig.2 - the view of the wall duct of Fig.1 on a reduced scale viewed from the enclosed underside,

Fig.3 - the section across the wall duct of Fig.1 along the line III-III in Fig.1,

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Fig.4 - the enlarged illustration of detail IV of Fig.3, and

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Fig.5 - finally, the enlarged illustration of the section along the line V-V in Fig.1.

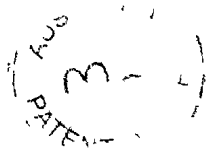
Figs.1 to 3 show the bottom part of a wall installation duct comprising a sheet metal section (1) having a C-shaped cross-section, the bottom wall (2) of which goes over into two lateral walls (3), from which in turn terminating wall sections (4) run parallel to the bottom wall (2), which terminating walls are provided at their edges with channels (5) to insert a cover (not illustrated).

On the inside of the bottom wall (2) a mounting rail (7) is made which is parallel to the lateral walls (3), the purpose of this mounting rail being to accommodate and retain anchoring parts of electrical equipment. This mounting rails (6) comprises longish flaps (7), which are cut out from the material of the bottom wall (2) and are folded upward and inward. At the same time from Fig.4, as well as from Fig.1, rectangular openings (8) can be recognised which have been produced by the cutting out and folding upwards of the flaps (7).

Figs.1 and 2 make it further clear that the flaps (7) are cut out and folded in sections only, and that between two pairs of flaps which follow each other in the longitudinal direction of the section (1) there are connecting webs (9) between those parts of the bottom which remain between the openings (8), which webs ensure the necessary stability of the section (1). At the same time in the embodiment these connecting webs (9) are provided with additional reinforcement in the shape of a stiffening rib (10), which is constructed by that at right angles to the longitudinal edges of the flaps (7) and consequently also at right angles to the longitudinal edges of the openings (8) a separating cut is carried out at the position (11) (see Fig.5), and that the material bordering this cut is open towards the section (11) as a kind of a scoop, and is bent upwards towards the stiffening rib (10). The connecting web (9) then blends flush into the bottom (2) of the section

(1). By this construction a stiffening is achieved in the region of the remaining connecting web. At the same time it can be recognised from Fig.1 that the length of the stiffening ribs (10), measured at right angles from the longitudinal centreline (12) of the mounting rail (6) is somewhat greater than the width (*b*) of the external edges of the openings (8) measured in the same direction. Therefore the stiffening webs (10) extend to that region of the bottom (2) which is not weakened by the notches.

It is understood without saying that the new underside for an installation duct can be produced in a very simple manner by a joint blanking by punching, bending as well as pressing if suitable tools are provided. Consequently, the section can be formed from one sheet metal strip to its final shape without an additional operation.



1. A bottom part for an installation duct, particularly a wall duct, comprising a sheet metal section having a C-shaped cross-section, having on the inside of the bottom wall a C-sectioned mounting rail which extends over the length of the sheet metal section to fasten installation equipment, characterised in that the mounting rail which comprises strip-shaped flaps which are situated in pairs opposite each other and are cut out in sections from the bottom wall, each of which is shaped to form a leg of the C-section of the mounting rail.

2. A bottom part according to claim 1, characterised in that between consecutive sections containing the flaps a connecting web with a reinforcement is provided which is at right angles to the longitudinal sides of the flaps.

3. A bottom part according to claim 2, characterised in that the reinforcement is constructed by a reinforcement rib, which is formed from a straight cut at right angles to the longitudinal centreline of the mounting rail and a scoop-like deformation of the material area bordering the cut.

4. A bottom part according to the claims 1 to 3,
characterised in that the reinforcing rib is constructed on
both sides of the longitudinal centreline of the mounting
rail somewhat longer than the width (b) of the openings
blanked out in the bottom wall, from which openings the
material for the flaps originates.

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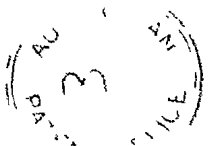
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 Fellows Institute of Patent
 Attorneys of Australia

Mr. H. L. ...



Abstract

A bottom part of an installation duct, particularly a wall duct, is described, which comprises a sheet metal section (1) having a C-shaped cross-section, also having a C-sectioned mounting rail (6) which extends over the length of the section to fasten installation equipment. This mounting rail (6) comprises in a novel manner strip-shaped flaps (7) which are situated in pairs opposite each other and are cut out in sections from the bottom wall (2), each of which is shaped to form a leg of the C-section of the mounting rail (6).



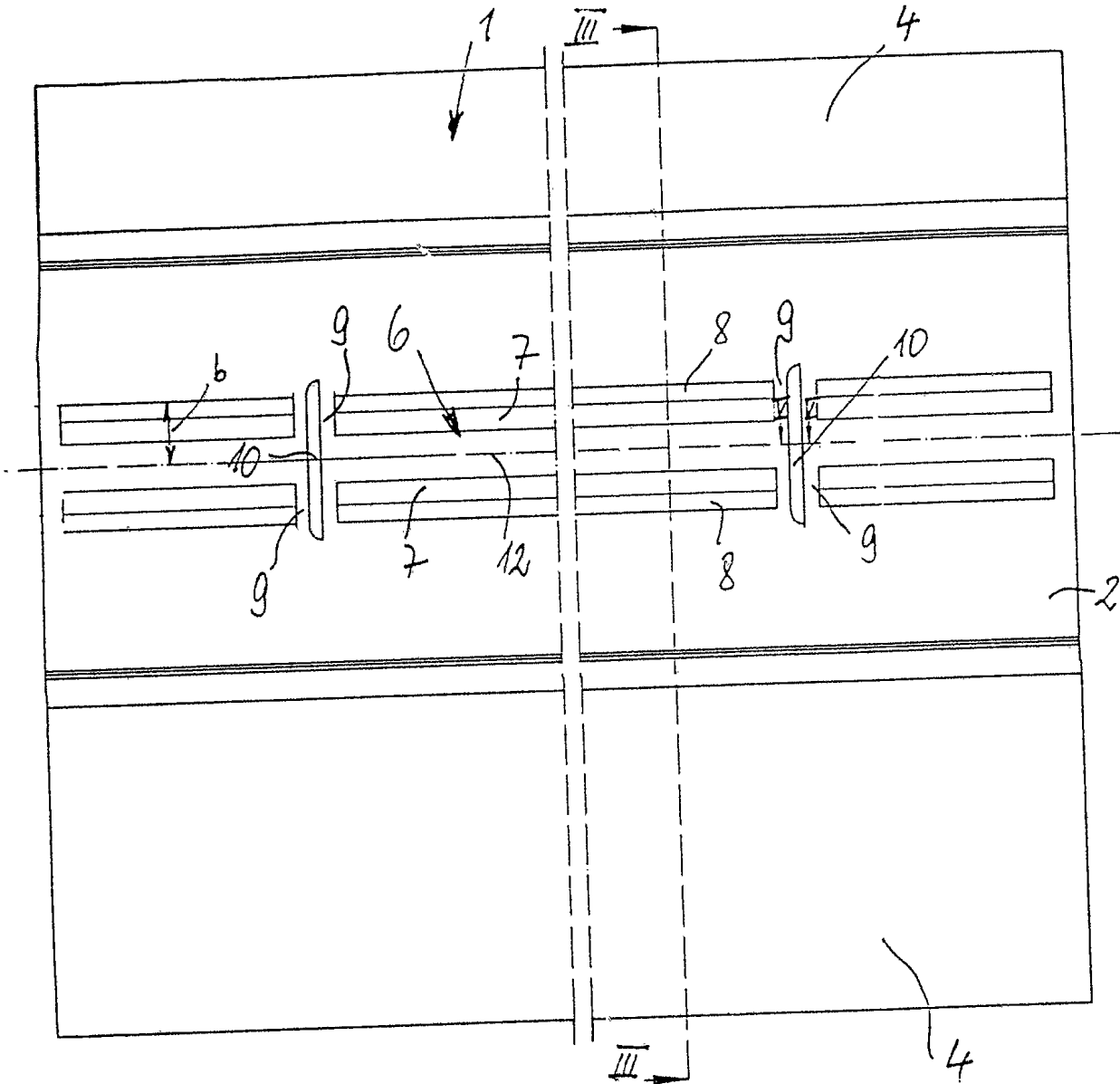


Fig. 1

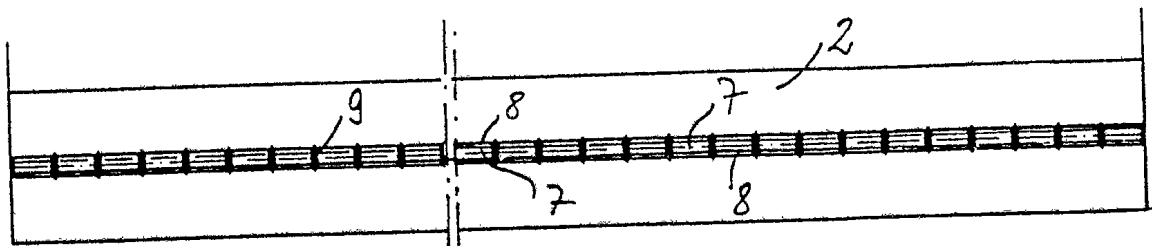


Fig. 2

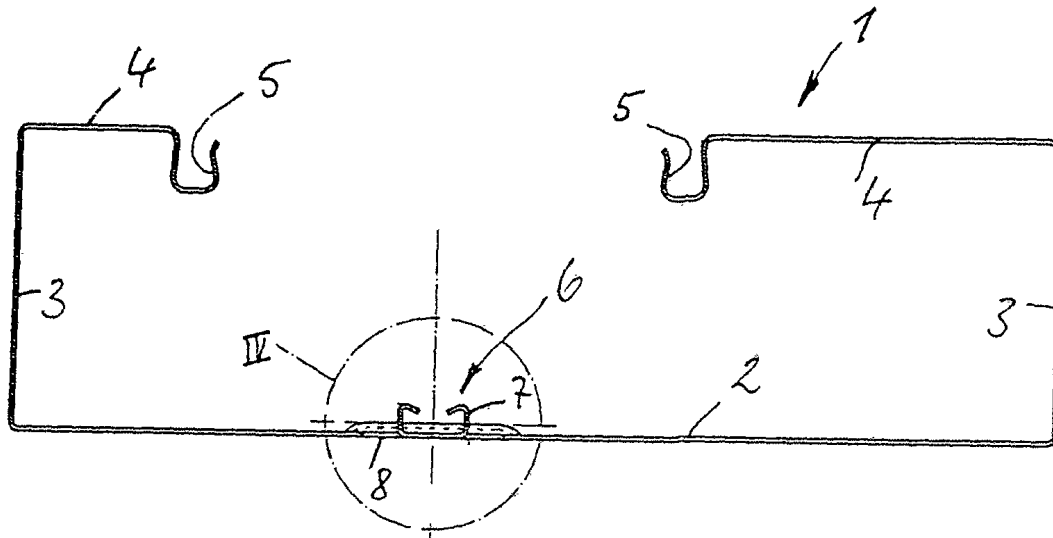


Fig. 3

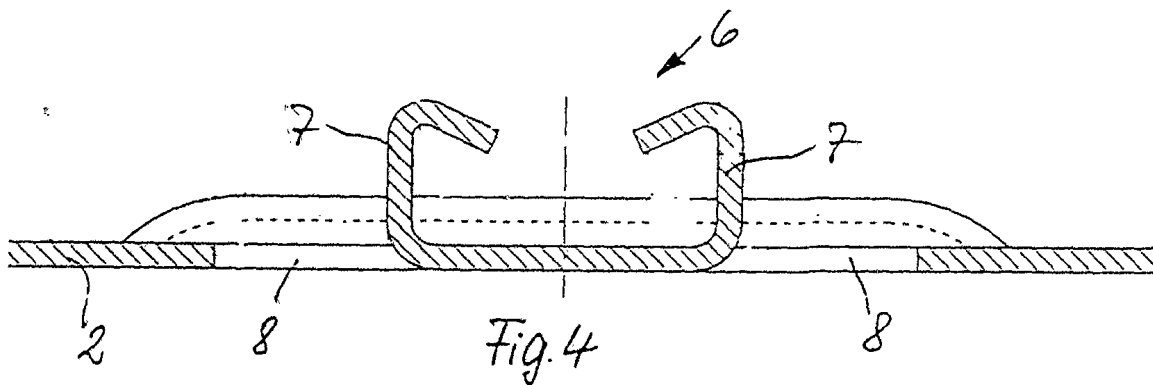


Fig. 4

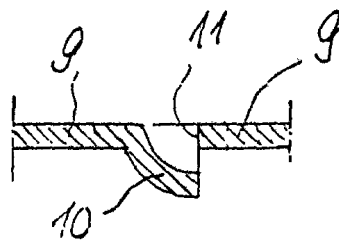


Fig. 5

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/EP 95/00800

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 H02G3/12 H02G3/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 H02G H01R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE-A-25 16 404 (TEHALIT) 28 October 1976 see page 5, last paragraph - page 6, paragraph 2 see page 8, last paragraph see page 12, last paragraph - page 13, paragraph 1; claims 1,4,6; figures 3,7-9 ---	1,2
A	DE-U-87 04 502 (ALBERT ACKERMANN) 27 May 1987 cited in the application see figure 1 ---	1
A	DE-U-87 08 607 (ALBERT ACKERMANN) 13 August 1987 cited in the application see figure 1 -----	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
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"&" document member of the same patent family

Date of the actual completion of the international search

29 June 1995

Date of mailing of the international search report

05.07.95

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INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No.

PCT/EP 95/00800

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE-A-2516404	28-10-76	NONE	
DE-U-8704502	27-05-87	NONE	
DE-U-8708607	13-08-87	NONE	