P. McG. McBEAN.

DIE FOR THE MANUFACTURE OF TILES.

APPLICATION FILED MAY 17, 1915.

1,184,254. Patented May 23, 1916.

Fig. 1.

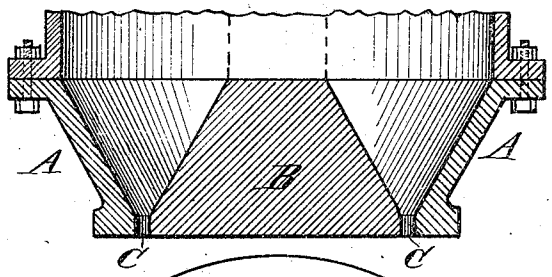


Fig. 2.

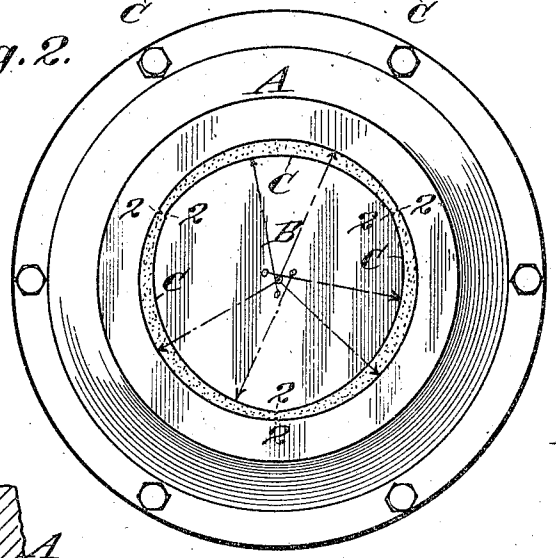


Fig. 4

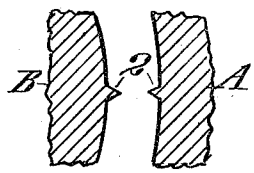


Fig. 5

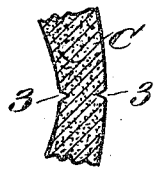
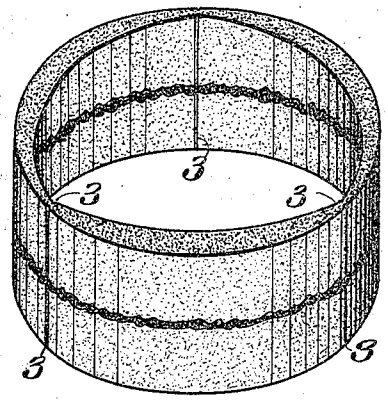


Fig. 3.



WITNESSES:

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DIE FOR THE MANUFACTURE OF TILES.

1,184,254. Specification of Letters Patent. Patented May 23, 1916.

Application filed May 17, 1915. Serial No. 28,509.

To all whom it may concern:

Be it known that I, PETER McG. McBEAN, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Dies for the Manufacture of Tiles, of which the following is a specification.

This invention relates to improvements in dies for the formation of plastic materials into desired shapes, and designed to multiply and improve the stability.

The invention consists of a die and core of such form, that a plurality of molded articles are produced at a single operation, with a device for scoring grooves along which the articles may be easily separated, either before or after being baked.

It also comprises details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a sectional view of die and the core. Fig. 2 is an end view showing die, core and intermediate form. Fig. 3 is a perspective view of the plastic material or tile after it has emerged from the die and been cut off to the desired length. Fig. 4 is a detail showing score knives on die and core. Fig. 5 is a detail showing score marks made on the plastic material as it emerges from the die.

In the manufacture of tiles and earthen ware pipes, and numerous other clay products, it is customary to force the clay or other plastic material through dies of the desired shape, under heavy pressure, and the completed product is afterward kiln fired or baked. Any increase in production must be made by increasing the number of dies used.

This invention is designed to provide a die to form a number of segments at a single operation such tiles having such a shape that they, when separated along the score marks or grooves will nest perfectly, but which may be retained together until baked, in order to prevent them from warping and becoming misshapen, after leaving the die.

As shown, A is the outer member, usually made of metal of great strength so as to resist pressure, and B is the core. The space C between these parts represents the shape of the article to be produced. The inner surface of the part A is made cylindrical. The core B, has its periphery formed of a plurality of segmental arcs of a curvature eccentric to that of the cylinder A, so that the space to be filled, and the resulting product will be a number of crescent shapes, as shown in Figs. 2 and 3. At the junction and thinnest part of each section scoring knives 2 are fixed in the die, so that when the plastic material is forced through the die, these score knives will form grooves 3, along which the segments may be easily separated before or after baking. By retaining the structure complete and undivided after its emergence from the die and while still in a green state, I am enabled to retain the shape and prevent it from warping, and becoming misshapen before or during baking, the grooves or score marks 3 enabling the units to be easily separated. By reason of the crescent shape, the inner surfaces, having the same radius as the outer surface, will fit closely upon the exterior surface of the preceding tile when stacked up, and any number of the tiles may thus be piled up and will nest perfectly without danger of fracture, and less space will be occupied. This construction of the die enables the manufacturer to produce in each operation, three or more tiles of crescent shape in each die, and the material may be cut into suitable lengths, as it emerges.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A die including an outer member and an inner member spaced therefrom whereby to produce a hollow integral cylindrical tile, said outer member having a true cylindrical inner face and said inner member having an outer face composed of a plurality of segments having the same radius as the radius of the inner face of the outer member and with their centers of curvature eccentric to the inner face of the outer member and having their ends meeting at common points, and means to form lines of weakening at said common points to allow the tile to be separated into sections which perfectly nest.

2. In the art of tile-manufacture, means for forming a hollow integral cylindrical tile, means for shaping the inner face of said tile to form same with a series of segments having the same radius as that of the tile

periphery and with their centers of curvature eccentric to the tile periphery, and means for forming lines of weakening, at the respective segment ends to allow the tile to be separated into sections which perfectly nest.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

PETER McG. McBEAN.

Witnesses:
W. W. HEALEY,
M. E. EWING.