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(54) **METAL BRICKS FOR FORMING A DECORATIVE SURFACE**

(57) **ABSTRACT**

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A decorative assembly that includes a mounting track having a back member and two or more back latch members, each back latch member disposed at an angle to the back member and a metal brick having a decorative front face, each side of the metal brick having a side face that is disposed at an angle to the front face, wherein two or more of the side faces include front latch members that align with the two or more back latch members for securing the metal brick to the mounting track. The metal bricks may be of any shape but in a preferred embodiment, the metal bricks are rectangular or of a shape having at least three sides to form the decorative face. The mounting track may include a mounting track having a back member and two or more back latch members, each back latch member disposed at an angle to the back member. Two or more of the angles between the two or more back latch members and the back member may be different.

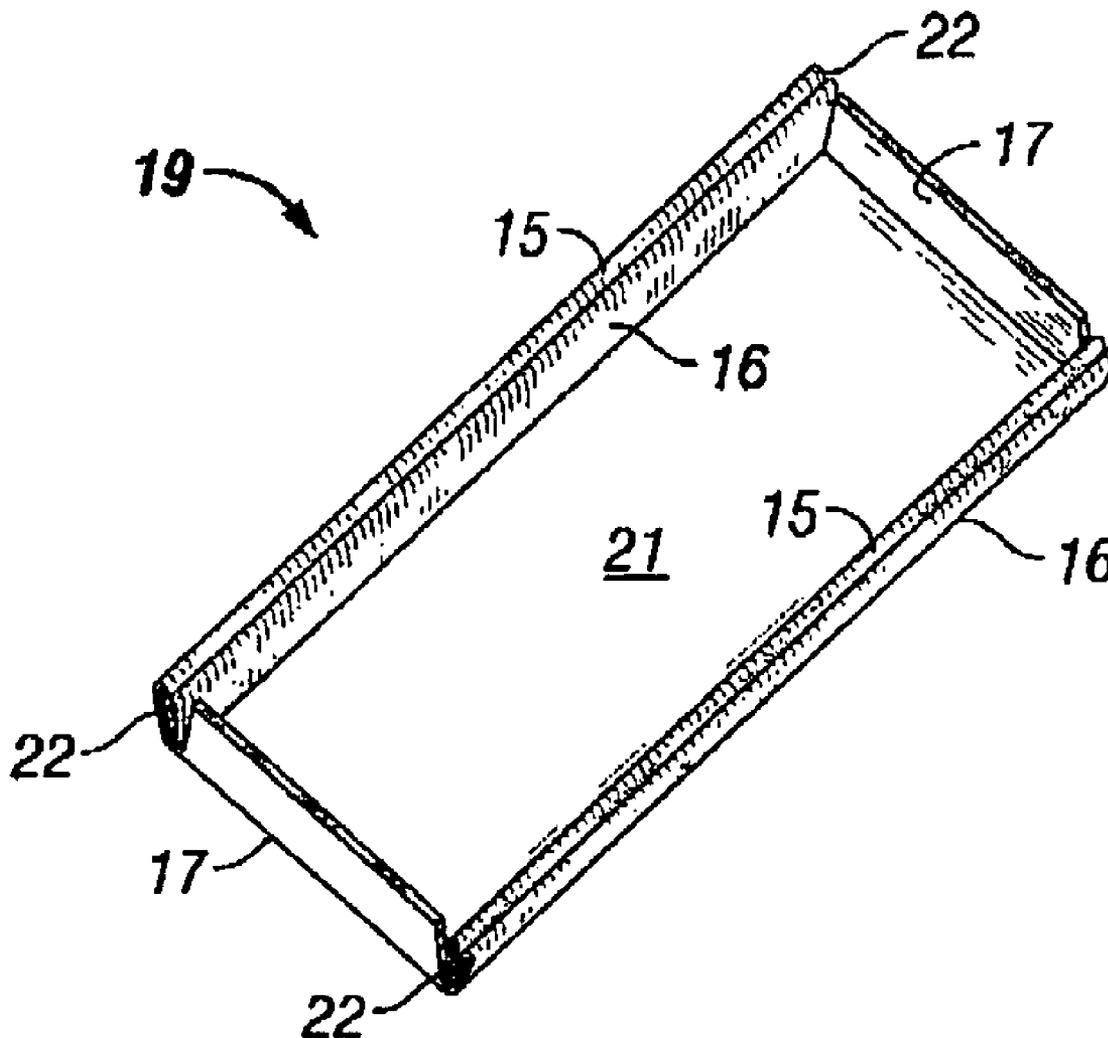
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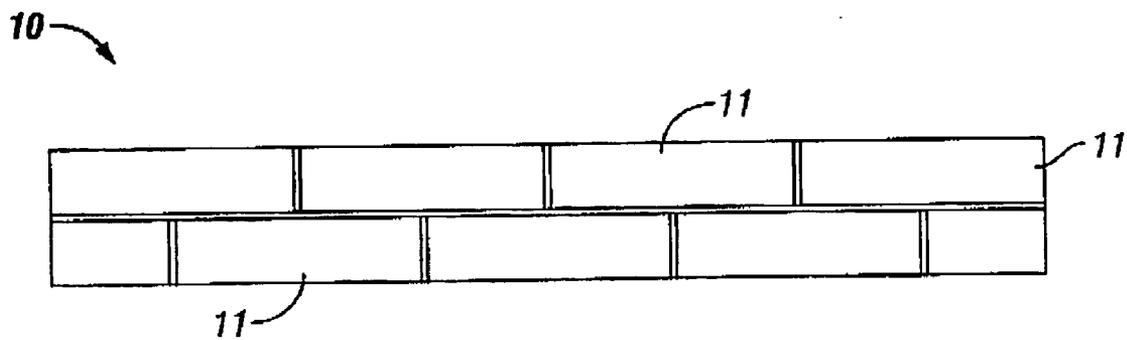


FIG. 1

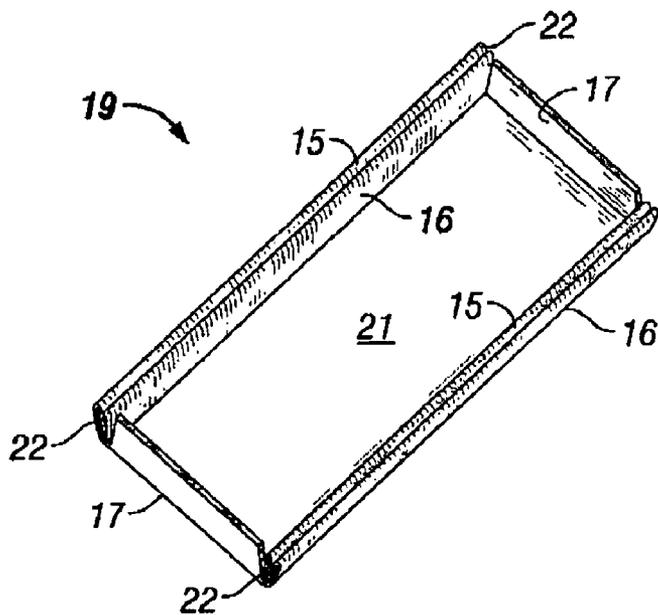
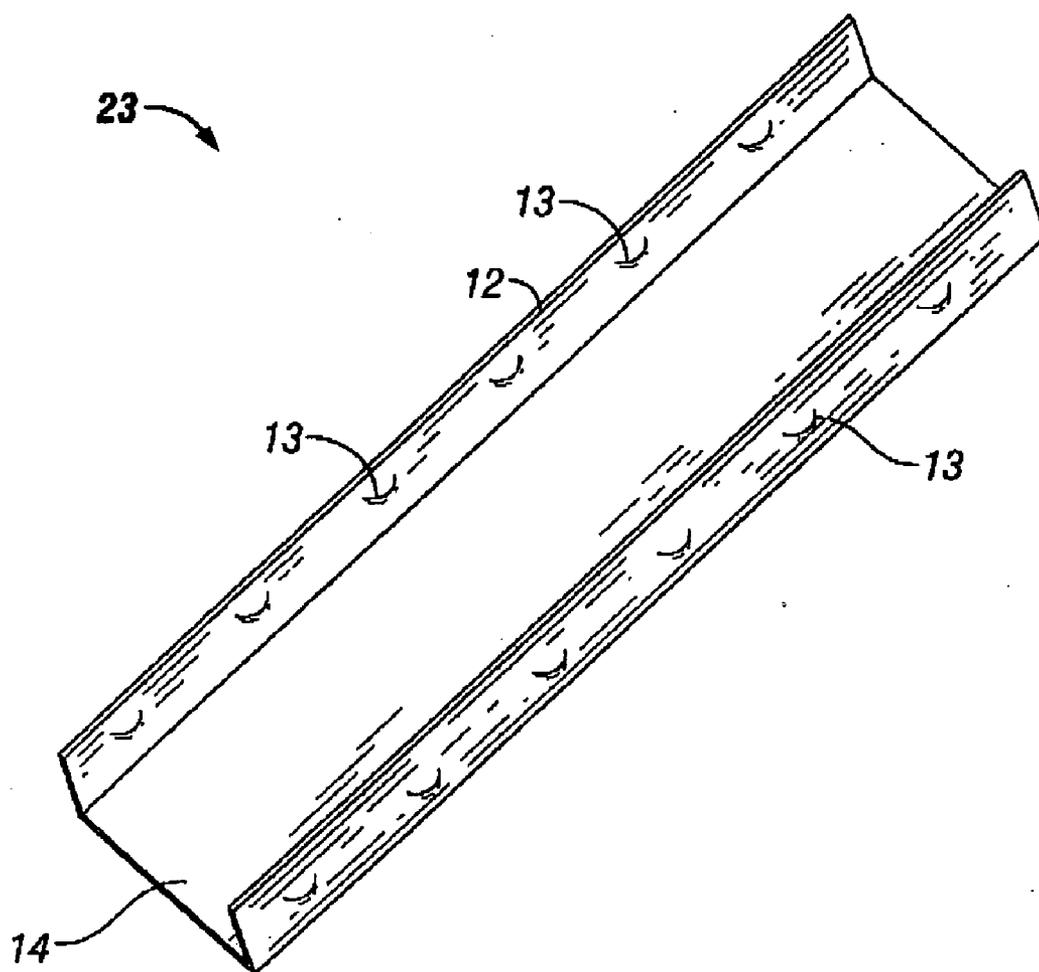
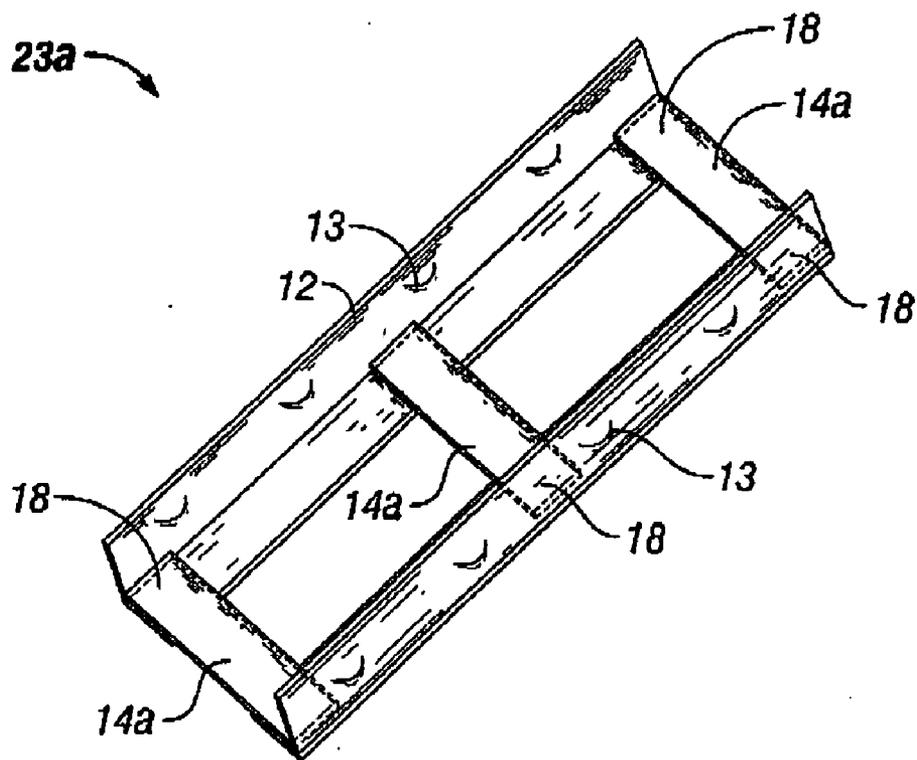


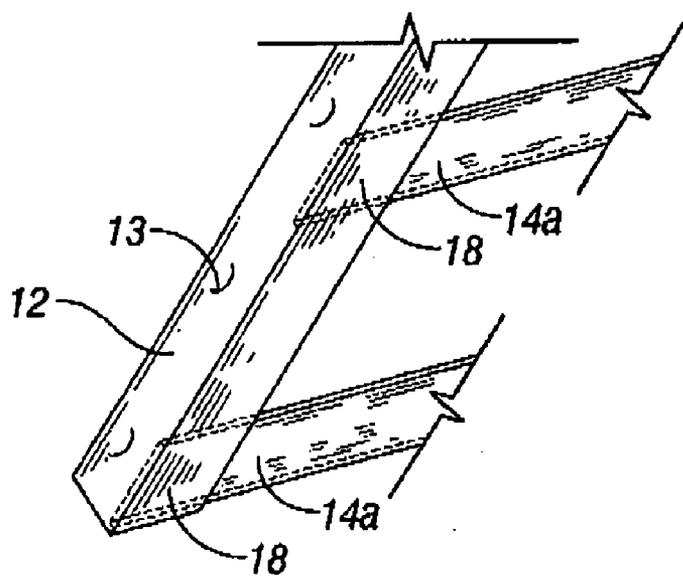
FIG. 2A



**FIG. 2B**



**FIG. 3A**



**FIG. 3B**

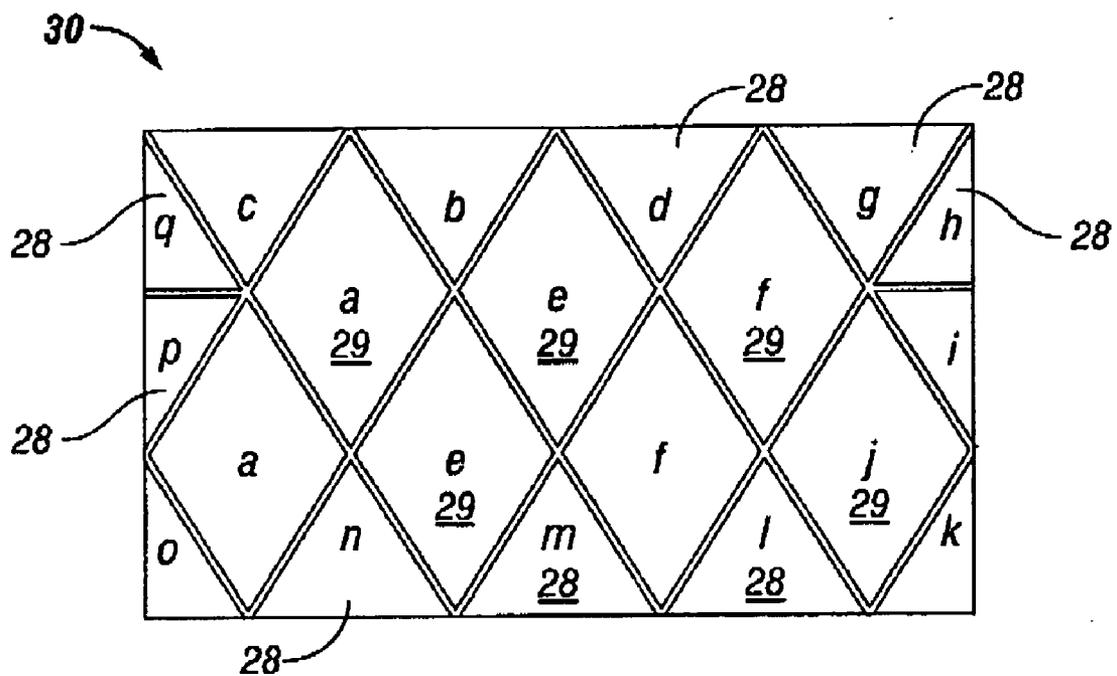


FIG. 4A

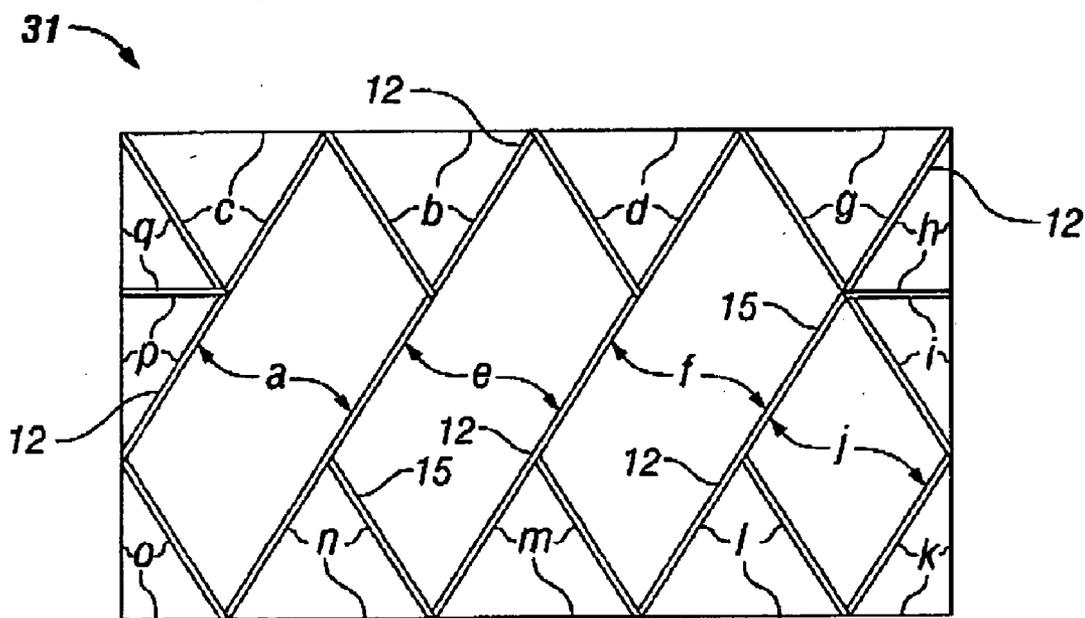


FIG. 4B

## METAL BRICKS FOR FORMING A DECORATIVE SURFACE

### BACKGROUND OF THE INVENTION

#### [0001] 1. Field of the Invention

[0002] This invention relates to decorative structures and more specifically, to metal bricks and a mounting structure for decorative metal bricks useful for forming a decorative surface.

#### [0003] 2. Description of the Related Art

[0004] Decorative tiles are well known and useful for providing decorative features in homes, offices and businesses. They provide decorative treatments for wall surfaces and countertops that cannot be duplicated with other popular wall treatments such as painting or wall paper. Decorators strive to provide a beautiful setting for their clients to enjoy and especially appreciate surfaces that are not common and provide a designer look.

[0005] Some surface treatments that provide the designer look include materials such as granite, marble, natural stone and metal. Metal surfaces can be utilitarian, such as a stainless steel countertop in a restaurant, or they can be highly decorative, such as gold plated faucets in a bathroom. Metal surfaces have become popular, particularly in the appliance industry as seen, for example, in the sales of stainless steel refrigerators, dishwashers and stoves.

[0006] Typically, decorative metal surfaces are sheets of metal as found, for example, on kitchen countertops. Others have provided tiles that are coated with a metal to provide a metal tile look. For example, U.S. Pat. No. 5,280,052 provides a method for forming a tile mainly of a plastic material, such as polyester, having a metallic outer face that imparts the appearance of a tile made entirely of metal. Furthermore, U.S. Pat. No. 4,535,022 provides a method for manufacturing a tile made of refractory material, such as ceramic, coated with a metal layer by a metal spraying process so that a decorative tile looks metallic.

[0007] However, since decorators and homeowners are always searching for new items to provide the designer look, there is always a need and demand for surface treatments that provide the ambiance and beauty that will personalize a home or office. Especially desirable are items that have the artisan look but not the expensive artisan price.

### SUMMARY OF THE INVENTION

[0008] A preferred embodiment of the present invention provides a decorative assembly that includes a mounting track having a back member and two or more back latch members, each back latch member disposed at an angle to the back member and a metal brick having a decorative front face, each side of the metal brick having a side face that is disposed at an angle to the front face, wherein two or more of the side faces include front latch members that align with the two or more back latch members for securing the metal brick to the mounting track. The decorative assembly is useful for providing a decorative surface for walls, ceilings, fireplace surrounds, back splashes and similar surfaces, either indoors or outdoors. In a preferred embodiment, the side faces are decorative. The metal bricks may be of any

shape but in a preferred embodiment, the metal bricks are rectangular or of a shape having at least three sides to form the decorative face.

[0009] The mounting track of the decorative assembly may include a back member and two or more back latch members, each back latch member disposed at an angle to the back member. Two or more of the angles between the two or more back latch members and the back member may be different in one preferred embodiment. In another preferred embodiment, the angles between the two or more back latch members and the back member are substantially perpendicular. The back member may be solid or it may be comprised of strips. In a preferred embodiment, the back member is metal but other suitable materials may also be used as known to those having ordinary skill in the art.

[0010] The back latch members and the front latch members may include male and female snaplocks or they may include latches that may be characterized as tongue and groove but it should be noted that the invention is not limited to only these latching means.

[0011] The metal brick may be made of any suitable material including, for example, copper, stainless steel, mild steel, pewter, brass, tin and nickel. Alternatively, the metal brick may comprise a substrate plated with a metal selected, for example, from copper, silver, gold, chrome, nickel, brass, pewter and aluminum.

[0012] In a preferred embodiment, the one or more side faces are formed by bending a metal sheet along one side of the decorative front face. Alternatively, one or more of the side faces may be bonded along one or more of the sides of the back of the decorative front face. The widths of the side faces may be different for some preferred embodiments.

[0013] Another embodiment of the present invention provides a decorative assembly comprising a plurality of mounting tracks, each mounting track having a back member and two or more back latch members disposed at an angle to the back member and a plurality of metal bricks, each metal brick having a decorative front face, each side of the metal brick having a side face that is disposed at an angle to the front face, wherein two or more of the side faces include front latch members that align with the two or more back latch members for securing the metal brick to the mounting track.

[0014] The foregoing and other objects, features and advantages of the invention will be apparent from the following more particular description of a preferred embodiment of the invention, as illustrated in the accompanying drawing wherein like reference numbers represent like parts of the invention.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0015] **FIG. 1** is an elevational view of a surface formed by the metal bricks of the present invention.

[0016] **FIGS. 2A-2B** are a perspective back view of the metal brick and a perspective back view of the mounting track.

[0017] **FIGS. 3A-3B** are a perspective back view of an alternative embodiment of the mounting track and a detail of the alternative embodiment.

[0018] FIGS. 4A-4B are elevational views of a surface formed by the metal bricks and the arrangement of the mounting tracks for the metal bricks.

#### DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0019] The present invention provides a decorative assembly of metal bricks that forms a decorative surface that is especially useful, but not limited to, walls, ceilings, fireplace surrounds, accent walls and back splashes. The assembly provides a decorative surface for both indoor applications and outdoor applications.

[0020] The metal bricks are mounted on a mounting track that is attached to a support structure such as a wall, ceiling, building studs or other adequate support structure. Because the weight of the metal bricks is not excessive, a support structure suitable for supporting ceramic tile is typically suitable for supporting both the metal bricks and the mounting tracks of the present invention.

[0021] In a preferred embodiment, the metal bricks are made of sheet metal. A preferred metal is copper because of the natural beauty of copper metal. However, other metals are suitable as known to those having ordinary skill in the art and include, for example, stainless steel, carbon steel, nickel, pewter, aluminum, brass and tin. For some applications, the metal bricks may be plated with another metal. A preferred substrate metal for plating is carbon steel although other metals, including nonmetals, are suitable for plating as known to those having ordinary skill in the art. A substrate metal may be plated with, for example, copper, silver, gold, chrome, nickel, brass, pewter and aluminum. Plating surfaces, as well as the surfaces for non-plated metal bricks, may include surface treatments as known to those having ordinary skill in the art to provide polished, brushed or satin finishes. Plating methods and materials are well known to those having ordinary skill in the art and are not a part of the present invention. When plated bricks are desired, it is preferred that the bricks first be formed from sheet metal and then plated to prevent damage to the plating surface during the formation of the bricks.

[0022] The metal bricks may be formed into many different shapes and may be arranged in patterns to provide a decorative assembly comprising many different shapes or the same shape. A preferred shape is a rectangle, including a square rectangle. Other preferred shapes include, but are not limited to, diamonds and triangles.

[0023] In one preferred embodiment, the bricks are made of 22 gauge sheet metal. While any suitable gauge sheet metal may be used for a given application, preferably the sheet metal is between about 18 gauge and about 26 gauge. Likewise, the mounting track is preferably formed from sheet metal of any suitable gauge useful for a given application, preferably between about 18 gauge and about 26 gauge and more preferably about 24 gauge.

[0024] Each of the decorative metal bricks has a decorative front face that comprises the decorative surface. The decorative metal brick further includes side faces that depend at an angle from the front face to form the shape of a brick. In a preferred embodiment of a rectangular brick, the metal brick includes four side faces that depend at ninety degree angles from the front face to form the shape of a

rectangular brick. Other angles may be used as desired such as, for example, a forty-five degree angle for the top side face of the metal brick and a ninety degree angle for the bottom side face of the metal brick and forty-five degree angles for the end side faces of the metal brick. While the side faces may be bonded to the back of the front face by means known to those having ordinary skill in the art, such as brazing, welding, adhesives and combinations thereof, in a preferred embodiment, the side faces are formed from the same sheet of metal that forms the front face by smoothly bending the sides of the sheet metal to form the side faces so that they depend from the front face at the desired angle.

[0025] At least two or more of the side faces include front latch members that align and latch with suitable corresponding latch members on the mounting track. Suitable latching means may include, for example, a tongue and groove latching members that provide a frictional fit or an adhesive fit and a snaplock latch. In a preferred embodiment, the snaplock latches are used to latch the metal brick to the mounting track.

[0026] Snaplock latches are well known in the art of metal ductwork and are used to form metal ducts. A snaplock latch may be formed with a snaplock machine, such as is available from the Lockformer Company of Lisle, IL. The snaplock provides a strong frictional latch by mating a male snaplock with a female snaplock. The male snaplock, formed on the mounting track in a preferred embodiment, is formed by bending two opposite sides of a piece of sheet metal at a ninety degree angle to form the mounting track. The mounting track includes a back member and the two perpendicular male snaplocks. The male snaplocks typically are formed with nibs that further grip the female snaplock formed on the corresponding side faces of the metal brick. The female snaplocks, formed on the side faces of the metal brick in a preferred embodiment, are formed by forming a series of bends on opposite sides of the sheet metal forming the brick, creating a female fitting that accepts the male snaplock latch. After the snaplock is formed, the side face is formed by bending the female snaplock that forms the side face so that it depends at a ninety degree angle from the front face. In a preferred embodiment of a rectangular metal brick, the top and bottom side faces are formed with female snaplocks that mate with the male snaplocks on the mounting track. The end side faces are then merely bent to the desired angle, typically ninety degrees from the decorative face, to form the decorative metal brick. It should be noted that it is typically necessary to notch the sheet metal so that the side faces can each be formed without interfering with each other.

[0027] It should be noted from the above discussion that not all side faces must be used as latches to mount the decorative metal bricks to the mounting track. As disclosed above, for a rectangular metal brick, providing latches only on the top and bottom side faces are adequate for securing the metal bricks to the mounting track. The mounting track is preferably formed in a long section to hold a plurality of the metal bricks that form a decorative row. Mounting tracks may be secured to the support structure, such as a wall, in rows so that rows of the decorative metal bricks may be latched to the mounting tracks to provide a decorative surface.

[0028] While a desired embodiment includes forming the snaplock or latching means from the same sheet of sheet

metal used to form the decorative metal bricks, the invention is not so limited. For example, the latching means may be formed separately and then bonded to the back of the decorative face by means known to those having ordinary skill in the art such as, for example, brazing, welding, soldering, adhesives and combinations thereof as well as bonded by mechanical bonds such as, for example, rivets.

[0029] The width of the side faces determines the depth of each metal brick. The side faces may have equal widths or the widths may vary. For example, if the top width was greater than the bottom width of a rectangular decorative metal brick, the brick would set at an angle when mounted on the mounting track. The widths of the bricks may be between about  $\frac{1}{8}$  inch and about 1 inch and preferably are between about  $\frac{1}{4}$  inch and about  $\frac{3}{4}$  inch. In a preferred embodiment, the width of each of the side faces is about  $\frac{1}{2}$  inch.

[0030] When bending the sheet metal and forming the latches in the bricks, especially when forming the female snaplock, sufficient stress is imposed upon the sheet metal to deform the decorative metal brick so that the decorative metal face is not flat but is bowed. However, the strength of the snaplock latch is great enough to pull the decorative metal flat and remove the bow when the brick is secured to the mounting track with the snaplock.

[0031] FIG. 1 is an elevational view of a decorative surface formed by the metal bricks of the present invention. The decorative surface 10 is formed with two rows of the metal bricks showing the decorative faces 11 of the decorative bricks. The decorative surface 10 is formed of two rows of the rectangular decorative metal bricks. As many rows as desired may be formed of the same or varying lengths as necessary to form a decorative surface for a back splash, a wall, a fireplace surround or similar application.

[0032] FIGS. 2A-2B are a perspective back view of the metal brick and a perspective back view of the mounting track. FIG. 2A is a perspective back view of the rectangular metal brick 19. In a preferred embodiment shown, the top and bottom side faces 16 are formed into female snaplocks 15. The two end side faces 17 are formed by bending the metal sheet 21 forming the metal brick 19 at a ninety degree angle to the decorative metal face 11 (shown in FIG. 1). Before the end side faces 17 are formed by bending the metal sheet 21, a notch 22 must be cut out at each end of the side faces 17 so that the metal sheet 21 can be smoothly bent.

[0033] FIG. 2B is a perspective back view of the mounting track 23. In a preferred embodiment, the mounting track 23 includes a back member 14 formed from a metal sheet. The two sides of the mounting track 23 are formed from the same metal sheet as the back member 14, are perpendicular to the back member 14, and are formed as male snaplocks for mating with the female snaplocks 15 of the metal bricks 19. Nibs 13 are cut in the male snaplocks to increase the strength of the frictional fit between the male snaplock 12 and the female snaplock 15. The mounting track 14 may be much longer than an individual metal brick because the mounting track 23 can lock a plurality of the metal bricks 19 into place.

[0034] FIGS. 3A-3B are a perspective back view of an alternative embodiment of the mounting track and a detail of the alternative embodiment. In an alternative embodiment of

the mounting track 23a, the back member 14a is formed with a plurality of strips so that less metal sheet is used to form the back member 14a. The male snaplocks 12 are formed and bonded to the back member 14a with a solder joint 18. As shown in FIG. 3B, the male snaplock assembly is L-shaped with the first leg of the L forming the male snaplock 12 and the second leg of the L forming a base for bonding with a solder joint 18 to the back member 14a. It should be noted that the same method may be used for forming a metal brick by bonding the female snaplock to the back of the decorative face 11 of the decorative metal brick. While the side faces 16, 17 of the metal brick are typically decorative, the present invention does not require that the side faces be decorative since they are typically hidden from view. Especially in an embodiment that bonds the side faces 16, 17 to the back of the decorative face, it may be desirable in some applications to provide a non-decorative side face if such provision reduces the cost of the decorative metal brick.

[0035] FIGS. 4A-4B are elevational views of a surface formed by the metal bricks and the arrangement of the mounting tracks for the metal bricks. FIG. 4A is an elevational view of a decorative surface 30 formed of metal bricks having a diamond shape 29 and a triangular shape 28. As may be seen from the decorative surface 30, many different types of shapes of the metal bricks are useful and may be combined to form a decorative metal surface 30.

[0036] FIG. 4B is an elevation view of the arrangement 31 of mounting tracks suitable for mounting the metal bricks shown in FIG. 4A. The mounting tracks are arranged so that there are at least two male snaplocks 12 to frictionally engage the female snaplocks on the back of the decorative metal bricks 28, 29 shown in FIG. 4A. In a preferred embodiment shown, each of the decorative metal bricks 28, 29 have at least two sides locked onto the mounting track. Each metal brick shown in FIG. 4A is identified with a letter that corresponds to the male snaplock shown in FIG. 4B. Therefore, for example, the diamond shaped bricks identified as a in FIG. 4A engage the male snaplocks identified as a in FIG. 4B.

[0037] The terms “comprising,” “including,” and “having,” as used in the claims and specification herein, shall be considered as indicating an open group that may include other elements not specified. The term “consisting essentially of,” as used in the claims and specification herein, shall be considered as indicating a partially open group that may include other elements not specified, so long as those other elements do not materially alter the basic and novel characteristics of the claimed invention. The terms “a,” “an,” and the singular forms of words shall be taken to include the plural form of the same words, such that the terms mean that one or more of something is provided. For example, the phrase “a solution comprising a phosphorus-containing compound” should be read to describe a solution having one or more phosphorus-containing compound. The terms “at least one” and “one or more” are used interchangeably. The term “one” or “single” shall be used to indicate that one and only one of something is intended. Similarly, other specific integer values, such as “two,” are used when a specific number of things is intended. The terms “preferably,” “preferred,” “prefer,” “optionally,” “may,” and similar terms are used to indicate that an item, condition or step being referred to is an optional (not required) feature of the invention.

[0038] It should be understood from the foregoing description that various modifications and changes may be made in the preferred embodiments of the present invention without departing from its true spirit. The foregoing description is provided for the purpose of illustration only and should not be construed in a limiting sense. Only the language of the following claims should limit the scope of this invention.

What is claimed is:

- 1. A decorative assembly, comprising:
  - a mounting track having a back member and two or more back latch members, each back latch member disposed at an angle to the back member; and
  - a metal brick having a decorative front face, each side of the metal brick having a side face that is disposed at an angle to the front face, wherein two or more of the side faces include front latch members that align with the two or more back latch members for securing the metal brick to the mounting track.
- 2. The decorative assembly of claim 1, wherein two or more of the angles between the two or more back latch members and the back member are different.
- 3. The decorative assembly of claim 1, wherein the angles between the two or more back latch members and the back member are substantially perpendicular.
- 4. The decorative assembly of claim 1, wherein the back latch members and the front latch members include male and female snaplocks.
- 5. The decorative assembly of claim 1, wherein the back latch members and the front latch members are characterized as tongue and groove.
- 6. The decorative assembly of claim 1, wherein one or more of the side faces are decorative.
- 7. The decorative assembly of claim 1, wherein the back member is metal.
- 8. The decorative assembly of claim 1, wherein the metal brick is copper.
- 9. The decorative assembly of claim 1, wherein the metal brick is selected from stainless steel and mild steel.
- 10. The decorative assembly of claim 1, wherein the metal brick comprises a substrate and a metal plating disposed on the metal substrate.
- 11. The decorative assembly of claim 10, wherein the metal plating is selected from copper, silver, gold, chrome, nickel, brass, pewter and aluminum.
- 12. The decorative assembly of claim 1, wherein the brick is rectangular with a front face having four sides.
- 13. The decorative assembly of claim 1, wherein the brick comprises a front face having three or more sides.
- 14. The decorative assembly of claim 1, wherein one or more of the side faces are formed by bending a metal sheet along one side of the decorative front face.
- 15. The decorative assembly of claim 1, wherein one or more of the side faces are bonded along one side of the decorative front face.

- 16. The decorative assembly of claim 1, wherein two or more of the side faces have widths that are different.
- 17. A decorative assembly, comprising:
  - a plurality of mounting tracks, each mounting track having a back member and two or more back latch members disposed at an angle to the back member; and
  - a plurality of metal bricks, each metal brick having a decorative front face, each side of the metal brick having a side face that is disposed at an angle to the front face, wherein two or more of the side faces include front latch members that align with the two or more back latch members for securing the metal brick to the mounting track.
- 18. The decorative assembly of claim 17, wherein two or more of the angles between the two or more back latch members and the back member are different.
- 19. The decorative assembly of claim 17, wherein the back latch members and the front latch members include male and female snaplocks.
- 20. The decorative assembly of claim 17, wherein the back latch members and the front latch members are characterized as tongue and groove.
- 21. The decorative assembly of claim 17, wherein the back member comprises a plurality of strips.
- 22. The decorative assembly of claim 17, wherein the metal brick is copper.
- 23. The decorative assembly of claim 17, wherein the metal brick is selected from stainless steel and mild steel.
- 24. The decorative assembly of claim 17, wherein one or more of the metal bricks comprise a substrate plated with a plating metal.
- 25. The decorative assembly of claim 24, wherein the plating metal is selected from copper, silver, gold, chrome, nickel, brass, pewter, aluminum and combinations thereof.
- 26. The decorative assembly of claim 17, wherein one or more of the bricks are rectangular.
- 27. The decorative assembly of claim 17, wherein the brick has three or more sides.
- 28. The decorative assembly of claim 17, wherein one or more of the side faces are formed by bending a metal sheet along one side of the decorative front face.
- 29. The decorative assembly of claim 17, wherein one or more of the side faces are bonded along one side of the decorative front face.
- 30. The decorative assembly of claim 17, wherein one or more of the back latch members are formed by bending along one side of the back member.
- 31. The decorative assembly of claim 17, wherein one or more of the back latch members are bonded to the back member.

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