

FIG. 1

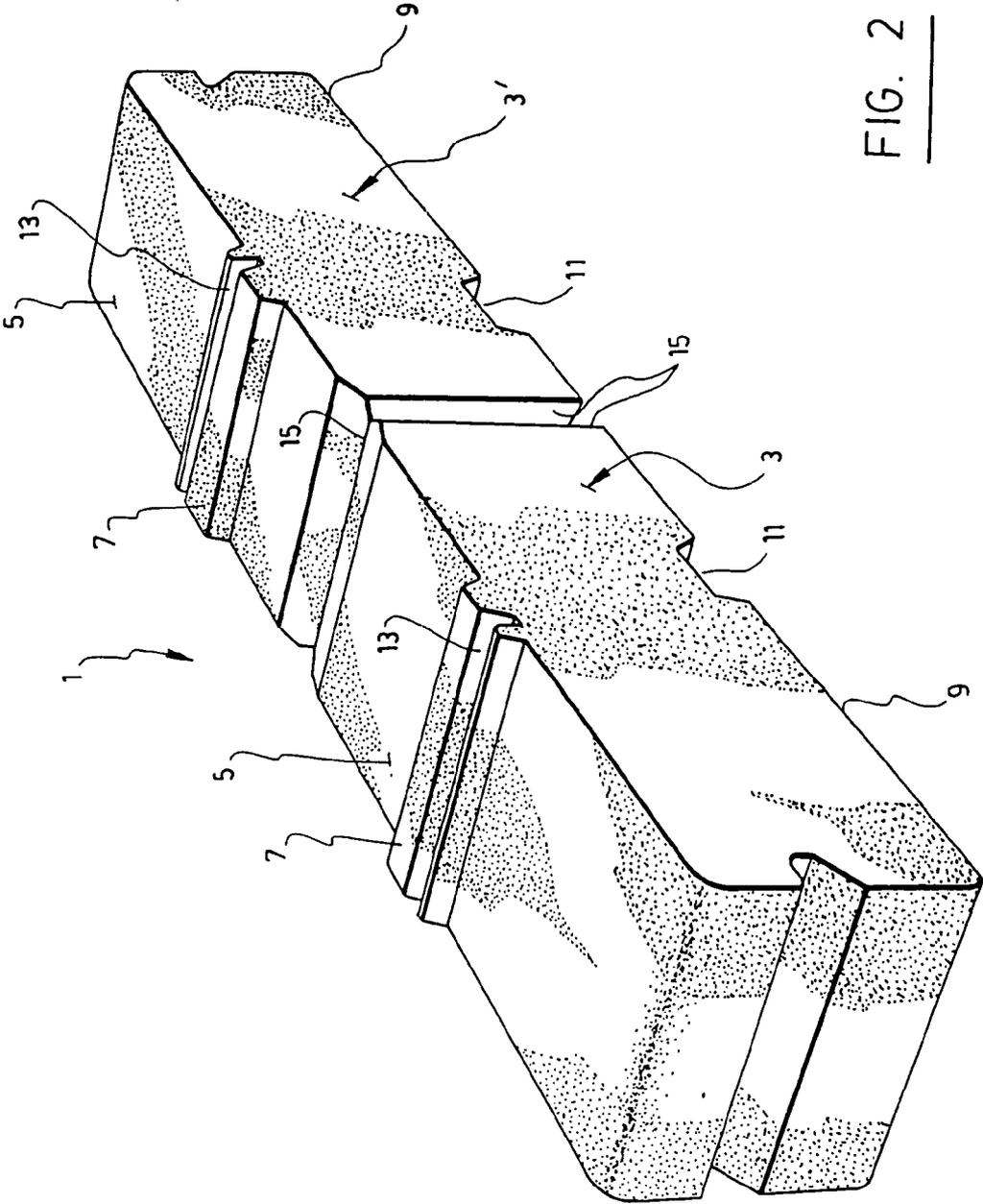


FIG. 2

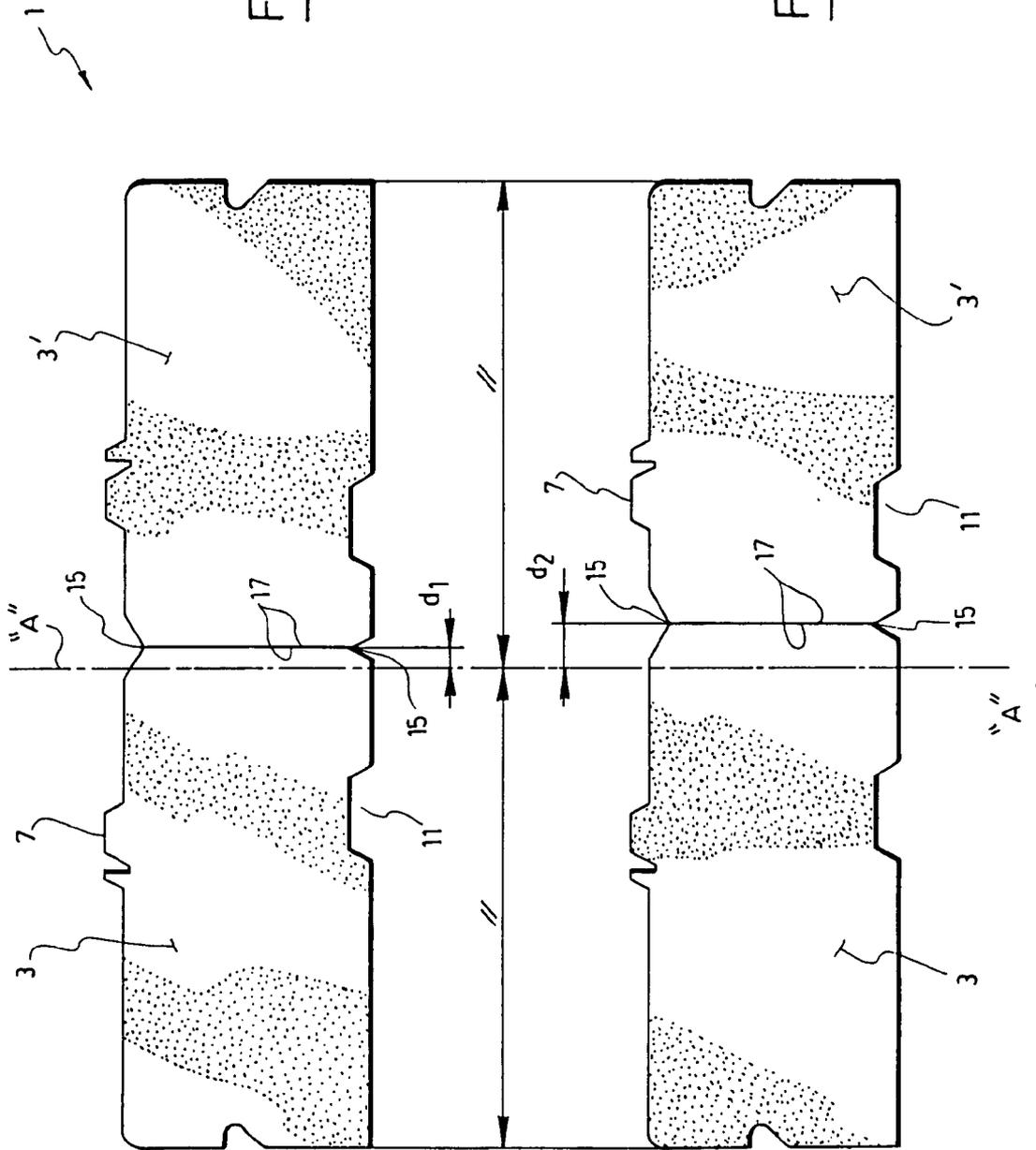


FIG. 3

FIG. 4

FIG. 5

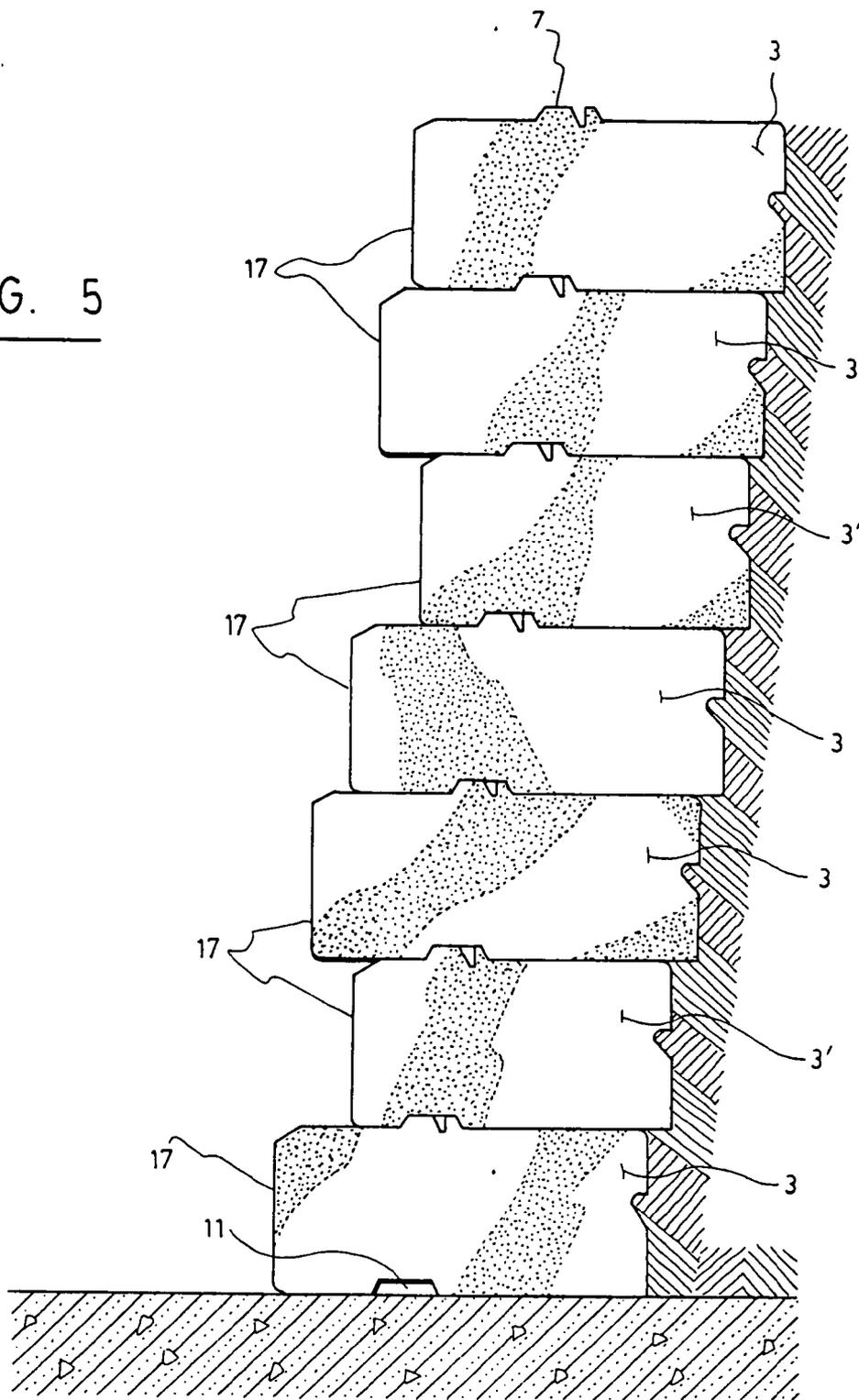
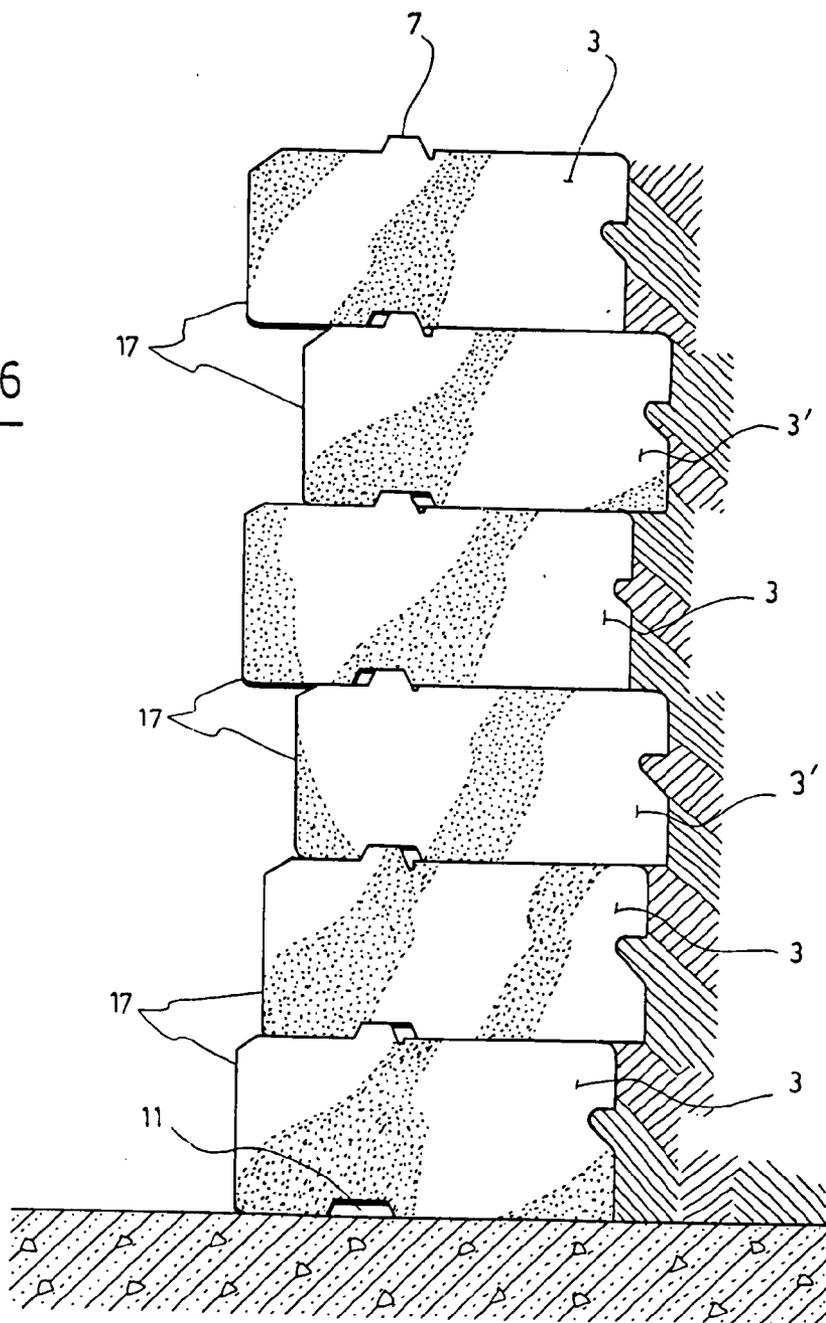


FIG. 6



**MULTIPLE RETAINING WALL BLOCK UNIT WITH OFF-CENTER SPLITTING GROOVES**

**FIELD OF THE INVENTION**

[0001] The present invention relates to an improved multiple retaining wall block unit provided with splitting grooves positioned in such manner as to permit splitting and separation of the blocks from the unit.

**BACKGROUND OF THE INVENTION**

[0002] Multiple retaining wall block unit of the above-mentioned type are well known in the field to which the present invention belongs. In this connection by way of non restrictive examples, reference can be made to FIGS. 9 and 10 and to the corresponding part of the specification of U.S. Pat. No. 5,622,456 to Angelo RISI et al. Reference can also be made to FIGS. 2 to 4 and to the corresponding part of the specification of U.S. Pat. No. 4,860,505 to David C. BENDER.

[0003] The existing multiple retaining wall block units usually comprises only two blocks having front surfaces facing each other in the same vertical plane. Said units are also devised in such manner that the blocks, when splitted, be of the same length.

[0004] The blocks that are so splitted are usually provided with tongues projecting upwardly from their upper surface and grooves made in their bottom surface, in order to allow stacking of the blocks one on top of the other in order to form a retaining wall. As to this kind of blocks with tongues and grooves and the way they can be stacked onto each other, reference can be made to the numerous prior art references that exists in this field, including in particular the two above-mentioned patents.

[0005] In practice, these tongues and grooves may be positioned in such manner as to allow the blocks to be stacked in such manner that the resulting wall be either battered or vertical. In this connection, and by way of non restriction example only, reference can be made to the content of Canadian patent no. 2,469,128 to Angelo RISI.

[0006] As it may be appreciated upon reviewing the various patents discussed hereinabove, when use is made of blocks of a same size to build up a retaining wall, the front surfaces of the blocks extending in a same horizontal row of the wall all extend in a substantially the same vertical plane. The planes of the various rows all extend also in the same plane when the wall is vertical. When the wall is battered, these planes extend at different distances away from each other. However, in the latter case, the blocks of a same row have their front surfaces that extend all together in the same plane, as was disclosed hereinabove.

[0007] It is apparently of common practice for some consumers to ask for retaining walls made of blocks that would not necessarily extend in a same plane in order to give more "originality" to the look of the retaining wall. In such a case, however, it is compulsory from the manufacturer to order and use different units containing blocks of different length or to use blocks having a plurality of tongues and grooves on their upper and lower surfaces.

**SUMMARY OF THE INVENTION**

[0008] It has now been found that the above-mentioned requirement of some of the consumers to have blocks

positioned and shaped in such manner as to give a different look to the front surface of a retaining wall made from said blocks can easily be achieved by using blocks which come from same units but not with a same length.

[0009] It has also been found that blocks on different lengths compatible with each other and stackable one upon the other can be easy obtained from such same units provided that, contrary to what has been done so far, the sets of splitting grooves used on the unit in order to split the same in order to separate the blocks be not always positioned just in the middle of each unit or at places of the unit that make it splittable into blocks of a same size and form as it has always been done so far.

[0010] Thus, the present invention is directed with an improved multiple retaining wall block unit provided with at least one set of splitting grooves positioned in such manner as to permit splitting and separation of the blocks of the unit, which improvement lies in that each of the splitting grooves is located along the unit in such manner that the adjacent blocks that are splitted, are not of a same length.

[0011] As is of common practice, each block of the unit advantageously has an upper surface provided with at least one upwardly projecting tongues and a bottom surface with at least one groove sized to receive the tongues of the similar block extending below when the retaining wall is built up. As a result, inasmuch as the blocks are no more of a same length, different positioning of the front surface of each block may vary depending on the length of the block that is being used. As a result, the front surface area of the retaining wall made from the blocks may have a look which is not "uniform," as it was done so far.

[0012] In accordance with a particularly preferred embodiment of the invention, each unit comprises only two blocks having front surfaces facing each other in the same vertical plane. The set of splitting grooves used to split the two blocks is of course positioned in this vertical plane. Once again, in order to achieve the result mentioned hereinabove, the vertical plane is off-center with respect to the unit.

[0013] The invention will be better understood upon reading the following non restrictive description made with reference to the accompanying drawings.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0014] FIG. 1 is a front perspective view of a retaining wall made of blocks splitted from a multiple retaining wall block units according to the invention;

[0015] FIG. 2 is a perspective view of a double retaining wall block unit according to the invention;

[0016] FIG. 3 is a side elevational view of the unit shown in FIG. 2;

[0017] FIG. 4 is a side elevational view of a variant of the unit shown in FIGS. 2 and 3;

[0018] FIG. 5 is a side elevational view of a battered retaining wall made of blocks splitted from units as shown in FIG. 4; and

[0019] FIG. 6 is a side elevational view of a vertical retaining wall made of blocks splitted from units as shown

in FIG. 4, after having further splitted one part of the tongues projecting from their upper surfaces.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT OF THE INVENTION

[0020] In the following description, reference will be made exclusively to multiple retaining wall block unit comprising two blocks exclusively.

[0021] It is worth noting however that the invention also applies to any other kind of multiple retaining wall block unit comprising more than two blocks, like for example, the units disclosed in U.S. Pat. No. 5,622,456 to Angelo RISI et al.

[0022] In the following description, reference will be made also only to blocks having tongues and grooves that are vertically offset, each of the tongues also having a splitting groove extending transversally over its length in order to allow reduction of its size and thus allow blocks to be positioned in line when needs be, as is disclosed in Canadian patent no. 2,469,128 to Angelo RISI.

[0023] It is worth noting however that the invention is not restricted to these very specific embodiments and could be used to any kind of blocks used to manufacture retaining walls, which are molded from concrete in the form of units comprising two or more blocks that can be splitted from the unit whenever desired thanks to the presence of sets of splitting grooves positioned at suitable locations.

[0024] It is worth noting also that each block may comprise more than one tongue and more than one groove. They can actually be as disclosed in U.S. Pat. No. 4,860,505 to David C. BENDER.

[0025] As a matter of fact, as was already emphasized hereinabove in the Summary of the invention, the invention actually lies that the set of splitting grooves used to split and separate each block from the unit is/are positioned in such a manner as to make it possible for the adjacent blocks that are splitted not to be of a same length, the basic purpose of that being, to allow building of a retaining wall with a different look inasmuch as the front surface of some blocks may extend forwardly or rearwardly from the adjacent blocks even when these blocks are positioned in the same horizontal row. Such is actually shown in FIG. 1.

[0026] The improved multiple retaining wall block unit 1 according to the preferred embodiment of the invention as shown in FIG. 2 of the accompanying drawings, comprises two blocks 3 and 3' which are of the same structure as to the blocks disclosed and claimed in Canadian patent no. 2,469,128 to Angelo RISI. Each of these blocks 3, 3' comprises an upper surface 5 with a transversal tongue 7 of the given width that projects upwardly from it. Each of these blocks 3, 3' also comprises a bottom surface 9 with a transversal groove 11 sized to receive the tongue 7 of another similar block positioned below and thus to allow stacking of the blocks as is shown in FIGS. 5 and 6.

[0027] In the illustrated embodiment, the tongue 7 of each block is also provided with a splitting groove 13 sized and positioned to allow splitting of the tongue with a splitting tool along a transversal line that is positioned to permit a remaining portion of the tongue 7 to fit into the groove of a further similar block stacked on top of the block with the

front side, with a slack left as to the positioning of the upper block onto the lower one, inasmuch as the tongue of the lower one has become smaller. As to this particular structure and its advantages, reference can be made again to the above-mentioned Canadian patent no. 2,469,128.

[0028] As aforesaid, the present invention essentially lies in that the set of splitting grooves 15 which is provided in the unit 1 in order to allow splitting of the blocks 3 and 3' is not positioned just in the middle of the length of the unit as it was done so far. Such a set is actually positioned at a small distance away from the middle portion of this length, in order to make the splitting off-center by a distance that may of course vary depending on the consumers request (see the distances d1 and d2 identified in FIGS. 3 and 4).

[0029] As a result of such an off-centering of the splitting grooves 15, the blocks 3 and 3' are not of the same length and, more importantly, the distance between their tongues and their front surfaces 17 on the one hand and between their tongues 7 and grooves 11 on the other hand, are not the same, as is clearly shown in FIGS. 3 and 4. As a result, when the blocks splitted from similar unit are stacked one upon the other, the front surface 17 of these blocks do not necessarily extend in a same plane even if the blocks are extending in a same horizontal row, as it was always obtained so far.

[0030] FIGS. 5 and 6 are cross-sectional views of retaining walls made of blocks obtained from units as shown in FIG. 4. In the embodiment shown in FIG. 5, each of the tongues 7 has been left as such. In other words, they have not been splitted. As a result, all the blocks have the tendency to form a wall that is battered. However, depending on the length of the blocks, the front face of each of them may extend in different positions as is clearly illustrated.

[0031] If, however, as shown in FIG. 6, the tongues 7 of each block is splitted via the grooves 13, the blocks may be stacked one upon the other in order to form a vertical retaining wall. In such a case, the blocks may however, depending on their size due to splitting along the grooves 15, still have their front surfaces that extend in different planes.

[0032] The result that may be achieved and the new look given to the wall is illustrated by way of a non restrictive example in FIG. 1.

[0033] As may be appreciated, the main advantage of the improvement forming the subject matter of the present invention is that it is not necessary to have multiple retaining wall block unit of different shapes and configurations in order to form blocks of different sizes to achieve a result as shown in FIG. 1. As a matter of fact, the very same kind of units may be used to achieve any kind of look, as shown in FIGS. 1, 5 and 6.

[0034] As aforesaid, the invention is not restricted to the very specific embodiment disclosed hereinabove inasmuch as it can be used with any kind of multiple wall retaining wall block units.

1. In a multiple retaining wall block unit provided with at least one set of splitting grooves positioned in such a manner as to permit splitting and separation of said blocks from said unit, the improvement wherein said at least one set of

splitting grooves is located along said unit in such a manner that the adjacent blocks that can be splitted, are not of a same length.

2. The improved unit of claim 1, wherein each of the blocks of said unit has an upper surface provided with at least one upwardly projecting tongue and a bottom surface with at least one groove sized to receive the tongue of a similar block extending below when said retaining wall is built up.

3. The improved unit of claim 2, wherein:  
said unit comprises only two blocks having front surfaces facing each other in a same vertical plane;  
the set of splitting grooves permitting splitting of said two blocks is positioned in said vertical plane; and  
said vertical plane is off-center with respect to said unit.

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