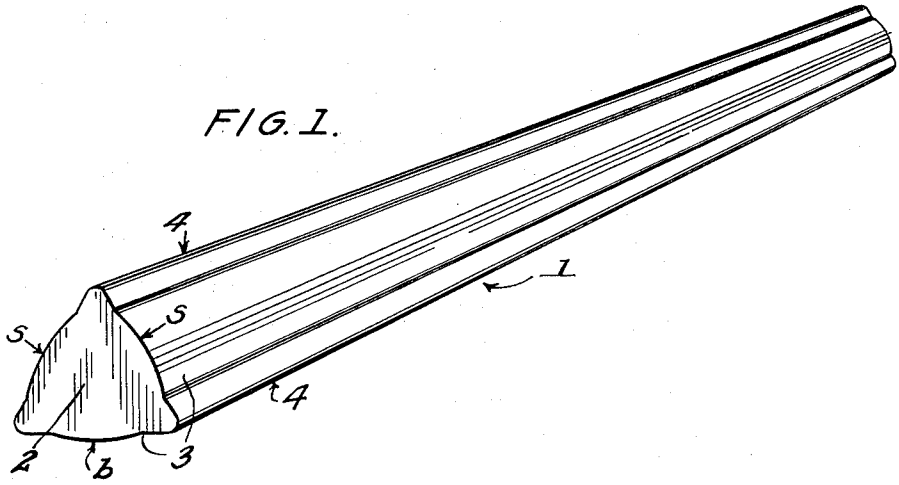
July 26, 1955 H. S. ORTH ET AL 2,713,712

SAGGER PINS

Filed Nov. 12, 1952

FIG. 1.



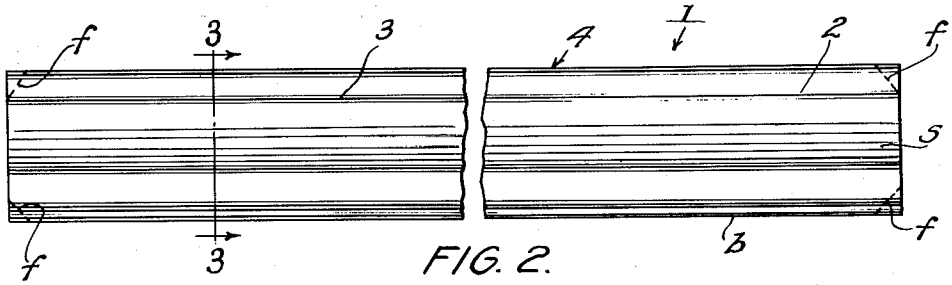


FIG. 2.

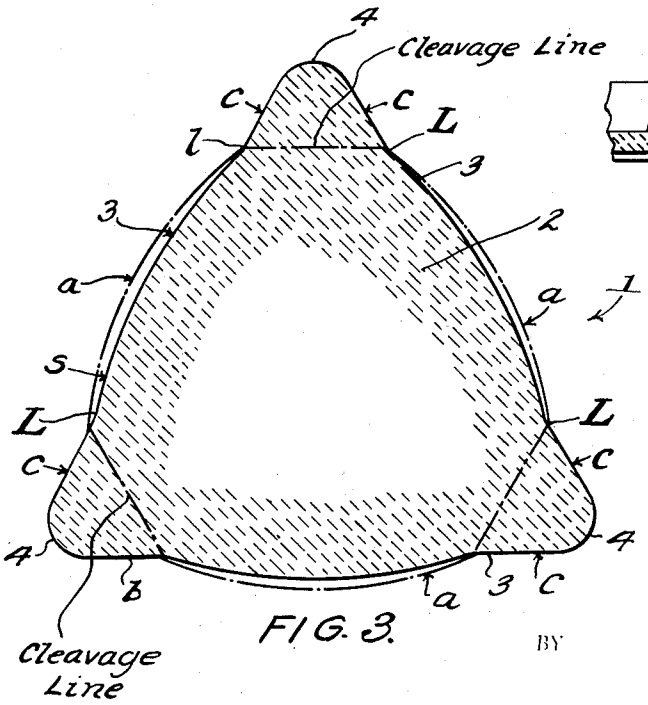


FIG. 3.

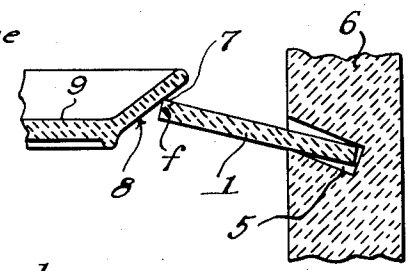


FIG. 4.

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SAGGER PINS

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2 Claims. (Cl. 25—153)

This invention relates to supports for ceramic ware undergoing firing, having particular reference to a novel and improved type of sagger pin on which glaze-containing ware is supported in spaced relation from sagger walls and adjoining ware during glost firing.

Sagger pins are formed normally to provide elongated, heat-hardened ceramic bodies which are substantially triangular in transverse cross section. The finished pins are, in practice, inserted in sockets formed in the sides of saggers in a manner causing the pins to project, in part, inwardly and radially of the saggers in positions to receive in stacked and spaced order the ware to be fired. In this operation the ware, with an unfired glaze thereon, is placed on the pins so that the bottoms of the ware rest on the longitudinally extending upper and outer corner edges of the triangular sagger pins, thereby reducing to a minimum the area of surface contact between the pins and the ware supported thereon.

We have found that in the drying and firing of such triangular sagger pins, the flat sides thereof often tend to slump or shrink inwardly so that the finished pins present sides which, instead of being substantially flat and planar, present a somewhat dished or concaved cross-sectional configuration. This results in the formation of pins which are comparatively weak and lacking in required strength, particularly in the support of heavy ware.

It is, therefore, an object of the present invention to provide a sagger pin adapted to be molded, extruded, or otherwise formed so that the triangle-forming sides thereof possess an appreciable degree of outward bulging or convex curvature, in order that when such pins are dried and fired, any shrinkage thereof, such as that normally produced under such operations, will not be sufficient to cause the pin to weaken structurally, or the sides of the pin to be deprived of their desired convexity.

Another object of the invention is to provide a sagger pin of this character in which each side of the pin is formed to present a central longitudinally extending convex region which merges on opposite sides thereof into two substantially flat edge-forming regions, the lines of merger or demarcation defining said regions forming cleavage planes in minimizing the adherence of the pin composition to glazed ceramic ware supported thereon during kiln firing.

A further object is to provide a sagger pin which constitutes an improvement generally on the sagger pins of the prior art.

For a further understanding of the invention, reference is to be had to the following description and the accompanying drawing, wherein:

Fig. 1 is a perspective view of a sagger pin formed in accordance with the present invention;

Fig. 2 is a side elevational view thereof;

Fig. 3 is a vertical transverse view taken through the pin on the plane indicated by the line 3—3 of Fig. 2;

Fig. 4 is a similar view disclosing the use of the sagger pin of the present invention in connection with the support of glazed ceramic ware in a sagger.

Referring more particularly to the drawing, our improved sagger pin is designated in its entirety by the numeral **1**. The pin comprises an elongated body **2** of fired clay composition, said body providing sides **3** so formed and arranged as to impart to the body throughout its length the cross-sectional configuration of an equilateral triangle. The body so formed provides a horizontally disposed base surface *b* and upwardly and inwardly converging side surfaces *s*, constituting generally an equilateral triangle. At the top of the pin there is formed a longitudinally extending apex-forming edge **4** on which glazed ware to be kiln fired is adapted to be positioned.

In the formation of the pin, the sides **3** are shaped so that they possess a definite, outwardly bowed, convex configuration. When initially molded or extruded, this configuration conforms substantially in shape with the broken lines *a*, as indicated in Fig. 3. After drying and firing of the pins, certain shrinkage takes place, so that the completed commercial pins possess approximately the full line configuration shown in Fig. 3.

It will be noted that even after firing, the sides of the pin retain a definite degree of convexity, as distinguished from the somewhat concave sides often found on sagger pins of conventional manufacture. The convex portion of each side of the pin merges with the flat planar surfaces *c* in a manner producing longitudinally extending cleavage or break lines L. If there should be adherence between the pins and the finally fired and glazed ware produced thereon, as there usually is, the pins will break along the lines L at the time the fired ware is removed therefrom, the lines L constituting lines of cleavage which minimize the amount of sagger pin material which will adhere to the glazed ware at the conclusion of a given firing operation.

Also, the cleavage lines constitute a guide or gage in enabling an operator to determine whether the right quantity of glaze has been applied to the ware or if the glaze possesses the proper viscosity. If the glaze, after the placing of ware on the pins, should run down the sides of the pins and flow past the lines L, the operator will have an indication that the glaze has been too heavily applied, or, if properly applied, is too thick. On the other hand, if the glaze should not flow beyond said lines, the operator will be thus informed that the proper amount of glaze has been applied to the ware. Also, if the glaze does not flow beyond said lines the viscosity is satisfactory, thereby assisting manufacturers in measuring and controlling the thickness of glaze. Also, pins formed as aforesaid have the further advantage of possessing greater strength than pins of conventional configuration, and yet will have the same sharp edges, as indicated at **4**, common to conventional sagger pins in minimizing surface contact with ware deposited thereon. When the pins **1** have their base ends inserted in the sockets **5** of a sagger **6**, the same pins have their longitudinal axes, as shown in Fig. 4, disposed on an acute upwardly extending angle with respect to the horizontal, so that the upper corner end **7** of each pin will engage the under surface **8** of the glazed article of ceramic ware, indicated at **9**. When glazed ware so supported is fired any adherence of the substance of the sagger pins thereto will be limited to the restricted triangular corner region, as indicated by the angularly extending dotted lines *f* of Fig. 2, so that the removal of such small amounts of adhering material may be readily effected without injury in any way to the ware.

We claim:

1. A sagger pin comprising an elongated ceramic body, the latter being generally triangular and of the same dimensions and configuration in transverse cross section throughout its full length, the triangular configuration of said body providing the same with coextensive duplicative sides, each of said sides presenting a smooth unin-

terrupted surface formation defining a substantially convex, longitudinally extending and centrally disposed region which terminates on opposite longitudinal sides thereof in coextensive, substantially flat, edge-forming surfaces, the junctions of said convex regions with said edge-forming surfaces producing on each side of said body a pair of spaced, parallel, longitudinal cleavage lines extending from one end of the pin to its other end, the convex region of each side being disposed so that it projects beyond a plane common to that of said edge-forming surfaces.

2. A sagger pin as defined in claim 1, and wherein the pin body is formed with flat-surfaced transverse ends

arranged in parallel planes and disposed substantially in perpendicular relation to the longitudinal axis of the pin, said ends cooperating with merging edges of ribs produced by each complemental and immediately adjacent pair of edge-forming surfaces of the sides of said body to support associated bodies of ceramic ware undergoing firing thereon.

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