

May 23, 1933.

R. E. PARRY

1,910,496

BRICK MAKING

Filed May 7, 1932

3 Sheets-Sheet 1

Fig. 1.

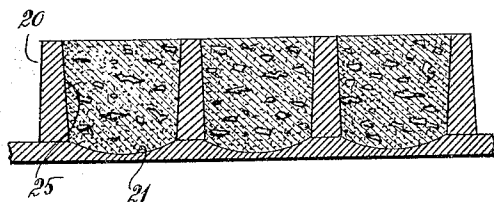


Fig. 2.

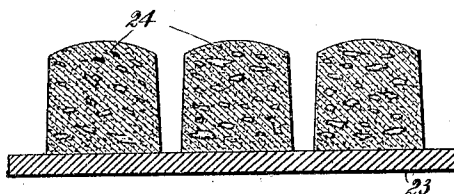


Fig. 3.

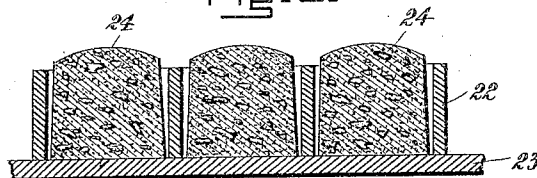


Fig. 4.

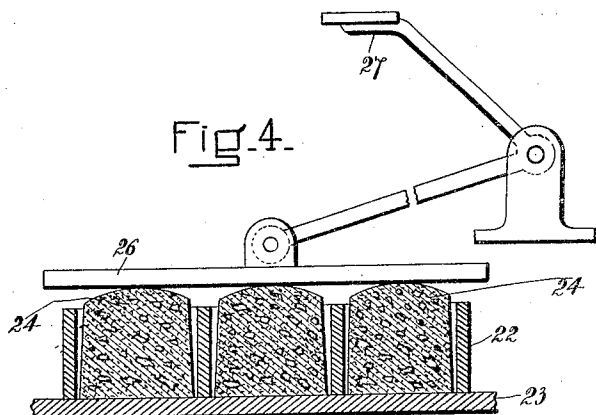


Fig. 5.

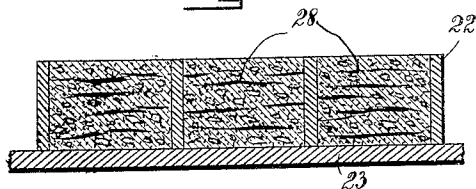
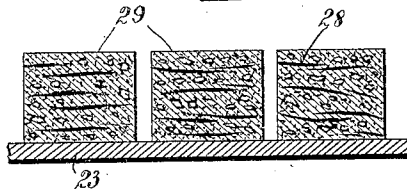


Fig. 6.



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Fig-7.

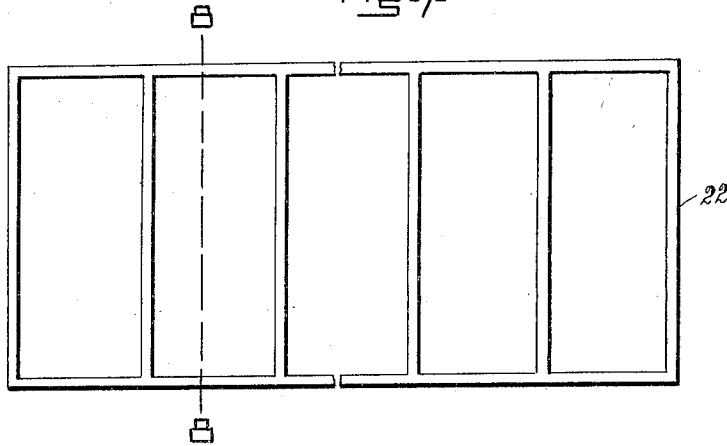


Fig. 8.

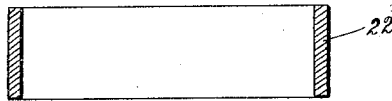


Fig. 9.

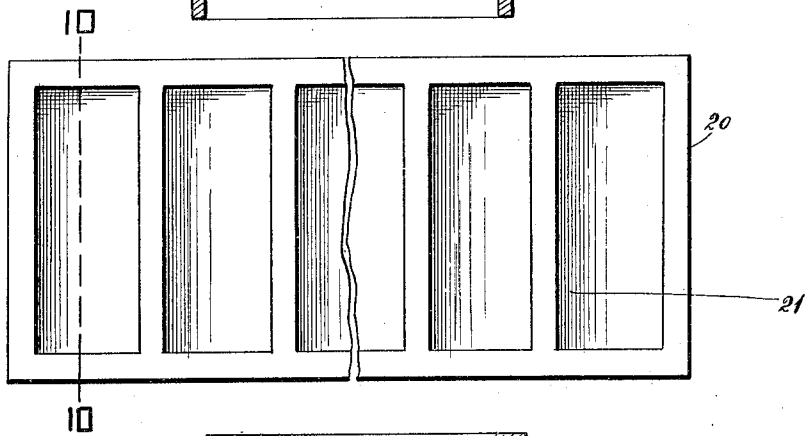


Fig. 10.

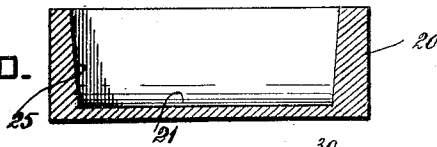
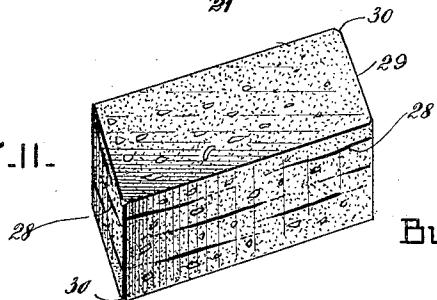


Fig. 11.



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Fig.12.

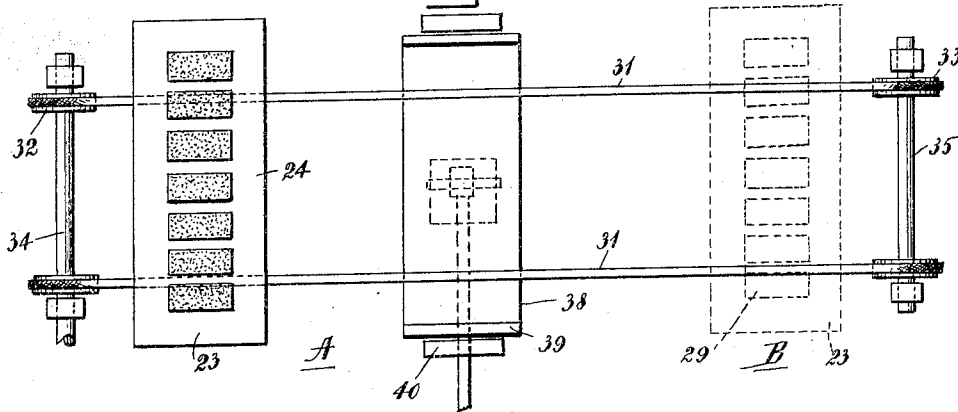


Fig. 13.

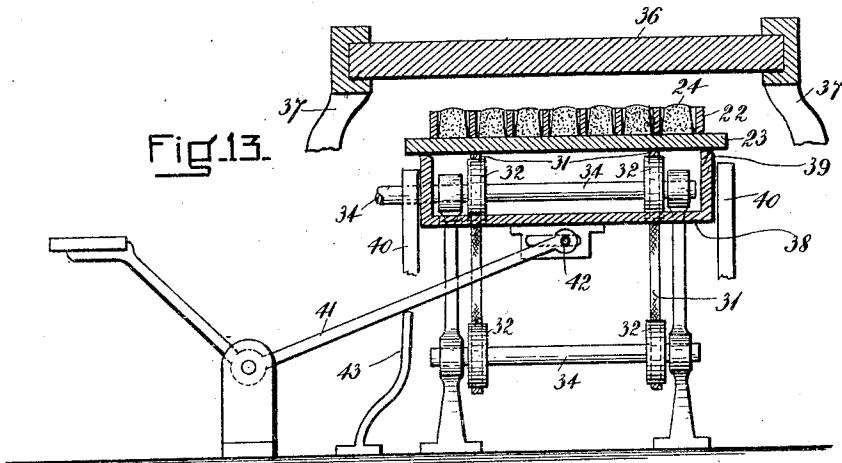
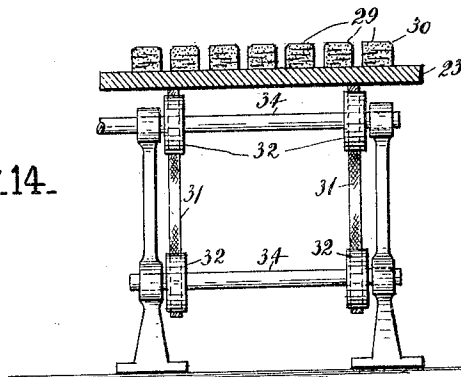


Fig.14.



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UNITED STATES PATENT OFFICE

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BRICK MAKING

Application filed May 7, 1932. Serial No. 609,810.

Hand-made brick characterized by the irregularities and imperfections found in almost all hand-made articles and by striated faces and ends, are highly desirable in various types of building construction but such brick are prohibitively costly.

It is the object of the present invention to provide a method of making brick closely simulating hand-made brick at a cost but slightly in excess of standard machine-made brick and to provide also an apparatus whereby said method may be realized in practice.

The accompanying drawings illustrate schematically the several steps of my process or method, and also a simple apparatus for performing said method, but it is to be understood that said method is broader than mere apparatus and may be realized by a variety of mechanical means.

Figures 1 to 6, inclusive, are fragmentary sectional views illustrating the several steps of my method;

Fig. 7 is a plan view of an open mold for forming brick of the standard size;

Fig. 8 is a transverse vertical section taken on the line 8—8 of Fig. 7;

Fig. 9 is a plan view of a closed-bottom mould having compartments of smaller longitudinal and transverse dimensions but greater depth than the compartments of the mould shown in Fig. 7;

Fig. 10 is a transverse vertical section taken on the line 10—10 of Fig. 9;

Fig. 11 is a perspective view of a brick made in accordance with my improved method;

Fig. 12 is a plan view of a portion of one form of brick machine that may be employed in carrying out my method;

Fig. 13 is an end view, partly in section, of the machine shown in Fig. 12, and illustrating the position of the parts at one stage of the operation;

Fig. 14 is a similar end view showing the position of the parts at a later stage of the operation.

In the particular drawings selected for more fully illustrating the steps of my process and the principle underlying my invention, 20 is a mold having a plurality of compart-

ments, for example, seven, each of which has a closed bottom which preferably is slightly concave, as indicated at 21. The compartments of said mold are of smaller longitudinal and transverse dimensions than that of the brick desired, and in the present instance where the finished product is assumed to be of standard dimensions, the length and breadth of the compartments of the mould 20 will be shorter and narrower, respectively, than the length and breadth of the compartments of the standard mould 22. The depth of the mould 20, however, is greater than that of the brick desired and, as seen by comparing the sectional views, Figs. 8 and 10, the depth of each compartment of the mould 20 is greater than that of the mould 22. Preferably the difference in the depth of the two moulds is such that the cubical contents of the two are equal.

The first step of my method consists in filling the mould 20 with brick material, as indicated in Fig. 1. The second step consists in depositing the blocks formed by the mould 20 on a pallet 23 having a plane surface, thereby forming a plurality of blocks 24, each shorter, narrower and deeper than the finished product and preferably having the same cubical contents as a standard brick. The upper ends of said blocks preferably are convex. The open mould 22 is now placed over said blocks 24, while the latter are resting on said pallet, as indicated in Fig. 3. It will be noted that the blocks 24 do not quite fill the compartments of the mould 22 which encloses the same, and also that the sides of said blocks are inclined upwardly in conformity with the shape of the compartments of the mould 20, the sides 25 of which preferably are slanted downwardly. This configuration, however, is not an essential, although it is a desirable, feature of my invention.

A block or plank or other suitable member 26 having a plane surface is now superimposed on the blocks 24, as indicated in Fig. 4 and pressure applied thereto by any suitable means such as the lever 27 until the blocks 24 fill the mould 22. It is to be understood in this connection that it is quite im-

material whether the pallet 23 is stationary and the plank 26 moved downwardly toward the same, or vice versa, it being necessary only to apply such pressure as will create
 5 relative movement between the two plane surfaces 23, 26 and thereby force the blocks 24 into contact with the walls of the compartments of the mould 22. It is, however, quite essential that the pressure which causes said
 10 blocks to fill said compartments be applied steadily and somewhat gently as distinguished from precipitately or forcibly, as otherwise the object of my invention will be defeated. It will be noted that the pressure
 15 aforesaid is applied in the present instance to the middle portion of the blocks 24, and such pressure transmitted evenly and somewhat gently to the particles making up the
 20 moulded mass, causes such mass to move laterally toward and against the sides of the mould, the lower portions thereof coming in contact with said sides before the upper portions. The result is that such progressive
 25 lateral movement of the moulded mass toward the sides of the mould results in the formation of striations such as indicated at 28 in Figs. 5 and 6, the said striations being formed in the faces, as well as the ends,
 30 of the finished brick.

After the pressing operation above set forth, the open-ended mould 22 is raised, leaving the finished brick 29 on the platen, and such brick are then dried and burned in the usual manner.

It will be observed by referring to Fig. 11, that the finished brick, in addition to the striations on its faces and ends, shows various imperfections and irregularities such as the
 40 roughened or rounded corners 30, all of which are characteristic of hand-made brick.

While the process aforesaid may be carried out manually by the simple mechanism above described, I prefer to use a standard brick machine modified in the manner shown in
 45 Figs. 12 to 14 because thereby bricks having all the characteristics of hand-made brick may, at a cost but slightly greater than that of standard brick, be turned out at the rate of 50,000 a day.

In Fig. 12, 31 represents the cable or other conveyor usual in brick machines, the cables of said conveyor passing over the pulleys 32, 33 on the shafts 34, 35, said shaft 34 being provided with suitable driving means (not
 55 shown). The pallet 23 with the freshly-moulded blocks 24 is placed on the conveyor at or near the lefthand end thereof and when said pallet has been carried a short distance from its initial position, say at the
 60 point A, the open mould 22 is placed on said pallet to enclose said blocks in the manner shown in Fig. 3. Arranged over the conveyor a short distance to the right of the point A is a plank 36 or other stationary
 65 member having a plane under surface, said

member being supported by the brackets 37, 37. When the pallet arrives directly under the plank 36, relative movement is created between said pallet and plank whereby the
 70 blocks 24 are gently squeezed into the several compartments of the mould 22. While this operation may be effected, by a variety of means, I have shown in Fig. 13 a treadle-actuated elevator 38 for raising the pallet
 75 sufficiently to press the blocks against the plank 36. In the present instance said elevator consists of a trough-shaped member, the vertical ends 39 of which are arranged, when said elevator is raised, to be brought
 80 in contact with the under side of the pallet and raise the latter several inches to effect the necessary squeezing of the blocks into the mould compartments. Preferably guide-members 40, 40 are provided to prevent end-
 85 wise movement of the elevator. As shown in Fig. 13, a treadle-operated lever 41 having a pin-and-slot connection 42 with the under side elevator is employed to impart the necessary upward movement to the pallet. The
 90 elevator may be maintained in its normal lowered position by any suitable means such as the stop 43 against which the lever 41 normally rests. It is to be understood, however, that various other means may be devised by
 95 those skilled in the art for creating relative vertical movement between the plank 36 and the platen.

After the necessary pressure has been exerted on the blocks 24, the pallet is again lowered to the conveyor by which it is carried
 100 further to the right, say to the point B, where the open mould 22 is withdrawn from the brick which are now in their final form and ready for the drying and burning processes. The position of the pallet at the point where
 105 the open mould is withdrawn is indicated by dotted lines in Fig. 12, while in Fig. 14 I have shown the pallet and the bricks carried thereby immediately after the withdrawal of the open mould. The pallet is now removed
 110 from the conveyor and the bricks dried and burned in the usual way.

Having thus described illustrative embodiments of my invention without however limiting myself thereto, what I claim and desire
 115 to secure by Letters Patent is:

1. The method of making brick which consists in forming a block of brick material having smaller longitudinal and transverse
 120 dimensions and greater depth than the finished brick and the same cubical contents as the latter, depositing said block on a plane surface, enclosing said block within an open mould having the shape and size of the finished
 125 brick and applying pressure to the portion of said block which projects above said open mould until said block fills said mould, thereby producing striations on the faces and ends of the finished brick.

2. The method of making brick which con- 130

sists in forming a block of brick material having smaller longitudinal and transverse dimensions and greater depth than the finished brick and the same cubical contents as the latter, depositing said block on a plane surface, enclosing said block within an open mould having the shape and size of the finished brick, placing a plane surface over said block, and applying pressure to one of said plane surfaces until said block fills said mould, thereby producing striations on the faces and ends of the finished brick.

In testimony whereof, I have hereunto subscribed my name this 29th day of April, 1932.

ROBERT E. PARRY.

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