

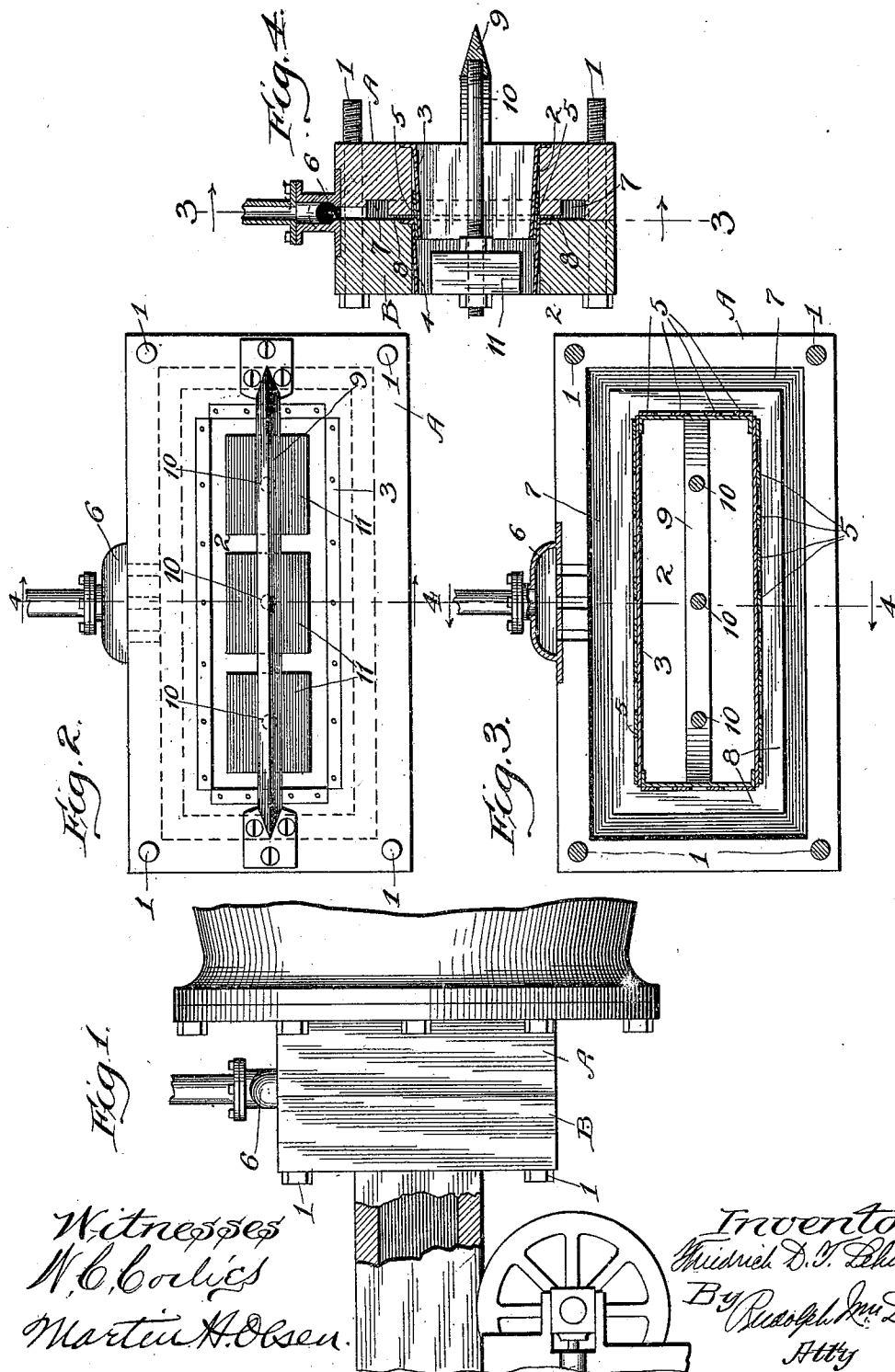
No. 623,920.

Patented Apr. 25, 1899.

F. D. T. LEHMANN.
DIE FOR BRICK AND TILE MACHINES.

(Application filed Mar. 28, 1898.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

FRIEDRICH D. T. LEHMANN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE FIRM
OF F. LEHMANN, OF SAME PLACE.

DIE FOR BRICK OR TILE MACHINES.

SPECIFICATION forming part of Letters Patent No. 623,920, dated April 25, 1899.

Application filed March 28, 1898. Serial No. 675,418. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH D. T. LEHMANN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dies for Brick or Tile Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a novel construction in a die for brick and tile machines, the object being to provide a device of cheap, simple, and durable construction and efficient operation; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a side elevation of the delivery end of a brick and tile press provided with a die constructed in accordance with my invention. Fig. 2 is a rear end elevation of the die. Fig. 3 is a sectional view of same on the line 3 3 of Fig. 4. Fig. 4 is a sectional view on the line 4 4 of Fig. 3.

In the manufacture of brick and tile, and particularly in the manufacture of tile, it is necessary to provide a different die for each different shape or size of tile, and as there are but few standard shapes and sizes the manufacturer is compelled to make a new die for almost every contract. Where these dies are made altogether of metal, usually cast, considerable time is consumed and a great deal of expense incurred, for the reason that before the castings can be made the patterns must be completed, and after the castings are made they must be finished to some extent before they can be utilized. Such castings after being completed and used for one piece of work are generally stored away for future use should occasion offer. Such metallic dies are subject to very great disadvantage, inasmuch as the peripheral castings are subjected to great outward pressure, and consequently frequently break, thereby necessitating cessation of operation until a new die is made and fitted into place. To overcome all of these objections and provide a cheap, durable, and efficient die, I provide a plural-

ity of frames A and B, made of a suitable wood, secured together by means of bolts 1, which also serve to secure said die to the mouth of the press. Said frames A and B are each provided with corresponding central openings 2, which are of the shape and size it is desired that the brick or tile shall have. Said openings 2 are lined with sheets 3 and 4 of zinc or other non-corrosive metal, and in the section A said lining is held slightly away from the walls of the opening 2 by means of small slips 5 of sheet metal interposed between said lining and the walls of the opening at regular intervals and projecting over said lining 4.

To one of the outer faces of the die a water-feed nozzle 6 is secured, which is connected with a water-supply pipe and communicates with an annular passage 7 in said section A, and thence with said opening 2, through the annular passage or channel 8, formed by cutting away the face of the frame A interiorly of said channel 7. In this manner the lining 4 of section B is kept constantly moist, thus allowing the clay pressed through said die to pass easily.

To make hollow tile, it is necessary to interpose plates in the opening of the die, so that the clay can pass only through the passages between said plates and the walls of the opening. These plates must obviously be held in place in such a manner that the clay in passing between the plates and the walls of the opening will be in a solid unbroken mass like seamless tubing. To this end I provide an arch-bar 9, which spans the opening 2 and is secured at its ends to the innermost face of the section A. These arch-bars are provided midway between their ends with screw-threaded openings which the screw-threaded ends of rods 10 are adapted to pass, which at their other ends carry blocks 11, whose outer faces are flush with the outermost face of the die. In the instance illustrated the said blocks 11 are three in number, thus being adapted to form a like number of openings in the tile, which in cross-section would comprise four outer walls, of which the widest are connected by two cross-walls parallel with the narrowest outer walls. The said arch-bars 9 are situated so far behind

the delivery end of the die that the clay which is divided in passing same is given sufficient opportunity to join again before reaching said delivery end of the die, thus again forming a solid unbroken mass.

It will be obvious that by making said dies of wood the necessity of making patterns is obviated, while at the same time greater strength and durability are obtained. The sheet-metal lining of the opening is also smoother than the inner face of a casting, thus forming a more finished brick or tile. The arch-bars are also so made as to be used on different dies, thus making the blocks the only metallic portion of the die which it is necessary to change.

I claim as my invention—

1. A die for brick and tile machines, comprising a plurality of sections provided with corresponding central openings and adapted to be secured together and to the delivery end of a press, a sheet-metal lining for each of said sections, devices interposed between lining and walls of the opening in the innermost section to hold said lining slightly away from said walls and from the lining of the outermost section, a water-passage in said die communicating with said opening between

said lining and the walls of the innermost section, and a water-supply pipe communicating with said water-passage, substantially as described.

2. A die for brick and tile machines, comprising a plurality of sections provided with corresponding central openings and adapted to be secured together and to the delivery end of a press, a sheet-metal lining for each of said sections, said lining of the innermost section partially overlapping the lining of the next succeeding outer section, devices interposed between lining and walls of the opening in the innermost section and the lining of the outermost section to hold said lining slightly away from said walls and said lining of said outermost section, a water-passage in said die communicating with said opening between said lining and the walls of the innermost section, and a water-supply pipe communicating with said water-passage, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRIEDRICH D. T. LEHMANN.

Witnesses:

RUDOLPH WM. LOTZ,
WM. B. SNOWHOOK.

It is hereby certified that the assignee in Letters Patent No. 623,920, granted April 25, 1899, upon the application of Friedrich D. T. Lehmann, of Chicago, Illinois, for an improvement in "Dies for Brick or Tile Machines," should have been described and specified as the *F. Lehmann & Co.*, instead of "the firm of F. Lehmann," and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 5th day of March, A. D., 1901.

[SEAL.]

F. L. CAMPBELL,
Assistant Secretary of the Interior.

Countersigned:

C. H. DUELL,
Commissioner of Patents.