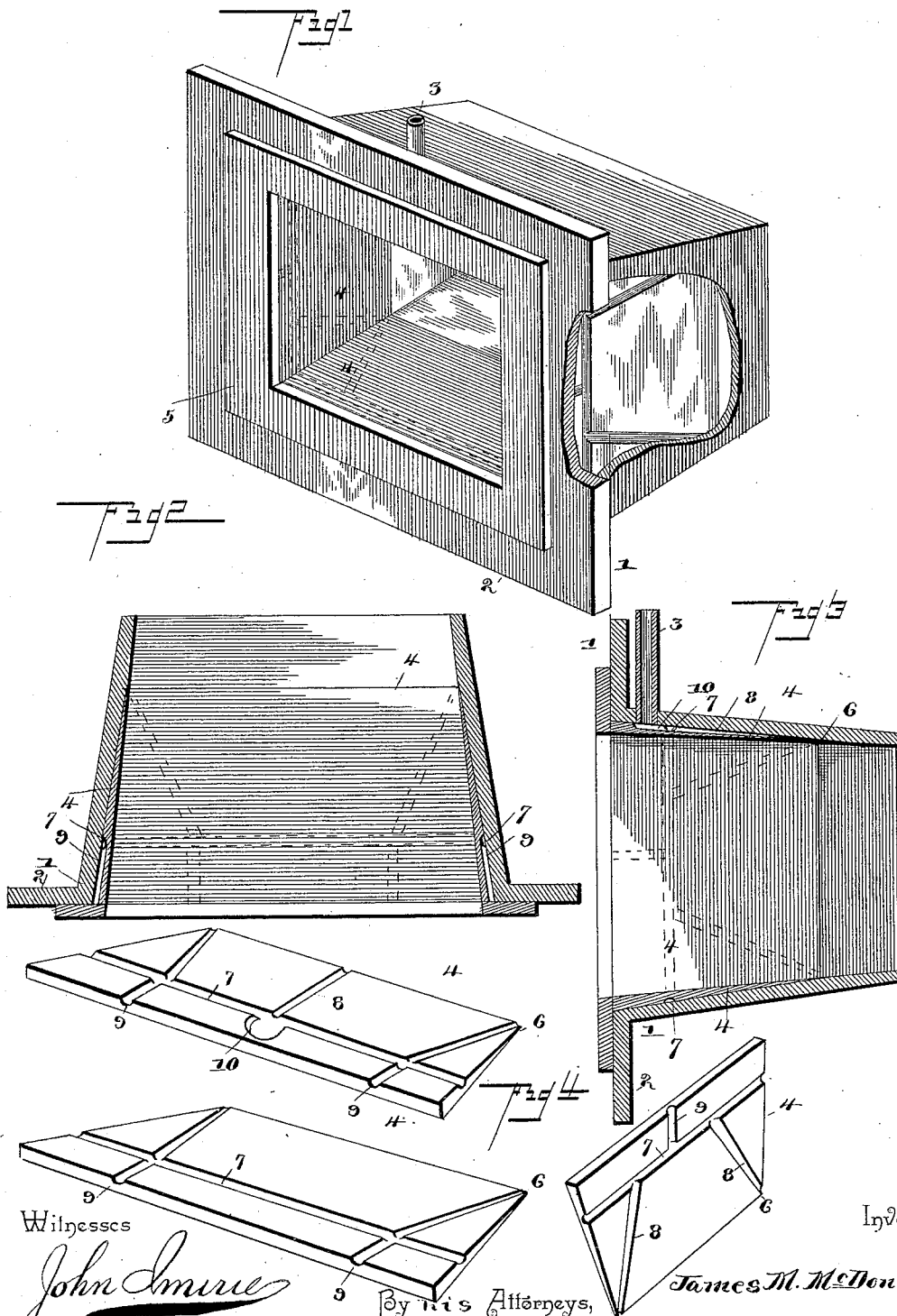


(No Model.)

J. M. McDONALD.
BRICK DIE.

No. 422,432.

Patented Mar. 4, 1890.



Witnesses

John Imrie
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By his Attorneys,

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UNITED STATES PATENT OFFICE.

JAMES M. McDONALD, OF MONTGOMERY, ALABAMA.

BRICK-DIE.

SPECIFICATION forming part of Letters Patent No. 422,432, dated March 4, 1890.

Application filed September 27, 1889. Serial No. 325,255. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. McDONALD, a citizen of the United States, residing at Montgomery, in the county of Montgomery and State of Alabama, have invented a new and useful Brick-Die, of which the following is a specification.

This invention relates to self-lubricating dies for brick-machines of that class in which the clay is forced out either by auger or plunger mechanism in a continuous mass, which is afterward cut into bricks of proper dimensions; and it has for its object to make provision for the constant and regular lubrication of the die, so that brick may be manufactured in a perfect manner either from sandy or soft clay, provided only that the clay shall be sufficiently stiff to enable it to be handled by the hands or pallets.

The invention consists of the improved construction of the said die, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a brick-die embodying my improvements detached from the machine. Fig. 2 is a horizontal sectional view of the same. Fig. 3 is a vertical transverse sectional view. Fig. 4 is a detail view showing the parts comprising the die detached from each other.

Like numerals of reference indicate like parts in all the figures.

1 designates the die or throat-piece of the machine, which is of ordinary construction—that is, rectangular in cross-section and tapering upon its inner to its outer or discharge end. The inner end of the die is provided with flanges 2, by means of which it may be attached to the machine in any convenient manner. The upper side of the die is provided with a nipple 3, forming an inlet for the lubricative material, which may be either oil or water. Within the die and adjacent to the four sides thereof are placed a series of plates 4 4, which are fitted nearly against the sides and held in position by means of a frame 5, secured to the inner end of the die. The inner sides of the plates 4 4 are made perfectly smooth and tapering to the knife-edges 6 at their front ends, where they join the sides of the die proper. The outer sides of the plates 4, which are in contact with the

inner sides of the die, are provided with longitudinal grooves 7, and with intersecting grooves 8 and 9, leading, respectively, in a forward and rearward direction to the front and rear edges of the plates 4. The side of the plate 4 which registers with the inlet 3 is provided with a recess or depression 10, communicating with the said inlet and with the groove 7 in the said plate. The grooves 7 of the several lubricating-plates register with each other at the adjoining edges of the said plates.

It will be seen that when in practice lubricating material is supplied through the inlet 3 it will flow through the grooves 7 to the four sides of the die and be discharged through the grooves 8 and 9 in both a forward and rearward direction, thus moistening or lubricating the clay which is being forced through the die evenly and regularly, and thereby enabling smooth and perfect bricks to be formed from plastic material under conditions which would make it difficult or impossible to handle such materials in brick-machines of ordinary construction.

Having thus described my invention, what I claim is—

1. The combination, with a brick-die having an inlet for lubricating material, of a series of plates arranged adjacent to the inner sides of said die, tapering to knife-edges at their front ends, which are in contact with the inner sides of the die, and having longitudinal grooves and transverse or intersecting grooves extending forwardly and rearwardly to the front and rear edges of said lubricating-plates, the longitudinal groove of each plate communicating with those of the adjacent plates, substantially as set forth.

2. The combination, with a brick-die having an inlet for lubricating material, of the interiorly-arranged beveled plates, each provided on its outer side with a longitudinal groove communicating with the longitudinal grooves of the adjacent plates, and with transverse or intersecting grooves extending forward and rearward, one of said plates being provided with a recess or depression registering with the inlet in the die and communicating with the longitudinal groove in said plate, substantially as set forth.

3. The combination, with a brick - die
flanged at its inner end and having in its
upper side an inlet for lubricating material,
of the interiorly - arranged beveled plates,
5 each provided with a longitudinal groove
communicating with the longitudinal grooves
of the adjacent plates and with forwardly
and rearwardly extending transverse or in-
tersecting grooves, and a rectangular frame
10 secured to the inner end of the die to retain

the said lubricating-plates in position therein,
substantially as and for the purpose set forth.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
presence of two witnesses.

JAMES M. McDONALD.

Witnesses:

W. W. BRUME,

J. A. MCDADE.