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(71) Applicant (for all designated States except US): **K-ENGINEERING CO., LTD.** [KR/KR]; #504, Jungbu Daejeon Freight Terminal Corporation, 300-1 Daejeong-dong, Yuseong-gu, Daejeon-si 305-251 (KR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **KIM, Hyung Yong** [KR/KR]; #202, Hyesung Villa, 1263, Wolpyung-dong, Seo-gu, Daejeon-si 302-280 (KR).

(74) Agents: **PARK, Wonyong** et al.; 5th Floor, Shinwon Bldg., 823-14 Yeoksam 1-dong, Gangnam-gu, Seoul 135-933 (KR).

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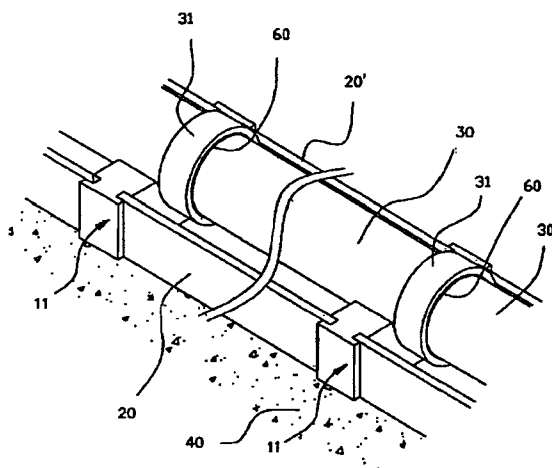
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(54) Title: METHOD FOR BURYING HUME PIPES AND SUPPORT BLOCK USED IN THE METHOD

【Figure 5】



(57) Abstract: Disclosed herein are a method for burying Hume pipes includes the steps of: standing wooden posts at a starting portion and an ending portion of an excavated portion, in which the Hume pipes are installed; indicating a gradient value of the starting portion and the ending portion on the wooden posts, and connecting a cord to the two wooden posts in such a way as to coincide with the gradient value; aligning the support blocks in a straight line in such a way as to conform to the height of the cord; inserting fixing pins into fixing pin-inserting holes of the support blocks to securely fix the support blocks; respectively inserting partitioning plates into partitioning plate-inserting grooves of the support blocks; and respectively putting the Hume pipes on Hume pipe seating portions of the support blocks, and pouring reinforced concrete onto the Hume pipes to bury the Hume pipes underground.

Description

METHOD FOR BURYING HUME PIPES AND SUPPORT BLOCK USED IN THE METHOD

Technical Field

- [1] The present invention relates to a method for burying Hume pipes and support blocks used in the method, which can allow workers to rapidly, correctly and easily install Hume pipes buried underground as water pipes, wastewater pipes, and sewage pipes.

Background Art

- [2] In general, as shown in FIG. 1, a Hume pipe or a circular pipe is installed underground through the steps of widely excavating the ground 40 to form an excavated portion 2, spreading sands and aggregate 3 on the bottom of the excavated portion 2, putting a Hume pipe 9 on the spread portion, and pouring reinforcing concrete 10 onto the spread portion on which the Hume pipe 9 is put.
- [3] Alternatively, as shown in FIG. 2, the Hume pipe is installed underground through the steps of forming basic concrete 4 on the bottom of the excavated portion 2, and pouring reinforced concrete 10 onto the basic concrete 4 while putting a cast 12 on the basic concrete 4.
- [4] Such conventional Hume pipe constructing methods entail problems in that it causes a waste of time and excessive expenses in labor costs since it takes much time to cure the basic concrete and cast installing and dismantling works require a great deal of manpower.
- [5] Particularly, the conventional Hume pipe constructing method has several problems in that it is difficult to horizontally install the Hume pipes in a line since it is difficult to correctly fit a slope according to a gradient value of the bottom face of the excavated portion when the Hume pipes are installed, and in that it is necessary to perform a repairing work at any time since water leaks from a gap between joined portions of the Hume pipes after the Hume pipes are installed.

Disclosure of Invention

Technical Problem

- [6] Accordingly, the present invention has been made in an effort to solve the above-mentioned problems occurring in the prior arts, and it is an object of the present invention to provide a method for burying a Hume pipe and support blocks used in the method
- [7] Another object of the present invention is to provide a method for burying a Hume pipe and support blocks used in the method, which can rapidly and simply install Hume pipes with small manpower using support blocks and partitioning plates re-

spectively inserted between the support blocks, thereby greatly reducing a waste of time and a waste of labor costs.

Technical Solution

- [8] To achieve the above objects, the present invention provides a method for burying Hume pipes comprising the steps of: standing wooden posts at a starting portion and an ending portion of an excavated portion, in which the Hume pipes are installed; indicating a gradient value of the starting portion and the ending portion on the wooden posts, and connecting a cord to the two wooden posts in such a way as to coincide with the gradient value; aligning the support blocks in a straight line in such a way as to conform to the height of the cord; inserting fixing pins into fixing pin-inserting holes of the support blocks to securely fix the support blocks; respectively inserting partitioning plates into partitioning plate-inserting grooves of the support blocks; and respectively putting the Hume pipes on Hume pipe seating portions of the support blocks, and pouring reinforced concrete onto the Hume pipes to bury the Hume pipes underground.

Brief Description of the Drawings

- [9] FIGS. 1 and 2 are sectional views showing examples of conventional methods for burying Hume pipes.
- [10] FIG. 3 is a perspective view of a support block according to a preferred embodiment of the present invention.
- [11] FIG. 4 is a sectional view showing an installed state of the support block of FIG. 3.
- [12] FIG. 5 is a perspective view showing a buried state of Hume pipes installed according to a burying method of the present invention.
- [13] FIG. 6 is a sectional view of FIG. 5.
- [14] FIG. 7 is a sectional view showing a state where non-woven fabric rolls are forcedly fit on connected portions of the Hume pipes and the connected portions are filled with mortar after the Hume pipes are connected with one another.
- [15] FIG. 8 is a sectional view showing a state where the Hume pipes are installed in the excavated portion using the burying method of the present invention.
- [16] FIG. 9 is a perspective view of a support block according to another preferred embodiment of the present invention.

Mode for the Invention

- [17] FIG. 3 illustrates a support block for a Hume pipe used in the present invention. The support block 11 includes a Hume pipe seating portion 13 formed at the center of the top surface of a main body thereof, fixing pin holes 15, and partitioning plate-inserting grooves 14 formed at right and left sides thereof.
- [18] FIG. 4 illustrates a state where the support blocks 11 are put on a bottom face of an

excavated portion 2 of the ground 40 and then fixed by means of fixing pins 16 stuck into fixing pin-inserting holes 15.

[19] FIG. 5 illustrates a state where partitioning plates 20 and 20 are inserted into the support blocks 11 and Hume pipes 30 are installed thereon.

[20] FIG. 6 illustrates a state where reinforced concrete is poured on the Hume pipes 30 and the excavated portion 2 is backfilled with soil 80 in order to prevent a movement of the Hume pipes 30 after the Hume pipes of FIG. 5 are installed.

[21] As described above, according to the present invention, the support blocks 11 are securely fixed to the bottom face of the excavated portion 2 of the ground 40, and then, the Hume pipes 30 are installed on the Hume pipe seating portions 13 of the support blocks 11. Referring to FIG. 8, a process of installing the Hume pipe will be described as follows.

[22] [Hume pipe installing process]

[23] The process of installing the Hume pipes includes the steps of:

[24] 1) standing wooden posts 6 at a starting portion and an ending portion of the excavated portion 2, in which the Hume pipes are installed;

[25] 2) indicating a gradient value on the wooden posts 6 standing at the starting portion and the ending portion of the excavated portion 2;

[26] 3) connecting a cord 7 to the two wooden posts 6 in such a way as to coincide with the gradient value of the starting portion and the ending portion;

[27] 4) aligning the tops of the support blocks 11 in a straight line in such a way as to conform to the height of the cord 7 and installing the support blocks 11 as shown in FIG. 4;

[28] 5) inserting the partitioning plates 20 and 20 into the partitioning plate-inserting grooves 14 of the support blocks 11, respectively putting the Hume pipes 30 on the Hume pipe seating portions 13 of the support blocks 11, and connecting the Hume pipes 30 with one another in a line as shown in FIG. 5;

[29] 6) pulling out the wooden posts 6 after the Hume pipes 30 are installed, and then, as shown in FIG. 7, forcedly fitting non-woven fabric rolls 60 of a band type onto gaps of connected portions 31 of the Hume pipes 30 and filling the gaps with mortar 70; and

[30] 7) pouring reinforced concrete 50 and backfilling the excavated portion with soil 80 as shown in FIG. 6.

[31] FIG. 9 illustrates a support block according to another embodiment of the present invention.

[32] The support block 11 includes: a main body having a substantially rectangular parallelepiped shape; a hemi-spherical Hume pipe seating portion 13 formed at the center of the top surface of the main body thereof so as to allow the cylindrical Hume pipe 30 to be seated thereon; and a pair of partitioning plate-inserting grooves 14 formed at both

sides thereof in such a way as to be opposed to each other.

- [33] As shown in FIG. 5, the partitioning plates 20 are respectively inserted into the partitioning plate-inserting grooves 14 at a predetermined interval.
- [34] A pair of fixing pin-inserting holes 15a is vertically formed in the Hume pipe seating portion 13, and hence, the support block 11 can be securely fixed to the ground when the fixing pins 16 are inserted into the fixing pin-inserting holes 15a.
- [35] While the fixing pin-inserting holes 15 are formed in both side portions of the support block 11 as shown in FIG. 3, the fixing pin-inserting holes 15a are formed on the Hume pipe seating portion 13 in this embodiment.
- [36] Furthermore, in this embodiment, the two fixing pins are used to securely fix the support block, but it is also possible to form a plurality of fixing pin-inserting holes on the support block and use a plurality of fixing pins.

Industrial Applicability

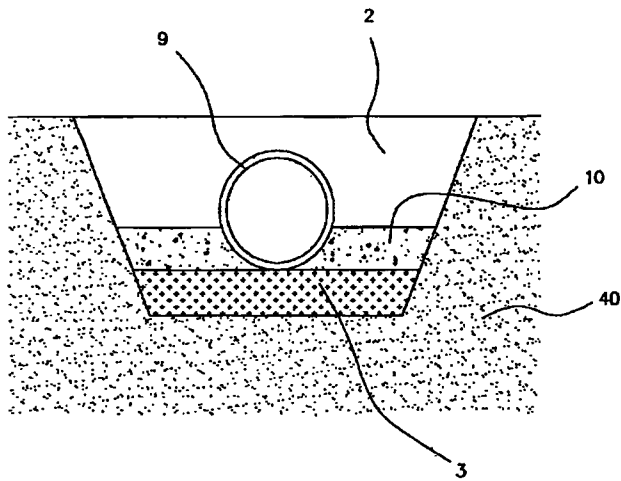
- [37] As described above, while the conventional Hume pipe burying method including the steps of installing a cast, carrying out a construction work of basic concrete, and installing the Hume pipes on the basic concrete causes wastes of time and manpower, the present invention can greatly reduce a working period, a waste of manpower, and construction expenses since the separately manufactured support blocks are put on the bottom of the excavated portion and the Hume pipes are simply installed on the support blocks.
- [38] Moreover, the present invention can reduce a waste of manpower and heavy equipment costs and provide excellent work efficiency since workers can rapidly and simply install the Hume pipes on the support blocks without needing to pour concrete to tamp the ground after excavation. Particularly, the present invention can install the Hume pipes in a straight line and keep excellent watertightness of the Hume pipes by virtue of the support blocks.

Claims

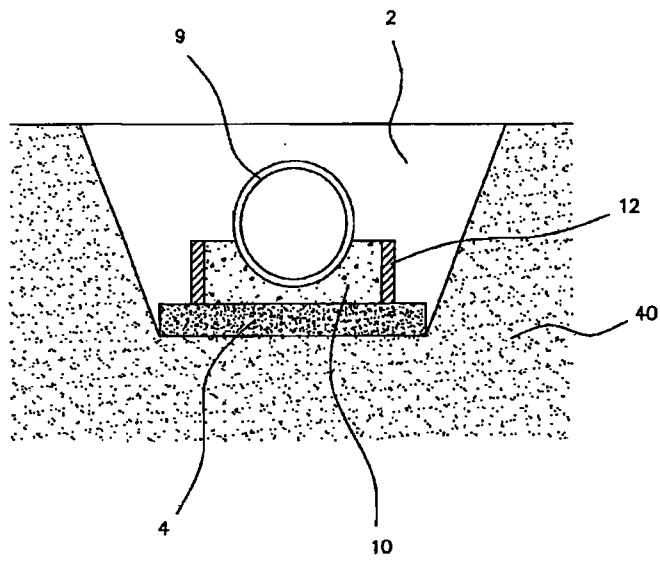
- [1] A method for burying Hume pipes comprising the steps of:
standing wooden posts (6) at a starting portion and an ending portion of an excavated portion (2), in which the Hume pipes (30) are installed;
indicating a gradient value of the starting portion and the ending portion on the wooden posts (6), and connecting a cord (7) to the two wooden posts (6) in such a way as to coincide with the gradient value;
aligning the support blocks (11) in a straight line in such a way as to conform to the height of the cord (7);
inserting fixing pins (16) into fixing pin-inserting holes (15) of the support blocks (11) to securely fix the support blocks (11);
respectively inserting partitioning plates (20; 20') into partitioning plate-inserting grooves (14) of the support blocks (11); and
respectively putting the Hume pipes (30) on Hume pipe seating portions (13) of the support blocks (11), and pouring reinforced concrete (50) onto the Hume pipes to bury the Hume pipes (30) underground.
- [2] A support block comprising:
a main body having a substantially rectangular parallelepiped shape;
a Hume pipe seating portion (13) formed at the center of the top surface of the main body in an inwardly curved shape form so as to allow a Hume pipe to be seated thereon;
partitioning plate-inserting grooves (14) vertically formed at both side portions of the main body in such a way as to be opposed to each other; and
fixing pin-inserting holes (15) formed in the main body so as to allow pins (16) to be inserted thereto to securely fix the main body.
- [3] The support block according to claim 2, wherein the fixing pin-inserting holes (15) are formed in the Hume pipe seating portion (13).

【DRAWINGS】

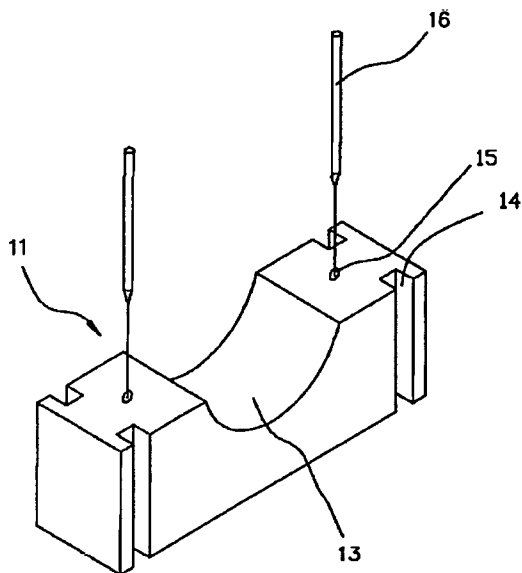
【Figure 1】



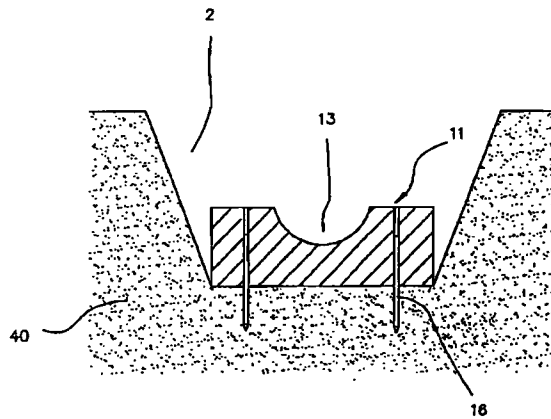
【Figure 2】



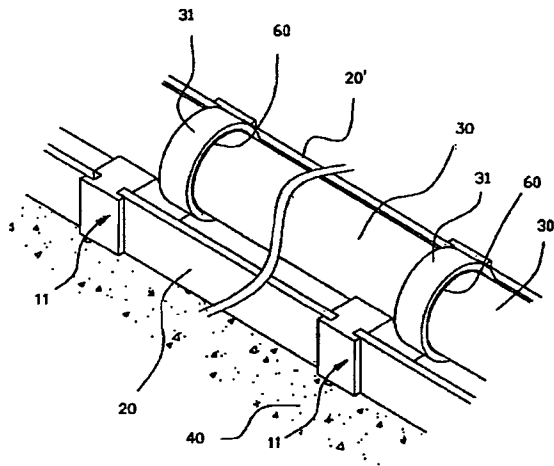
【Figure 3】



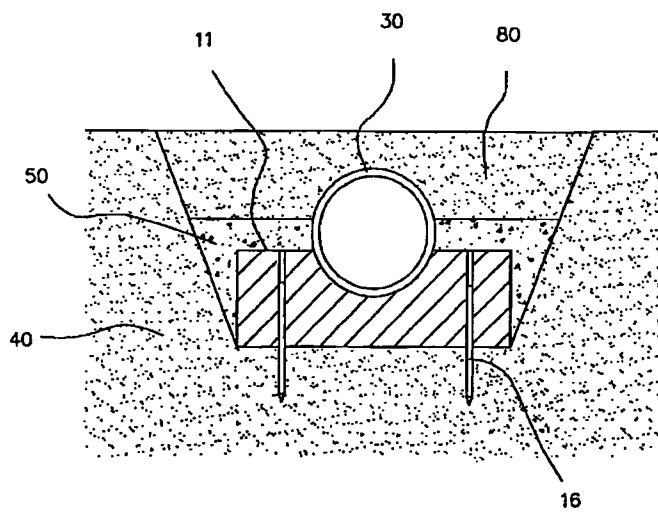
【Figure 4】



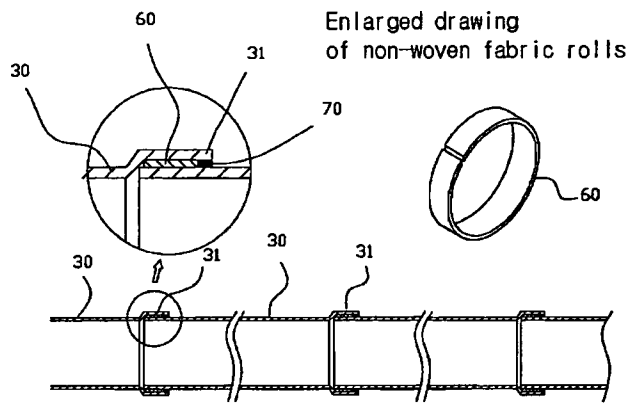
【Figure 5】



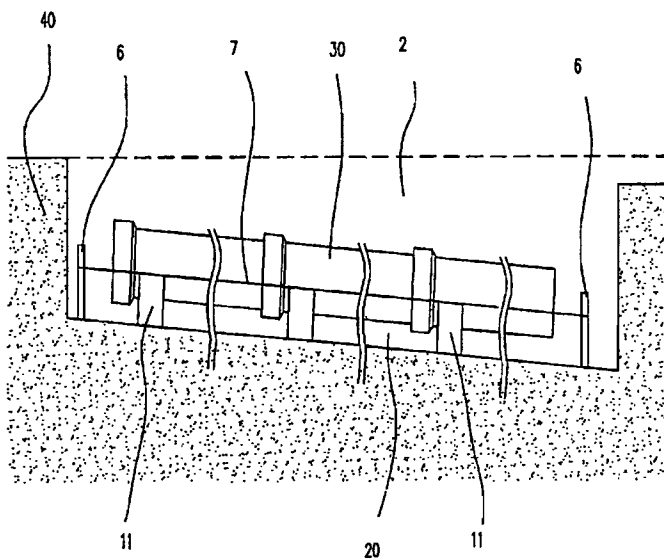
【Figure 6】



【Figure 7】



【Figure 8】



【Figure 9】

