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54 Sound-proofing screen for erecting along a traffic road or the like.

57 A vegetation-faced traffic noise barrier comprises a support structure consisting of spaced vertical posts (1) anchored to the ground and spaced beams (3) extending horizontally between the posts. Sound-absorbing panels (9) are mounted between said posts and beams, and at least on the traffic-facing side of the barrier the support structure carries, spaced therefrom, a netting (6) for supporting growing plants (7); said netting may slope out from the top of the barrier. The sound-absorbing panels (9) consist of sound-absorbing plates (10) wrapped in acoustically open film and sandwiched between a supporting netting and an impervious corrugated backing sheet.

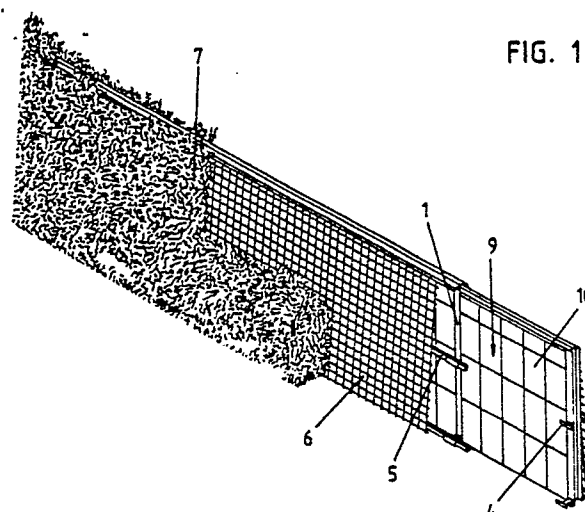


FIG. 1

Sound-proofing screen for erecting along a traffic road or the like.

The invention relates to a sound-proofing screen for erecting along a traffic road or the like while using growing plants.

Such a sound-proofing screen is known by the European patent 0,128,245. In case of this known screen use is made of plants of willows or the like, which are planted close to one another in the soil so as to form a closed wall after some time.

The height of such a wall and the sound-absorbing capacity of it are limited.

Now the invention provides a sound-proofing screen of the above described type which is characterized in that it comprises a support construction consisting of vertical posts being positioned at mutual distance and being connected to the ground and a number of beams extending horizontally between said posts, said posts and beams serving to support sound-absorbing plates at the one side and to support a netting at the other side, which at least at one side is positioned at a distance from the plane of the support construction and is serving to support growing plants.

In this case the growing plants do not only serve to hide the support construction with the sound-absorbing plates from view but the plants also take care for a "labyrinth working" so that reflection of sound is highly prevented.

To protect the sound absorbing plates against atmospheric influences these preferably will be taken up in an acoustic open foil.

Because the sound-absorbing plates as such will have less strength they will be supported by netting at the side of the sound source and by corrugated panels at the other side.

When both sides of the wall have to be sound-absorbing the corrugated panels will have to be positioned between two sound absorbing plates, while in the other case the corrugated panels are forming an outside of the wall.

In this case the corrugated panels can be made of fiber cement, eternite, zinked steel or the like.

In case of the wall according to the invention it can be favourable when the netting is closer to the plane of the support construction at the upper side than at the lower side.

In connection with the available space this, however, will not always be possible. In particular the netting will have a mesh of 100 to 200 mm, so that it gives a sufficient support for the plants at the one side and that it is as less as possible disturbing the sound-absorbing of the wall at the other side.

Now the invention is described by referring to an embodiment shown in the drawing, in which:

Fig. 1 schematically shows a perspective view of a sound-proofing screen according to the present invention in which various parts are left out and the screen is shown from the side of the sound source;

Fig. 2 schematically shows a perspective view of the other side of the screen of Fig. 1;

Fig. 3 schematically shows a vertical cross section over a sound-proofing screen according to the Figs. 1 and 2; and

Fig. 4 shows a horizontal cross section over a part of the screen according to the Figs. 1-3.

The sound-proofing screen shown in the drawing comprises the posts 1 which by means of a concrete base 2 and adjusting means not further described, are connected to the ground. The beams 3 are extending between the posts 1. Brackets 4 are extending from the posts and serve to support the wooden lathes 5 to which the netting 6 is fixed, which serves to support the vegetation 7.

As in particular appears from Fig. 4 corrugated panels 8 and sound-absorbing plates 9 are mounted between the posts 1 and the beams 3. The sound absorbing plates 9 e.g. consist of plates of rockwool 10 with around it a wrapping 11 of an acoustic open foil. The sound-absorbing plates 9 are supported by means of netting 12 at the side opposite to the corrugated panel 8.

As in particular appears from Fig. 4 the corrugated panels 8 and the sound absorbing plates 9 are supported by means of two angle profiles 13 and 14 which near the posts 1 are fixed by means of wedges 15.

Fig. 4 shows a cross section over a sound-proofing screen which serves to absorb the sound coming from a source which is only present at one side of the screen, to wit the side of the netting 12.

When the wall has to be suitable to absorb the sound of two sources, present at both sides of the screen, a sound absorbing plate 9 will also be present at the other side of the corrugated panel 8 with the netting 12 against it.

All these possibilities, however, will be obvious for the expert and need no further elucidation. Also it will be obvious that only a possible embodiment of a sound-proofing screen according to the invention is shown in the drawing and is described above and that many modifications can be applied without leaving the inventive concept.

Claims

1. Sound-proofing screen for erecting along a traffic road or the like making use of growing plants (7),
characterized in
that the screen comprises a support construction consisting of vertical posts (1) being positioned at mutual distance and being connected to the ground and a number of beams (3) extending horizontally between said posts, said posts (1) and beams (3) serving to support sound-absorbing plates (9) at the one side and to support a netting (6) at the other side which at least at one side is positioned at a distance from the plane of the support construction (1,3) and is serving to support growing plants (7).
2. Sound-proofing screen according to claim 2, characterized in
that the sound-absorbing plates (9) are taken up in an acoustic open foil (11).
3. Sound-proofing screen according to claim 1 or 2, characterized in
that the sound-absorbing plates (9) are supported by netting (12) at the side of the sound source and by corrugated panels (8) at the other side.
4. Sound-proofing screen according to claim 3, characterized in
that the corrugated panels (8) are made of fiber cement, eternite, zinked steel or the like.
5. Sound-proofing screen according to one of the preceding claims, characterized in
the netting (6) is positioned closer to the plane of the support construction (1,3) at the upper side than at the lower side.
6. Sound-proofing screen according to one of the preceding claims, characterized in
that the netting (6) is having a mesh of 100 to 200 mm.

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FIG. 1

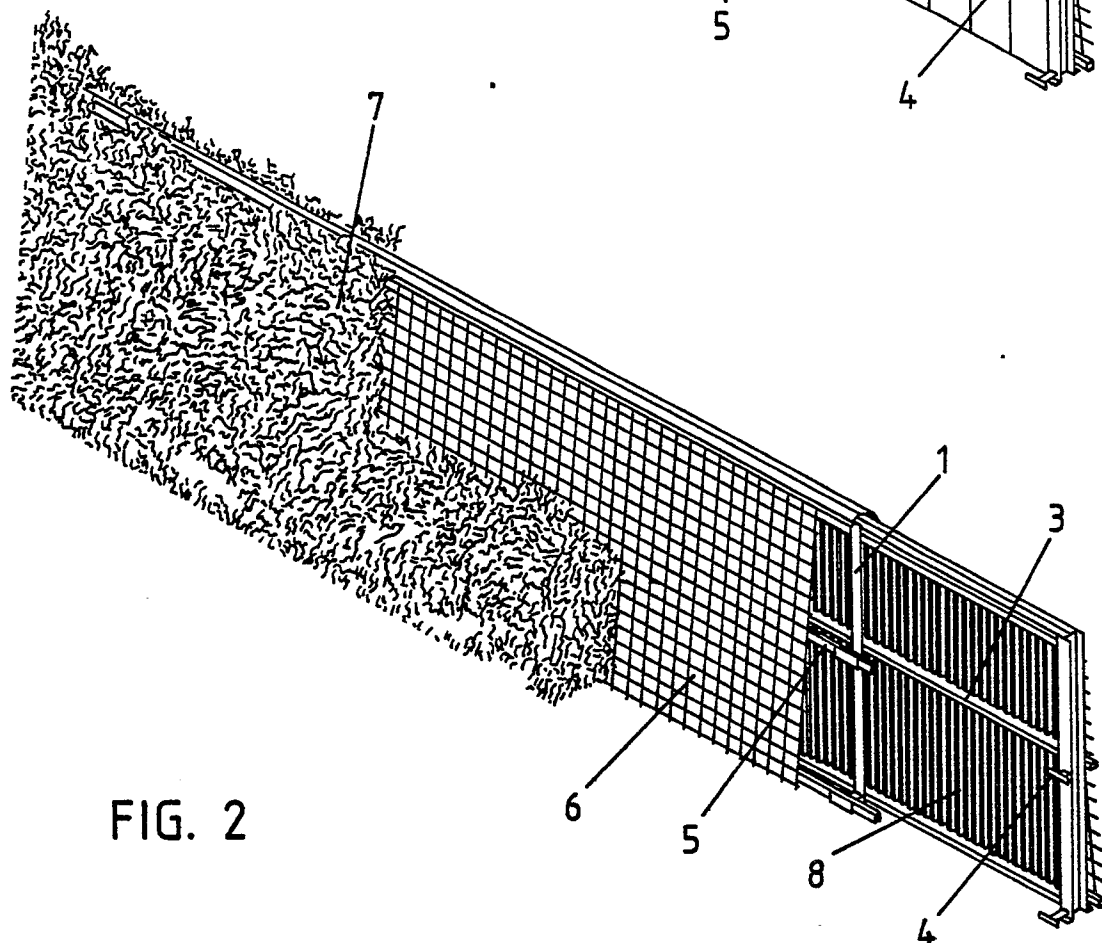
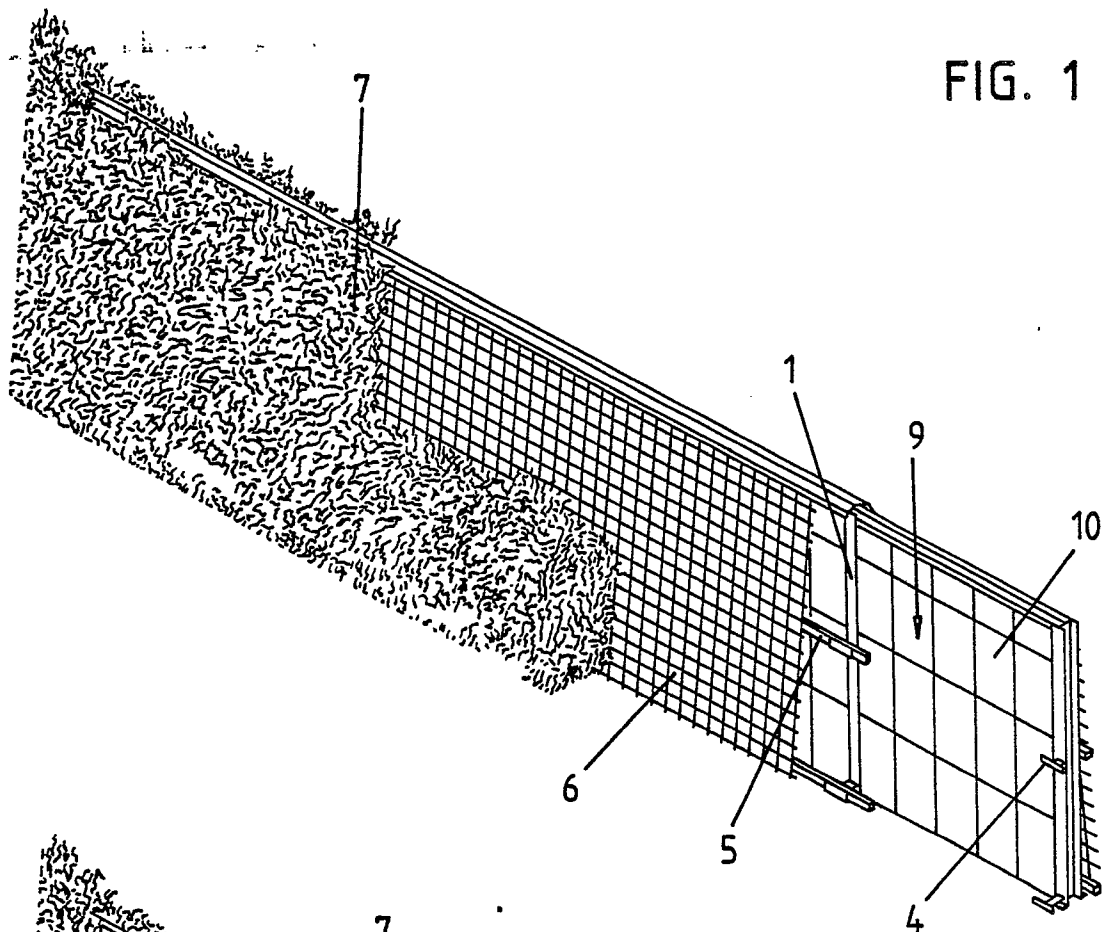


FIG. 2

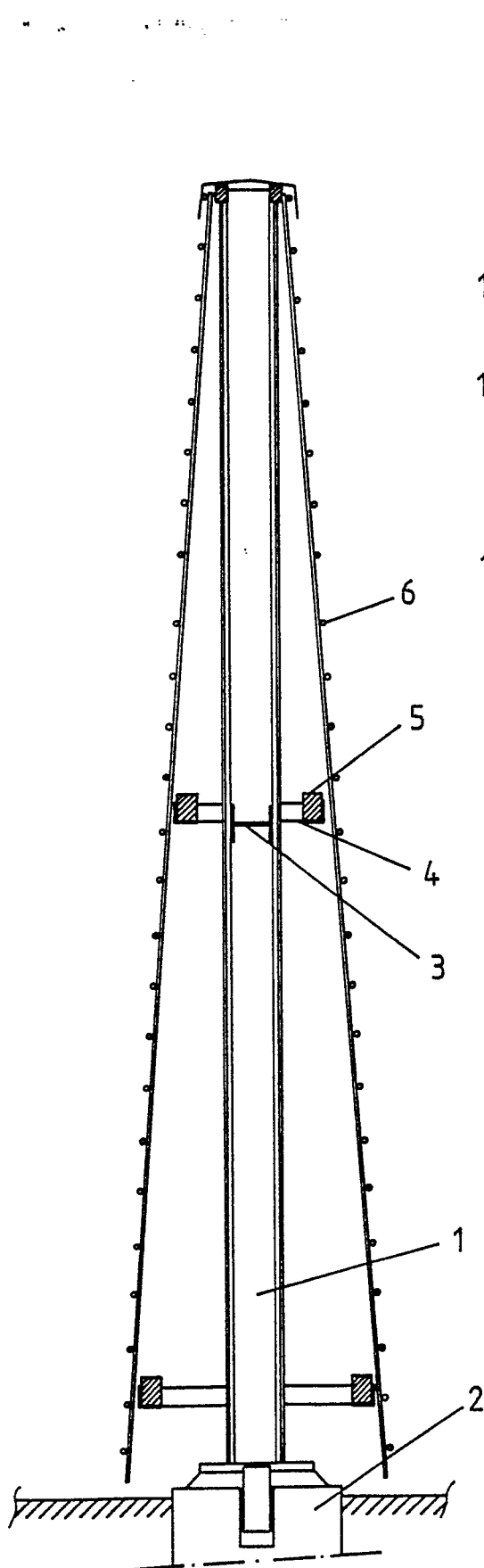


FIG. 3

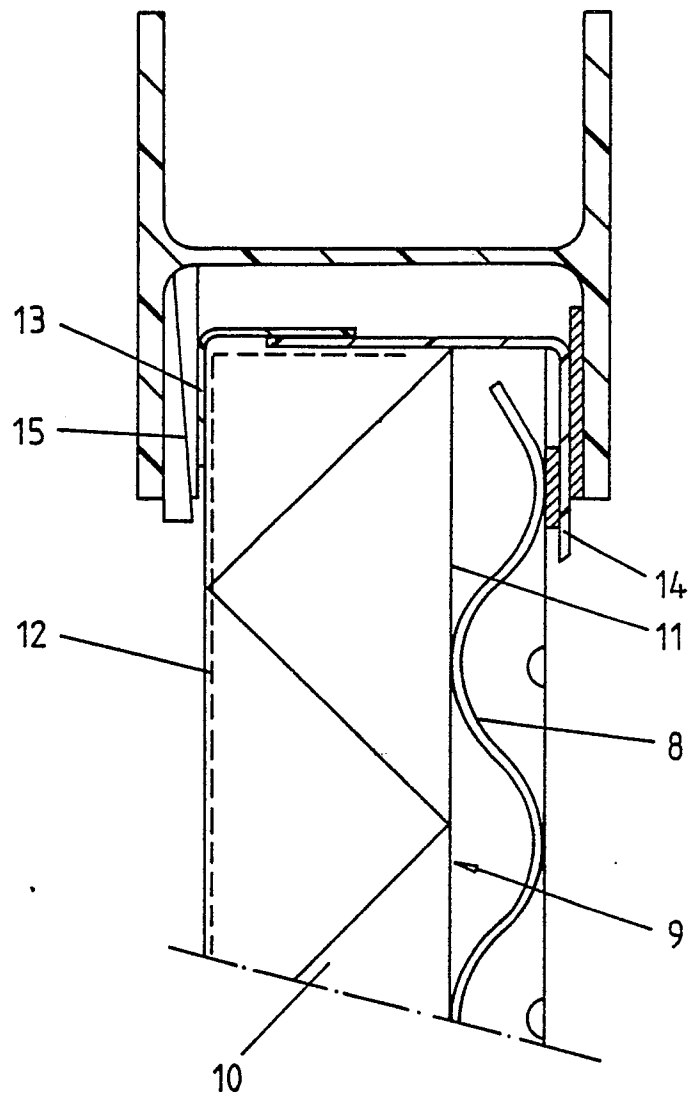


FIG. 4



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.4)
Y	NL-A-8 601 015 (HOLLANDSCHE BETON GROEP) * Page 1, lines 3-5,20-23; page 2, lines 1,2,32,33,36-39; page 3, lines 8-10,19-23,28-32; figures 1-4 *	1	E 01 F 8/00
A	---	3	
Y	EP-A-0 265 991 (OP DE KAAI BEHEERMAATSCHAPPIJ) * Column 1, lines 1-7,23-28,32-35,44,45,49-53; column 2, lines 3-5,14-17,36-38,42-48; column 3, lines 1-6,11-25,29-35; figures 1,2 *	1	
A	---	2-5	
L,D	EP-A-0 128 245 (OP DE KAAI BEHEERMAATSCHAPPIJ) * Indicated in above EP-A-0 265 991; closed panel incorporated: corrugated metal or fibre-reinforced synthetic sheet *		TECHNICAL FIELDS SEARCHED (Int. Cl.4)
A	EP-A-0 265 419 (REEDAL-ENTWICKLUNGS-UND LIZENZVERGABE GmbH FÜR KUNSTSTOFFERZEUGNISSE) * Column 1, lines 38-56,61-63; column 2, lines 3-7,13-15,22-27,40-48,51,54,55; column 2, line 63 - column 3, line 2; figures 1-3 *	1-4	E 01 F
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28-09-1989	Examiner SCHUMAN R.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document 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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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	DE-A-3 542 013 (WEGERHOFF) * Column 2, lines 24-28,50-56,59-67; column 3, lines 1-3,25-28,33,34,38-44; column 4, lines 26-40; figures 1,2,5,6 * ---	1	TECHNICAL FIELDS SEARCHED (Int. Cl.4)
A	DE-A-3 144 353 (BEHRENS) * Page 6, lines 9,10; page 10, lines 1-10,30-33; page 11, lines 1,2,16-19; page 18, lines 12-15,19-22; page 19, lines 7-18; page 20, lines 13-17,21-24; page 20, line 31 - page 21, line 4; page 24; figures 1-10 * ---	1,5	
A	WO-A-8 702 399 (LEDERBAUER) * Page 10, lines 24-36; page 11, lines 14-16; page 12, lines 10-14; figures 4-6 * ---	1	
A	AT-B- 385 067 (FLORAKRAFT) * Page 2, lines 1-5,38-44; page 3, lines 14-16,36-54; page 4, line 3; figures 1,4 * ---	1,5	
A	WO-A-8 401 791 (JENSEN et al.) * Page 1, lines 25-32; page 2, lines 11-17; page 5, line 31 - page 6, line 5; page 7, lines 4-10,19-27; figures 1-3 * ---	1,6	
A	DE-B-1 071 738 (GUTMANN) * Column 1, lines 1-10,48-54; column 2, lines 29-31; figures 1,2 * ---	1,5	
A	DE-A-2 832 787 (BRIDGESTONE TIRE) * Page 25, line 15 - page 27, line 12; figures 9-16 * --- -/-	1	
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A	NL-A-7 209 372 (FIRMA RHEINHOLD & MAHLA) * Page 2, lines 20-26,29-32,36; page 2, line 2 *	1-4	
A	DE-A-2 618 836 (HÜTTE KREMS) * Page 1, lines 1-6; page 2, lines 5-19,24-26,29-32; page 4, lines 29-35; page 5, lines 2-6,9,10,15-19; figures 1-3 *	1-4	
A	DE-A-2 850 578 (FRANZ CARL NÜDLING BASALTWERKE) * Page 6, lines 3-21; figures 1,3 *	1,3,4	
A	NL-A-7 410 428 (FIRMA PASS & CO.) * Page 1, lines 6-12; page 2, lines 16-20,34,35; page 3, lines 1-5,9,10; page 4, lines 12-24; page 5, lines 33-35; page 6, lines 1,2,14,15; figures 1,2 *	3,4	
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