May 25, 1926. 1,586,194

C. O. GUSTAVSEN

COG BRICK

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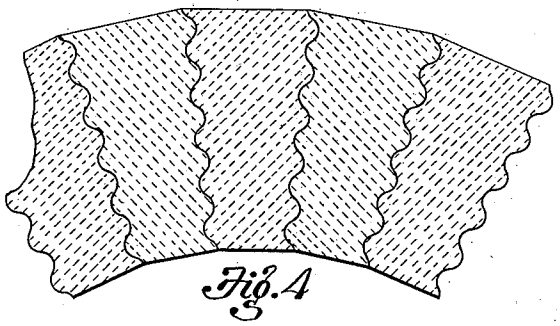


Fig. 4

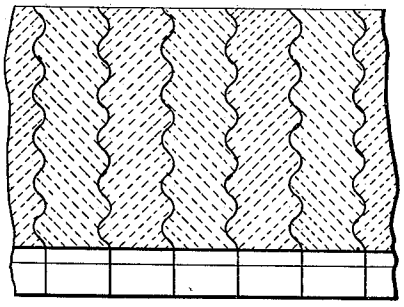
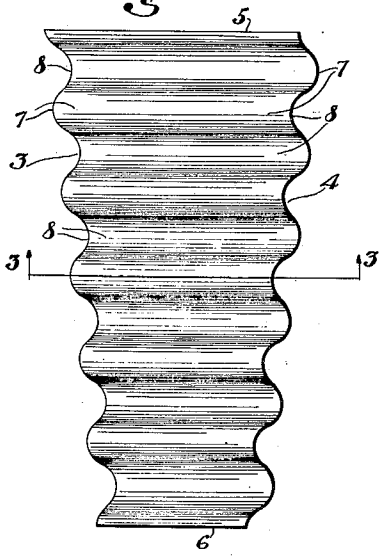


Fig. 5

Fig. 1



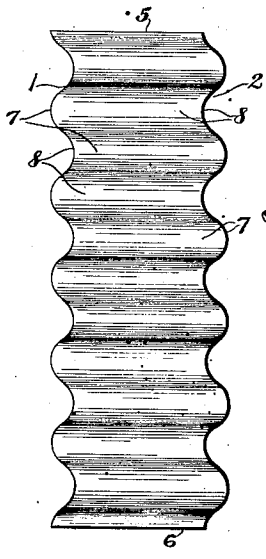
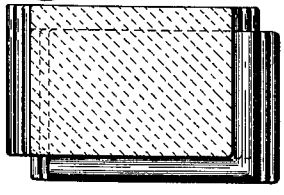




Fig. 2

Fig. 3



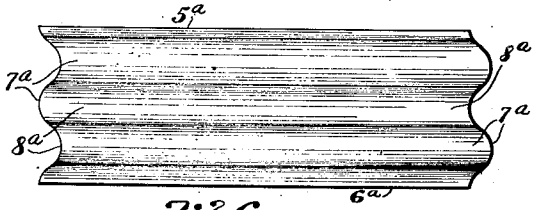



Fig. 6

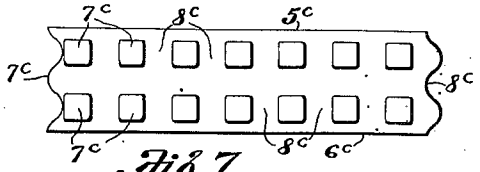



Fig. 7

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# UNITED STATES PATENT OFFICE.

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## COG BRICK.

Application filed December 23, 1922. Serial No. 608,654.

This invention relates to bricks and more particularly to a ribbed or cog brick provided with spaced ribs upon its vertical faces arranged to intermesh with similar ribs upon the vertical faces of adjoining bricks, and has for its objects to provide a brick of this character in which the vertical faces of the brick are provided with horizontally disposed, alternate ribs and grooves, the ribs on each face of the brick being in horizontal alignment with the grooves upon the opposite faces, whereby the four vertical faces of each brick will intermesh with the adjoining bricks in the structure.

Although the invention is especially adaptable to bricks designed for use in arches, crowns or roofs of furnaces, kilns and the like, it should be understood that bricks formed in this manner are also adaptable for use in any other structure.

The above and other objects may be attained by constructing the brick in the manner illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of a form of brick especially adaptable for building arches or similar curved structures;

Fig. 2, an edge elevation of the same;

Fig. 3, a section on the line 3—3, Fig. 1;

Fig. 4, a transverse section through an arched roof, constructed of brick such as shown in Figs. 1 to 3;

Fig. 5, a longitudinal view through the same;

Fig. 6, an edge elevation of a brick embodying the invention and adaptable for ordinary building purposes, in which the ribs or cogs extend longitudinally of the brick; and

Fig. 7, an edge elevation of a modified form of the brick.

Similar numerals of reference indicate corresponding parts throughout the drawing.

Referring first to the form of brick illustrated in Figs. 1 to 5 inclusive, in which is shown a brick downwardly tapered on two opposite faces, and especially adaptable for building an arch or the like, the side faces of the brick are indicated at 1 and 2, the edge faces at 3 and 4, and the top and bottom ends at 5 and 6 respectively.

The side face 1 of the brick is provided with the horizontally disposed alternate ribs 7 and grooves 8, which may be of the particular cross sectional shape illustrated, or of any other suitable cross sectional shape.

The edge 3 of the brick is provided with similar ribs 7 and grooves 8 which are in horizontal alignment with, or continuations of the ribs and grooves upon the side face 1.

The side face 2 is provided with similar ribs and grooves 7 and 8 staggered with reference to the ribs upon the face 1, as best shown in Fig. 2, the ribs upon the face 2 being opposite the grooves upon the face 1 and vice versa.

In the same manner, the edge 4 is provided with ribs 7 and grooves 8 in horizontal alignment with the ribs and grooves upon the face 2, and staggered with reference to the ribs and grooves upon the edge 3. The top face 5 and under face 6 may be flat or smooth as illustrated.

In building a structure such as the arch shown in Figs. 4 and 5, with brick of this type, it will be seen that each brick is interlocked on each vertcal face with the adjacent bricks and an arch may be built without requiring the use of a keystone.

Should any brick become loosened, it will be seen that it is necessary for an opening the depth of one rib to be formed around all four sides of the brick before the same will be permitted to drop. The brick can then be permitted to drop only the width of one rib, since the brick increases in width toward the top.

Although the form of brick shown in Figs. 1 to 5 inclusive is tapered downward upon two opposite sides, it will be understood that this particular shape of the brick is only necessary for building arches such as illustrated in Figs. 4 and 5, while if a straight or flat roof is desired, there will be no downward taper upon the bricks and if a round crown is desired, such as used upon round kilns or the like, the bricks can be tapered downwardly upon all four vertical sides to produce the desired result.

In Fig. 6 is illustrated an application of the invention to a brick for use in ordinary building purposes, in which the side faces of the brick are provided with the ribs $7^a$ and grooves $8^a$ extending longitudinally of the brick, the end faces being provided with similar ribs $7^a$ and grooves $8^a$. In this form of brick, as well as the form above described, the ribs and grooves upon opposite faces of the brick will be arranged in staggered re-

lation, while the top $5^a$ and bottom $6^a$ of the brick are flat or smooth.

It will be seen that numerous other applications of the invention may be provided for bricks adapted for various uses, the invention, however, being applicable in any case, and consisting in the arrangement of horizontally disposed alternating ribs and grooves in staggered relation upon opposite vertical faces of the brick, thus providing an interlocking brick in which all four vertical faces will interlock with the adjoining bricks in the structure.

In Fig. 7, is shown a modified form of the invention, in which the upper face $5^c$ and lower face $6^c$ of the brick are flat or smooth, while the side faces and ends of the brick are provided with horizontal and vertical rows of alternating ribs $7^c$ and grooves $8^c$, this form of brick being especially adapted for some purposes, such as for corners or the like.

I claim:—

1. A brick provided with alternate horizontally disposed ribs and grooves extending entirely across each vertical face, the ribs upon each face being staggered with reference to the ribs upon the opposite faces and with reference to the ribs upon one adjoining face, and being arranged to interlock with similar ribs and grooves upon adjoining bricks.

2. A brick provided with alternate, horizontally disposed ribs and grooves upon each vertical face, the ribs upon one face being staggered with reference to the ribs upon the other face and arranged to interlock with similar ribs and grooves upon adjoining bricks, said brick being downwardly tapered upon two opposite faces.

3. A brick provided with alternate, horizontally disposed ribs and grooves upon each vertical face, the ribs upon each face being staggered with reference to the ribs upon the opposite face and arranged to interlock with similar ribs and grooves upon adjoining bricks, said brick being downwardly tapered upon two opposite faces.

4. A brick provided with alternate ribs and grooves upon each of four faces, the ribs upon one face being staggered with reference to the ribs upon another face and arranged to interlock with similar ribs and grooves upon adjoining bricks.

In testimony that I claim the above, I have hereunto subscribed my name.

CHARLES O. GUSTAVSEN.