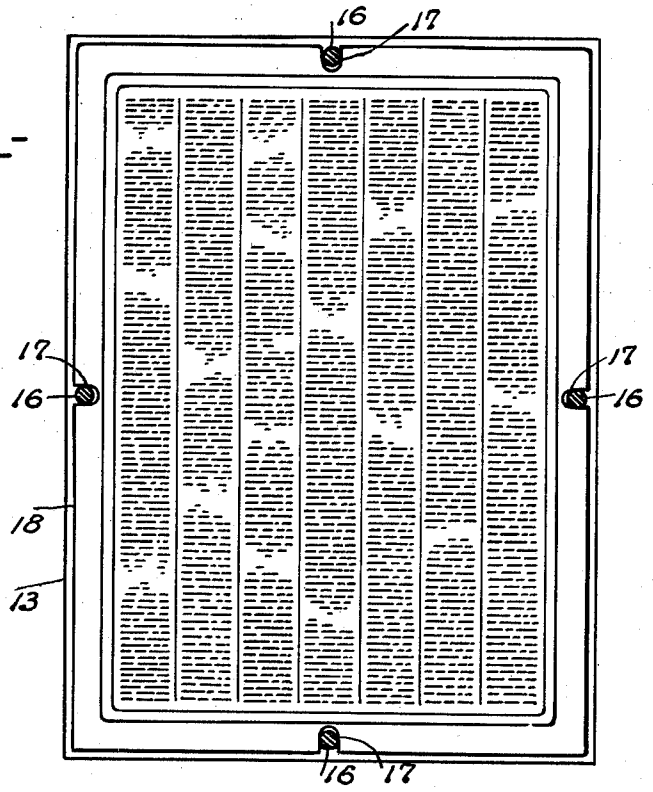
Oct. 19, 1937. W. F. HUCK 2,095,985

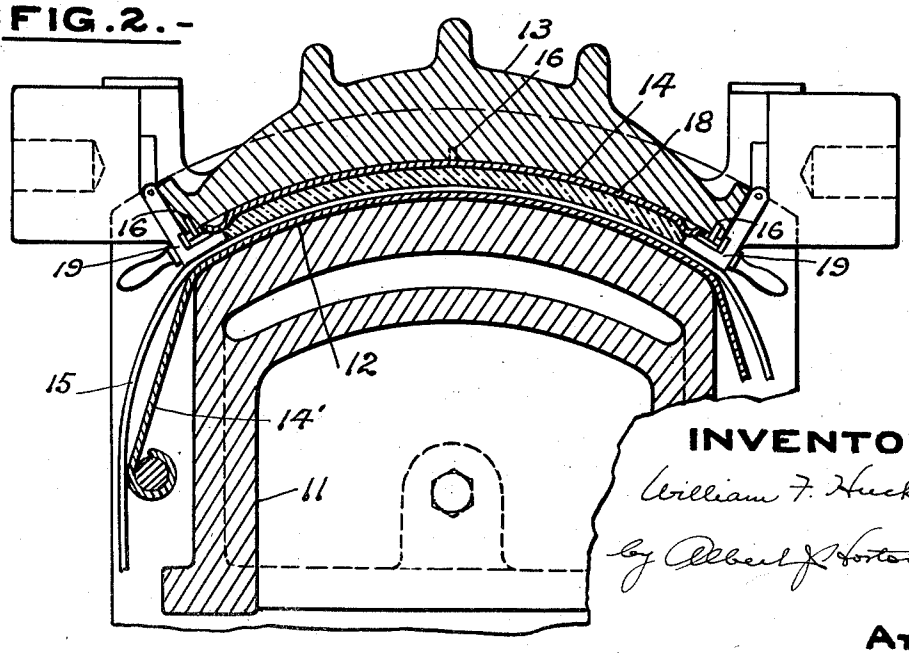
STEREOTYPE PLATE CASTING MOLDS

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-FIG. 1.-



-FIG. 2.-



INVENTOR

William F. Huck

by Albert J. Horton

ATTY

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STEREOTYPE PLATE CASTING MOLD

William F. Huck, Richmond Hill, N. Y., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York

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4 Claims. (Cl. 22—5)

This invention relates to stereotype plate casting molds and more particularly to a means for arranging a matrix on the surface of one of the mold members in such manner as to permit the matrix to expand or contract equally in all directions in response to temperature changes when heated by the stereotype plate metal during the process of plate casting and cooling, to thereby maintain the printing surface in the same relation to all edges of the plate.

The principal object of the invention therefore is to provide means whereby a matrix is adapted to be properly located on one surface of a mold member, and further includes means to permit said matrix to expand or contract equally in all directions in response to temperature changes.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts, and in the details of construction hereinafter described.

The preferred embodiment of the invention is illustrated in the accompanying drawing, wherein:

Figure 1 is an inverted plan view looking at the working surface of a mold member on which a matrix is mounted, and shows the same with parts broken away and with matrix aligning pins arranged in the mold and engaging slotted portions of the matrix, said pins being shown in section; and

Figure 2 is a vertical cross section through the mold members including a matrix and a cast stereotype plate.

Referring to Figure 2, one form of stereotype mold is represented which includes a core member 11 having a convex surface 12, and a shell or cover member 13 having a concave surface 14 which conforms with the convex surface 12. Further members, which are provided to complete the mold assembly, include a surface covering 14' of insulating material which is stretched over the convex surface 12 of the core member for the purpose of equalizing the cooling effects, and clamping straps, one of which is shown at 15, which fit over the edges of the said insulating covering 14'.

A number of pins 16, or other protrusions, preferably four, are provided on the concave surface of the shell member 13 and are arranged in an order which will permit them to engage openings 17 in a matrix 18, when the said matrix is placed in an operating position on the concave surface 14. The openings 17 are preferably elongated slots, which are cut through and perpendicular to the edges of the rectangular matrix and are arranged in pairs one at each side, preferably at substantially the center thereof. The width of each slot as shown in Figure 1, is made substantially the same as the diameter of the pins but the slots are elongated to permit expansion or contraction of the matrix. The openings are so positioned at the margins or edges of the matrix that a straight line joining a pair of said openings as an axis, will bisect and be perpendicular to a similar line connecting another pair of said openings, each opening accordingly being in axial alignment with its oppositely positioned opening. With the slots arranged in this manner, it will be observed that when expansion or contraction occurs, it will be in an outward direction from each pin position, and since the pins are centrally positioned with respect to the edges of the matrix, the expansion or contraction will be equal in all directions.

When the matrix is assembled on the surface 14 of the shell member 13, it is placed so that the pins 16 will engage the slots 17 as shown in Figure 1 and is then held in said shell by suitable holding members 19. After moving the shell to the position shown in Figure 2, the mould is complete and is ready for the molten plate metal to be poured in the cavity provided between the matrix and the covering 14', which operation may be accomplished in any desired manner.

It will thus be observed that a simple and effective means has been provided for arranging a matrix in a stereotype mold which assures the proper relation of the printing surface of the plate with respect to the edges thereof, after expansion or contraction occurs within the matrix. It will be understood that the changes in dimensions of greatest extent are caused by shrinkage of the matrix when the molten metal comes in contact with it, and with the arrangement shown, the shifting of any portion of the matrix under this condition is held to a minimum, for the center point of the matrix is held immovable and the contraction is equal in all directions radial from the center. It will be seen that the arrangement provides for the accurate register of type sections of any number of duplicate plates, which is particularly important in multi-color printing.

It will be understood that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and it is therefore desired that the present embodiment be considered in all respects as

illustrative and not restrictive, reference being had to the claims rather than to the foregoing description to indicate the scope of the invention.

What I claim is:

1. In a stereotype plate casting mold, a mold member having one surface arranged to receive a matrix, pins projecting beyond said surface, and a rectangular matrix having one elongated slot arranged perpendicularly to the respective edge of each side and intermediate the ends thereof, which slots are adapted to be engaged by said pins, whereby said matrix is maintained in a desired position in the mold and is permitted to expand or contract equally in opposite directions in response to temperature changes.

2. In a stereotype plate casting mold, a mold member having one surface arranged to receive a matrix, pins projecting beyond said surface, and a rectangular matrix having one elongated slot arranged perpendicularly to the respective edge of each side intermediate the ends thereof and cut through said edges, which slots are adapted to be engaged by said pins, whereby said matrix is maintained in a desired position in the mold and is permitted to expand or contract equally in opposite directions in response to temperature changes

3. In combination, a rectilinear stereotype matrix having slots each perpendicular to and substantially midway of each of its four edges, and a stereotype plate casting mold having a surface arranged to receive said matrix, and protrusions on said surface adapted to engage said slots, whereby said matrix is maintained in a desired position in the mold though permitted to move elsewhere than at its center when shrinkage of the matrix occurs incident to casting.

4. In a means for casting a stereotype plate, the combination of a mold member having two pairs of protrusions on its casting surface, each pair of protrusions being so positioned that the shortest line connecting them and following the said surface, intersects the shortest line connecting the other pair of protrusions and following the said surface, the said lines forming angles of approximately 90° at their point of intersection; with a matrix having two pairs of openings, the openings of each pair being adjacent opposite edges of the matrix, each pair of openings having two parallel sides and being so position that the shortest line connecting one pair and following the plane of the matrix intersects with the shortest similar line connecting the other pair, and the said lines form angles of approximately 90° at their point of intersection; the distances from the intersection of the said lines relating to the mold member and each of the said protrusions being similar to the distances from the intersection of the lines relating to the matrix and each of the said openings, whereby the openings in the matrix will fit over the protrusions and so position the matrix on the mold member that all parts of the matrix may contract or expand with relation to the point at the intersection of said lines.

WILLIAM F. HUCK.