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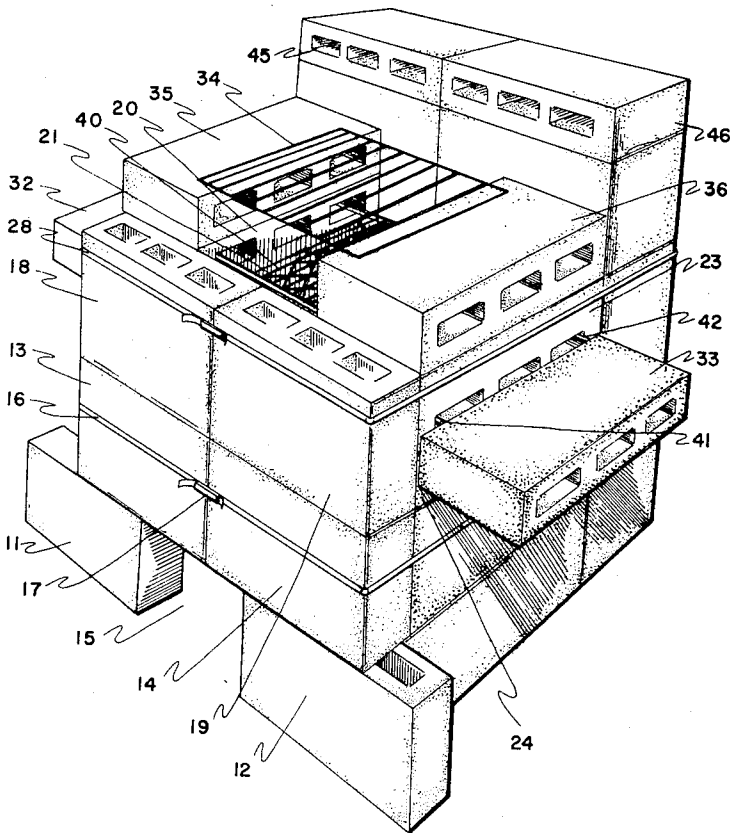
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[54] MORTARLESS TAKEDOWN MASONRY
FIREPLACE
8 Claims, 2 Drawing Figs.

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ABSTRACT: A plurality of building blocks are arranged in a nonpermanent combination forming a fireplace. A mortarless coupling is used to secure various levels or courses of the blocks in a nonadhesive or nonpermanent manner. The configuration of building blocks forms an ash or draft pit and a fire chamber. A fuel supporting grid is suspended in the fire chamber and a flame diffusing grid is suspended above the fuel supported grid. A grill is supported above the flame diffusing grid. Table blocks are supported on grid supporting rods on both sides of the mortarless masonry fireplace.



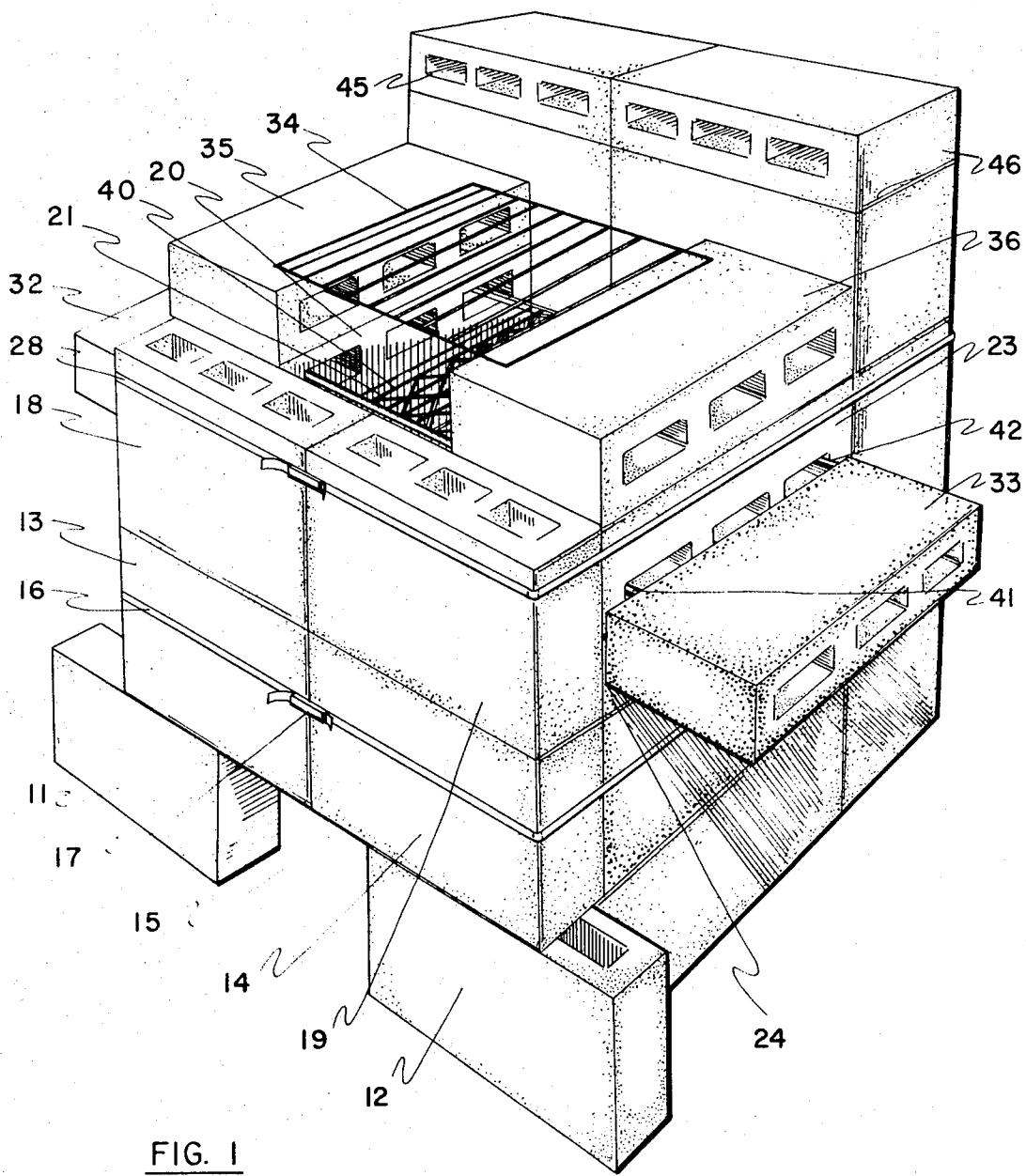


FIG. 1

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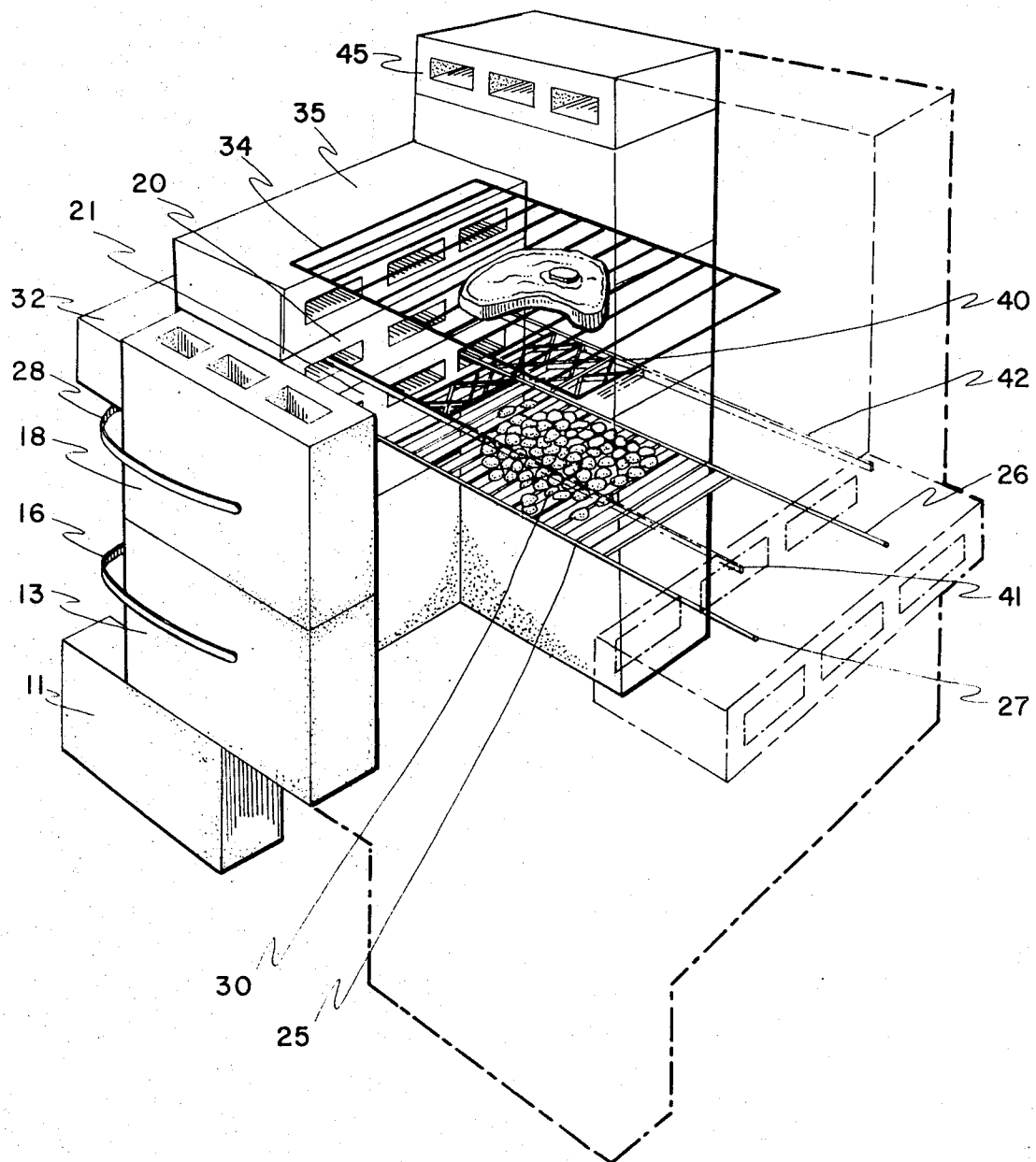


FIG. 2

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MORTARLESS TAKEDOWN MASONRY FIREPLACE

The present invention relates to fireplaces and barbecue pits. The present invention relates more to outdoor fireplaces, although my invention can be practiced indoors. In particular, this invention relates to methods and apparatus for providing a takedown, mortarless, masonry fireplace or barbecue.

The use of fireplaces and barbecues is well known and currently popular. The use of portable barbecues is very popular, however, portable barbecues are potentially dangerous because of the possibility of tipping the firewell and spilling the burning fuel. In addition, since portable barbecues are made mostly of metal, there is a great tendency for the firewell to rust, corrode, and/or oxidize. However, portable barbecues offer the convenience of storage capability heretofore not possible with a masonry fireplace or barbecue.

A masonry fireplace or barbecue is usually preferred over a portable, metal barbecue, but masonry fireplace units heretofore available required much more space than the portable barbecue and the space was permanently allocated, exclusively for the masonry fireplace. It has been found that heretofore where space was unavailable for permanent allocation, a portable, metal barbecue was used essentially as a substitute for the permanent, masonry fireplace.

With my new method and new combination a person can now have a masonry fireplace, with all its advantages over a portable, metal type barbecue without the need of permanently allocating the space required for supporting such a fireplace. By using my novel method and apparatus a person can very easily and quickly assemble a mortarless, masonry fireplace or barbecue on a small, relatively flat space and, at his convenience, may disassemble such masonry fireplace or barbecue and compactly store the individual components for future use, thus avoiding permanent, exclusive allocation of space for a masonry fireplace. In addition, the materials used, except for a mortarless coupling, are readily available materials which are not necessarily specifically made for the particular use. In other words, the materials are not preformed, as in some practices.

The components from which such disassemblable fireplace may be made preferably include a predetermined number of concrete blocks, cement blocks and/or cinder blocks, (herein referred to as blocks or masonry blocks), a grating for supporting the fire inside the firebox or firewell thereby essentially forming part of the firebox, a flame diffusing grid for distributing the cooking heat, a grating or grill for supporting food or other items to be cooked and/or heated over the fire made in the firebox or firewell and mortarless coupling for securing the masonry blocks. Preferably the masonry blocks are of uniform length, although this is not necessary.

My mortarless, takedown, masonry fireplace is characterized by safety in that a fireproof, firebox or fire containing device is provided which has great stability and avoids tipping over thereby displacing the firewell or firebox and spilling burning matter and/or hot coals and embers. In addition, my mortarless, takedown, masonry fireplace will support hotter fire, with greater safety and comfort than that normally supported by a portable, metal barbecue. My mortarless, takedown, fireplace has storability in that the device may be easily, but quickly and nondestructively disassembled and the components may be conveniently and compactly stored in some out-of-the-way place, if desired. The components used for practicing my invention are readily available and are substantially indestructible with ordinary care in that the gratings forming part of the firewell or firebox, the grid or grill forming the flame diffusing member and the grating for holding the food being cooked each have sufficient body to resist destructive corrosion and the blocks from which the structure is made are substantially indestructible, with reasonable care, and the mortarless clamps which secure the blocks are protected from destruction by the fire within the structure. In addition, my mortarless, takedown masonry fireplace may be quickly and easily assembled and quickly and easily disassembled without the need of a skilled artisan.

It is therefore an object of the present invention to provide a safe, easily assembled, takedown, mortarless masonry fireplace.

Another object is to provide a mortarless masonry fireplace which may be easily and quickly disassembled.

Another object is to provide a mortarless masonry fireplace which may be easily and quickly assembled, easily disassembled and conveniently and compactly stored for future reassembly.

These and other objects will become apparent from reading the following detailed description with reference to the accompanying drawings in which:

FIG. 1 is a pictorial view of an assembled mortarless takedown masonry fireplace; and

FIG. 2 is a cutaway view of FIG. 1.

Referring to FIG. 1, an assembled masonry fireplace is illustrated using cement building blocks which have the dimensions of 16 inches long, 8 inches high and 4 inches thick. The blocks illustrated are internally segmented blocks, each having three holes or hollow portions. It will be appreciated that concrete or cement or cinder blocks having other dimensions may be used and blocks having two holes or hollow portions may be used instead of those illustrated. It is preferred, although not necessary that all blocks used to make the same fireplace are of the same type, i.e. the same dimensions and number internal hollow segments.

The bottom course of building blocks is preferably positioned forming a rectangle having an exterior dimension with the front and back of the rectangle each double the length of one building block (in this case 32 inches) and two sides each equal to the length of one building block and the thickness of two building blocks, (in this case 24 inches). The bottom course of blocks is laid so that the top of the course of blocks is uniform in height, the height being the dimensional height of the block (in this case 8 inches). If desired, the blocks forming the rear wall may be 8 inch thick blocks, for added stability.

In order to provide a draft the front or face bottom blocks 11 and 12 are separated at the center (the inner ends) forming an opening in the face of the rectangle. The second course of blocks is set on top of the bottom course as to be substantially identical, except for the blocks forming the front or face of the fireplace, which are closed forming a complete rectangular wall. These blocks are laid so as to close the face and form a draft or ashpit. Blocks 13 and 14 are illustrated with their adjacent ends (the inner ends) touching thus completing or closing the top of the draft opening 15 formed in part by the front blocks 11 and 12. The blocks of the first or bottom course are frictionally secured by the ground on which they are set and by the second course of blocks which are mortarlessly held together.

In order to secure or hold together the blocks of the second course, a mortarless coupling or band-coupling 16 is provided. The mortarless coupling 16 circumvents the course of blocks and holds the second course of blocks firmly in rectangular configuration. The mortarless or band-coupling may be in the form of a strap with a means 17 for holding the two ends or terminals of the strap. The holding means 17 may be in the form of a clasp or buckle, for example. To this point in construction, there has been formed an open area having dimensions substantially equal in depth to the height of two blocks (in this case 16 inches), substantially equal in length to the length of two blocks less the thickness of two blocks (in this case 24 inches) and substantially equal in width to the length of one block, (in this case 16 inches).

It will be appreciated that the symmetrical arrangement of the second course of building blocks, that is, the ends of the side blocks positioned inside the front and rear blocks, is adapted to be held securely by the band-coupling. In addition, the surface of building blocks of this nature is very rough so that slippage between building blocks is minimal. With the second course of blocks held firmly in place by the mortarless coupling, the first course of blocks is securely held on top by high friction between the blocks of the first course and the second course.

The third course of blocks includes a pair of blocks forming the front and a pair of blocks forming the rear which essentially corresponds in position to the front and rear blocks forming the front and rear wall of the second course of blocks in the front and rear respectively. The front and rear blocks of the third course, positioned with their adjacent ends together, form part of the front and rear wall of the ashpit and, as will be discussed below, part of the fire chamber. This may be clearly seen in FIG. 1 as illustrated by the front blocks 18 and 19 forming the third course of the front of the fireplace.

Each of the sides, formed by the third course of blocks includes a pair of blocks, laid on their sides, such that the thickness (in this case 4 inches) of the block is in the vertical with the height dimension (in this case 8 inches) in the horizontal so that the blocks extend into the interior of this structure for forming the upper section of the ashpit or draft pit by reducing the upper internal open area. The position of the side blocks of the third course may be seen in FIGS. 1 and 2, the blocks 20 and 21 forming one side, while FIG. 1 shows part of the blocks 23 and 24 forming the third course on the other side.

It will be appreciated that by positioning the side blocks of the third course (essentially two sections of block comprise the third course on the sides) on their side the blocks extend inside the open area of the structure forming a top or upper portion of the draft pit. The reduced internal space between the sides of the structure forms a type of flue which is under the fire bed. It is in this reduced interior space that the fire chamber is located.

The area inside the third course of blocks may be referred to as the fire chamber on the fire box area. Using the $4 \times 8 \times 16$ building blocks one will have a firebox area of 16 inches by 16 inches at this point. By positioning the side blocks of the third course on their sides the holes or hollow sections of the blocks extend from the outside of the structure to the interior section. A grating 25 which may be a grating structure or a plurality of rods secured by two longer, longitudinal rods such as clearly shown in FIG. 2 is secured within the reduced area of the interior structure i.e. the fire chamber of firebox, by positioning the ends of the longitudinal rods 26 and 27 in corresponding holes of oppositely positioned blocks forming the sides at the third course level.

In order to mortarlessly secure the blocks of the third course another band-coupling 28 is provided which is closed tightly about the third course of blocks, particularly around the upper side blocks of the third course.

The grating 25 is used to support the fuel, represented as 30 in FIG. 2 for the fire. Thus, the grating 25 forms the foundation for the firebed. The grating 25, formed by crossmembers, for example, coupled between longitudinal rods 26 and 27 may be suspended between the two lower (opposite) blocks which are laid on their sides, blocks 21 and 24.

The longitudinal rods 26 and 27 may be of sufficient length to extend outside the structure of the side blocks. On the protruding ends of the rods 26 and 27, on each side of the structure is hung a masonry or building block. These blocks are shown at 32 and 33. These externally hung blocks serve several purposes. Each block when hung on the rods 26 and 27 forms a convenient work table for storing materials used for/or during cooking. The blocks also stabilize the grating 25 because of their weight and the blocks 32 and 33 serve to close up the holes in blocks 21 and 24 adjacent to the firebed and prevent unwanted drafts. It will be appreciated that the rods 26 and 27 lay on that portion of the blocks 21 and 24 forming the lower section of the holes. When the blocks 32 and 33 are hung on the rods 26 and 27 the rods contact that portion of the blocks forming the top section of the holes. Thus, the solid portions of the blocks 32 and 33 cover the holes or hollow sections of the blocks 21 and 24 thereby closing off the side of the firebox.

A flame diffusing grid or grill may be positioned above the fire supporting grating, 25 by securing or suspending such flame diffusing grid or grill, such as represented by grill 40, between the two upper (opposite) blocks 20 and 23. Such

flame diffuser will permit use of fuel other than charcoal, such as wood, for example, and will distribute the heat created by the fire below more evenly, across a larger area.

It may be more convenient to hang the table blocks 32 and 33 on longitudinal rods of the flame diffusing grid or grill 40 which rods may extend through the two upper blocks 20 and 23. This arrangement is shown in FIG. 1 with table block 33 hanging on the rods 41 and 42.

It will be appreciated that the firebed is somewhat below the top surface of the structure. One may find the cooking heat far enough below the top of the fireplace to place a grill 34 across the open area, above the flame diffuser 40, the grill 34 being supported by the top surface of the blocks 20 and 23. Preferably another set of building blocks 35 and 36 are added so that the grill 35 may be positioned further above the cooking heat. To finish off the fireplace another set of blocks are positioned to raise the back of the fireplace well above the cooking area. Two more blocks may be laid flat on top of the back blocks to form another storage area. Since the rear or back of the fireplace is illustrated as composed of blocks having a dimension of $8 \times 8 \times 16$ inches, a $4 \times 8 \times 16$ inch block will lay flush on its side on the end of the open blocks thus providing a back storage area. This is seen as blocks 45 and 46.

It will be appreciated I have described how to build a mortarless, masonry fireplace. The mortarless band-couplings or strap provide a large degree of stability and hold the sections of the fireplace strongly in place. The fire chamber is well within the structural embrace of the securely bound building blocks and provides a safe base for the fire.

It will further be appreciated that although the blocks are securely held together the blocks are not permanently mortared together so that the entire structure may be disassembled by first removing the mortarless clamp or band-strap. The fireplace may be disassembled and the building blocks conveniently stored one on top of the other. The firebed supporting grating, the flame diffusing grating and the grill may easily be removed and stored and the band-straps may be rolled up and stored, all for future reassembly.

Reviewing FIG. 1, it will be appreciated that the blocks 11 and 12 may be separated as far as desired so that the draft opening 15 may be as large as desired, within the limits of the structure. By mortarlessly securing the blocks of the second course the blocks 11 and 12 of the first course are maintained adjustable for adjusting the size of the draft opening 15.

Thus I have shown and described a mortarless, takedown masonry fireplace. Departures in the size and form of the structure shown and described and substitution of materials may be made from those shown or suggested, as will be familiar to those skilled in the art without departing from the spirit of the invention as defined in the appended claims.

I claim:

1. A mortarless masonry fireplace comprising a plurality of concrete building blocks, laid in a plurality of courses forming a rectangular structure having sides, front and back with an open interior, said fireplace including:

- a first course of building blocks having at least two blocks forming the front section of such course and being separated for providing a draft opening into said open interior;
- a second course of building blocks;
- a third course of building blocks in which each side section of such course is formed by two layers of blocks positioned for maintaining exterior uniformity but for reducing the size of the open interior between said side sections for forming a fire chamber;
- a first band circumferentially bonding said second course of building blocks for mortarlessly securing the blocks of said second course to each other;
- a second band circumferentially bonding said third course of building blocks and particularly about the upper layer of side sections for mortarlessly securing the blocks of said third course to each other;

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- a fuel retaining grid suspended within said fire chamber for supporting burning fuel;
- a flame diffusing grid suspended within said fire chamber and above said fuel retaining grid for diffusing the flames of said burning fuel; and
- a food retaining grill positioned above said fire chamber and over said flame diffusing grid for supporting food being cooked by the fire burning on said fuel retaining grid.

2. A mortarless masonry fireplace as in claim 1 and in which said fuel retaining grid includes:

first and second rods substantially longer than the exterior measurement measured through the reduced dimension of said fire chamber;

a perforated grid coupled between said first and second rods, and said building blocks forming corresponding sections of opposite sides of said third course including holes providing communication with the exterior of said rectangular structure; and

said first and second rods are inserted into the said holes of building blocks forming corresponding sections of opposite sides of said third course for positioning said perforated grid within said fire chamber.

3. A mortarless masonry fireplace as in claim 2 and in which said first and second rods extend beyond the exterior surface of said sides and further including another building block, having holes therein positioned to hang on the extended ends of said first and second rods for closing the communicating holes of the blocks forming the side of the third course and for providing a flat table area offset from the cooking area.

4. A mortarless masonry fireplace of concrete building blocks laid in a plurality of courses, certain courses of which include an external, removable bonding means, said fireplace including:

a first plurality of building blocks positioned for defining a rectangle having an open interior, the blocks forming the front of said rectangle being separated for providing an opening into said open interior,

a second plurality of building blocks positioned partly on top of said first plurality for defining a rectangle having an open interior substantially equal to that defined by said first plurality;

a first band-coupling extending around said second plurality of building blocks for securing said second plurality of blocks together;

a third plurality of building blocks positioned partly on top of said second plurality for defining a rectangle having an

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open interior, said interior opening being substantially reduced in one direction for partially closing the open interior formed by said first and second plurality of building blocks for forming a fire chamber over a draft-ash pit;

a fuel retaining grid suspended between oppositely positioned building blocks forming said fire chamber for supporting burning fuel in said fire chamber;

a flame diffusing grid suspended within said fire chamber and above said fuel retaining grid for diffusing flame of burning fuel on said fuel retaining grid;

a food retaining grill positioned above said fire chamber and over said flame diffusing grid for supporting food being cooked over the fire on said fuel retaining grid; and

a second band-coupling extending around the exterior circumference of said third plurality of blocks for securing said third plurality of building blocks together.

5. A mortarless masonry fireplace as in claim 4 and in which said fuel retaining grid includes:

first and second rods each substantially longer than the exterior measurement through the fire chamber of said fireplace;

a perforated grid coupled between said first and second rods; and

said first and second rods extended through the building blocks forming opposite sides of the fire chamber for supporting said fuel retaining grid within said fire chamber.

6. A mortarless masonry fireplace as in claim 5 and further including another building block positioned on that part of said first and second rods extending beyond the exterior of the side of said fireplace for providing a flat tablelike surface offset from the food retaining grill.

7. A mortarless masonry fireplace as in claim 4 and in which said flame diffusing grid includes:

first and second rods each substantially longer than the exterior measurement through the fire chamber of said fireplace;

a flame scattering grid coupled between said first and second rods; and

said first and second rods extend through the building blocks forming opposite sides of the fire chamber for supporting said flame diffusing grid within said fire chamber.

8. A mortarless masonry fireplace as in claim 7 and further including another building block positioned on that part of said first and second rods extending beyond the exterior of the side of said fireplace for providing a flat tablelike surface offset from the food retaining grill.

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