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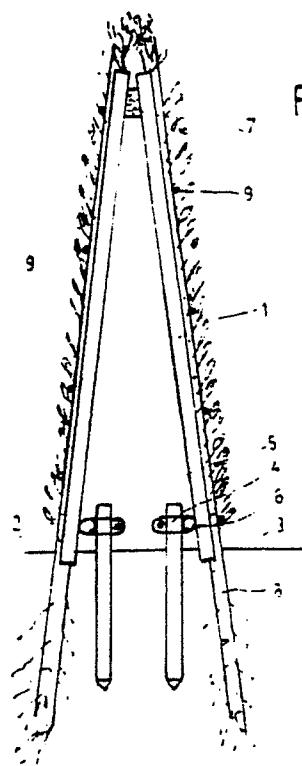
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(54) Sound-proofing wall, partly consisting of natural growing material in the form of woody plants.

(57) Sound-proofing wall, being formed by two rows of plants (8) which are planted at a distance from each other and in a direction inclined towards each other so that the upper ends can be interconnected. Between said rows at least one closed panel (1,14) being positioned for obtaining a sound-proofing wall immediately after the planting of the plants (8). Said closed panel (1,14) being positioned next to the related row of plants (8) while next to the other row a panel (1,13) may be positioned which can be either closed or provided with openings. In said last case a sound absorbing space (17) being obtained inside said wall.

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### Sound-proofing wall, partly consisting of natural growing material in the form of woody plants.

The invention relates to a sound-proofing wall, partly consisting of natural growing material, such as in particular woody plants planted in soil, between two exteriorly positioned rows of plants at least one closed panel being positioned for obtaining a sound-proofing wall immediately after the planting of the plants.

Such sound-proofing wall is known from the European patent application No. 0 128 245.

In case of this known sound-proofing wall it is necessary to support this, immediately after its erection, when the height of the wall exceeds a specific value, as otherwise the wall cannot resist the wind load. Thus, stays should be positioned behind the wall, which are connected near the upper end of the wall for example by means of a longitudinal beam.

Though this supporting construction is hardly visible in specific cases, the less nice appearance of such a wall may still present disadvantages.

In addition the costs of materials and for the construction of the wall will be considerably higher.

Now the object of the invention is to eliminate these disadvantages and to that end provides that the rows of woody plants are planted in the soil at a distance from each other and in a direction inclined towards each other so that the upper ends can be interconnected.

In this way a very stable support of the wall is obtained, without this having a detrimental effect on the sound-proofing function.

Though, substantially it might be possible to suffice with positioning a single panel near one of the rows of plants, preferably a panel is positioned immediately next to each row of plants. As in this case the panels are supporting each other the sound-proofing wall will have a substantial strength. Moreover an opening in the sound-proofing wall will not immediately be present when one of the panels is damaged, by which otherwise the effect of the wall might be largely neutralized.

While a wall, being closed at the side facing the source of sound, satisfies very well for reflecting sound, in specific cases it is required that a sound-proofing wall is absorbing sound too.

This is, for example, the case for sound produced by trains, this in connection with the specific character of this sound.

According to the invention it is now provided that in that case the side of the wall facing the sound source is provided with openings while at the other side a closed panel is installed for obtaining a sound-absorbing space within the wall.

In order to provide the wall with a sufficient strength, also in case of a considerable height of it, it can be provided that immediately next to the row of plants, forming the side of the wall provided with openings, a grating panel or wire net is installed. By this it can also be achieved that immediately after planting of the plants the side of the wall facing the sound source will still have specific desired properties with respect to allowing sound to pass. It is obvious that the sound, reflected by the other completely closed side of the wall, should not pass freely through the side of the wall being provided with openings.

In a further elaboration of the invention it may be provided, that a sound proofing material is applied on the side of the closed panel facing away from the row of plants. By this reflection of the sound through the other wall, provided with openings, is still further opposed.

In practice it has appeared that the angle, which the rows of plants are making with each other, may be between about 5 and 15°. By this the space being occupied by the wall will still remain limited so that in a vast number of cases such a wall can be installed without difficulties.

The invention will now be elucidated further by means of embodiments, shown in the drawings in which:

Fig. 1 schematically shows a vertical cross-section of an embodiment of a sound-proofing wall according to the invention, and

Fig. 2 shows a vertical cross-section of another embodiment of a sound-proofing wall according to the invention which in particular can be applied along a rail road.

In case of the embodiment according to Fig. 1 the sound-proofing wall comprises two corrugated panels 1, the lower ends of which being positioned into the soil 2.

Poles 3 are also driven into the soil 2, logs 6 being fixed thereto by means of clamping brackets 4 with bolts 5. To the logs 6 the panel 1 is mounted in a manner not shown.

At the upper rim of the panels 1 these are interconnected by means of bolts, not shown, with logs 7 between them.

Along the panels 1 woody plants 8 are positioned into the soil 2, which may be formed by branches of willows or the like, as this is shown in the above mentioned European patent application.

In order to hold the woody plants properly fixed with respect to the panels 1, in particular immediately after planting, horizontally extending poles 9 may be provided along the plants, which are connected to the plants and, if necessary, to the panels 1 too.

In case of the embodiment according to Fig. 2 the sound-proofing wall is mounted on the slope 11 of a railway 12. Corresponding parts are indicated with the same reference numbers as in Fig. 1.

The sound-proofing wall according to Fig. 2 now comprises a panel 13 at the side of the railway 12 and being provided with openings and thus serving mainly for supporting the corrugated panel 14, being positioned at the other side of the wall.

Also in this case poles 3 are driven into the slope 11, logs 6 being fixed to these by means of clamping brackets 4 and bolts 5, the panels 13 and 14 being fixed to said logs. Along the upper rim the panels 13 and 14 are interconnected by means of bolts, not shown, and the logs 7.

Along the panels 13 and 14 woody plants 8 are applied again with along them the poles 9. Near the panel 13 the poles 9 may be positioned at the side of the panel facing the interior of the wall.

In order to protect signaling wiring 15, if any, imbedded in the soil, the root retaining wall 16 is applied in the soil.

In case of the sound-proofing wall according to Fig. 2 the space 17 within the walls 13 and 14 is serving to absorb sound and this absorption may be further improved by applying a panel 18 of insulating material, such as rock wool, against the panel 14. Of course panel 18 will be protected against moisture penetrating in it.

It will be obvious that in the drawings only some possible embodiments of the invention are shown, these being described above and that many modifications can be made without departing from the inventive concept.

So one of the two panels 1 in Fig. 1 or 13 and 14 in Fig. 2 can be positioned vertically.

## Claims

1. Sound-proofing wall, partly consisting of natural growing material, such as in particular woody plants (8) planted in soil (2), between two exteriorly positioned rows of plants at least one closed panel (1,14) being positioned for obtaining a sound-proofing wall immediately after the planting of the plants, characterized in  
that the rows of woody plants (8) are planted in the soil (2,11) at a distance from each other and in a direction inclined towards each other so that the upper ends can be interconnected.

2. Sound-proofing wall according to claim 1, characterized in  
that a panel (1,13,14) is positioned immediately next to each row of plants (8).

5 3. Sound-proofing wall according to claim 1 or 2,  
characterized in  
that the side of the wall facing the sound source is provided with openings while at the other side a closed panel (14) is installed for obtaining a sound-absorbing space (17) within the wall.

10 4. Sound-proofing wall according to claim 3,  
characterized in  
that immediately next to the row of plants (8),  
15 forming the side of the wall provided with openings, a grating panel (13) or wire net is installed.

5 5. Sound-proofing wall according to claim 3 or 4,  
characterized in  
20 that a sound proofing material (18) is applied on the side of the closed panel (14) facing away from the row of plants (8).

6. Sound-proofing wall according to one of the preceding claims,  
25 characterized in  
that the angle, which the rows of plants are making with each other, may be between about 5 and 15°.

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FIG. 1

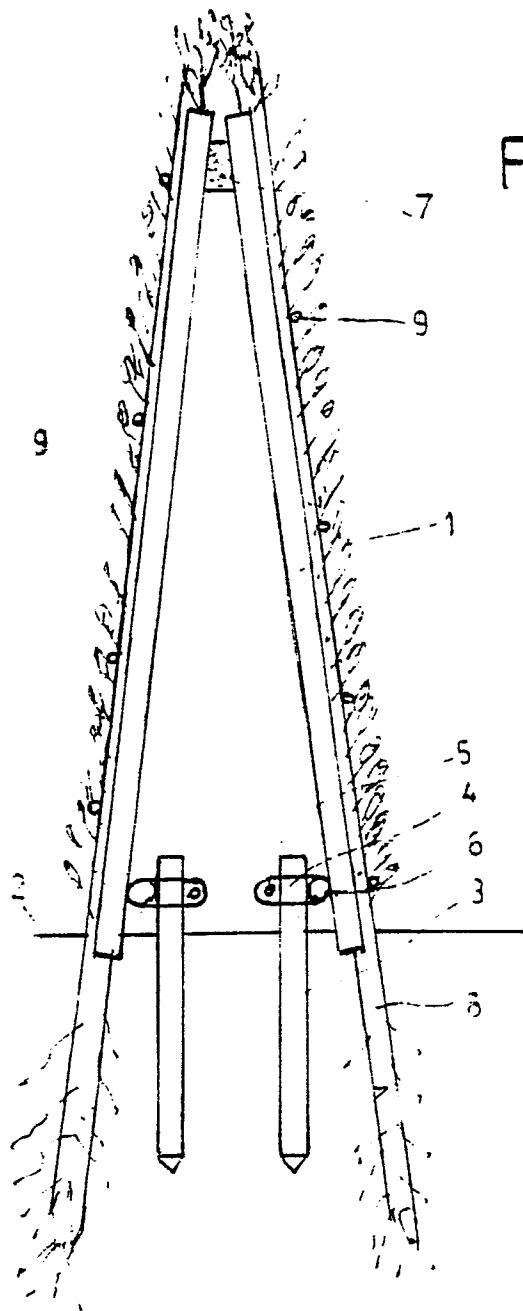
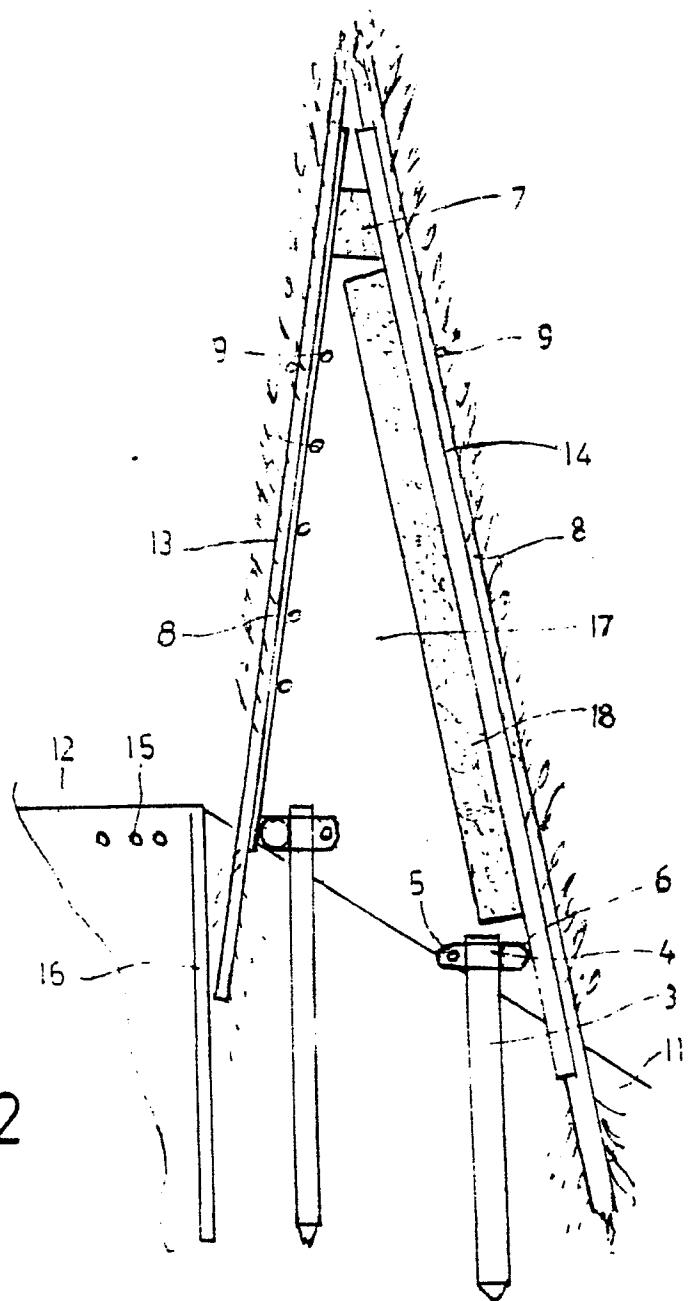


FIG. 2



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