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(54) Title: INNOVATION AT PRODUCTION TECHNIQUE

(57) Abstract: Invention, is about production of kitchenware, which are being produced of earthenware, clay, by-products of pasty soil, bone, porcelain and any friable materiel.



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SPECIFICATION

Innovation at Production Technique

10 TECHNICAL FIELD

Invention is about production of kitchenware; by cooking or shaping with other production stages of; ceramic, porcelain and other earthenware. Invention specially is about use of pearl powder in one of production stages, in enameling (glazing) process of kitchenware made of porcelain.

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KNOWN STATUS OF THE TECHNIQUE

At the known status; Dinnerware sets are coming at the first line of list as most important households for all houses. Plate bowl and similar kitchen tools are accompanying at unique meals as Dinnerware Sets not only as necessity but also as an indicator of pleasure and
20 aesthetics. In accordant with the altering needs, usage methods and the materials that form them show difference.

The Dinnerware Sets which are made of wood and clay are amongst most frequent within the historical findings. As the human life, also the serving plates are improved, altered and
25 coloured by each passing year. Despite the production methods of plates had changed, still the soil is the most preferred method for plate production.

Amongst the soil group, Porcelain is a material that is produced form natural oriented raw material and cooked at 1400 degrees. It's white but it doesn't take it's whiteness from dyes but from the materials used at it's production. Porcelain is a member of ceramics which the
30 products of it are produced from soil containing soil with clay. First members of the ceramic group is adobe brick and mud brick. Afterwards porcelain comes. Thereafter porcelain improved itself. At the present time two types of porcelain is being used. Porcelain groups that are used at home and used at hotel. The porcelains that are used at home are permeable when faced towards day light. On the other hand hotel group is being produced at world
35 standards as thickest. Even so still permeable when faced towards lamp.

At hotels and restaurants plate is preheated to serve meal hotter. The reason of using thicker porcelains at hotels and restaurants is thick porcelain keeps the heat and lets to
5 serve meals hot and with taste.

Porcelains are materials amongst ceramic group that radiates visible light under ultra violet lights, transparent, giving blue light under reflecting light, orange and yellow light under transmitted light.

In general meaning meal plates are produced from side products of quartz, feldspar and
10 kaolin which are used at production of dinnerwares as raw materials. These raw materials are mixed with suitable amount of water. With the help of the continuously spinning arms, the raw materials within the mixture comes together. This mixture that takes the form of mud is the main material of plates and there are two ways to use this mud.

15 First of it is to dry this mud by blowing hot air. This method is drying the mud within the giant well rapidly in order to make granules and transferring these granules directly to plate production.

At the second method mud don't be dried completely. It is waited until mud takes viscosity
20 of paste draining of it's water and then mud that becomes paste processed at a vacuum machine.

By this way paste like mud will not contain air bubbles. This two different method that are used for raw material of course brings different production styles. During the production of
25 deep parts like soup bowls, mud at the form of paste is being used. By this way probability of crumbling of produced parts before entering oven decreases.

The mud mass which had taken into production line is cut as small pieces in form of cylinder with a computed controlled machine. The paste which placed within moulds
30 shaped according to desire by moving arms.

During shaping, residual parts are sent to mixer to be used again. After rounding the edges, bowls take their final form.

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Parts that took their shape according to mould are sent to oven immediately. First cooking procedure is performed within oven at 80 degrees. Purpose of this is to increase the durability of part and to apply procedures coming next.

10 While the bowl production continues, raw material within the form of granule is used for more flat products like meal plate and desert plate. Material within the form of granule is constantly pumped into machine and when the mould is closed granules become together with high pressure. When the stamping machine's mould opens, plate drops into production line. First operation that this plate will take is cleaning. Since the plates are formed from
15 small particles, remaining particles on the plate are cleaned by pressured air.

When the plate proceeds along the line by turning at its own orbit, process is completed. Products whose cleaning is finished are taken from production line by vacuum arms or manual devices according to used machines type.

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Products that take their form as a plate, re-enter the oven in order to increase their resistance against fragility. By this way their durability increases.

Phase after baking process is dyeing and colouring process. Different methods could be used
25 for dyeing and colouring which are made for increasing attractiveness and appeal.

Most important factor which enables a shiny and smooth surface to dinnerware sets and bowls is the stage called as enamelling. Main materials that are used at this enamelling process are glass particles and kaolin.

30 Enamelling process:

Gives waterproof specialty to product

Colours the product and gives a nice visual to product.

Product could be cleaned easily and becomes dirt proof.

Glass particles which grinded at mill becomes dust. These particles that becomes dust forms GLAZE by mixing with certain amount of water.

5 Products which will be enamelled be put within deep cups according to their radius and dimensions and after dipping product it is ensured that all surfaces of product covered with glaze completely. By this way smooth and shiny surface be given to product.

Dyeing and decorating operation which be applied on surface of products sometimes applied as under glaze or above glaze according to choice as two different ways. During the
10 under glaze dyeing method, the colour and pattern which be applied to product are applied before enamelling process and afterwards enamelling is completed following a baking method. At the other method dyeing and baking process is realized after completing enamelling process.

For the patterns and figures which will be applied on products might be applied via ready
15 pattern stickers also might be applied on enamelled surface via brush or different tools for various shapes and be baked under suitable conditions afterwards.

DEFINITION OF INVENTION

20 Current invention is a production phase enamelling which adds speciality and quality to aforementioned product during production stage.

Our invention is about using pearl dust during enamelling process which is made with glass particles and water mixture at it's current state of technique in order to give extra shiny and
25 extra smooth look.

By the help of our invention, with this method that applied at most crucial point product will have the look as if it is produced form pearl dust and show same qualities with pearl. By this way, products produced, subject to technique in question, will gain additional value without increasing production and sale cost.

Products that are enamelled with pearl dust will become more attractive products since they will obtain the status of pearl covered and have advanced quality. Until the enamelling stage, unit costs of products which are produced with normal raw material will be kept at same level and with the help of quality material which is used at last stage, extra specialty shall be added without increasing production cost.

During the production stages, the break, degeneration and waste generating situations at semi-product and biscuit forms, the production cost will remain same.

Our invention could be produced as a product which is alternative and with more attractiveness with the same cost of a normal product and also could be sold with more profit as a more valuable product. High quality products that are sold to first seller from manufacturer could be sold with a higher price when compared to similar products within the market.

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CLAIMS

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1. Invention, is an Innovation at Production Technique, its speaciality is, use of pearl powder in one of production stages, in enameling (glazing) process; in kitchenware which are being produced of earthenware and by-products of earthenware.

2. Invention is an Innovation at Production Technique that stated at Claim 1 and its specialty is;

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- Combining soil raw materials as a mixture,
- Making raw product after production stages,
- Increasing durability against breaking and deformation by baking,
- Enamelling products by mixing pearl dust to enamelling covering material which consisted from glass particles and water mixture.

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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER		
A47G 19/02 (2006.01)i; C03C 8/00 (2006.01)i; C03C 8/14 (2006.01)i; C04B 38/00 (2006.01)i; C04B 41/86 (2006.01)i		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
A47G 19/02; C03C 8/00; C03C 8/14; C04B 38/00; C04B 41/86		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
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☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
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INTERNATIONAL SEARCH REPORT
Information on patent family members

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