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(54) **HIGH-SECURITY GUARD RAIL SYSTEM**

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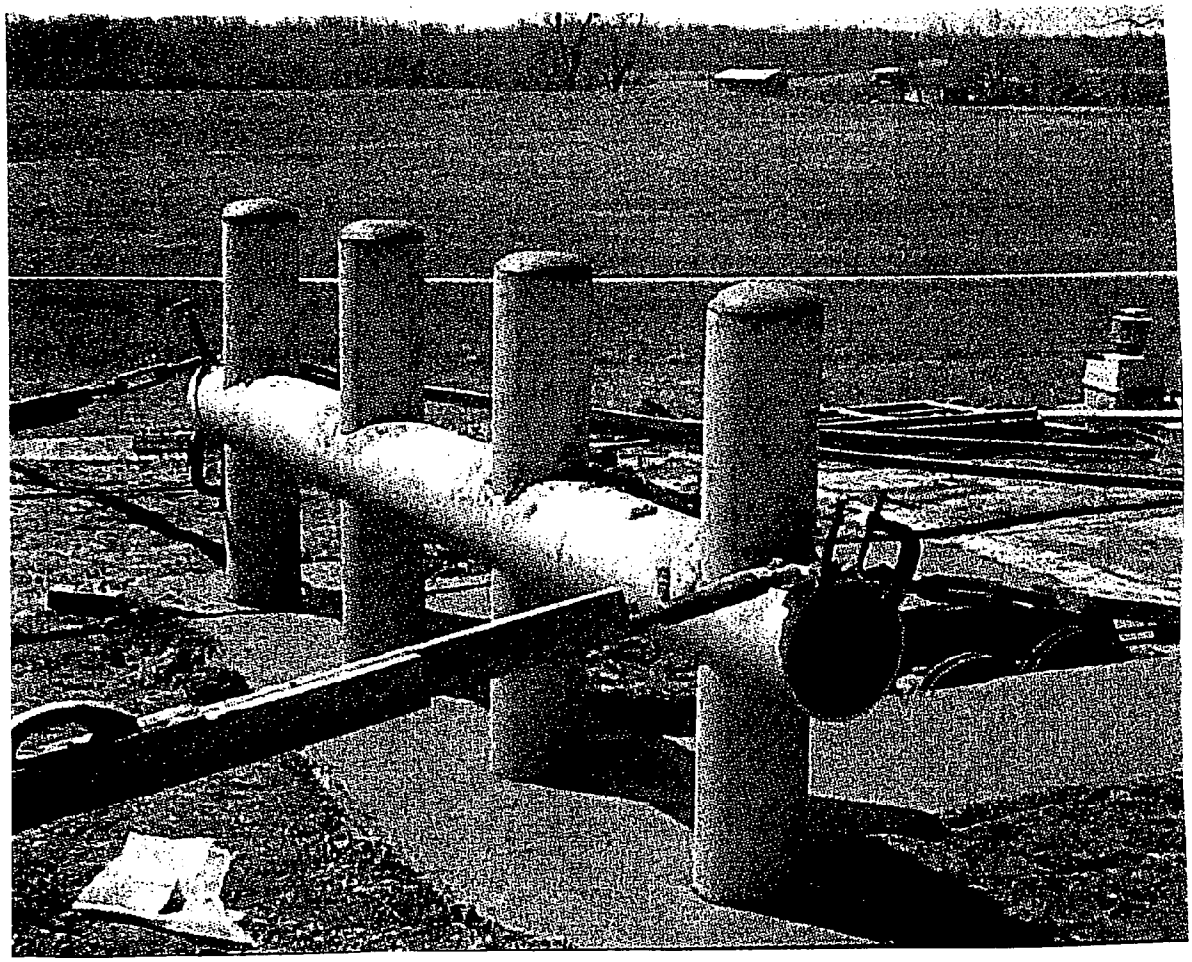
(57) **ABSTRACT**

An ultra-high security guard rail system, particularly for use around buildings, works of art, public places, and so forth, includes coverings to disguise and/or beautify the barrier system. In terms of a typical construction, the system includes a plurality of vertical metal pipes, with a portion of each pipe being buried one or more feet below the ground surface, and a portion of the pipe remains exposed above ground. One or more horizontal metal pipes are interconnected to the vertical metal pipes. In the preferred embodiment, the pipes are made of steel, and one or more of the pipes may be filled with a fortifying material, such as cement. A cover may be provided to visually obscure the pipes. Such a cover may give the appearance of brick, cinder block, stone or wood. In addition, the system may include a floral decorative element.



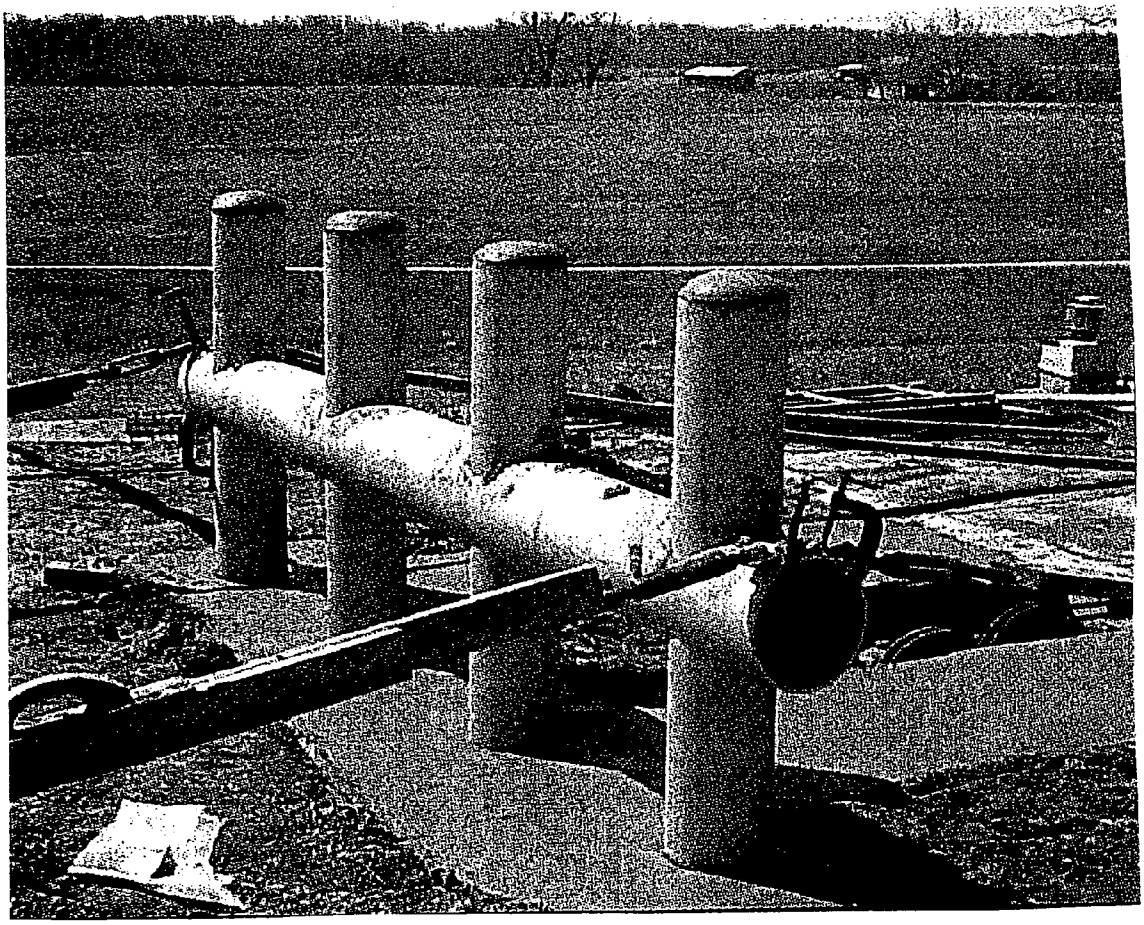


Fig - 1

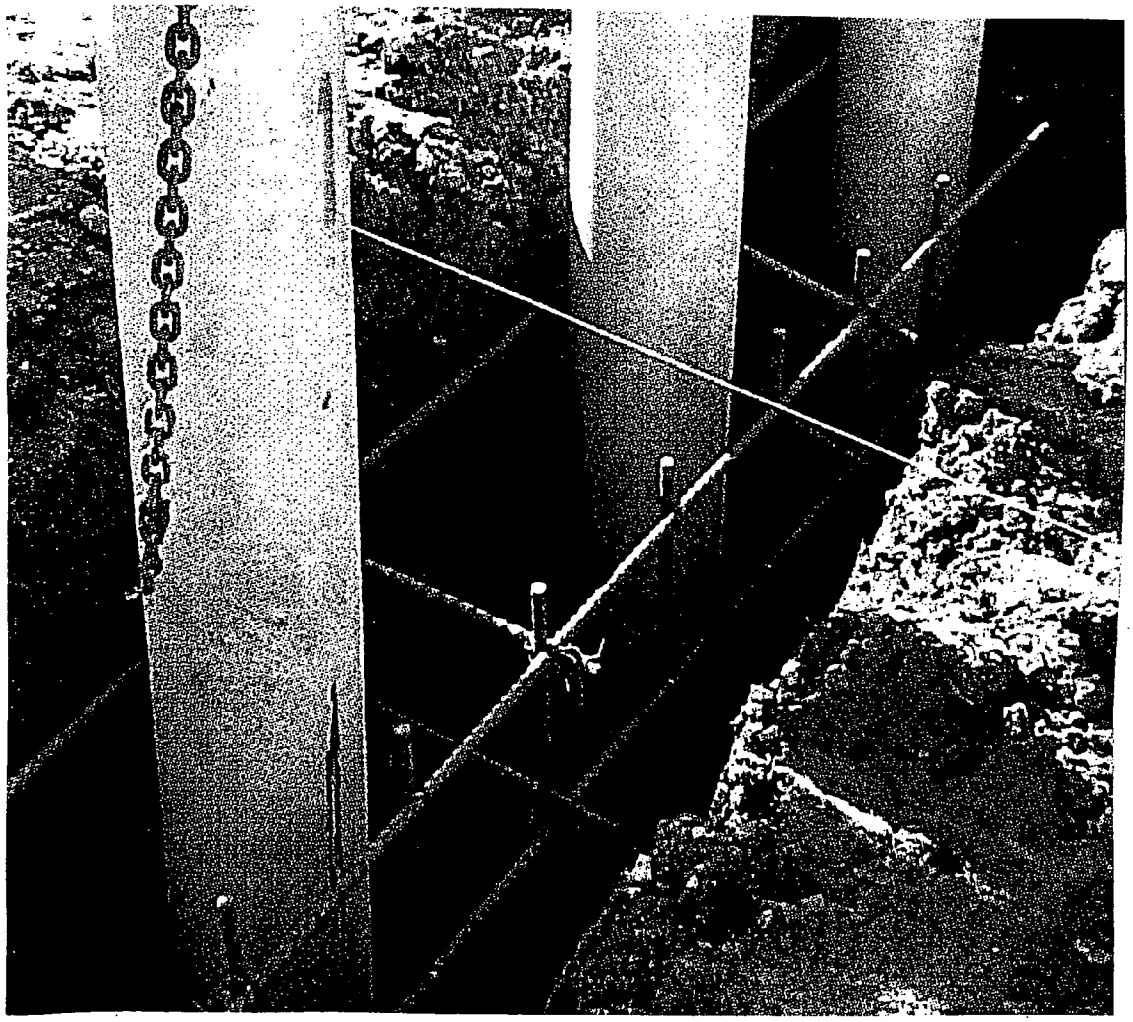


Fig - 2

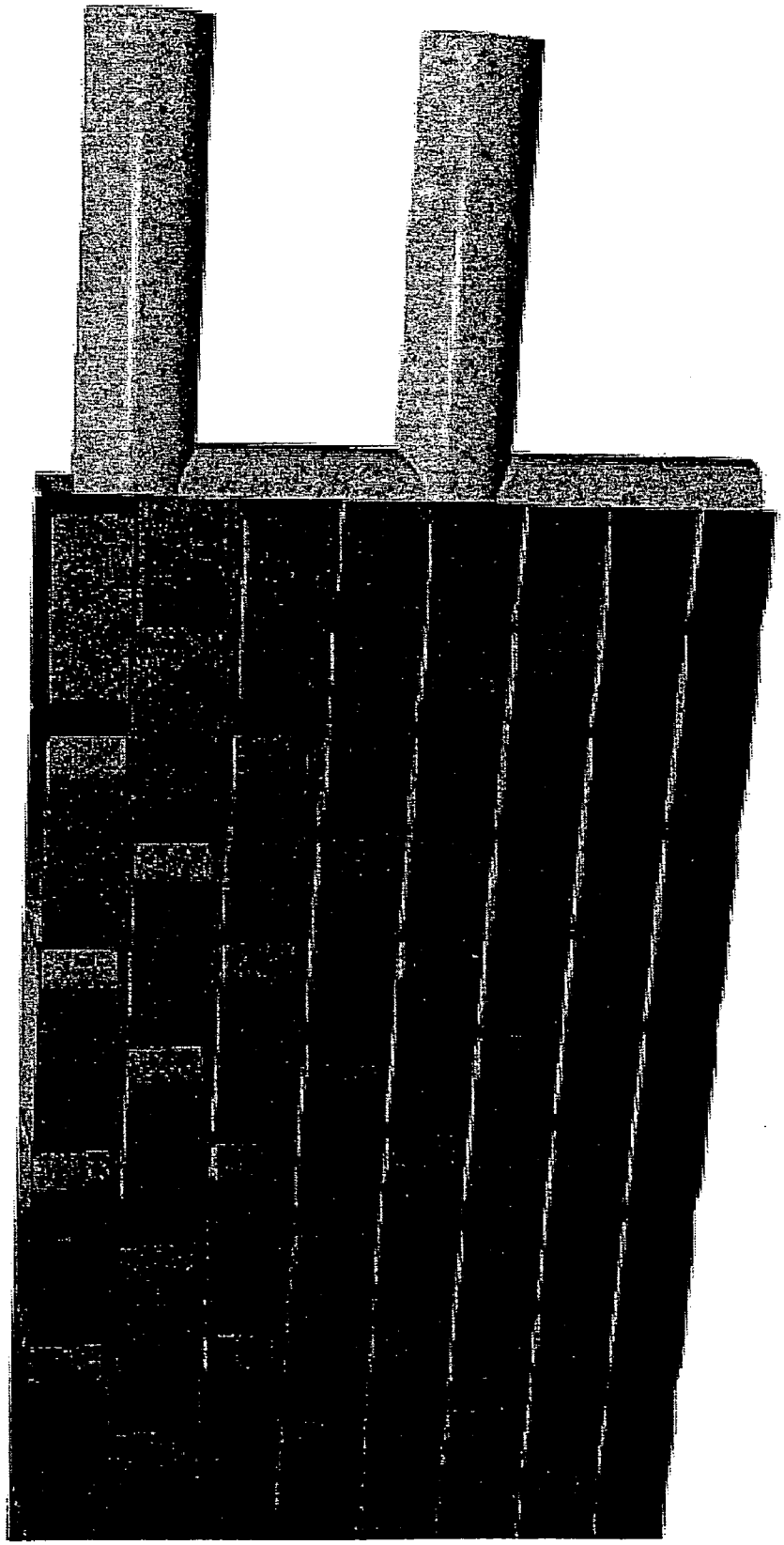


Fig-3

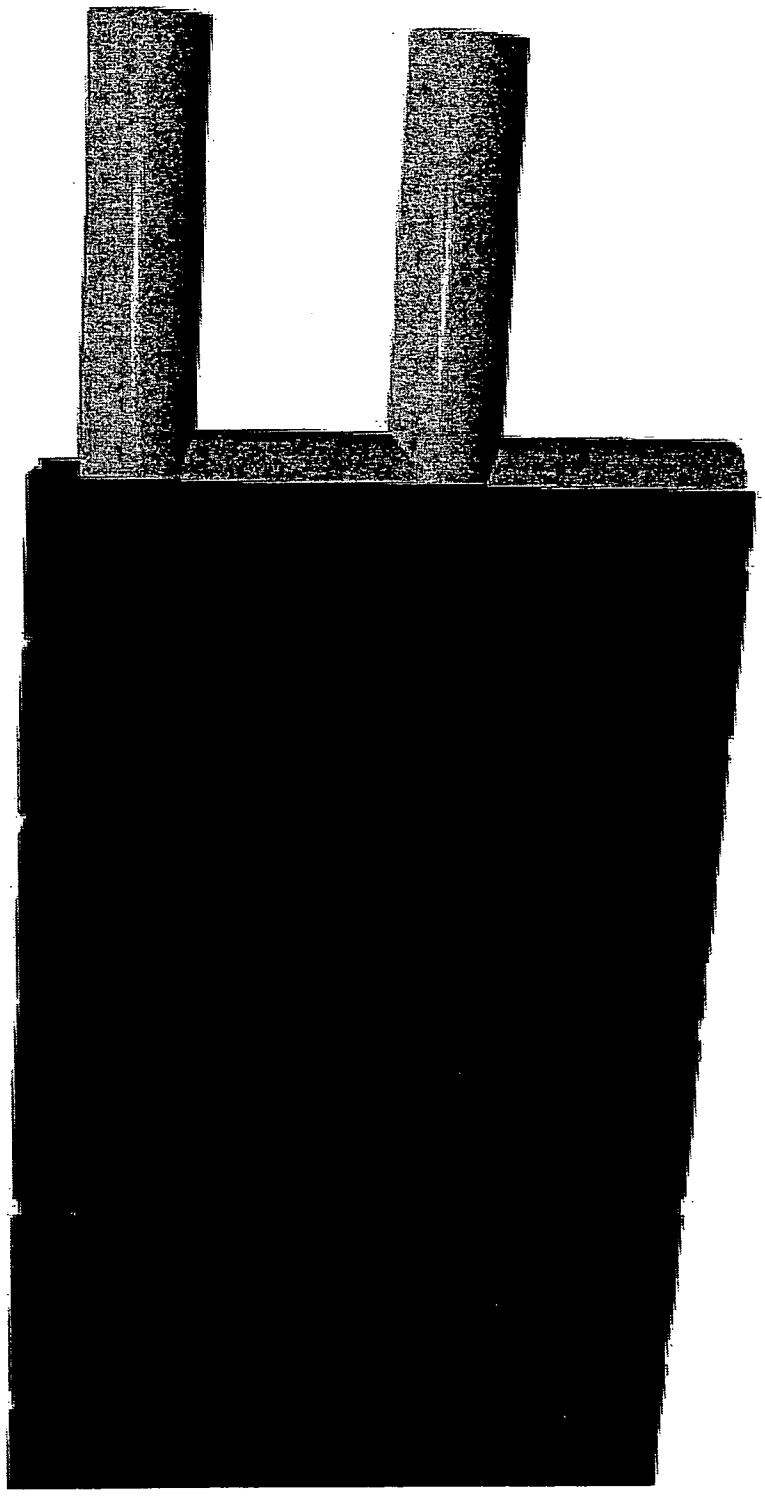


Fig. 4

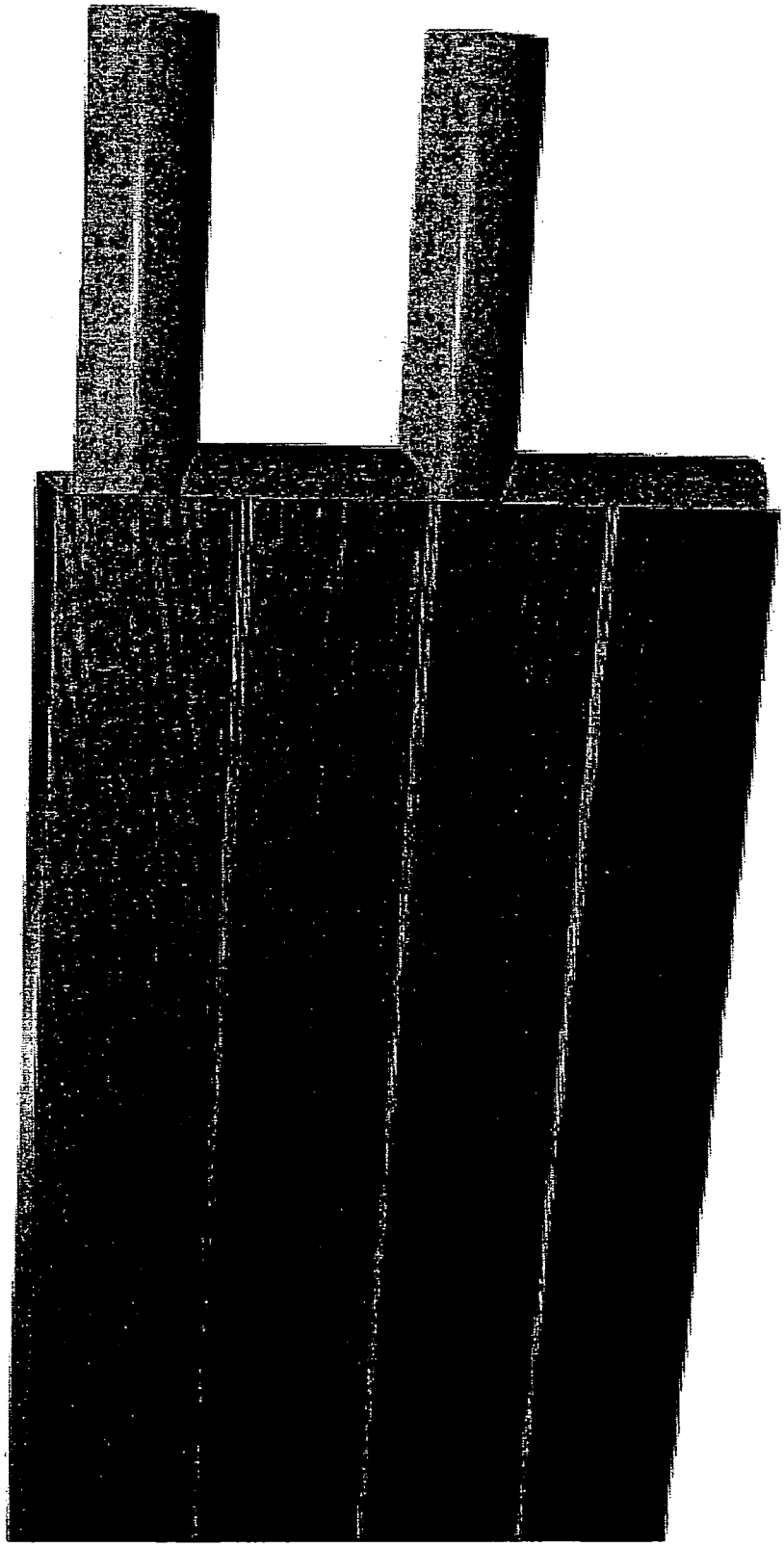


Fig-5

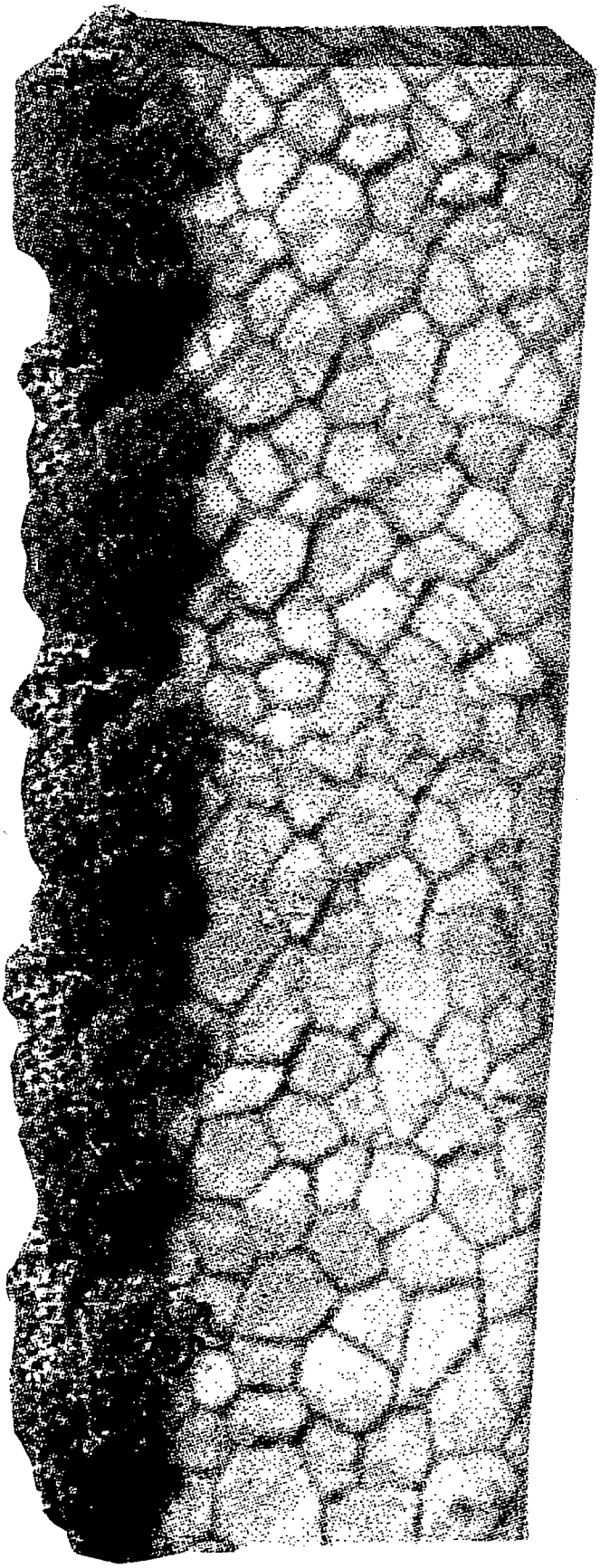


Fig. 6

HIGH-SECURITY GUARD RAIL SYSTEM

REFERENCE TO RELATED APPLICATION

[0001] This application claims priority from U.S. Provisional Patent Application Serial No. 60/377,190, filed Apr. 30, 2002, the entire content of which is incorporated herein by reference.

FIELD OF THE INVENTION

[0002] This invention related generally to guard rails and, in particular, to a high-security guard rail system.

BACKGROUND OF THE INVENTION

[0003] Since the Sep. 11, 2001 attacks on the World Trade Center and Pentagon, there has been significant interest in providing enhanced security around buildings and public places. One need is for barriers around buildings and other structures to prevent trucks and other vehicles, perhaps carrying explosives, or just intent upon inflicting damage, from crashing into walls, and so forth. In addition to a need for high-strength barriers of this kind, at the same time, such structures should not be visually offensive, and indeed, it would be beneficial if such barriers were aesthetically appealing, blending into the environment.

SUMMARY OF THE INVENTION

[0004] This invention resides in an ultra-high security guard rail system, particularly for use around buildings, works of art, public places, and so forth, and wherein, in certain embodiments, includes coverings to disguise and/or beautify the barrier system. In terms of a typical construction, the system includes a plurality of vertical metal pipes, with a portion of each pipe being buried one or more feet below the ground surface, and a portion of the pipe remains exposed above ground. One or more horizontal metal pipes are interconnected to the vertical metal pipes.

[0005] In the preferred embodiment, the pipes are made of steel, and one or more of the pipes may be filled with a fortifying material, such as cement. A cover may be provided to visually obscure the pipes. Such a cover may give the appearance of brick, cinder block, stone or wood. In addition, the system may include a floral decorative element.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] **FIG. 1** illustrates the preferred embodiment of the present invention;

[0007] **FIG. 2** shows the way in which the vertical members are set into the ground;

[0008] **FIG. 3** shows an outer cover showing a brick or cinder block-design;

[0009] **FIG. 4** shows an alternative embodiment of the present invention, including a cover giving the appearance of a cobblestone wall;

[0010] **FIG. 5** shows yet a further alternative wherein the cover provides an appearance of wood; and

[0011] **FIG. 6** illustrates how coverings may also be combined with a floral design, whether artificial or natural.

DETAILED DESCRIPTION OF THE INVENTION

[0012] **FIG. 1** is a drawing of a preferred guard rail system according to the invention, including a plurality of vertical tubular (i.e., steel) members, interconnected by one or more horizontal members also preferably constructed of tubular steel. The pipes may, or may not, be filled with other strengthening materials, including cement.

[0013] **FIG. 2** is a photograph of the way in which the vertical members are set into the ground. Preferably, the members are sunken several feet into the Earth, preferably at least past the frost line, and surrounded and filled in with cement or concrete, as shown in **FIG. 1**. To enhance security, reinforcing elements or "re-rods" are used, as shown in **FIG. 2**.

[0014] While the barrier shown in **FIG. 1**, in conjunction with the method of installation are considered to be inventive, this invention further provides various coverings to disguise and/or beautify the underlying structure. **FIG. 3**, for example, shows an outer cover showing a brick or cinder block-design. Such a structure could either be integrally formed, or molded in pieces and attached. Different ways of holding the cover onto the guard rail structure may be used, including nuts and bolts, screws, self-tapping threaded fasteners, and so forth.

[0015] **FIG. 4** shows a different alternative, including a cover giving the appearance of a cobblestone wall. **FIG. 5** shows yet a further alternative wherein the cover provides an appearance of wood.

[0016] The various covers according to the invention are preferably constructed from a durable polymeric material, such as polyethylene, polypropylene, PVC, ABS, vinyl, and the like to resist weather while foregoing the need for painting. The coverings may also be combined with a floral design, whether artificial or natural, as shown in **FIG. 6**. Although **FIG. 6** shows a cobblestone design with flower bed row along its top, any one of the various cover embodiments disclosed herein make use of artificial or natural floral arrangements.

I claim:

1. An ultra high-security guard rail system, comprising:

a plurality of vertical metal pipes, wherein a portion of the pipe is buried one or more feet below the ground surface, and a portion of the pipe remains exposed above ground; and

one or more horizontal metal pipes interconnected to the vertical metal pipes.

2. The ultra high-security guard rail system of claim 1, wherein one or more of the pipes are filled with cement.

3. The ultra high-security guard rail system of claim 1, wherein the metal pipes are steel.

4. The ultra high-security guard rail system of claim 1, further including a cover to visually obscure the pipes.

5. The system of claim 4, wherein the cover gives the appearance of brick.

6. The system of claim 4, wherein the cover gives the appearance of cinder block.

7. The system of claim 4, wherein the cover gives the appearance of stone.

8. The system of claim 4, wherein the cover gives the appearance of wood.

9. The system of claim 4, further including a floral decorative element.

10. The system of claim 9, wherein the floral decorative element is natural.

11. The system of claim 9, wherein the floral decorative element is artificial.

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