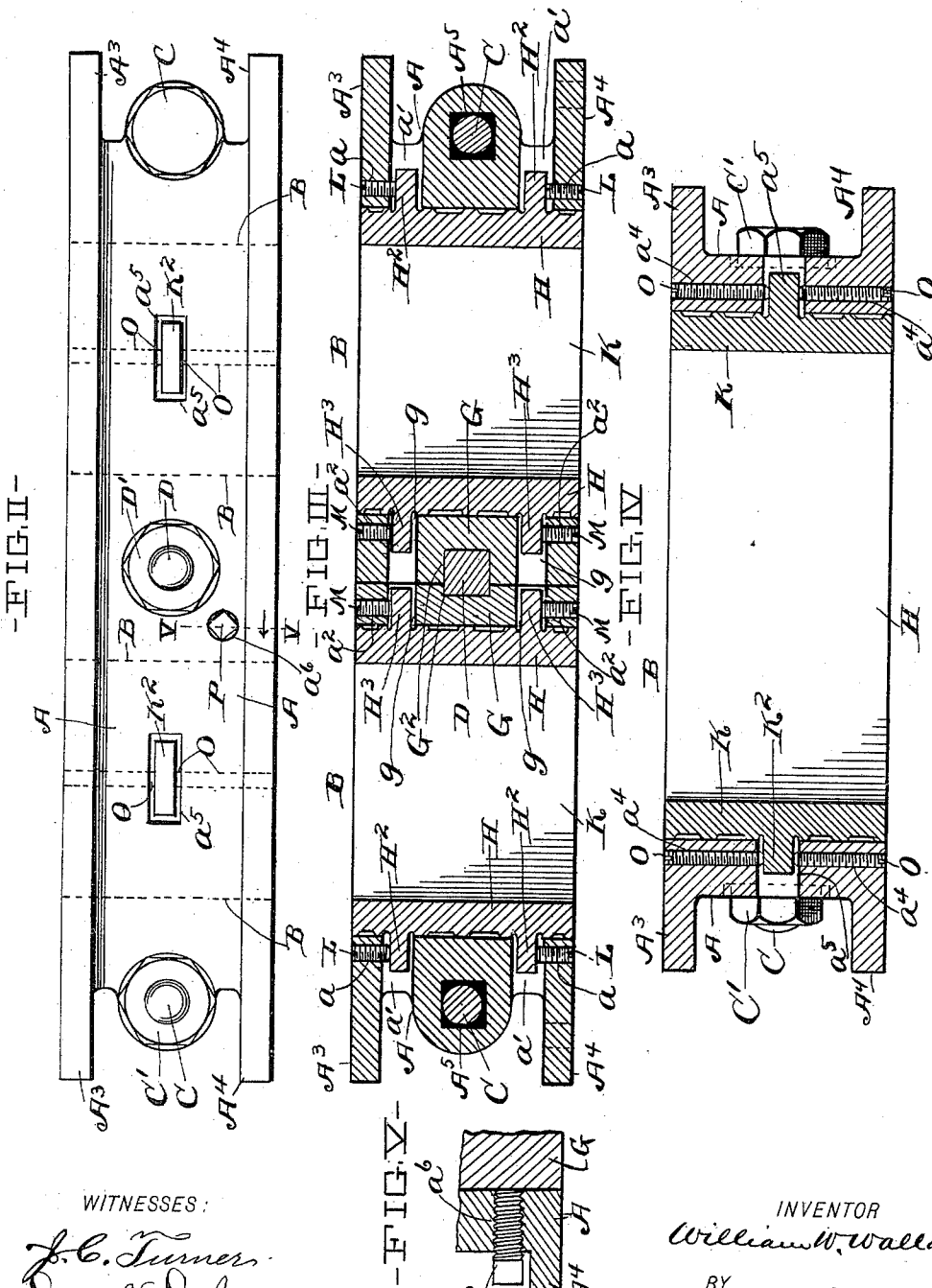


W. W. WALLACE.

DOUBLE DIE OR MOLD FOR CLAY PRODUCT MACHINES.

No. 600,565.

Patented Mar. 15, 1898.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM W. WALLACE, OF WILLOUGHBY, OHIO, ASSIGNOR TO THE AMERICAN CLAY WORKING MACHINERY COMPANY, OF BUCYRUS, OHIO.

DOUBLE DIE OR MOLD FOR CLAY-PRODUCT MACHINES.

SPECIFICATION forming part of Letters Patent No. 600,565, dated March 15, 1898.

Application filed July 30, 1897. Serial No. 646,441. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. WALLACE, of Willoughby, Lake county, Ohio, have invented certain new and useful Improvements in Double Dies or Molds for Clay-Product 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 pertains to make and use the same.

My invention relates to improvements in double dies or molds for clay-product machines, and more especially to a mold designed for a brick-press and having two compartments wherein the material or brick to be operated upon is introduced.

The object of the invention is to construct a die or mold of the character indicated that is inexpensive and durable and whose component parts are quickly assembled in the construction of the mold.

In the accompanying drawings, Figure I is a top plan of a die or mold embodying my invention. Fig. II is a side elevation of the same. Fig. III is a vertical section on either one of lines III III, Fig. I, looking in the direction of the arrow. Fig. IV is a vertical section on either one of lines IV IV, Fig. I, looking in the direction of the arrow. Fig. V is a vertical section on either one of lines V V, Figs. I and II, looking in the direction of the arrow.

I would here remark that my invention pertains only to the assemblage of the side walls or liners of the compartments of the mold, to the construction of the body portion or framework supporting the said walls, and to the means employed for adjusting and securing the said liners in place, and does not pertain to the compressing-plungers (not shown) that enter the mold from the upper side and lower side, respectively, and compress the brick or material in the mold.

The body portion or frame of my improved mold is made in halves A A, that are counterparts of each other, and are secured together by any suitable number of bolts and nuts.

The mold illustrated has two compartments B and B, arranged side by side and a suitable distance apart. Said compartments are rectangular in plan and are arranged between

the parts composing the aforesaid frame. Each part of the frame overlaps the outer sides of the mold-compartments, as at A', and the two parts have their ends abutting each other, as at A², at the central portion of the outer sides of the compartments. Each part of the frame has reinforcing ribs or flanges A³ and A⁴, extending along the top and bottom, respectively, of the part. The meeting ends of the two parts of the frame have bolt-holes A⁵, that are arranged in line centrally between flanges A³ and A⁴ and are engaged by a bolt C, that with the nut C', mounted upon the bolt's threaded shank, is instrumental in holding the two parts of the frame together—that is, the two parts of the frame at the outer sides of the different mold-compartments are secured together by bolts and nuts C and C' and the two halves of the frame are also secured together at their central portion between the two mold-compartments by a bolt or rod D and nuts D'. The bolt or rod D extends through both halves and is square in cross-section between the sides of the frame-sections. The ends of bolt or rod D are cylindrical and externally screw-threaded, (not shown,) and the nuts D' are mounted upon the threaded ends of member D at the outer sides of the said frame-sections.

Two wedges G and G are interposed between and arranged longitudinally of the mold-compartments, and are, furthermore, arranged with their diagonal or sloping surfaces facing or abutting each other. Bolt or rod D extends through the said wedges, and the latter, consequently, have recesses, as at G², upon their opposing sides to accommodate the location of the said rod or bolt and to form slide-bearings upon the wedges—that is, the wedges are shiftable endwise upon member D, and the latter forms the slideways for the wedges.

The wedges are employed in tightening the lining plates or liners that form the walls of the mold-compartments. Said liners are merely smoothed upon their inner surfaces and are left in the rough upon their backs. Two liners H H form opposite side walls, respectively, of a mold-compartment, and two liners K and K form opposite end walls, respectively, of a mold-compartment.

Each of the outer side liners H of the mold-compartments is secured in place vertically between its central portion and each end by and between two vertical screws L L, that engage correspondingly - threaded vertical holes a , formed in the top and bottom, respectively, of the adjacent portion of the frame and engage the upper side and lower side, respectively, of different lugs H^3 H^2 , respectively, projecting outwardly from the back of the liner—that is, each outer side liner H at each side of the joint of the two sections of the mold-frame is provided with two lugs H^3 H^2 , projecting laterally and outwardly into holes a' , formed in the adjacent frame-section and in open relation with holes a . Holes a' are somewhat larger vertically than the engaging lugs H^2 , and the said liners H are held in the desired vertical adjustment by means of the screws L. It will be observed, therefore, that each outer side liner H is supported from both frame-sections and is held by and between screws engaging correspondingly-threaded holes in the said sections. Each of the inner side liners is similarly held in place vertically and is shiftable laterally, but is supported from the adjacent wedge instead of the mold-frame. Hence each inner liner H upon its back side is provided with projecting horizontally-arranged lugs H^3 , engaged by vertical screws M, introduced through correspondingly-threaded vertically-arranged holes a^2 , formed in the adjacent wedge. Two screws M are screwed a suitable distance apart into the upper portion of each wedge and engage the upper sides of two lugs H^3 , formed upon the upper portion of the adjacent liner H, and other screws M are screwed into the lower portion of the wedge and engage the lower side of other lugs H^3 , formed upon the lower portion of the said liner. Each lug H^3 extends into a hole g , formed in and laterally of the wedge, and holes g are large enough vertically and longitudinally of the liners to accommodate an easy reception of the said lugs H^3 , that, and consequently the liners, are held in place vertically by the aforesaid screws M.

The end liners that, as already indicated, form the end walls of the mold-compartments are interposed between the side liners and are shiftable endwise and are similarly secured to the adjacent frame-section, and each end liner is held at its central portion and upon its back side by and between two vertical screws O O; introduced through correspondingly - threaded vertically-arranged holes a^4 a^4 , formed in the top and bottom, respectively, of the said frame-section and engaging the upper side and lower side, respectively, of a lug K^2 , formed upon the back of the said liner. The said lug K^2 projects into a hole a^5 , formed in the said frame-section, which hole is large enough longitudinally of the liner to accommodate an endwise adjustment of the liner, and the said hole is preferably larger vertically than the engag-

ing liner-lug, and the said liner is held in the desired vertical adjustment by the aforesaid screws O.

In assembling the parts of the mold the two sections of the frame are first brought together and then the liners are introduced; but before the liners are permanently secured in place they are adjusted and tightly fitted together by an endwise and inward actuation of the aforesaid wedges. It will readily be observed that when the wedges that are interposed, as already indicated, between the two mold-compartments are moved endwise and inwardly the engaging side liners of the two molds are moved apart and thereby force the end liners tightly against the outer side liners of the mold.

Each wedge is actuated endwise in the direction required to tighten the liners by the rotation in the required direction of a horizontal screw P, that engages the larger end of the wedge and is introduced through a correspondingly - threaded horizontally - arranged hole a^3 , formed in the frame-section, that extends over said end of the wedge.

I would here remark that in the preceding description the words "side liners" are used to designate the liners that are arranged parallel with the wedges and bolts and that the words "end liners" designate the remaining liners that are arranged at right angles to the bolts and wedges, and of course it is obvious that in making a square brick a mold having its end liners as long as the side liners would have to be employed. I desire, therefore, to have it understood that I do not limit myself to any particular shape or form of mold-compartments and liners forming the walls of the said compartments.

What I claim is—

1. A mold or die having two compartments arranged side by side, suitably-supported liners forming the walls of the said compartments, and the end liners being shiftable endwise and interposed between the side liners, and the inner side liners being shiftable laterally, two wedges interposed between the inner side liners and having their sloping surfaces facing or abutting each other, and a bolt or rod extending through the opposing sides of the wedges and forming slideways for the wedges, substantially as shown and for the purpose specified.

2. A mold or die having two compartments arranged side by side; suitably-supported liners forming the walls of said compartments and the end liners being shiftable endwise and interposed between the said liners, and the inner side liners being shiftable laterally; two wedges interposed between the inner side liners and having their sloping surfaces facing or abutting each other, and a square bolt or rod extending through the opposing sides and forming slideways for the wedges, substantially as shown, for the purpose specified.

3. A mold or die having two compartments arranged side by side; suitably-supported

liners forming the walls of the said compartments, and the end liners being shiftable endwise and interposed between the side liners, and the inner side liners being shiftable laterally; a stationary frame supporting the said liners and composed of two sections extending over the outer sides of opposite end liners, respectively, and overlapping the outer sides of the outer side liners; bolts and nuts securing said sections together at the outer sides of the outer side liners; a bolt or rod and nuts securing said sections together between the inner side liners, and the said last-mentioned bolt or rod having a square portion between its ends; two wedges slidably mounted upon opposite sides, respectively, of the square portion of the said last-mentioned bolt or rod between the inner side liners and arranged with their sloping surfaces facing or abutting each other, and means for shifting said wedges endwise, substantially as shown, for the purpose specified.

4. A mold or die having two compartments arranged side by side; liners forming the walls of the said compartments and having lugs upon their backs, and the end liners being shiftable endwise and interposed between the side liners, and the inner side liners being shiftable laterally; the stationary frame sup-

porting the said liners and having holes engaged by the lugs upon the outer side liners, and having other holes engaged by the lugs upon the end liners, and having screw-threaded holes leading to the said lug-engaged holes from above, and having other screw-threaded holes leading to the said lug-engaging holes from below; screws engaging the said upright screw-threaded holes; the two suitably-supported endwise-shiftable wedges interposed between the inner side liners and having their sloping surfaces facing or abutting each other, and having holes engaged by the lugs upon the inner side liners, and having screw-threaded holes leading to said lug-engaging holes from above and below; screws engaging the last-mentioned screw-threaded holes and all of the aforesaid lug-engaging holes in the frame being large enough to accommodate the adjustment or shifting and tightening of the said liners, substantially as shown, for the purpose specified.

In testimony whereof I sign this specification, in the presence of two witnesses, this 3d day of July, 1897.

WILLIAM W. WALLACE.

Witnesses:

C. H. DORER,
ELLA E. TILDEN.