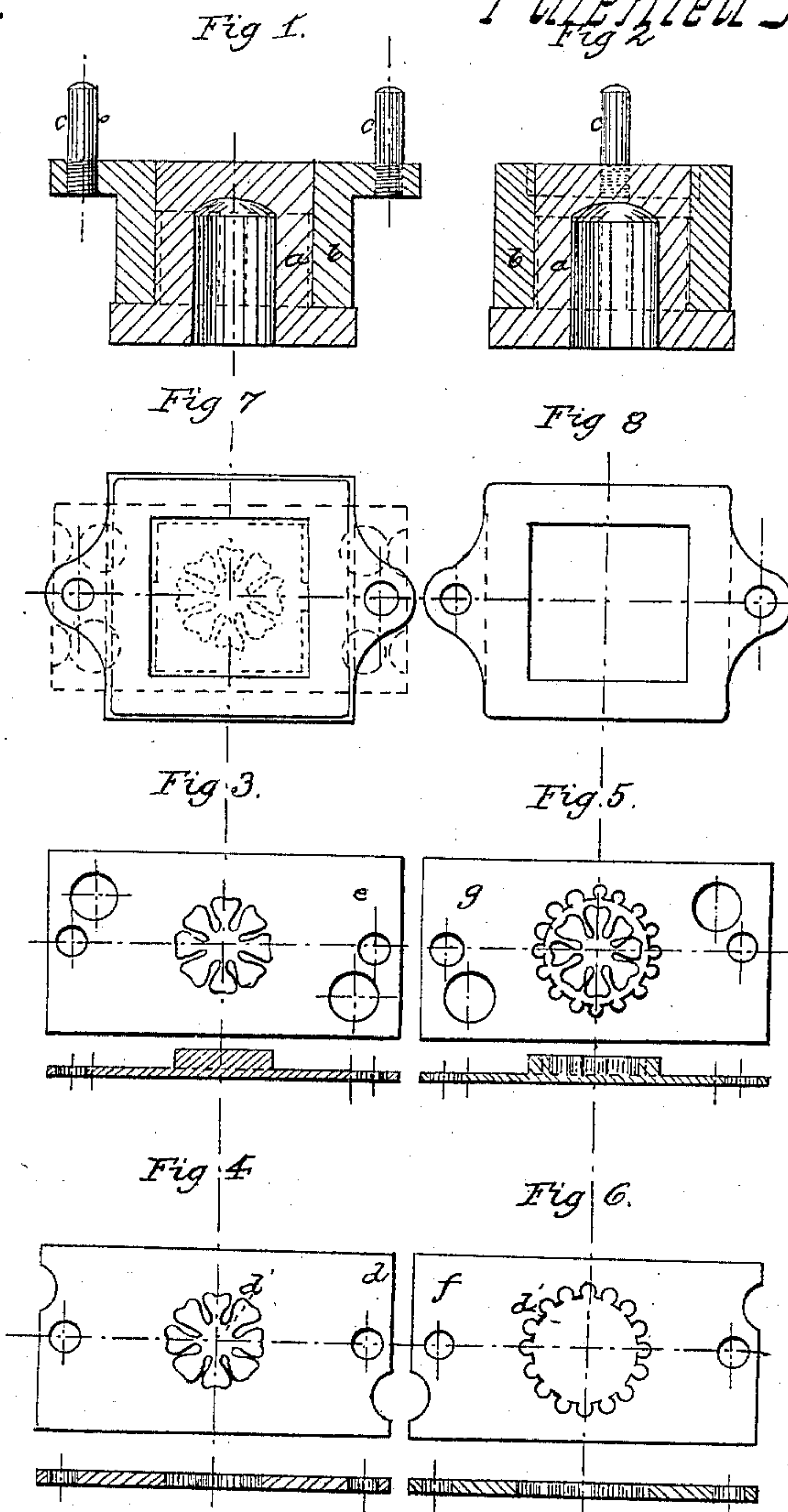


# Boulton & Worthington, Tile Machine.

N<sup>o</sup> 56,504.

Patented July 17, 1866.



Witnesses;

Signed by the said William  
Boulton and Joseph Worthington  
in the presence of *Joseph Walker*  
Shadford Waterhouse

Inventor;

William Boulton  
Joseph Worthington *Wm. Rigg*  
Wm. Rigg, Benilux

# UNITED STATES PATENT OFFICE.

WILLIAM BOULTON AND JOSEPH WORTHINGTON, OF BURSLEM, ENGLAND,  
ASSIGNORS TO MALKIN & CO., OF SAME PLACE.

## IMPROVED METHOD OF MANUFACTURING TILES, &c.

Specification forming part of Letters Patent No. 56,504, dated July 17, 1866.

*To all whom it may concern:*

Be it known that we, WILLIAM BOULTON and JOSEPH WORTHINGTON, of Burslem, in the county of Stafford and Kingdom of Great Britain, have invented certain new and useful Improvements in Making and Inlaying Encaustic Tiles and Similar Articles from Pulverized Clay or other Materials; and we do hereby declare that the following specification fully describes and ascertains the nature of the said improvements, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a side elevation of the apparatus; Fig. 2, an end view of the same; Figs. 3, 4, 5, and 6, views, in plan and section, of the molds and counter-molds; Fig. 7, a plan view of the apparatus with tile as it appears when finished in two colors previous to removal, and Fig. 8 a frame intended for making several tiles at one time—that is to say:

This invention relates to an improved method of making encaustic tiles and similar articles from pulverized clay or other materials and the apparatus connected therewith.

*a* is a ram or block, fixed on a press in any suitable way, on which the tiles are formed. *b* is a frame surrounding said block and provided with two projecting pins, *c c*. This frame may be raised by any convenient contrivance to a greater or less height, in order to give any required thickness to the tiles.

*d e f g* are four molds and counter-molds employed for forming the different figures of the tile.

The apparatus is employed as follows: The mold *d* is placed on the block, and the pins *c c* are made to pass through holes *c' c'* formed in it. A certain quantity of powdered clay of any suitable color is poured into the empty space *d'*. Next, the excess of powder is removed in any convenient way, and the counter-mold *e* is placed on the mold *d*, and is slightly pressed down, in order to consolidate the powder which fills the space *d'*, thus forming the first figure or design when both mold and counter-mold are removed. The mold *f* is now placed on the block, and the space existing between

the outline of the first design and that of the mold is filled with powder of another suitable color. After removing the excess of powder the counter-mold *g* is placed over the latter and slightly pressed, in order to consolidate the powder, when, by raising the mold *f* and pressing on the counter-mold *g*, the second design is left on the block, as was the first in the operation just described, and so on for as many colors or figures as may be required. Next, in order to give a back or ground work to the tile, the frame *b* is raised to the required height according to the thickness required, and then filled up with powder of the required color. In the same way a false back may be formed with clay of any suitable kind or tint when the price of the colors employed necessitates this precaution. When the tile is thus formed the whole is submitted to a strong pressure by means of a press mounted in any convenient manner. Any other suitable material may be employed in lieu of powdered clay. When the latter is employed it may be taken in a comparatively dry state and burned almost immediately after making.

By means of the frame shown, Fig. 8, several tiles may be made at one time.

The apparatus may be made of any suitable size and form, so as to form, if required, slabs of larger size than the ordinary tiles and comprising any suitable number of colors and designs.

Having now described the nature of our said invention and the manner of carrying the same into effect, what we claim, and wish to secure by Letters Patent, is—

The improved mode and arrangement of apparatus for forming encaustic tiles, slabs, and other articles, substantially as above described, and represented in the accompanying drawings.

WILLIAM BOULTON.  
JOSEPH WORTHINGTON.

In presence of—

ISAAC WALKER,  
*Solicitor, Burslem.*  
SHADFORD T. WATERHOUSE.