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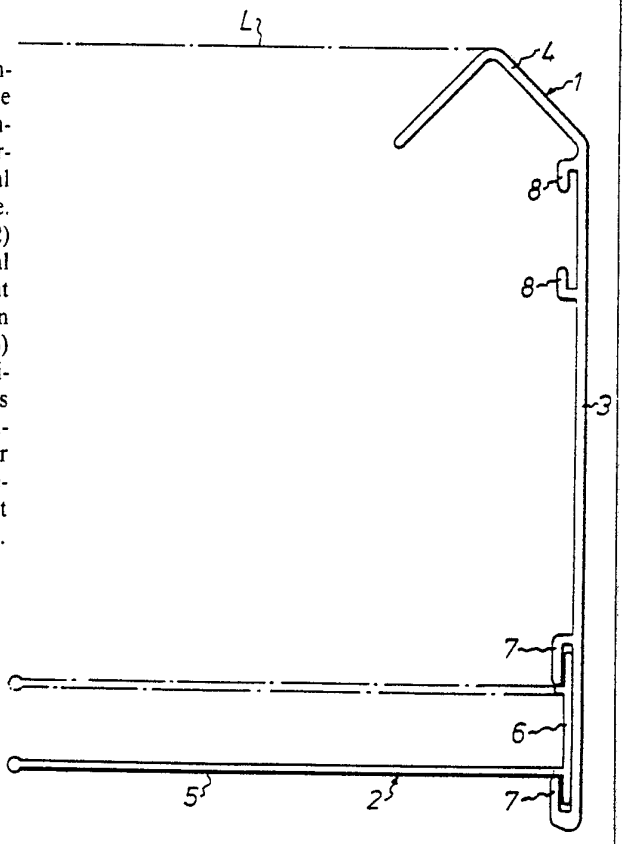
(54) Title: SECTIONAL ELEMENT FOR MAKING AN EDGE MOULD

(57) Abstract

A sectional element for making an edge mould for a substantially horizontal plate, such as a balcony slab, has a vertical flange intended to form the edge of the mould, and a horizontal flange intended to form a mould part extending in underneath the edge portion of the plate. The distance between the top portion of the vertical flange and the horizontal flange defines the thickness of the plate. The sectional element consists of two separate sectional parts (1, 2) which can be joined together. One sectional part (1) has a vertical flange portion (3) forming the vertical flange, and first engagement means (7). The other section part (2) has a horizontal flange portion (5) forming the horizontal flange, and second engagement means (6) adapted, for joining together the two sectional parts (1, 2), to reversibly engage the first engagement means (7) in two different positions of engagement. The horizontal flange portion (5) and the second engagement means (6) are so unsymmetrically connected to each other that the distance defining the thickness of the plate is variable depending on which position of engagement the second engagement means (6) occupies when engaging the first engagement means (7).



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SECTIONAL ELEMENT FOR MAKING AN EDGE MOULD

The present invention relates to a sectional element for making an edge mould for a substantially horizontal plate, such as a balcony slab, which sectional element has a vertical flange intended to form the edge of the mould, and a horizontal flange intended to form a mould part extending in underneath the edge portion of said plate, the distance between the top portion of the vertical flange and the horizontal flange defining the thickness of the plate.

A sectional element of this type is disclosed in Swedish Patent Application 8701688-7 relating to an edge mould for use in the renovation of a concrete slab, such as a balcony slab, projecting from a wall, such as the wall of a house. The thickness of such concrete slabs may vary, which makes it necessary, if all the renovated concrete slabs should not be given one and the same thickness, to use sectional elements differently dimensioned in respect of the distance between the top portion of the vertical flange and the horizontal flange, for different concrete slabs.

The object of the present invention therefore is to provide a sectional element which is so designed that it can be used for making an edge mould for a substantially horizontal plate, such as a balcony slab, the thickness of which should have one or the other of two predetermined thickness values.

This object is achieved by means of a sectional element which is of the type stated in the introduction to this specification and which according to the present invention is characterised in that it consists of two separate sectional parts which can be joined together, that one sectional part has a vertical flange portion forming said vertical flange, and first engagement means, that the other sectional part has a horizontal flange

portion forming said horizontal flange, and second engagement means which is adapted, for joining together said two sectional parts, to reversibly engage said first engagement means in two different positions of engagement, and that said horizontal flange portion and said second engagement means are so unsymmetrically connected to each other that the distance defining the thickness of the plate is variable depending on which position of engagement said second engagement means occupies when engaging said first engagement means.

Since the sectional element consists of two sectional parts which can be joined together in a simple manner and one of which is reversible and designed in the manner described above, one and the same sectional element can be used for two different plate thicknesses.

In a preferred embodiment, the second engagement means consists of a minor vertical flange portion which is so connected to the horizontal flange portion that this is located at unequal distances from the two ends of said minor vertical flange portion, and that said first engagement means consists of two projections provided on said one sectional part and defining between them a longitudinal groove for reversibly receiving said minor vertical flange portion.

The sectional element preferably has a longitudinal groove for receiving anchoring means or jointing elements.

The invention will now be described in more detail with reference to the accompanying drawing illustrating a sectional element according to the present invention in sectional view.

The sectional element shown in the drawing is intended for making an edge mould for a substantially horizontal concrete slab, such as a balcony slab. The sectional element consists of two separate sectional parts 1 and 2 which can be joined together and which are preferably made of aluminium. The sectional part 1 has a vertical flange portion 3 intended to form the

edge of the mould, and a V-shaped top portion 4 connected to the vertical flange portion. The sectional part 2 has a horizontal flange portion 5 intended to form a mould part extending in underneath the edge portion of the slab. When casting a concrete slab or renovating a damaged concrete slab, the edge mould provided by the sectional element is filled with concrete up to the level indicated by the dot-dash line L, such that the sectional element engages in the concrete with its V-shaped top portion 4. The thickness of the concrete slab is thus defined by the distance between the crest of the V-shaped top portion 4 and the horizontal flange portion 5. As will be described in more detail hereinbelow, the illustrated sectional element can be used for making an edge mould, both for a slab having a thickness of 18 cm and for a slab having a thickness of 16 cm. These two thickness values are two out of four standard values (12, 14, 16 and 18 cm) for balcony slabs of concrete.

The sectional part 2 has engagement means in the form of a minor vertical flange portion 6. The minor vertical flange portion 6 is so unsymmetrically connected to the horizontal flange portion 5 at one end thereof that the horizontal flange portion 5 is unequally spaced from the upper and the lower end of the minor vertical flange portion 6.

The vertical flange portion 3 of the sectional part 1 has lower engagement means consisting of a lower pair of substantially L-shaped projections 7. The projections 7 are so designed as to define between them a longitudinal groove for reversibly receiving the minor vertical flange portion 6.

The two sectional parts 1 and 2 are joined together by inserting the minor vertical flange portion 6 into the groove between the projections 7. This can be done in two different positions. In one position, which is shown by full lines in the drawing, the distance

defining the thickness of the slab is 18 cm, and in the other position, which is indicated by dot-dash lines in the drawing, this distance is 16 cm. Thus, the drawing shows how the two sectional parts 1 and 2, i.e. one and the same sectional element, can be used for two different slab thicknesses. Thickness combinations other than the illustrated one of 16/18 cm may of course be chosen.

The vertical flange portion 3 of the sectional part 1 also has upper engagement means consisting of an upper pair of substantially L-shaped projections 8. The projections 8 are so designed as to define a longitudinal groove between them. This groove is intended for receiving anchoring means for anchoring the sectional element in the slab or for receiving jointing elements for jointing two succeeding sectional elements rectilinearly or orthogonally with respect to each other.

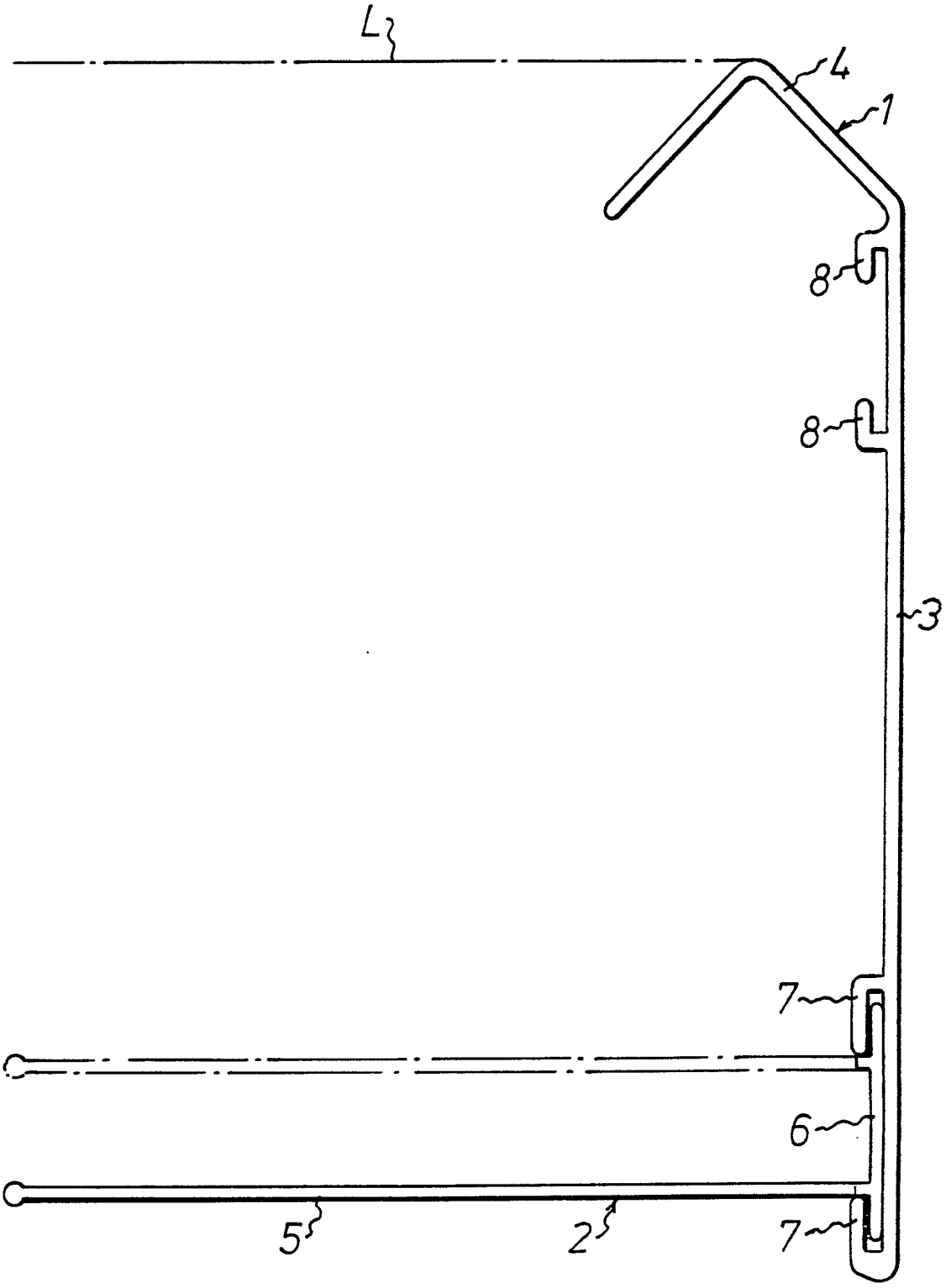
CLAIMS

1. Sectional element for making an edge mould for a substantially horizontal plate, such as a balcony slab, which sectional element has a vertical flange intended to form the edge of the mould, and a horizontal flange intended to form a mould part extending in underneath the edge portion of said plate, the distance between the top portion of the vertical flange and the horizontal flange defining the thickness of the plate, c h a r a c t e r i s e d in that it consists of two separate sectional parts (1, 2) which can be joined together, that one sectional part (1) has a vertical flange portion (3) forming said vertical flange, and first engagement means (7), that the other sectional part (2) has a horizontal flange portion (5) forming said horizontal flange, and second engagement means (6) which is adapted, for joining together said two sectional parts (1, 2), to reversibly engage said first engagement means (7) in two different positions of engagement, and that said horizontal flange portion (5) and said second engagement means (6) are so unsymmetrically connected to each other that the distance defining the thickness of the plate is variable depending on which position of engagement said second engagement means (6) occupies when engaging said first engagement means (7).

2. Sectional element as claimed in claim 1, c h a r a c t e r i s e d in that said second engagement means consists of a minor vertical flange portion (6) which is so connected to the horizontal flange portion (5) that this is located at unequal distances from the two ends of said minor vertical flange portion, and that said first engagement means consists of two projections (7) provided on said one sectional part (1) and defining between them a longitudinal groove for reversibly re-

ceiving said minor vertical flange portion (6).

3. Sectional element as claimed in claim 1 or 2, c h a r a c t e r i s e d in that it has a longitudinal groove for receiving anchoring means or jointing elements.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INTERNATIONAL SEARCH REPORT

International Application No PCT/SE89/00196

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) [6]

According to International Patent Classification (IPC) or to both National Classification and IPC [4]

E 04 G 13/06 // E 04 B 1/00, E 04 G 23/02

II. FIELDS SEARCHED

Minimum Documentation Searched [7]

Classification System [5]	Classification Symbols
IPC 4	E 04 G 13/00,/04-/06,23/00-/06; E 04 B 1/00,5/40; E 04 F 19/00-/02; F 16 S 1/02,3/04 .../...

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched [8]

SE, NO, DK, FI classes as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT [9]

Category *	Citation of Document, [11] with indication, where appropriate, of the relevant passages [12]	Relevant to Claim No. [13]
A,P	SE, A, 8701688-7 (UNO STIG GREEN) 25 October 1988	1
A	SE, A, 8405003-8 (HOGSTAD ALUMINIUM AB) 6 April 1985	1
A	US, A, 3 782 057 (GROSS) 1 January 1974	1
A	US, A, 3 570 197 (J.R. NORTH) 16 March 1971	1

* Special categories of cited documents: [10]

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report
1989-06-13	1989 -06- 13
International Searching Authority	**Signature of Authorized Officer**
Swedish Patent Office	Tommy Blomberg

FURTHER INFORMATION CONTINUED FROM THE SECOND SHEET

II Fields searched (cont)

US Cl 52:27,73,216,254-255,371,541,599-602, 699-701,817-830; 249:14-15,19,29,155-156,158-159,163, 168-169,194,207-208

V. ☐ OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE [1]

This international search report has not been established in respect of certain claims under Article 17(2) (a) for the following reasons:

1. ☐ Claim numbers....., because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claim numbers....., because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically

3. ☐ Claim numbers....., because they are dependent claims and are not drafted in accordance with the second and third sentences of PCT Rule 6.4(a).

VI. ☐ OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING [2]

This International Searching Authority found multiple inventions in this international application as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.

2. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:

3. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim numbers:

4. ☐ As all searchable claims could be searched without effort justifying an additional fee, the International Searching Authority did not invite payment of any additional fee.

Remark on Protest

☐ The additional search fees were accompanied by applicant's protest.

☐ No protest accompanied the payment of additional search fees.