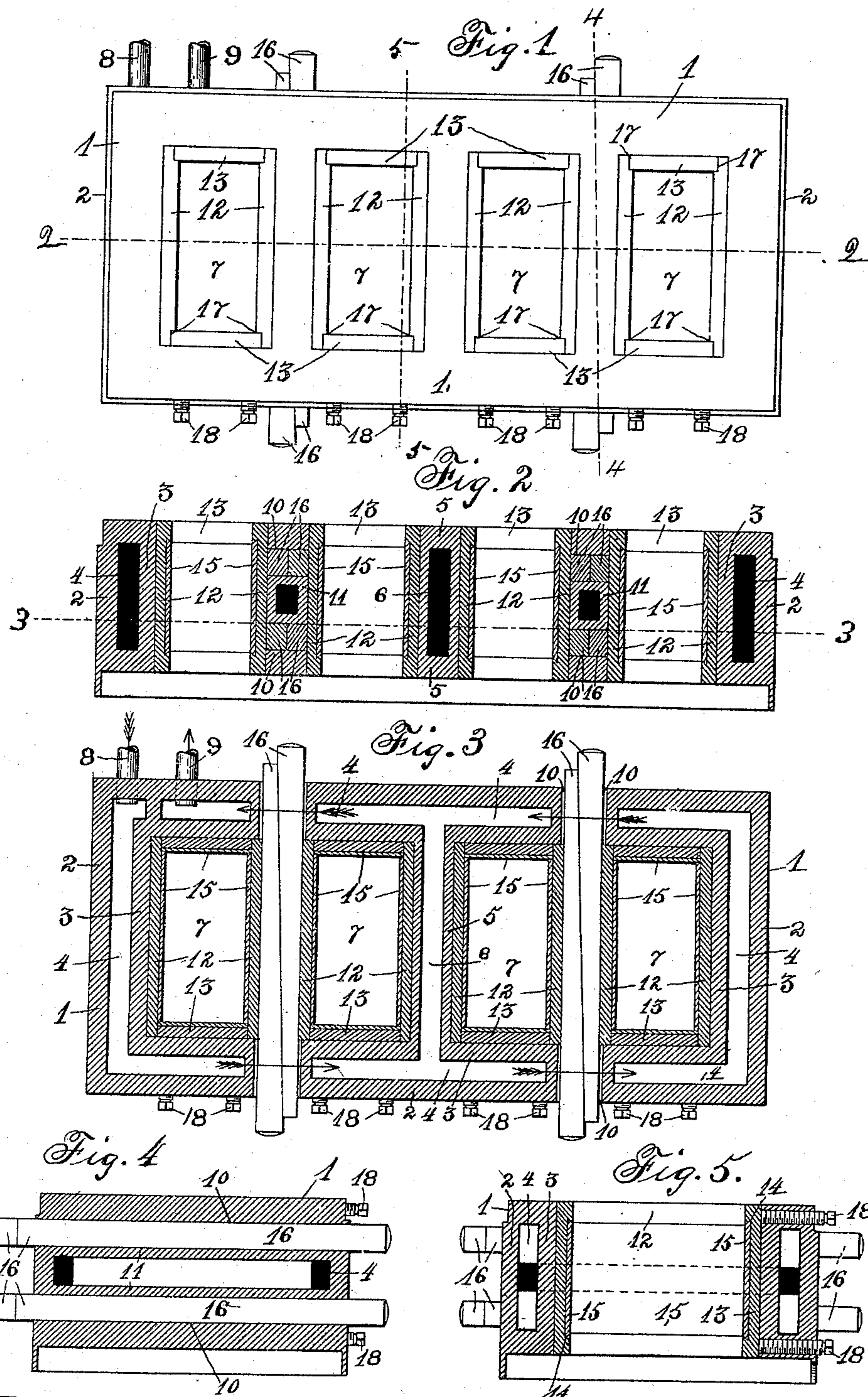


(No Model.)

J. LEONHARDT.  
MOLD FOR BRICK MACHINES.

No. 518,461.

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Witnesses—  
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# UNITED STATES PATENT OFFICE.

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## MOLD FOR BRICK-MACHINES.

SPECIFICATION forming part of Letters Patent No. 518,461, dated April 17, 1894.

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*To all whom it may concern:*

Be it known that I, JACOB LEONHARDT, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Molds for Brick-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved "mold for brick machines," particularly adapted for use in a class of machines in which the article is molded by the force of reciprocating plungers, and it consists in the novel construction, combination and arrangement of parts hereinafter described and claimed.

The object of my invention is to provide an improved portable brick mold, which shall be itself detachable from the mold-table of the machine, which shall have formed in it a series of separate press-boxes, each of which shall be composed of four removable and interchangeable sections, each of which shall be separable from the mold and from the adjoining sections, and each of which press-boxes shall have, in addition to the sections of which they are composed, four separate steel-lining-plates, a separate steel-lining-plate for each section, and each lining-plate dovetailed in place upon its section of the press-box of which it forms a part, and each lining-plate being separable from said section, and each portable brick mold shall have improved devices for retaining said sections and said lining-plates in position while in use, and each brick mold shall be provided with an improved heating apparatus, whereby said lining-plates of the mold shall be maintained at the proper temperature during use.

The improved mold may be applied to machines having either movable or fixed molds, and as the construction of the devices which support the molds forms no part of my present invention, I have not illustrated or described the same.

In the drawings: Figure 1 is a top plan view. Fig. 2 is a sectional elevation, taken on the line 2—2 of Fig. 1. Fig. 3 is a sectional plan view, with the section taken on the line 3—3 of Fig. 2. Fig. 4 is a transverse sectional elevation taken on the line 4—4 of Fig. 1. Fig. 5 is a similar view to the last, with the section taken on the line 5—5 of Fig. 1.

Referring to the drawings: 1 indicates the main body or frame of the mold, which is portable and preferably of rectangular contour, and of such dimensions as will enable clay for a series of two, four or more bricks to be simultaneously pressed therein. This body is constructed with an outer wall 2 separated from an inner wall 3 by means of a steam space or hot air space 4, the function of which is stated hereinafter. These walls inclose on four sides the space in which the several press boxes are removably located in pairs.

A double-walled partition 5 having a steam-space 6 communicating on each of its ends with the main steam space 4 extends transversely across the mold and separates the press-box space into two separate divisions, and in each of these divisions there is removably located a pair of press boxes 7, the detailed construction of which will be stated farther on.

A steam or hot air supply pipe 8 is arranged to discharge steam or hot air into one end of the steam space 4, and a discharge pipe 9 is connected to the opposite end of said space, to permit discharge of steam or hot air from said space.

In case the mold is applied to a machine having a movable mold, the connections with the steam boiler or other source of heat, may be made by a flexible hose (not shown) applied to the pipe 8.

A key-way 10 extends transversely across the mold at points adjacent to the upper and lower faces thereof, and across each division of the press-box space, there being two of said key-ways extending parallel to each other across each division of said space. Extending also across each division of said space is a pipe or tube 11 which is located in vertical alignment with and parallel to a pair of the key-ways 10, and its opposite ends communicate with the steam-space 4 of the mold body.

The press-boxes are each composed of separable side sections 12 and end sections 13, the outer surfaces of which are held in forcible contact with the inner surface of the mold-wall 3, by a means presently described. The side sections 12 are of such length as to extend transversely across the press-box

space, which they do, and the end sections 13 are of such length as to be located with their ends in contact with the inner surface of said side sections, one at each end thereof.

5 The inner walls of both the side and end sections are provided with horizontally extending dovetail recesses 14 each having opposite beveled or overhanging edges and in each of which recesses a thin wearing plate

10 or lining 15, made of hardened steel, chilled metal, or other suitable material, is detachably located. The opposite edges of the thin plates 15 are beveled, to correspond with the beveled edges of the dove-tail recesses 14, the

15 construction being such that said thin plates are securely held and located in the above described position during use.

Keys 16, or equivalent divisions, extend through the key-ways 10, so as to contact

20 with the outer surfaces of adjacent side sections 12 of pairs of press-boxes and urge the same into forcible contact with the adjacent end sections of each press-box, and thereby securely and simultaneously lock the parts

25 of two adjacent press boxes in position in the mold, in a direction longitudinal of said mold.

The opposite inner faces of the side sections 12 of each press-box are provided with

30 vertical rabbets or grooves 17 which are engaged by the end sections 13 and space said end sections the proper distance apart, and prevent the same from being forced inward out of normal position.

35 Screws 18 are threaded through the main body 1, so that their inner ends project in contact with the end sections 13 at one end of each press-box, for the purpose of more firmly binding said end sections in place.

40 The relative location of the thin lining plates 15 carried by the side sections 12 and the end sections 13, is such that the ends of said lining plates carried by said side sections abut against the inner surface of said lining

45 plates carried by said end sections and thus hold the said lining plates of the end sections securely in position, and lock the whole together in such a manner that no one piece of lining can be removed without first retracting

50 the screws 18 and withdrawing the keys 16.

The operation is as follows: The parts being located as shown, are ready for use as soon as the proper connections are made with the pipes 8 and 9, and steam or other heating

55 agent entering pipe A passes in the direction indicated by the arrows through the steam space 4, entirely around the press-box space, and transversely through the space 6 and the pipes 11, and makes its exit by way of pipe 9,

60 thereby imparting heat to each portion of the mold. The degree of heat thus imparted should be such that the thin lining plates 15 of each press box will be heated to such a temperature as will tend to dry and bake the

65 clay which is placed in contact therewith. It is well known that when a metallic surface is heated to such a temperature, clay will not

adhere to same. The result of this is, that I provide a mold from which the pressed material may be readily withdrawn, without mar- 70 ring its shape. Perfect configurations will thereby be produced in each press-box.

The readiness with which the parts may be detached from each other, for repair and similar proceedings, are self-evident. It will thus 75 be observed that I provide a portable or detachable brick-mold having a series of detachable and separable press-boxes therein, and a passage for heat entirely surrounding each of said press-boxes. 80

I am aware that heretofore, in a brick machine, a single press box has been provided with separable side and end liners applied directly to the box or mold itself, said side and end liners engaging each other at their 85 ends, and secured in place by suitable set-screws passed directly through the solid wall of the mold, and I do not claim such as of my invention when used alone.

I am further aware that a single mold has 90 been formed hollow with a passage for steam surrounding said mold, and I do not claim such as of my invention when used separately.

I am further aware that prior to my invention, a brick machine has been provided with 95 a solid or integral mold-bed, having a series of molds formed therein, and a steam pipe or passage running around each of said molds, but as in such construction the mold boxes are formed integral with said mold bed, and 100 therefore cannot be detached therefrom, I do not claim such as of my invention.

What I claim is—

1. The improved brick-machine mold having a body 1 constructed with an outer-wall 105 2 separated from an inner wall 3 by means of a steam-space 4 and inclosing a press-box space, a double-walled partition 5 having a steam space 6 communicating at its opposite ends with the steam-space 4 and separating 110 said press-box space into two separate divisions, and a pair of press-boxes detachably located in each division of said press-box space, and provided with means for securing each pair of press-boxes in position independently 115 of the remaining boxes in said mold, substantially as herein specified.

2. A portable brick-mold detachable from the machine, and constructed with a detachable press-box having one of its walls separably in contact with a heating surface, substantially as herein specified. 120

3. A portable brick mold constructed with a detachable press box having each of its vertical walls separably in contact with a heating surface, substantially as herein specified. 125

4. The improved portable mold for brick machines, constructed with a main body 1 made hollow with a steam-space entirely surrounding it, a hollow partition extending 130 transversely across said body and having a steam space 6 which communicates at each of its ends with the main space in said body, said partition separating the press-box spaces

of said mold into two separate divisions, a pair of press-boxes removably located in each of said divisions, key-ways formed in said body and extending transversely therethrough, and keys located in said key ways and extending across said body therein and engaging the adjacent sides of each pair of said press-boxes to retain same in position, substantially as herein specified.

5. The improved portable mold for brick machines, constructed with a body 1 made hollow and provided with a steam-space which entirely surrounds the press-box space therein, a transverse partition 5 having a steam-space 6 and extending across the press-box space of said mold so that the steam-space 6 of said partition communicates with the steam-space of said body, press boxes detachably located in pairs in each of the press-box divisions of said mold, one pair upon each side of said partition, a key-way 10 extending transversely across the mold at points adjacent to the upper and lower faces thereof and across each division of the press-box space, two of said key-ways extending in vertical alignment and parallel to each other across each division of said space, a pipe or tube 11 located in vertical alignment with and parallel to a pair of key-ways 10 with its opposite ends communicating with the steam-space of the mold body, press boxes detachably located in pairs in each of the press-box-divisions of said mold, and keys 16 extending through the key-ways 10 and contacting with the outer surfaces of adjacent side sections of pairs of press-boxes so as to simultaneously lock two adjacent press-boxes in position in the mold, substantially as herein specified.

6. The improved brick mold constructed of a portable body inclosing press-box space, a press-box formed of four separate sections and detachably secured in said press-box space, and each of said sections provided with a separate detachable lining-plate, substantially as herein specified.

7. The improved mold for brick machines, constructed with a portable body 1 surrounding a press-box space, a detachable press-box composed of separable side sections 12 and end sections 13, the outer surfaces of which

are held in forcible contact with the inner surface of the mold wall, the said side sections 12 extending parallel across the press-box space, and the end sections 13 having their ends in contact with the inner surface of said side sections, one at each end thereof, the inner walls of said side and end sections being provided with horizontal dovetail recesses 14, having opposite beveled or overhanging edges, a thin wearing-plate or lining 15 detachably located in each of said recesses, the opposite edges of said lining-plates 15 being beveled to correspond with the beveled edges of the dovetail recesses 14, the ends of said lining-plates, which are carried by said side sections, abutting against the inner surface of said lining-plates carried by said end sections, and means for securing said sections and said lining-plates in the positions described, substantially as herein specified.

8. A portable brick mold constructed with a press-box formed in four separable sections and four separable lining sections secured one to the inner surfaces of each of said first mentioned sections, substantially as herein specified.

9. A brick mold constructed with detachable press-box sections and thin lining sections dovetailed in place upon said sections, substantially as herein specified.

10. A brick mold constructed with separate side and end sections separable from the main body of the mold and from each other, and thin lining sections separable from the side and end sections and from each other, in combination with keys and screws, which hold said sections in position in the mold substantially as herein specified.

11. A brick mold constructed with key-ways in its body, press-boxes detachably held in place in said body, and keys in each key-way which secure said press boxes in said body, substantially as herein specified.

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

JACOB LEONHARDT.

Witnesses:

EDWARD EVERETT LONGAN,  
JNO. C. HIGDON.