Aug. 9, 1966 N. V. FRYE 3,265,364

FENCE OR LIKE CONSTRUCTION

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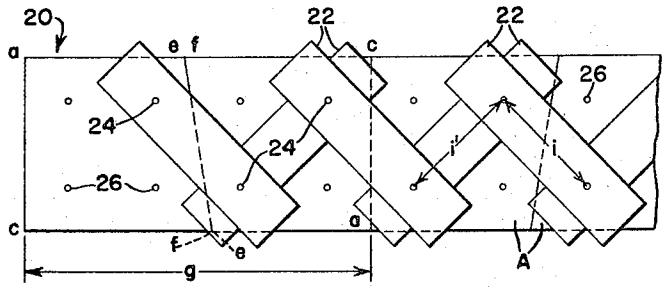


FIG. 1

FIG. 3

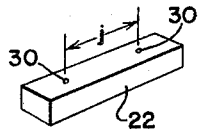


FIG. 2

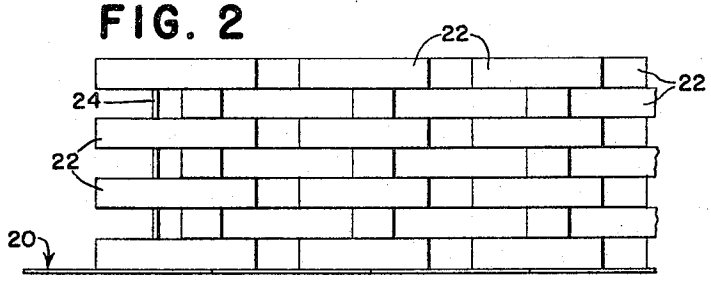


FIG. 4

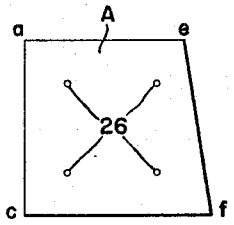


FIG. 6

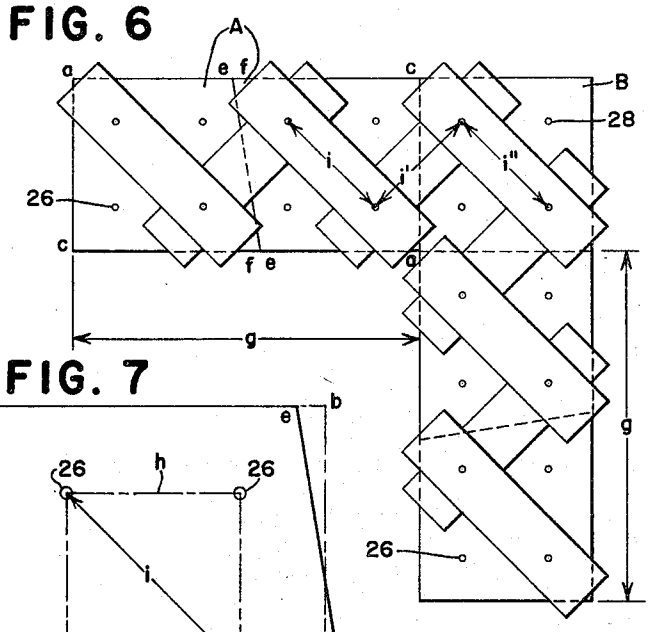


FIG. 5

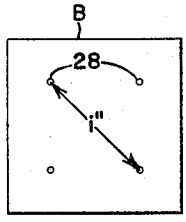


FIG. 7

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FIG. 8

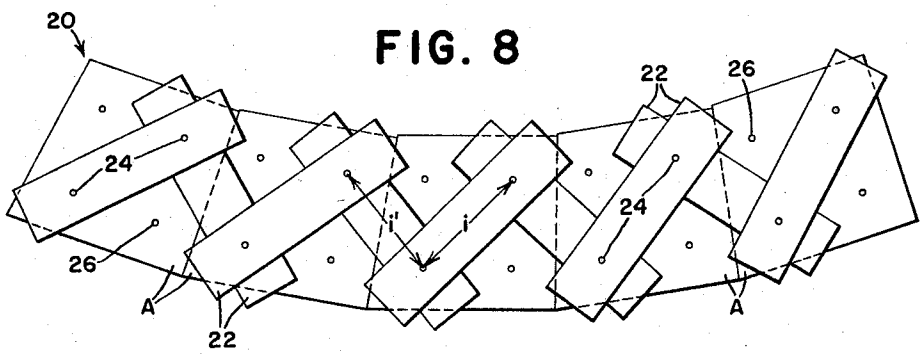


FIG. 9

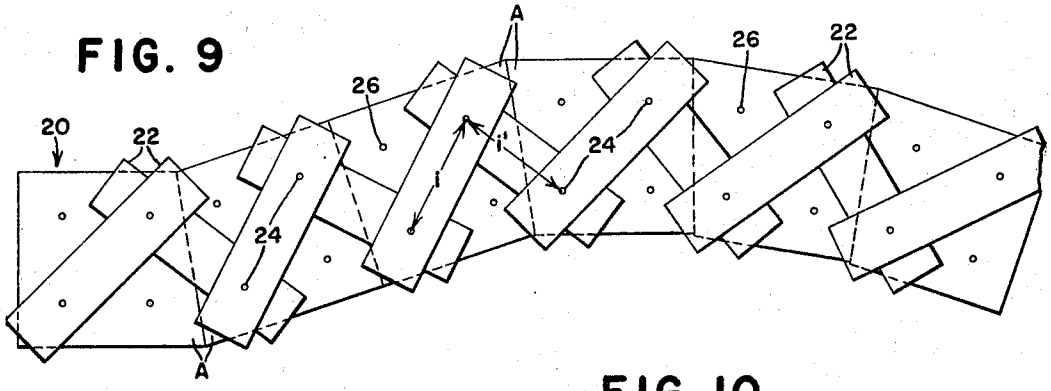


FIG. 10

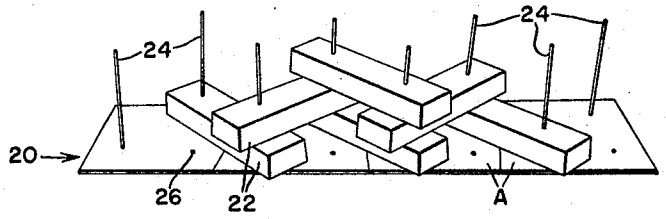


FIG. 11

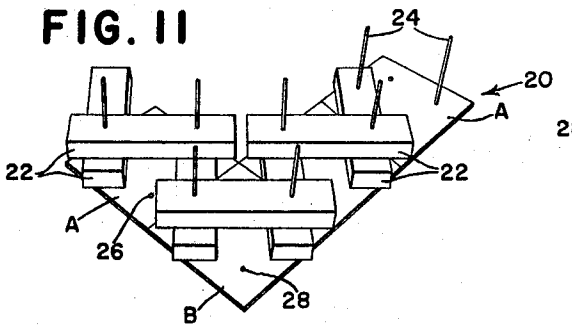
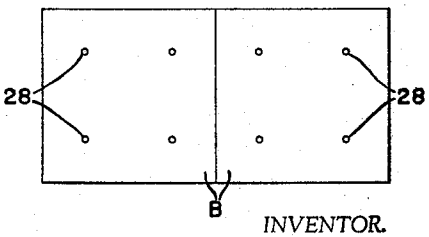


FIG. 12



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FENCE OR LIKE CONSTRUCTION

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6 Claims. (Cl. 256—19)

This invention relates to a fence, barrier or like construction and more particularly to a novel arrangement and construction which utilizes a basic pattern enabling one to erect such fence, wall, barrier etc. in simple and easy fashion.

This construction finds utility especially in ornamental fence arrangements utilizing stone, brick, etc. in gardens, patios and like environments; although, the principles are applicable as well to building structures, earth retaining walls, barriers, dams and the like.

It is known of course to use brick, stone and like materials in the construction of structure of the general type mentioned, and to erect these in alternated, stacked zig-zag fashion, with each row or course resting on the course below it and with the bricks etc., in each row being spaced apart but bridging a space or gap between bricks etc. in the course or row below. Such constructions use no mortar or other cementitious joints and depend for rigidity and strength on the overlapped weight of the bricks etc. as well as upon the zig-zag arrangement, which lends stability. One basic problem encountered in the use of structures of this type is the lack of a simple and easy system for laying out the work without the use of complicated measuring methods, and it very often happens that such structures, unless relatively elaborate pains are taken in constructing same, become haphazard affairs, unstable as barriers etc. and quite unattractive in appearance, especially where intended to enhance a garden, patio etc.

It is therefore a principal object of the invention to provide a ready-made pattern on the basis of which such fences etc. may be easily erected, particularly in the form of a home project of the so-called do-it-yourself nature. It is another principal object of the invention to provide the pattern means as a series of individual elements, preferably in the form of tiles or like components, constructed as substantial "squares" that are reversible edge-to-edge and surface-to-surface so as to afford a variety of arrangements such as straight, curved, reverse curves, corners and the like, these elements being provided with cooperating indicia, preferably openings, arranged so that pairs of openings in each element are cooperative with pairs of openings in the other elements to serve as the layout for arranging the bricks etc. in stacked alternated fashion. It is a further object to utilize these openings not only as indicia but to receive vertical rods which in turn receive and support the members, the members being apertured accordingly. In its broader aspects, the invention contemplates the use of a continuous strip of building paper, plain paper, plastic, etc. on which the indicia is marked, printed or otherwise designated, the basic idea being to provide a pattern or a choice of patterns.

The foregoing and other important objects and desirable features, inherent in and encompassed by the invention, will become apparent as a preferred embodiment is disclosed, by way of example, in the ensuing description and accompanying sheets of drawings, the figures of which are described next below.

FIG. 1 is a fragmentary plan view of a straight-line structure utilizing the invention.

FIG. 2 is an elevation of the same.

FIG. 3 is a reduced-scale perspective of one of the construction members.

FIG. 4 is a plan of a corner element.

FIG. 5 is a plan of one of the base elements.

FIG. 6 is a plan of a corner construction.

FIG. 7 is an enlarged plan showing the details of the FIG. 4 element.

FIG. 8 is a plan illustrating a curved structure.

FIG. 9 is a plan illustrating a reversely curved arrangement.

FIG. 10 is a smaller-scale perspective showing the construction arrangement in erecting a straight-line structure.

FIG. 11 is a similar perspective showing the erection of a corner.

FIG. 12 is a plan of two square elements combined in edge-to-edge relation.

The invention may be best understood by reference first to FIGS. 1 and 2, wherein is shown a representative portion of a straight-line structure, with opposite ends broken away to conserve space. This structure comprises a base or pattern means **20**, a plurality of rows of alternated, stacked elongate members **22** (such as pierced bricks etc.) and a plurality of supports or rods **24** vertically piercing the members and base means. As seen in FIG. 1, the members **22** form a zig-zag arrangement at angles of approximately 90° to each other; and, as seen in FIG. 2, the members have a "checkerboard" effect, with the members of each row (except the bottom row) resting on members of the row next below, each member of each row spanning or bridging and being partially offset longitudinally of the members in next upper and lower rows. Although only seven rows appear in FIG. 2, it will be understood that this view is representative only and that more or fewer rows may be used to give any height desired of the wall, fence, barrier etc. being constructed. This is true also as to length, FIG. 1 showing only a representative fragment. Further, as will appear below, the structure may be other than straight, as curved, reversely curved, circular, etc.

The base means **20** is here shown as being made up of a plurality of like elements A, one of which is shown by itself in FIG. 4 on the scale of FIGS. 1 and 2, and which is duplicated at twice-scale in FIG. 7 to illustrate better the details of its shape and construction. Before describing this in detail, attention is directed to the fact that the base means as such could be of one-piece elongated, curved, etc. construction, as a strip, with appropriate indicia to designate the positions of the rods **24** and therefore the zig-zag arrangement of the members **22** (bricks, stone etc.). It should also be noted that the base means as such may be simply even a temporary pattern for laying out the structure, or it may be constructed of permanent materials such as to give support to the structure; i.e., the base means as a pattern may be of paper, plastic, etc. and as a supporting base may be of stone, concrete, wood, any of the known building materials or the like, such as "Masonite" etc. When composed of the last-named material, the elements A may be of "twelve-inch squares," conveniently cut from 4′ x 8′ sheets of selected thickness, e.g., ⅛″, ¼″, ½″ etc. Preferably, however, the elements are individual pieces which afford versatility in the form of reversibility not only edge-to-edge but face-to-face, as will appear below.

One such element A, as shown in FIG. 7, is formed on the basis of a square *abcd*, except that it is actually a trapezoid *aecf* in which the sides *ae* and *cf* are parallel, the third side *ac* is perpendicular to the sides *ae*, *cf* and the fourth side *ef* is at such angles *cfe* and *aef* that its length is not materially different from the lengths of the sides *ae*, *ac* and *cf*. For example, using a twelve-inch square *abcd* as a basis, the side *ac* is 12″, the side *ae* is 11″, the side *cf* is 13″ and the side *ef* approximately

12½". Thus, when two elements A are arranged with their sides *ef*, *ef* edge-to-edge, the overall length of the two elements is 24", as at *g*. See also FIG. 6. When the elements are thus laid edge-to-edge, two of them are in a straight line group. As will appear below, when one of the elements is reversed edge-to-edge, the elements lie at an angle to each other (FIG. 8) and when reversed face-to-face, they lie at another angle to each other (FIG. 9). Still other angles or relationships can be achieved by arranging different edges of one element in abutting relationship to a selected edge of its neighboring element.

Each element has a plurality of holes or openings, here four as at **26**, disposed respectively at the four corners of a square *h* that lies within the boundaries *aecf* of the element A. This square is here, on the basis of the 12" example selected, a 6" square in which each of its diagonals is approximately 8½" in length, as shown at *i*, FIG. 7. The square *h* is of course centered in the basic square *abcd*. Now, when two elements A are placed edge-to-edge as in any of FIGS. 1, 6, 8 or 9, the distances between diagonally paired openings **26** are for all practical purposes the same. Compare the distances *i* and *i'* in FIGS. 1, 8 and 9 and the distances *i* and *i''* in FIGS. 1 and 6, in the latter of which figures a perfect square corner element B is employed which has its four holes **28** based on a square identical to the square *h* of the element A. These distances (*i*, *i'* and *i''*) are approximately equal to the distance *j* between a pair of holes or apertures **30**, **30** in each member **22** (FIG. 3). Further, the dimensions of the openings **26**, **28** and **30** and of the rods **24** are such as to accommodate or tolerate any minor discrepancies, it being understood that complete accuracy is not sought here in the mathematical sense.

The invention is exploited to construct a straight-line structure (FIGS. 1, 2 and 10) in the following manner. A series of individual elements or tiles A is laid edge-to-edge in such fashion that each pair of neighboring elements A, A forms a two-element set spanning the distance *g*, the edges *ef*, *ef* abutting. The next two elements similarly abut as to each other, but, as a set of two, the edge *ac* of one of those elements abuts the edge *ac* of the first pair. In other words, each set of two elements A, A is, on the basis of the example selected here for illustrative purposes, 24" long, and multiples of these 24" pairs may be laid end to end. The diagonal distances *i* and *i'* being the same, pairs of openings **26**, **26** in neighboring elements are the same, and a zig-zag pattern is established. If the elements A are of material capable of supporting the structure, it is preferred that the openings **26** be provided, but if a temporary paper, plastic etc. pattern is provided, the openings may be other indicia establishing a pattern for the insertion of the rods **24** therethrough and into the ground, for example, these rods rising from the base means **20** in the zig-zag pattern thus established. A first course or row of members **22** is then laid, it being established that the distance *j* between apertures **30**, **30** of each member is approximately the same as the distances *i*, *i'*, *i''*. Using FIG. 10 as an example, the members **22** in the first course bridge the diagonally related pairs of openings consisting of an opening **26** of one element A and a diagonally opposite opening **26** of a neighboring element, which system is repeated throughout, according to the desired length of the structure being erected. In the next course or row, the members **22** rest respectively on the first-laid members but bridge the paired openings **26** (or rods **24**) of the same members, and so on, the members of course being received by the respective rods **24**. At this point, it should be noted that the word "rods" is used in its illustrative sense and that equivalent components would satisfy the inventive concept. For example, in an ornamental structure, simple thin rods would suffice, but, in an earth-retaining wall or building structure, heavier rods etc., would be required.

In the foregoing, it will be seen that not all of the openings **26** are used, but the extra openings are provided for those instances in which the elements A are reversed edge-to-edge or face-to-face. Thus, if all that were desired were a straight-line pattern, it would be sufficient to provide in each element A (or B) just a pair of diagonally related openings. However, as in FIGS. 8 and 9, the elements can be reversed as aforesaid and the four openings thus provide additional openings accommodating the rods and the particular zig-zag pattern of the members **22**.

Where a corner is employed (FIGS. 6 and 11) the element B may be employed; although, it will be clear that if the paired elements at the corner comprise a pair of elements A, A, a turn or corner may be accomplished by a similar pair of elements, since the 90° edges will abut; e.g., the edge *ac* of one element may abut the edge *ab* of the cornering element. Nevertheless, a corner element B may be desired to accommodate any possible deviations.

FIG. 8 illustrates an arcuate or curved arrangement, in which the elements are appropriately oriented and abutted to establish the desired arc. Since there are no material differences among the lengths of the sides of the elements and further since the discrepancies are accommodated by looseness in the fits of the rods in the openings **26**, **28** and apertures **30**, **30**, an acceptable arc can be obtained.

FIG. 9 shows a reverse curve in which the elements A are reversed or turned in selective fashion to achieve the desired result, here again the diagonal distances between paired openings **26**, **26** being exploited to obtain the necessary pattern.

The foregoing are examples of how the invention may be used to obtain a variety of results. Other variations will readily occur to those skilled in the art, as will differences in proportions, dimensions etc., all within the spirit and scope of the invention and without departure from the spirit and scope thereof.

What is claimed is:

1. A fence or like construction, comprising: base means adapted to lie flat on the ground and including a plurality of generally similar substantially square flat elements disposed edge-to-edge to form a continuous elongated pattern, each element having a set of two openings therein respectively at the diagonally opposite corners of a square within the boundary of such element, said sets of openings being identical and so arranged and spaced apart that the distance between any pair of openings in one element is substantially equal to the distance between any other pair of openings consisting of one opening in one element and a diagonally opposite opening in the next adjacent element; a plurality of rods inserted in the openings and rising from the base means in zig-zag fashion throughout said base means; and a plurality of horizontal rows of members carried by the rods in alternated stacked fashion, each member having therein a pair of apertures spaced apart on the order of the aforesaid distance, each member of one row being received by a pair of rods rising from the openings in one element and each member in the row next above said one row resting on a member below it and received by a pair of rods rising from the openings in two neighboring elements.

2. The invention defined in claim **1**, in which: each element is in the form of a trapezoid in which the third side is perpendicular to the two parallel sides and the fourth side is at such angle to said parallel sides that the lengths of all four sides are approximately equal, said element openings, member apertures and rods being so relatively dimensioned as to accommodate discrepancies in said diagonal distances.

3. A fence or like construction, comprising: base means adapted to lie flat on the ground and including a plurality of generally similar substantially square flat elements disposed edge-to-edge to form a continuous elongated pattern, each element having a set of four openings therein

respectively at the four corners of a square within the boundary of such element, said sets of openings being identical and so arranged and spaced apart that the distance between any pair of diagonally opposite openings in one element is substantially equal to the distance between any other pair of openings consisting of one opening in one element and a diagonally opposite opening in the next adjacent element; a plurality of rods inserted in diagonally paired groups of openings and rising from the base means in zig-zag fashion throughout said base means; and a plurality of horizontal rows of members carried by the rods in alternated stacked fashion, each member having therein a pair of apertures spaced apart on the order of the aforesaid distance, each member of one row being received by a pair of rods rising from the diagonally paired openings in one element and each member in the row next above said one row resting on a member below it and received by a pair of rods rising from the diagonally paired openings in two neighboring elements.

4. The invention defined in claim 3, in which: each element is in the form of a trapezoid in which the third side is perpendicular to the two parallel sides and the fourth side is at such angle to said parallel sides that the lengths of all four sides are approximately equal, said element openings, member apertures and rods being so relatively dimensioned as to accommodate discrepancies in said diagonal distances.

5. A fence or like construction, comprising: base means separate from and adapted to lie on the ground in a continuous elongated pattern and having therein a plurality of indicia arranged in two substantially parallel rows, the indicia in each row being equally spaced apart lengthwise of the base means and the two rows being spaced apart transversely of the base means a distance equal to the lengthwise spacing of two adjacent indicia whereby any two neighboring indicia in one row and two directly transversely opposite neighboring indicia in the other row are respectively at the corners of a square; a plurality of rods inserted respectively through diagonally related indicia and into the ground and rising therefrom in similar zig-zag fashion throughout the length of said base means; and a plurality of horizontal rows of members carried by the rods in alternated stacked fashion, each member having therein a pair of apertures spaced apart on the order of the distance between a pair of neighboring rods, each

member of one row being received by a pair of neighboring rods and each member in the row next above said one row resting on a member below it and received by one of the rods of said first-mentioned pair and a next adjacent rod other than in said first-mentioned pair.

6. For use in the erection of a fence or the like, a preformed assemblage comprising: base means of relatively light-weight, easily manually handled material adapted to be placed upon the ground in a continuous elongated pattern and having therein a plurality of indicia arranged in first and second substantially parallel rows, the indicia in each row being equally spaced apart lengthwise of the base means and arranged so that any two neighboring indicia in one row and two directly opposite neighboring indicia in the other row lie respectively at the corners of substantially a parallelogram; a plurality of rods initially separate from and inserted respectively through selected indicia in both rows and into the ground such as to rise therefrom in regular zig-zag fashion throughout the length of said base means; and a plurality of horizontal rows of members carried by the rods in alternated stacked fashion, each member having therein a pair of apertures spaced apart on the order of the distance between a rod in one row and the next neighboring rod in the other row, each member of one row being received by a pair of such neighboring rods and each member in the row next above said one row resting on a member below it and received by one of the rods of said first-mentioned pair and a next adjacent rod other than in said first-mentioned pair.

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