March 8, 1932. D. V. ROBISON 1,848,200

SAGGAR

Filed Sept. 18, 1928

Fig. 1.

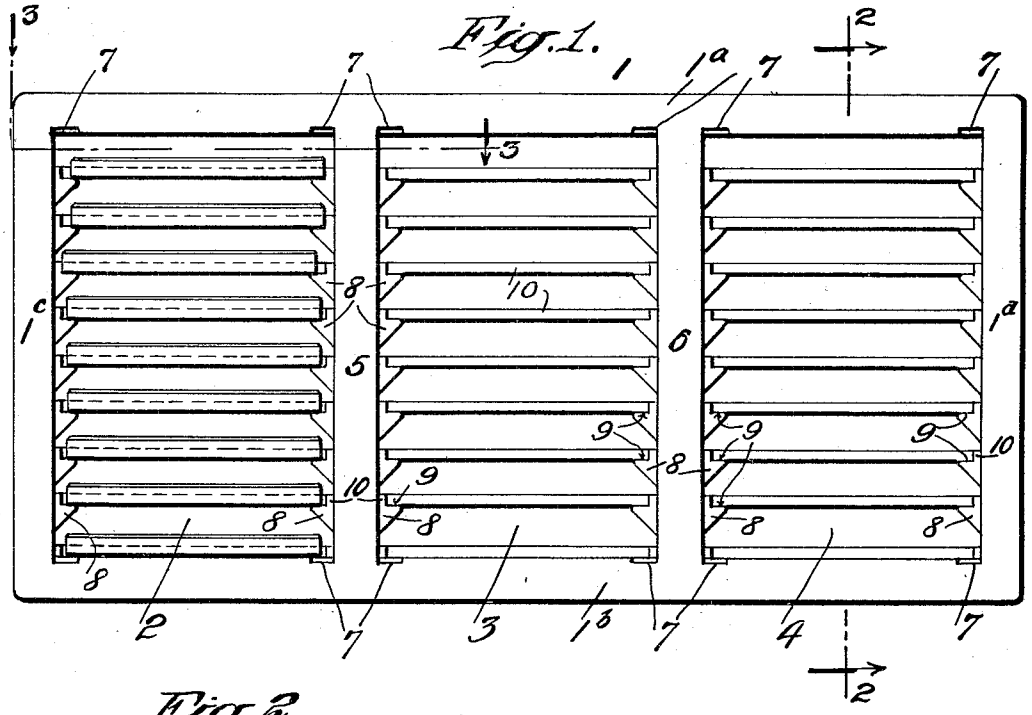


Fig. 2.

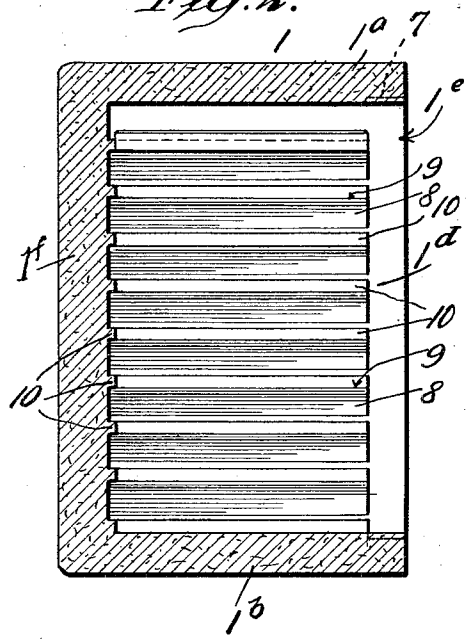


Fig. 3.

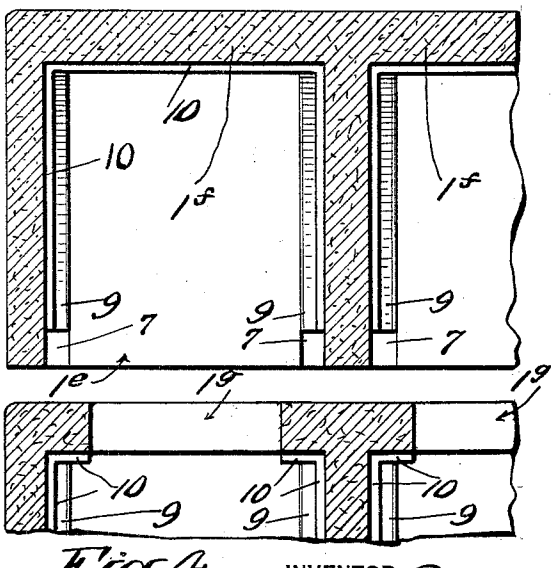


Fig. 4.

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Patented Mar. 8, 1932 1,848,200

UNITED STATES PATENT OFFICE

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SAGGAR

Application filed September 18, 1928. Serial No. 306,730.

This invention relates to improvements in saggars.

One of the objects of this invention is to produce a saggar particularly adapted for burning tile, by the use of which the tile to be burned may be stacked within and removed from the saggar with great facility and economy of time.

Another object of this invention is to produce a saggar of refractory material having means on the vertical walls for supporting the tile during burning and preferably having tile-supporting and separating means projecting from the vertical walls thereof.

Still another object of my invention is the production of a saggar having tile-supporting and separating means formed integrally with the vertical walls of the saggar.

Still another object of this invention is to produce a saggar having a compartment and preferably a plurality or series of compartments of an area approximately similar to the tile unit to be burned and having means, preferably formed integrally with the vertical walls of a compartment, for supporting and separating the tiles during burning.

Still another object of my invention is to enable the division of a saggar by partitions into a series of compartments, each preferably of proper dimension to enable a stack of tiles of single-tile dimensions to be arranged in each compartment.

Still another object of this invention is to produce a saggar having its vertical walls provided with tile-supports particularly adapted for the supporting and separation in the saggar of a stack of glazed tiles.

Still another object of the invention is to provide in a saggar a plurality of vertically-disposed compartments opened at one side and having vertical walls on opposite sides of a compartment provided with oppositely-disposed projections for separating and stacking tiles and particularly wall tiles.

Still another object of this invention is, in a tile-burning saggar, to provide integral tile-supporting brackets having a configuration which will permit ready insertion, supporting during burning and removal of glazed tile without marring the glazed portion and contact of the walls of the saggar with the glazed portion of the tile.

Still another object of the invention is to provide a method by which saggars composed of refractory material may be formed with partitions for stacking single rows of tile.

Still another object of the invention is to provide, in a saggar, tile-supporting means preferably comprising suitably-spaced brackets having a tile-seat provided with wall portions arranged to prevent contact with the glazed portion of the tile and preferably provided with a spacing rib of less height than the thickness of the tile, whereby the tile may be slid into the seat without contact of the glazed portion with any part of the saggar.

Another object of the invention is to provide a saggar having a series of compartments formed by partitions spaced apart slightly greater than the width of the tile or unit to be burned therein and preferably having the supporting brackets formed integrally with and projecting from each of the internal side vertical walls of the compartment, each bracket preferably having a flat horizontal tile-supporting portion and a vertical wall-separating rib extending outwardly from the wall of the compartment and being of less height than the thickness of the glazed tile so as to prevent contact of the glazed portion of the tile with the support or walls of the saggar and still to permit insertion, burning and removal of the tile with great facility and economy of time.

With these and other objects in view, the invention comprises the combination of members and arrangement of parts so combined as to co-act and cooperate with each other in the performance of the function and the accomplishment of the results herein contemplated, and comprises in one of its adaptations the species or preferred form illustrated in the accompanying drawings, in which:—

Fig. 1 is a side elevation of a saggar embodying my invention;

Fig. 2 is a section on the line 2—2 of Fig. 1, looking in the direction of the arrow;

Fig. 3 is a section on the line 3—3 of Fig. 1, looking in the direction of the arrow; and

Fig. 4 is a section similar to Fig. 3 of a slightly modified form of my invention.

Referring now to these drawings, which illustrate a preferred embodiment of my invention, 1 indicates a tile-burning saggar which may be composed of the conventional refractory material heretofore used in saggars.

In accordance with the preferred form of my invention, illustrated, the saggar 1 is provided with a plurality of tile-burning compartments, each of which is preferably of such configuration and dimensions as to enable the tile units to be supported from the vertical walls of the saggar compartment and preferably to permit a single stack of tiles to be mounted therein. In the preferred form of my invention, the saggar 1 comprises a rectangular box-shaped casing comprising horizontal top and bottom 1^a, 1^b and vertical side walls 1^c, 1^d. The saggar casing 1 is preferably open at its front side 1^e to permit insertion thereinto of the tile to be burned and, as shown in Figs. 1 to 3, is closed at the opposite or rear side 1^f though, if desired, this rear side may be provided with openings or windows 1^g, as shown in Fig. 4, to permit the more ready entrance of heat therethrough.

In the preferred form illustrated, the saggar is composed of three compartments 2, 3 and 4 respectively. These compartments are formed by extending partitions 5 and 6 from the top wall of the casing 1 to the bottom wall thereof.

The partitions 5 and 6 are preferably formed integrally with the saggar casing, the whole being molded together. The portions of the partitions 5 and 6 at the junction between the same and the top and bottom of the casing have a tendency, during drying after the molding thereof, to shrink away from the said walls of the casing and in order to provide a more secure connection or joint between the ends of the partitions and the walls of the casing, I preferably, during the molding operation or just subsequent thereto, apply pressure on the casing wall adjacent to the joint with a partition, thus producing depressions 7 at opposite sides of the partitions. This pressure forces material toward the junction between said partition and the casing wall and I am thus enabled to produce a more compact and stronger connection between the same.

In the preferred form of my invention shown, I also preferably at each corner or joint between a side wall and the top and bottom make similar depressions to consolidate the material around the joints at such corners of the casing, thus similarly strengthening the connection between the horizontal and vertical walls of the casing by the compacting action induced by the formation of such depressions.

Each of the compartments are, as aforesaid, preferably formed of a width slightly greater than the width of the unit to be burned and I provide on opposite vertical walls of each compartment tile supporting means preferably comprising, as shown, a series of oppositely-disposed and outwardly-projecting pairs of supporting brackets or shelves 8, each embodying a flat horizontal tile-seating portion 9 and a vertical wall-separating portion preferably comprising a vertically-disposed spacing rib 10 of less height than the thickness of the tile. These two portions 9 and 10 form a seat for the tile which is spaced from the wall, and when a tile is inserted within the seat so formed, the spacing rib will prevent contact of the glazed portion of the tile with the wall and thus prevent marring or defacing of such glazed portion, it being understood that any marring or defacing of the tile will cause the same to become second grade or entirely defective tile and of much less value than first grade or perfect tile.

It will be understood that it is important that the glazed portion of the tile be prevented from contact with the walls of the saggar during insertion into the tile seat in the saggar and during the subsequent handling and burning thereof. It is also important that the tiles be slightly spaced apart so as to permit heat to penetrate between the same and it is also desirable to burn as many tiles as possible at a single operation. I, therefore, provide between the bottom portion of each bracket and the tile-seat of the adjacent bracket a space somewhat greater than the width of the tile so that a glazed tile may be slid into the seat without danger of contact with the bracket above the same.

In the preferred form of my invention shown, my improved saggar has three compartments, as aforesaid, and the opposite vertical walls of each of these compartments are provided with tile-supporting brackets having tile seats and spacing ribs such as hereinabove described. The spacing ribs are preferably continued along the rear wall 1^f if the rear of the saggar is completely enclosed and in Figs. 2 and 3, I have shown this rib extending across the back or rear wall 1^f of the saggar, while in Fig. 4, I have shown a saggar having the rear wall partially cut away or removed to provide windows or openings 1^g, so as to permit more ready access of heat from this side. In this type of saggar, the ribs on the rear wall will also be partially cut away, having rib sections at opposite sides of the wall sections of the rear wall which remain, thus spacing the rear wall from the glazed portion of the tile and serv-

ing as a stop for the tile upon insertion thereof into the saggar.

Having described my invention, I claim:—

1. A saggar comprising top and bottom horizontal walls and vertically-disposed side walls connected thereto, and tile-supporting brackets formed integrally with the vertical walls for supporting tile during burning thereof, each bracket having a horizontal tile-seating portion and means associated with said seat for preventing contact of the top glazed portion of the tile with the walls of the compartment.

2. A saggar comprising a rectangular casing divided into a plurality of rectangular vertically-disposed compartments, each having horizontally-disposed top and bottom walls and vertically-disposed side walls, and tile-supporting brackets for supporting tiles from the side walls of each of the compartments during burning of such tile, each bracket having a horizontal tile-seating portion and means associated with said seating portion for preventing contact of the top glazed portion of the tile with the walls of the compartment.

3. A saggar comprising a rectangular casing divided into a plurality of rectangular vertically-disposed compartments, each having horizontally-disposed top and bottom walls and vertically-disposed side walls, and means formed integrally with the vertical walls for supporting tiles within the casing.

4. A saggar comprising a substantially rectangular casing divided into a plurality of substantially rectangular stacking compartments of horizontal dimensions substantially similar to a tile-unit, each compartment having tile-supporting means formed integrally with the walls thereof.

5. A saggar comprising a substantially rectangular casing divided into a plurality of tile-burning compartments, each compartment having tile-supporting means formed integrally with and extending outwardly from the walls thereof and comprising projecting brackets having a horizontal tile-seating portion and means associated with said seat for preventing contact of the top glazed portion of the tile with the walls of the compartment.

6. A saggar comprising a substantially rectangular casing divided into a plurality of tile-burning compartments, each compartment having tile-supporting means formed integrally with and extending outwardly from the walls thereof and comprising projecting brackets having a horizontal tile-seating portion and a vertical spacing rib portion of less height than the thickness of a tile.

7. A saggar composed of refractory material and comprising a casing having top, bottom and end walls and also provided with an integrally-formed intermediate partition arranged between and connecting two of said walls, the material at the joints between said intermediate partition and the casing walls being compacted to provide a connection of increased strength therebetween.

In witness whereof, I have signed my name to the foregoing specification.

DAVID V. ROBISON.