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(71) Applicant: **Efremov, Mikhail Nikolaevich**
Moskovskaya obl., 142490 (RU)

(72) Inventors:

- **EFREMOV, Mikhail Nikolaevich**
Moskovskaya obl., 142490 (RU)

- **ZOTOV, Sergei Mikhailovich**
Moskovskaya obl., 143980 (RU)
- **KORSAKOV, Pavel Alexandrovich**
Moskovskaya obl., 142490 (RU)
- **GOVORKOV, Jury Nikolaevich**
Moskovskaya obl., 142490 (RU)
- **LJUBAVIN, Vladimir Nikolaevich**
Moskovskaya obl., 142490 (RU)

(74) Representative: **Zellentin, Rüdiger, Dr. et al**
Zellentin & Partner,
Zweibrückenstrasse 15
80331 München (DE)

(54) **METHOD FOR PRODUCING A CERAMIC ARTICLE FOR CLADDING BUILDING STRUCTURES
AND DEVICE FOR CUTTING A SLAB OF A PLASTIC MIXTURE**

(57) The present invention relates to a method that involves forming a slab of a plastic mixture and cutting the slab into preforms using two cutting instruments. When cutting the slab, the cutting edges of said instruments move in the separation plane of the slab towards each others and from one end position to a second one. It is thus possible to align the positions of the cutting-instrument cutting edges on the separation surface along a line which is located between the two parallel surfaces of the slab, said surfaces being the front surfaces of a ceramic article. The device for cutting the slab

of plastic mixture comprises a substrate (1) for receiving the portion of the slab (2) to be cut as well as a cutting mechanism connected to a driver and comprising a blade (7) and a bow (5) with a tensioned string (6). The blade (7) and the bow (5) are mounted so as to be capable of rotation in the separation plane of the slab (2) from one end position into a second one where the cutting edge (8) of the blade (7) and the string (6) are located between the horizontal surfaces (L and L₁) of the slab (2), wherein in this position the string (6) is brought into contact with the blade (7).

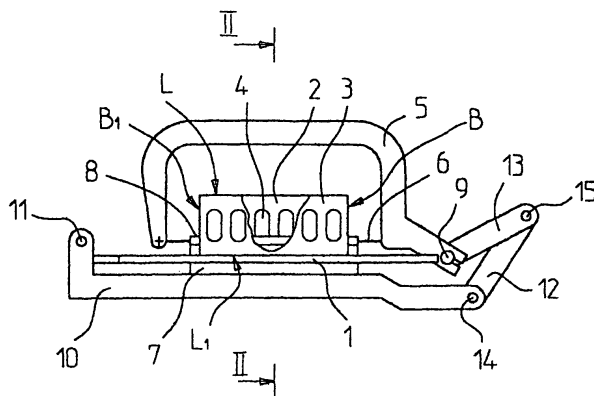


Fig. 1

Description

Field of the Invention

[0001] The invention relates to building materials and more specifically relates to a method for producing a ceramic article by plastic forming, namely to method for producing a ceramic article for cladding building structures and to device for cutting a slab of a plastic mixture.

Prior Art

[0002] The high quality of front surface of articles for cladding building structures is the basic demand, required to facing articles; the price is also considered as important consumer characteristic.

[0003] There is known the method for producing a ceramic article for cladding building structures by plastic forming ("Mechanical and transport equipment of factories of the fireproof industry", V.G.Baisogolov, P.I. Galkin, M., "Metallurgiya", 1972, p.147). It involves the following technological operations: forming a slab of a plastic mixture specified rectangular profile, cutting the slab on the separation plane into briquette-like preforms of a ceramic article and getting a ceramic article after drying and burning of preforms.

[0004] While forming a slab there are made in it the longitudinal holes, axes of which are approximately perpendicular to the separation plane of the slab. These holes are necessary as for facing tile manufacturing, so as for facing brick to high its efficiency: to reduce a mass, to low expenses on electric power to drying and firing, to perfect thermo-insulating characteristics. These holes are necessary to get the facing tile from briquette-like preform by dividing it after the burning into two parts along the separation plane, which is crossing these holes.

[0005] A forming mixture for producing fireproof ceramic articles by plastic forming, particularly bricks, is a mixture, based on natural mineral argil with the humidity from 15 to 20%, that also includes burnt argil (chamotte) with the dimension of the particles from 0,01 to 5mm and more.

[0006] Slab forming technological process is a continuous process. Continuous pushing of a forming mixture through a rectangular profile die of a soft -mud press results into a smooth surfaced slab. A slab is continuously feeding on the conveyer band and is moving practically horizontal to a device, cutting a slab into preforms. At that one surface of a slab while moving is in contact with a conveyer band.

[0007] For slab cutting as a cutting instrument a bow with a tensioned string or a blade are used, i.e. cutting instrument with one cutting edge.

[0008] Slab separation surfaces as a rule are located approximately vertical, perpendicular to external surfaces a slab or its moving direction. Preforms of ceramic articles are practically parallelepiped shaped briquettes.

Slab dividing into preforms is performed by moving of cutting instrument cutting edges in one direction from the top surface of a slab to its bottom surface, contacting with the conveyer band, while rotation or translation of a string or of a blade.

[0009] Also is known another manufacturing method involving slab cutting on the big preforms, for example, five or ten widths of one ceramic article, and then while moving big preforms in direction approximately perpendicular to a slab moving direction these big preforms are pushed through strings (or wires), located on one ceramic article width, the number of these strings is chosen according to the number of preforms. In this manufacturing method the slab is dividing essentially by a fixed string, and is relocating relatively to the slab separation plane from one vertical slab plane, being the side surface of a ceramic article, to its another side surface.

[0010] While moving a cutting edge of a cutting instrument in one direction through a slab a plastic mixture is forced out from the surface, where the edge of a cutting instrument is entering on the surface on which it is exiting, and making barbs on preform edges along the cross-lines of these surfaces. For example, cutting from the top results in barbs on the crossing edges of the separation plane of the vertical located slab surfaces and horizontal located slab surfaces, which is contact with the conveyer band. Size of such barbs is considerable, it can differs from 3 to 5 mm. During the further moving of a ceramic article preform in the manufacturing method to the area for drying barbs cause scoring on the surface, contacting with conveyer band. The presence of such scoring and barbs essentially affects the quality of such surfaces of a ceramic article and it is impossible to use them as a front surfaces of a ceramic article. So that increases costs of manufacturing of a ceramic article. For example, while manufacturing a ceramic facing tile by dividing ceramic article after drying and burning into two tiles both horizontal surfaces of a preform of a ceramic article, top and bottom contacting with the conveyer, are used as a facing surfaces. The part of preform with scoring on it front surface is damaged. While scoring appear on the bottom surface of preform manufacturing costs of the facing tile increases approximately at 50 % .

[0011] There is known the device for cutting a slab of a plastic mixture ("Mechanical and transport equipment of factories of the fireproof industry", V.G.Baisogolov, P. I.Galkin, M., "Metallurgiya", 1972, p.p. 167-170).

[0012] This device comprises a horizontal substrate for receiving the portion of the slab to be cut, having at least one linear edge, positioning the vertical separation plane of the slab, and connected to a driver the cutting mechanism which bow with a tensioned string is mounted so as to be capable of rotation practically in the separation plane of the slab from one end position, where the string is located above the slab, into a second one, where the string is located under the slab, below the substrate.

[0013] In automatic lines slab forming and cutting its into briquettes are continuous processes, and from the forming area to a cutting mechanism the slab is directed by moving conveyer.

[0014] There is a slit between a substrate and conveyer band, located approximately perpendicular to a slab moving direction, that positions a slab separation plane position, and along which a bow string is located.

[0015] While slab cutting a string is moving in one direction from its top surface to bottom through a slit. While moving a string cutting edge in one direction plastic mixture is forced out from the top surface, where a string is entering on its bottom surface, on which it is exiting, and making barbs on preform edges along the cross-lines of these surfaces. Such cutting mechanism allows to use as a facing surface essentially only a top slab surface. So it is unprofitable to manufacture from such preforms facing tile by division briquette into two parts with a facing surfaces on each of it, because a tile, having slab bottom surface as a facing surface would be of low quality, essentially defective, so it almost on 50 % increases costs of tile manufacturing.

Disclosure of the Invention

[0016] The invention is based on the problem of developing a method for producing a ceramic article for cladding building structures, having that technological process of dividing a slab into briquette-like preforms, which would allow to get preforms without any barbs on the preform edges along perimeters at least of its two parallel surfaces, thereby to rise the quality of a ceramic article for cladding building structures and to reduce its manufacturing costs .

[0017] The invention is also based on the problem of developing the device for cutting a slab of a plastic mixture with such cutting instrument, which when dividing a slab into briquette-like preforms would allow to get preforms without any barbs on the preform edges along perimeters at least of its two external parallel surfaces, and that would allow to use them as front surfaces of a ceramic article.

[0018] The problem is solved by the fact that in the method for producing a ceramic article for cladding building structures by plastic forming that involves forming a slab of a plastic mixture and cutting the slab into briquette-like preforms while moving the cutting instrument cutting edge in the separation plane of the slab, by moving the cutting instrument or the slab in one direction from one end position to a second one and getting a ceramic article after preforms drying and burning, according to the invention, the additional cutting instrument is used, and when cutting the slab, cutting edge of the additional cutting instrument is moved in the separation plane of the slab from one end position to a second one towards moving direction of the cutting edge of the basic cutting instrument while the cutting-instruments cutting edges are brought into contact to align the

positions of the cutting-instrument cutting edges on the separation surface along a line which is located between the two parallel surfaces of the slab, that being the front surfaces of a ceramic article.

[0019] The cutting edges can brought into contact along a line that is approximately parallel to surfaces of the slab, that being the front surfaces of a ceramic article, or is inclined to these front surfaces not crossing them.

[0020] In the end position when the portion of the slab is cut cutting edges of the basic and / or the additional cutting instruments can be located practically along a contact line of the cutting edges.

[0021] In the end position when the portion of the slab is cut cutting edges of basic and additional cutting instruments can also be located by the different sides of a contact line of cutting edges.

[0022] It is expediency in continuous process of cutting the slab, the basic and the additional cutting instruments to move simultaneously.

[0023] It is possible when cutting the slab to move at first the cutting edge of the basic cutting instrument and then - the cutting edge of the additional cutting instrument.

[0024] It is possible also when cutting the slab, the cutting edges of the basic and the additional cutting instruments to move by translation in the separation plane of the slab.

[0025] It is possible also when cutting the slab, the cutting edges of the basic or the additional cutting instruments to move in the separation plane of the slab by rotation relative to axes parallel to the longitudinal slab axis in the separation plane of the slab.

[0026] It is possible also when cutting the slab, the cutting edge of the basic or the additional cutting instruments to move by rotation relative to axes parallel to the longitudinal slab axis and thereafter the cutting edge of another cutting instrument to move by translation in the separation plane of the slab.

[0027] Thus, the disclosed method makes it possible to manufacture a ceramic article for cladding building structures having two smooth parallel surfaces, which may be used as front. The disclosed method makes it possible to decrease a quantity of defective articles and so to reduce the manufacturing costs of a ceramic article.

[0028] The set problem is solved also by the fact that in the device for cutting a slab of a plastic mixture, comprising a horizontal substrate for receiving the portion of the slab to be cut, having at least one linear edge, positioning the vertical separation plane of the slab, and connected to a driver the cutting mechanism which bow with a tensioned string is mounted so as to be capable of rotation practically in the separation plane of the slab from one end position where the string is located above the slab, into a second one, according to the invention, the cutting mechanism comprises a blade that is mounted so as to be capable of rotation practically in the sep-

aration plane of the slab from one end position, where the blade cutting edge is located below the substrate into a second one, where the blade cutting edge is located above the substrate, between the horizontal surfaces of the slab, moreover in a second end position of the bow the string also is located between the horizontal surfaces of the slab, and is brought into contact with the blade .

[0029] In order to use the device in automatic continuous processing line it is expedient the bow and the blade to connect to the cutting mechanism driver so as to be capable of synchronous relocation from one end position into a second one.

[0030] It is desired the substrate, the bow and the blade to mount so as to be capable of back-and-forth translation along the longitudinal axis of the slab, i.e. practically parallel to it, and to connect to a relocation driver.

[0031] Thanks to such rational cutting mechanism design while cutting a plastic mixture forced out by cutting edges barbs are made approximately in the middle part of the preform close to the string and blade contact line, that prevents barbs appearing on preforms along the crossing edges of the facing surfaces with the slab separation planes, so it reduce the manufacturing costs of a ceramic article

[0032] The device manufacturing comparing with the known requires low additional expenses. The device implementation in the automatic processing lines do not affect the production rate.

Brief Description of Drawings

[0033] The invention will be illustrated further by detailed examples of its realisation and attached drawings, wherein:

Fig. is general view of the device for cutting a slab of a plastic mixture at one position of cutting instrument when the preform of a ceramic article is cut (with partial separate of preform), according to the invention.

Fig.2 - sectional view corresponding to line II - II of fig.1, according to the invention.

Fig.3 - general view of the device for cutting a slab of a plastic mixture at the position of cutting instrument before cutting the preform of a ceramic article, according to the invention.

Best Mode for Carrying Out the Invention

[0034] The suggested method for producing a ceramic article for cladding building structures concludes in the following. In advance is prepared a plastic forming mixture for producing fireproof ceramic article - facing tile or facing brick It may be any known composition of mixture for plastic forming and mainly - the mixture, based on mineral fireproof argil, with the humidity from

15 to 20%. The mixture can also include chamotte with particle size up to 5 mm and others known components. It is possible to use any other known plastic forming mixture.

[0035] Then from a plastic forming mixture is formed a slab with the smooth external surfaces, having in the cross section approximately rectangular shape. Slab forming technological process is a continuous process. A plastic forming mixture is continuously pushing through the rectangular profile die of a determined cross section and as a slab is feeding continuously to the conveyer band, that moves it to the device, cutting a slab to preforms, so that one of the horizontal slab surfaces while moving contacts with the conveyer band.

[0036] Then a slab is cutting by cutting instruments into briquette-like preforms by detaching from the slab one preform or group of them simultaneously, while moving a cutting edges of one or group cutting instruments in separation planes, located approximately perpendicular to the longitudinal axes of a slab or its external surfaces. Blade or tensioned string (or wire), for example a bow, may be used as a cutting instrument. There in suggested method are used two cutting instruments - the basic and the additional: it may be two blades, two bows, and also a blade and a bow.

[0037] Both cutting edges are located in one approximately perpendicular to the longitudinal axes of a slab plane, that is a slab separation plane. When cutting a slab, the cutting edges of said basic and additional cutting instruments are moving in the separation plane of the slab towards each other from one end position to a second one. It is thus possible to align the positions of the cutting-instrument cutting edges on the separation surface along a line, which is located between the two parallel surfaces of the slab, said surfaces being the front surfaces of a ceramic article. As a rule as front surfaces are used briquette surfaces, having largest square. These surfaces may be place on the conveyer as vertically or as horizontally.

[0038] A slab is cutting while moving cutting edges of a cutting instrument in separation surface by moving each cutting instrument in direction towards the slab from one end position to another one. It is possible to move a slab towards the cutting edges of a cutting instrument, for example, strings, tensed on the fixed base. The cutting edges are moving along the slab separation plane from one end position into another one in one direction.

[0039] The cutting edges can be brought into contact along a line that is approximately parallel to surfaces of the slab, that being the front surfaces of a ceramic article. The contact line of the cutting edges may be inclined to the front surfaces not crossing these front surfaces.

[0040] In the end position when the portion of the slab is cut, cutting edges of the basic and the additional cutting instruments can be located practically along a contact line of the cutting edges.

[0041] In the end position when the portion of the slab

is cut, cutting edges of the basic or the additional cutting instruments can be located practically along a contact line of the cutting edges and the edge of other cutting instrument may be displaced from a contact line towards its moving direction.

[0042] In the end position when the portion of the slab is cut, cutting edges of the basic and the additional cutting instruments can also be located by the different sides of a contact line of the cutting edges.

[0043] It is expediency in continuous process of cutting the slab, the basic and the additional cutting instruments to move simultaneously.

[0044] It is possible when cutting the slab to move at first the cutting edge of the basic cutting instrument and then - the cutting edge of the additional cutting instrument.

[0045] It is possible also when cutting the slab, the cutting edges of the basic and the additional cutting instruments to move by translation in the separation plane of the slab.

[0046] It is possible also when cutting the slab, the cutting edges of the basic or the additional cutting instruments to move in the separation plane of the slab by rotation relative to axes parallel to the longitudinal slab axis.

[0047] It is possible also when cutting the slab, the cutting edges of the basic or the additional cutting instruments to move by rotation relative to axes parallel to the longitudinal slab axis and thereafter the cutting edge of another cutting instrument to move by translation in the separation plane of the slab.

[0048] Then the preforms are dried and burnt. The drying and burning modes are well known.

[0049] The facing brick is got just after the preforms burning. This facing brick has two parallel surfaces without barbs on its edges, both are smooth, and each of them may be used as the front surface, at that face-work is speed up.

[0050] In order to get the facing tile the preform after the burning is divided into two parts, each of that is a facing tile. Its front surfaces at that are smooth and have no scratches. So the front surfaces in each part have no barbs on its edges. The probability of scoring at this surfaces is very small. The present method enables to low costs of the high quality facing tile manufacturing.

[0051] The device for cutting a slab of a plastic mixture is mainly used in automatic continuous processing line. In different modification of the device by cutting instrument is detached from slab one or group portions (parts), which are the preforms of a ceramic article. The present invention will be further explained by description of the device modification for detaching one preform. The suggested device comprises a horizontal substrate 1 (fig.1) for location the part of the slab 2 to be cut, that is the briquette-like preform 3 of a ceramic article being practically parallelepiped shaped. There are holes 4 in the preform 3, that are longitudinal holes of a slab 2. The substrate 1 has at least one linear edge, that positioning

the vertical separation plane of the slab 2, which is approximately perpendicular to longitudinal axis of the slab 2. The substrate 1 may have a group of slit-like slots (not shown on fig.1) the number of which is equal to the number of the simultaneously cutting preforms. One edge of every slot positions the one vertical separation plane of the slab 2. In automatic continuous processing lines, accomplishing uninterrupted slab feeding on the substrate 1, there is a rectangular table, located between the receiving and sending conveyers (not shown on fig.1). Cutting of the slab is accomplished by moving the table, speed of which is equal to the slab moving speed. On the fig.1 the vertical separation plane of the slab 2 is located between the preform 3 and the remaining part of the slab 2.

[0052] The device cutting mechanism comprises the bow 5 with a tensioned string 6 and the blade 7 with sharp cutting edge 8. The bow 5 is mounted so as to be capable of rotation from one end position into a second one practically in vertical separation plane of the slab, and is connected to the rotation driver. The blade 7 is also mounted so as to be capable of rotation from one end position into a second one practically in the same vertical separation plane of the slab, and is connected to the rotation driver. In the described device modification the bow 5 and the blade 7 have one common driver, providing their simultaneous turn at the opposite directions from one end position into a second one and back. It is possible to use different drivers in other modifications of the device.

[0053] The bow 5 is mounted above the substrate 1, and one end of it is rigidly connected to the shaft 9 of the rotation driver (not shown on fig.1).

[0054] The blade 7 is rigidly attached to the lever 10, that is located below the substrate 1. One end of the lever 10 is mounted so as to be capable of rotation at axis 11, another end is connected to the driver rotation shaft 9 of a bow 5. This connection includes the connecting-rod 12, the lever 13 and axes 14 and 15. The connecting-rod 12 is mounted so as to be capable of rotation in the plane approximately parallel to the separation plane of the slab 2. The ends of the connecting-rod 12 are mounted at the axes 14 and 15 of levers 10 and 13 thereafter. The lever 13 is rigidly connected to the shaft 9. In the described modification of the device the blade 7 and the bow 5 have one common rotation driver, providing their simultaneous relocation from one end position into a second one (shown the shaft 9 of the rotation driver). That is particularly important to get high quality of slab cutting while the substrate is moving.

[0055] The shaft 9 and the axis 11 are located by different sides of slab 2. The shaft 9 is located by side surface B of the slab 2, and the axis 11 - by side surface B₁. The substrate 1 (fig.2) for locating the portion of the slab 2 to be cut has the rectangular shape, that width is approximately equal to the width of the preform 3 of a ceramic article. The other part of the slab 2 is placed on the table 16 of receiving conveyer (not shown on the fig.

2). The upper surfaces of the substrate 1 and of the table 16 lay essentially at the same horizontal plane. There is the slit-like gap between the edge 17 of the substrate 1 and the edge 18 of the table 16, so the string 6 of the bow 5 and the blade 7 of the cutting mechanism are located along this gap. The substrate 1, the bow 5 and the blade 7 are mounted so as to be capable of alternative relocation along the axis of the slab 2, i.e. parallel it, and are connected with driver (not shown on the fig.2). A speed of the substrate 1, the bow 5 and the blade 7 are equal to a speed of the slab 2.

[0056] The bow 5 and the blade 7 are shown on the fig.1,2 in the end position when portion of the slab 2 is cut. In this position of the bow 5 the string 6 is located above the substrate 1, essentially parallel to the edge 17, between the horizontal surfaces L and L_1 of the slab 2, that are the front surfaces of a ceramic article. At the same end position of the blade 7 its cutting edge 8 is located above the substrate 1 essentially parallel to the edge 17, between the surfaces L and L_1 of the slab 2. In this position the string 6 is brought into contact with the blade 7, and string 6 is located below cutting edge 8 of the blade 7. The distance between the string 6 and edge 8 may be from 2 to 10 mm. As it shown on the drawing of the device modification the blade 7 is placed by side of the preform 3 of a ceramic article, i.e. the portion of the slab 2 is cut, and the string 6 - by side of the remaining part of the slab 2. The minimum distance from one or another surfaces L or L_1 of a ceramic article to contact line of the string 6 and the blade 7, i.e. in the end position when the preform is cut, is choosing depending on the kind of a ceramic article. For example, making facing tile, this distance ought to high the tile thickness and making facing brick, it may be equal to a half of brick thickness. As it shown on the drawing, the distance s between the bottom surface L_1 and the edge 8, that is set on the level of the holes 4 of the preform 3, is more than the facing tile thickness.

[0057] Thus the bow 5 is determined for cutting the top part of the slab 2 from the side of the top surface L with the separation plane R, and the blade 7 is determined for cutting the bottom part of the slab 2 from the side of the bottom surface L_1 with the separation plane R_1 . This cutting mechanism implementation results in that while cutting the slab the forming mixture forced out by cutting edges is placed practically in the middle part of the preform 3 on the separation surface inside the longitudinal holes 4 in the area of contact line of the string 6 and the blade 7. This prevents barbs appearing along the edges of the front surfaces of a ceramic article, which are the cross-lines of the surfaces L and L_1 of the slab 2 and separation planes R and R_1 of the slab 2. In spite of the fact that when cutting the slab 2 by suggested cutting mechanism, in the end position when one or both cutting edges are displaced from a contact line cutting edges, there are essentially two separation planes R and R_1 of the slab 2, located at distance, that equal to the thickness of the blade 7, however this distance is

small and may be from 0,5 to 2,0mm, that does not affect the quality of a ceramic article. Manufacturing a facing tile by dividing the preform of a ceramic article into two parts, each of it is the facing tile with surface L or L_1 as front surface and has the same width.

[0058] The thickness of the string 6 and the blade 7 may be the same, moreover in other device modifications the string 6 may be placed on the side of the preform 3 of a ceramic article, i.e. the detached portion of the slab 2, and the blade 7 - on the side of the other part of the slab 2.

[0059] On the fig.3 the bow 5 and the blade 7 are shown in the end position before the cutting the slab 2. At this position of the bow 5 the string 6 is located above the surface L of the slab 2 and the angle a is the angle between the string 6 and the substrate 1. At this position the blade 7 is located below the surface L_1 of the slab 2 and the angle b is the angle between the cutting edge 8 and the substrate 1. Moreover, the angle a > the angle b. The bow 5 shank is rigidly connected to the driver shaft 9, and it is possible to change the angle a for cutting the slab 2 of another thickness. The lever 13 is rigidly connected to the driver shaft 9, the angle c is the angle between the lever 13 and the bow 5 shank, and it is possible to change the angle c by changing the angle b.

[0060] The device is operating as follows: the slab 2 (fig.2) is continuously feeding from the die of soft-mud press (not shown on fig.2) on the receiving conveyer band, that is moving by the frictional force between the band and the slab 2. The slab 2 is cutting during the moving as all the device mechanisms and the substrate 1 are cinematically connected with the driver of their alternative motion. When the preform 3 (fig. 1,2) of a ceramic article is cut, the substrate 1, the table 16, the bow 5 and the blade 7 of cutting mechanism are moving from one end position to a second one, that is shown on fig. 3, to cut the next preform 3. The shaft 9 turns by rotation driver clockwise round the altitude axis, simultaneously causing in clockwise turning the bow 5 and the lever 13, to install the string 6 in original position. When the lever 13 is turned the connecting-rod 12 is moved, pushing the lever 10, that is turned around the axis 11, returning cutting edge 8 of the blade 7 to original position. When the cutting portion of the slab 2 is placed on the substrate 1, the driver shaft 9 is turning anticlockwise, simultaneously the bow 5 and the blade 7 are turning anticlockwise towards each other. At that the string 6 cuts the top part of the slab 2 from the side of the top surface L with the separation plate R, and the blade 7 - the bottom part of the slab 2 from the side of the bottom surface L_1 with the separation plate R_1 . This implementation of cutting mechanism does not permit to get the barbs on the edges at least of two parallel external surfaces of preform 3, its both surfaces L and L_1 are smooth, and can be used as front surfaces of a ceramic article.

Industrial Applicability

[0061] The suggested method can be used to produce by plastic forming the fireproof ceramic articles, such as facing brick, facing tile.

[0062] The suggested device can be used for cutting a slab of a plastic mixture that is used for manufacturing fireproof ceramic articles, such as a facing brick, a facing tile and is mainly implemented in automatic continuous processing line.

Claims

1. A method for producing a ceramic article for cladding building structures by plastic forming, that involves forming a slab of a plastic mixture, cutting the slab into briquette-like preforms while moving the cutting instrument cutting edge in the separation plane of the slab by moving the cutting instrument or the slab in one direction from one end position to a second one, and getting a ceramic article after preforms drying and burning, **characterised in that** when cutting the slab the additional cutting instrument is used, and cutting edge of the additional cutting instrument is moved in the separation plane of the slab from one end position to a second one towards moving direction of the cutting edge of the basic cutting instrument while the cutting instruments cutting edges are brought into contact to align the positions of the cutting instrument cutting edges on the separation surface along a line, which is located between the two parallel surfaces of the slab, that being the front surfaces of a ceramic article.
2. A method according to claim 1, **characterised in that** the cutting edges are brought into contact along a line, that is approximately parallel to surfaces of the slab, that being the front surfaces of a ceramic article or is inclined to these front surfaces not crossing them.
3. A method according to claim 1 or 2, **characterised in that** in the end position when the portion of the slab is cut, cutting edges of the basic and / or the additional cutting instruments are located practically along a contact line of the cutting edges.
4. A method according to claim 1 or 2, **characterised in that** in the end position when the portion of the slab is cut, cutting edges of the basic and the additional cutting instruments are located by the different sides of a contact line of the cutting edges.
5. A method according to any of claims 1,2,3 or 4 **characterised in that** when cutting the slab, the basic and the additional cutting instruments are moving

simultaneously.

6. A method according to any of claims 1,2,3 or 4 **characterised in that** when cutting the slab, at first the cutting edge of the basic cutting instrument is moved and then - the cutting edge of the additional cutting instrument.
7. A method according to any of claims 1,2,3,4,5 or 6 **characterised in that** when cutting the slab, the cutting edges of the basic and the additional cutting instruments are moved by translation in the separation plane of the slab.
8. A method according to any of claims 1,2,3,4,5 or 6, **characterised in that** when cutting the slab, the cutting edges of the basic and the additional cutting instruments are moved by rotation relative to axes approximately parallel to the longitudinal slab axis in the separation plane of the slab.
9. A method according to any of claims 1,2,3,4,5 or 6, **characterised in that** when cutting the slab, the cutting edge of the basic or the additional cutting instruments is moved by rotation relative to axes approximately parallel to the longitudinal slab axis and thereafter the cutting edge of another cutting instrument is moved by translation in the separation plane of the slab.
10. A device for cutting a slab of a plastic mixture, comprising a horizontal substrate (1) for receiving the portion of the slab (2) to be cut, having at least one linear edge, positioning the practically vertical separation plane of the slab (2), and, connected to a driver, the cutting mechanism which bow (5) with a tensioned string (6) is mounted so as to be capable of rotation practically in the separation plane of the slab (2) from one end position, where the string (6) is located above the slab (2), into a second one, **characterised in that** the cutting mechanism comprises a blade (7), that is mounted so as to be capable of rotation practically in the separation plane of the slab (2) from one end position, where the blade cutting edge (8) is located below the substrate (1), into a second one, where the blade cutting edge (8) is located above the substrate (1), between practically the horizontal surfaces (L and L₁) of the slab (2), moreover in a second end position of the bow (5) the string (6) also is located between practically the horizontal surfaces (L and L₁) of the slab (2), and is brought into contact with the blade (7).
11. A device according to claim 10, **characterised in that** the bow (5) and the blade (7) are connected to the cutting mechanism driver so as to be capable of synchronous relocation from one end position into a second one.

12. A device according to claim 10 or 11, **characterised in that** the substrate (1), the bow (5) and the blade (7) are mounted so as to be capable of back-and-forth translation practically along the longitudinal axis of the slab (2), and are connected to a relocation driver.

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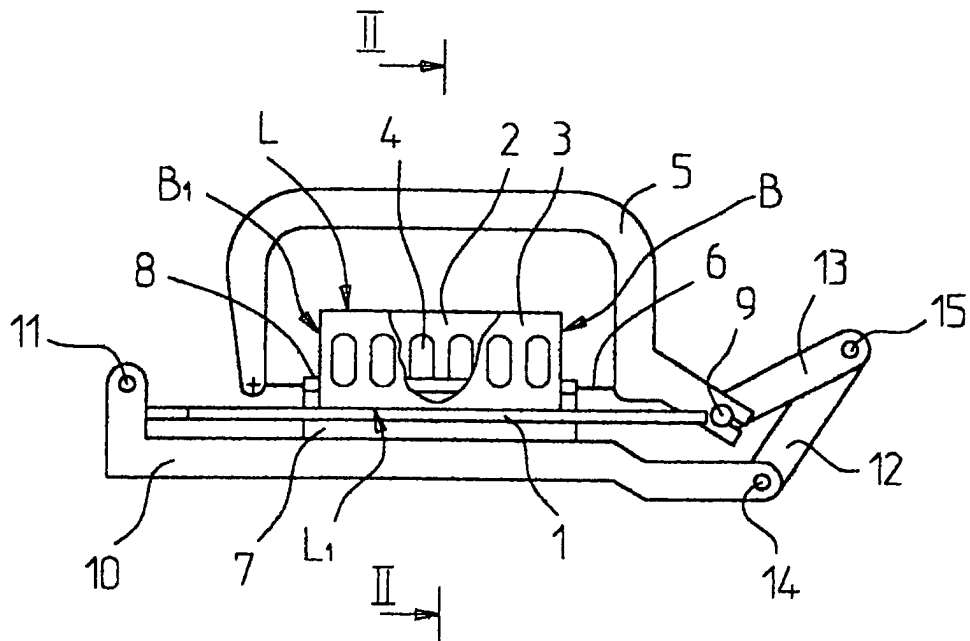


Fig. 1

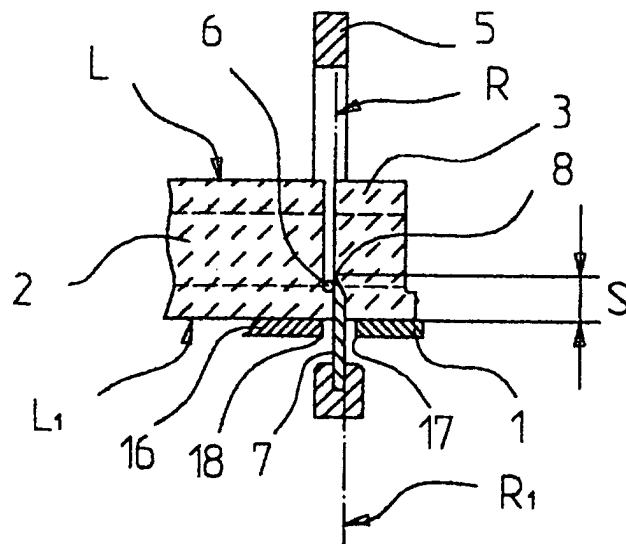


Fig. 2

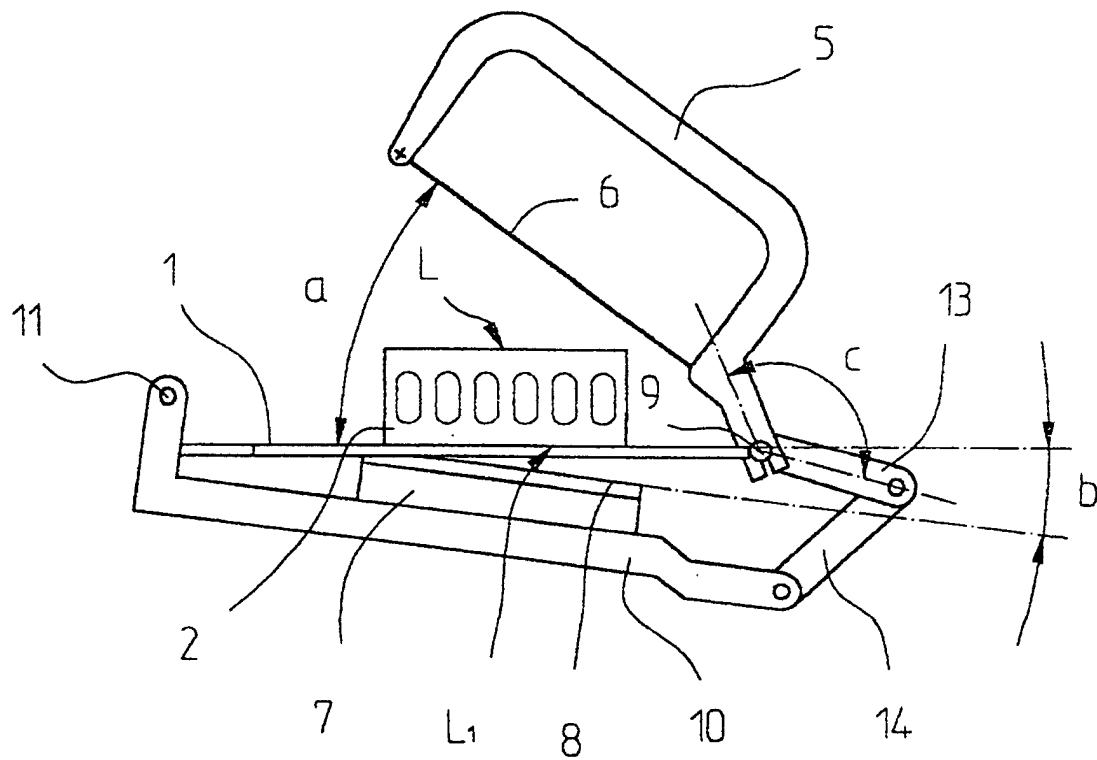


Fig. 3