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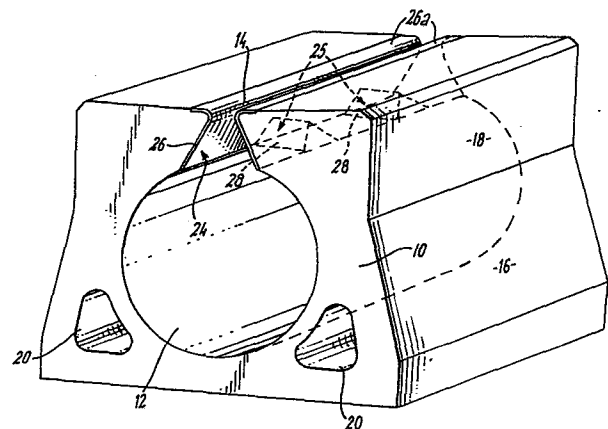
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㉓ **Improvements in drainage blocks.**

㉔ A concrete drainage block (10) can be end pressed to have a continuous unrestricted slot (14) communicating between the top face and a drainage channel (12). The slot (14) is lined with a metal insert (24) having downwardly divergent side walls (26) and downwardly divergent bridging portions (25) spaced along the insert and terminating short of the upper edge. Such a lined slot is easily cleaned and the edges are not susceptible to breakage.



**EP 0 073 601 A1**

Improvements in Drainage Blocks

This invention is concerned with improvements in or relating to the manufacture of concrete or similar products and is particularly related to the manufacture of drainage blocks.

5 A conventional form of drainage block has a substantially rectangular cross-section with the channel extending longitudinally therethrough, the channel being open onto an upper face of the block through aligned slots extending longitudinally of the block. Such slots are susceptible to the accumulation of  
10 dirt etc., and to prevent clogging it is important to periodically clear the slots. This has proved to be a labourious and time consuming operation, mainly because the slot arrangement is not continuous.

According to the present invention there is provided an insert  
15 for a mouldable drainage member, the insert comprising a pair of walls spaced apart by bridging parts, the walls being outwardly divergent relative to one another from one side edge of the insert, and each of the bridging parts having opposed faces outwardly divergent relative to one another in a direction away from said  
20 one side edge of the insert.

Preferably the bridging parts terminate short of said one side edge of the insert. The insert may be a fabricated component or produced from a material blank.

According to the present invention there is also provided a  
25 drainage member having a drainage channel extending therethrough and a slot on one face opening from externally into the drainage channel along the length thereof, the slot having walls which are

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outwardly divergent relative to one another in a direction towards the drainage channel, and a lining defined by an insert as described in either of the two preceding paragraphs.

5 Preferably the drainage member is formed with openings extending longitudinally through the material thereof at other than the locations of the drainage channel and the slot.

An embodiment of the present invention will now be described by way of example only, with reference to the accompanying drawings, in which :-

10 Fig. 1 is a perspective view from one end of a drainage member according to the invention; and

Fig. 2 is an elevation of the other end.

Referring to the drawings, a concrete drainage block has a drainage channel 12 of circular cross-section extending longitudinally therethrough and a slot 14 along an upper face of the block 10 communicates with the channel 12 along the length thereof. 15 The upper and lower faces of the block 10 are parallel, with the lower face having a greater lateral dimension. At each side of the slot 14, the upper face slopes downwardly from the outer edge towards the slot 14. The sides of the block 10 are each defined 20 by an inwardly angled section 16 and a vertical section 18 for a purpose hereinafter described.

The block 10 can be end pressed by virtue of the provision of the unrestricted slot 14 and can be pressed by a semi-dry process 25 or a conventional wet process. A pair of longitudinal through openings 20 are provided in the block 10 to reduce the weight of the block. On one end face there is formed a part-circular groove 22 (Fig. 2) around the channel 12 and a sealing material can be

located in the groove 22, whereby adjacent blocks 10 can be sealingly joined together around the drainage channels 12.

5 . An insert 24 defining a lining for the slot 14 has side walls 26 connected, for example by welding, with sloping edges of longitudinally spaced welded bridging portions 25 such that the walls 26 are angled towards one another in an upward direction. Further the walls 26 have upper edge sections 26a turned laterally outwardly to seat in recesses in the upper face of the block 10 at the edges of the slot 14 so as to lie flush with the upper face. The welded bridging portions 25 terminate short of 10 the upper end of the slot 14, and thus the slot 14 is unobstructed along the length of the lining over the distance above the welded bridging portions.

15 In one arrangement, the insert 24 is slidable into the slot 14 from an end of the moulded block 10 and can be secured in position by grouting or adhesive. As an alternative, the insert 24 may be cast into the block 10, having additional parts for keying into the concrete.

20 The outwardly flaring side walls 26 of the insert 24 with the complementary flared sides of the slot 14, as well as the outwardly sloping side faces 28 of the bridging portions 25 extending between the side walls of the insert 24, enable the passage into the drainage channel of material which otherwise tends to clog the slot. The insert 24 also provides the block 10 with smooth and 25 accurately formed surfaces over which drainage takes place.

When being positioned on site, the blocks 10 are laid end to end on a suitable base support which may extend up to the top of the angled section 16 of the side walls. The blocks 10 are secured to the support by grouting or the like and any suitable

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elements such as blocks or slabs can then be laid against the vertical sections 18 of the side walls. It is envisaged that a slidable insert 24 may overlie the join between adjacent blocks 10 to facilitate connection of the blocks, and also any suitable form of connectors may be positioned through the longitudinal openings 20 to connect adjacent blocks together.

The slot 20 can be easily cleaned by any appropriate cleaning tool passed along the slot which is unobstructed above the bridging portions 25. In the event of a tool engaging the bridging portions 25, the latter are angled such that the tool is simply deflected upwardly and not permanently obstructed. With the lining being formed of metal it is also more easily cleaned and the edges of the slot are not susceptible to breakage. The use of the metal insert also reinforces the drainage block.

The insert is preferably formed of stainless steel, is easy and inexpensive to manufacture and thus does not significantly increase the cost of production while obtaining the advantages outlined above. The ability to use different pressing techniques enables the longitudinal openings to be formed, thus reducing the weight of the component and facilitating transport etc.

Various modifications may be made without departing from the invention. For example, it is to be appreciated that the drainage block may have other than the shaped sides as described and may be a block of conventional cross-section. The insert may be made of other than stainless steel and it may have other than the configuration described and shown. The insert may be produced from a material blank which is provided with cuts so as to define portions capable

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of being subsequently pressed and connected to form the lining having walls spaced apart by bridging parts, and keying parts if desired.

Claims :-

1. An insert for a mouldable drainage member, characterised in that the insert (24) comprises a pair of walls (26) spaced apart by bridging parts (25), the walls (26) being outwardly divergent relative to one another from one side edge of the insert (24),  
5 and each of the bridging parts (25) having opposed faces (28) outwardly divergent relative to one another in a direction away from said one side edge of the insert (24).
2. An insert according to claim 1, characterised in that the  
10 bridging parts (25) terminate short of said one side edge of the insert (24).
3. An insert according to claim 1 or 2, characterised in that the walls (26) have sections (26a) at said one side edge extending laterally outwardly relative to one another.
- 15 4. An insert according to any of claims 1 to 3, characterised by additional parts for keying into the material of a member (10) into which the insert is to be cast.
5. An insert according to any of the preceding claims, characterised by being formed as a fabricated component.
- 20 6. An insert according to any of claims 1 to 4, characterised by being produced from a material blank.
7. A drainage member having a drainage channel extending there-through and a slot on one face opening from externally into the drainage channel, characterised in that the slot (14) opens along  
25 the length of the channel (12), the slot (14) having walls which are outwardly divergent relative to one another in a direction towards the drainage channel, and further characterised by a lining

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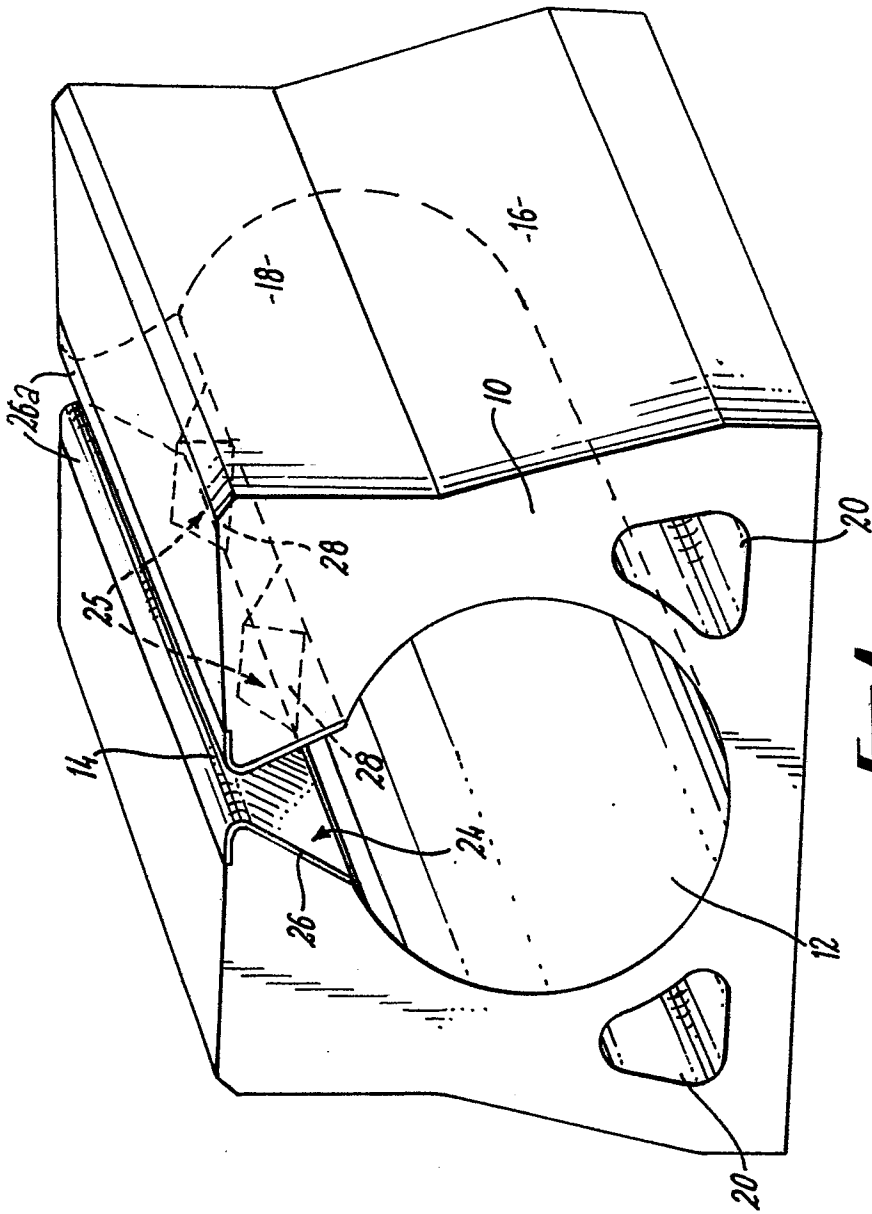
defined by an insert (24) according to any of the preceding claims.

8. A drainage member according to claim 7, characterised in that sides of the member (10) each comprise an angled section (16) and a straight section (18).

9. A drainage member according to claim 7 or 8, characterised in that a groove (22) is formed on one end face around the drainage channel (12).

10. A drainage member according to any of claims 7 to 9, characterised by openings (20) extending longitudinally through the material thereof at other than the locations of the drainage channel (12) and the slot (14).

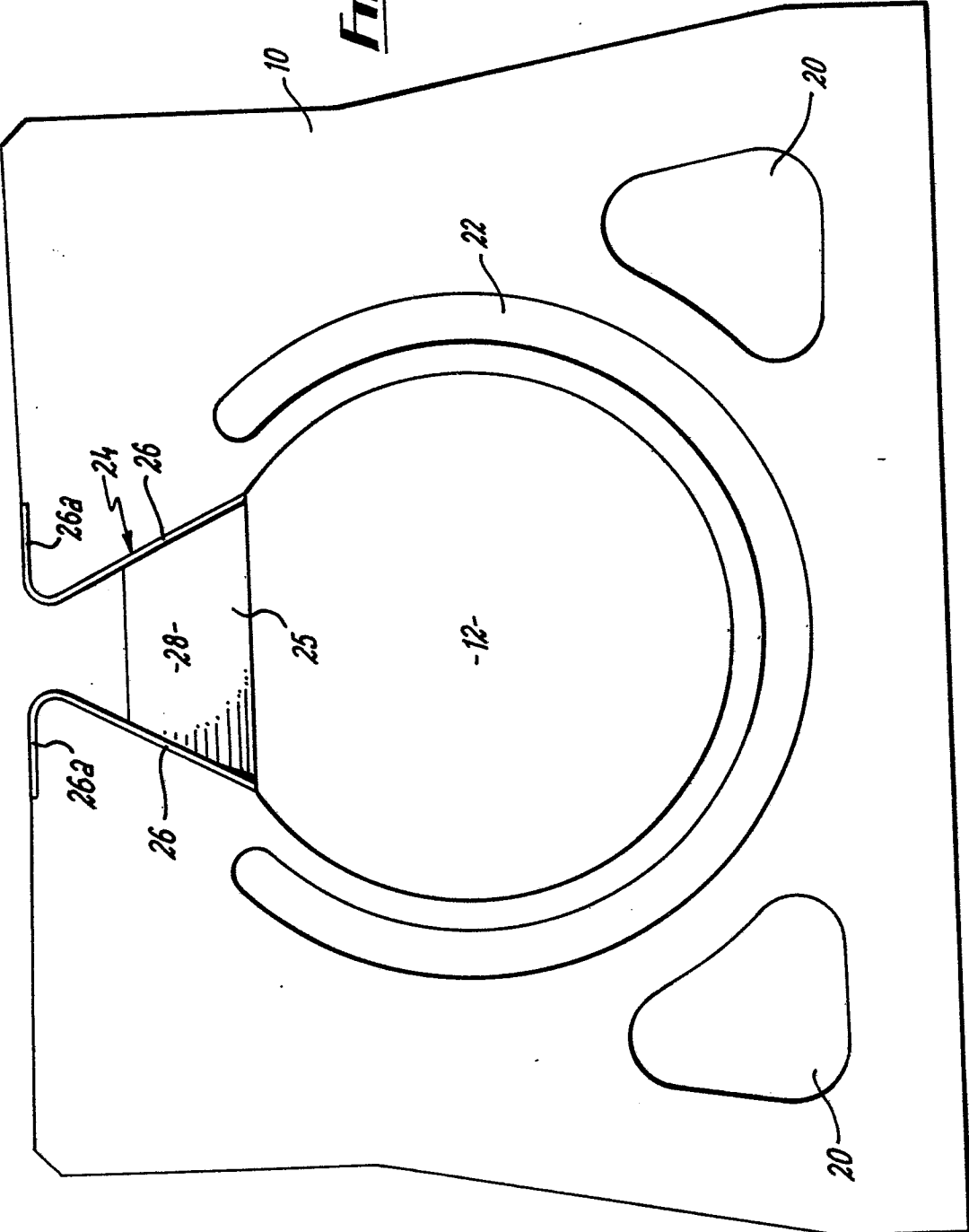
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**FIG. 1**

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**FIG. 2**





European Patent  
Office

EUROPEAN SEARCH REPORT

Application number

EP 82 30 4348

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. 3)
A	<p>--- DE-A-2 620 398 (SCHMEING) * Pages 7-8; figures 1,2 *</p>	1,3-6	E 01 C 11/22 E 02 B 11/00
A	<p>--- DE-A-2 249 627 (WOLFER) * Page 6, paragraph 2; figure 1 *</p>	1	
A	<p>--- US-A-3 714 786 (R.E. EVANS) * Column 4, lines 30-65; figures 2-4b *</p>	1,2	
A	<p>--- BE-A- 866 874 (JODEMECA) * Page 3, lines 16-27; figures 1,2 *</p>	1,2	
A	<p>--- US-A-3 898 778 (L.G. ERICKSON) * Abstract; column 3, lines 57-65; figure 1 *</p>	1,4,5,7	TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
A	<p>--- GB-A- 559 626 (WALTER EMERSON-DORAN) * Page 2, line 90 - page 3, line 15; figure 1 *</p>	1,7	E 01 C E 02 B
A	<p>--- DE-A-1 658 522 (PFUHLER) * Page 2, last paragraph - page 3, first paragraph; figure 2 *</p>	1,7,9	
A	<p>--- GB-A-1 344 236 (EVERCRETE LTD.) -----</p>		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 29-11-1982	Examiner CLASING M.F.
CATEGORY OF CITED DOCUMENTS		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	
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