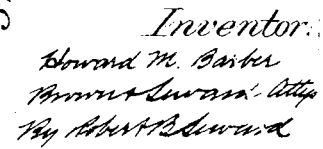


1,033,372.

2 SHEETS—SHEET 1.



H. M. BARBER.
MACHINE FOR CASTING STEREOTYPE PLATES.
APPLICATION FILED DEC. 9, 1910

1,033,372.

Patented July 23, 1912.

2 SHEETS-SHEET 2.

Fig. 4.

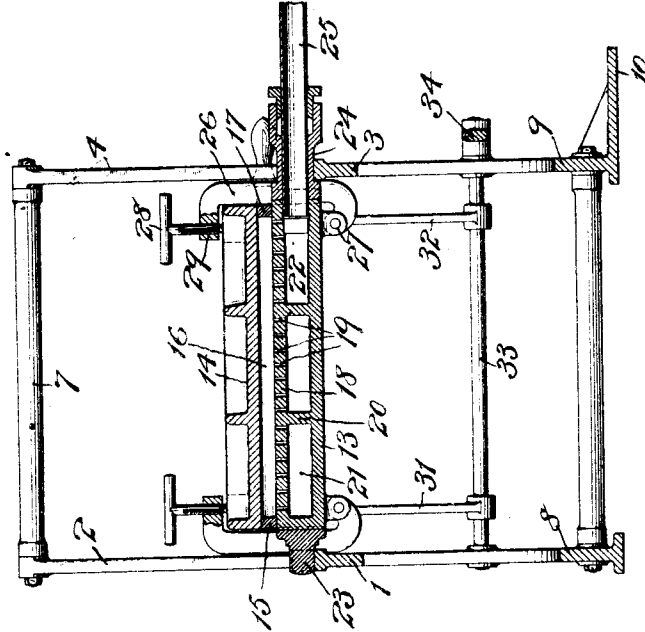
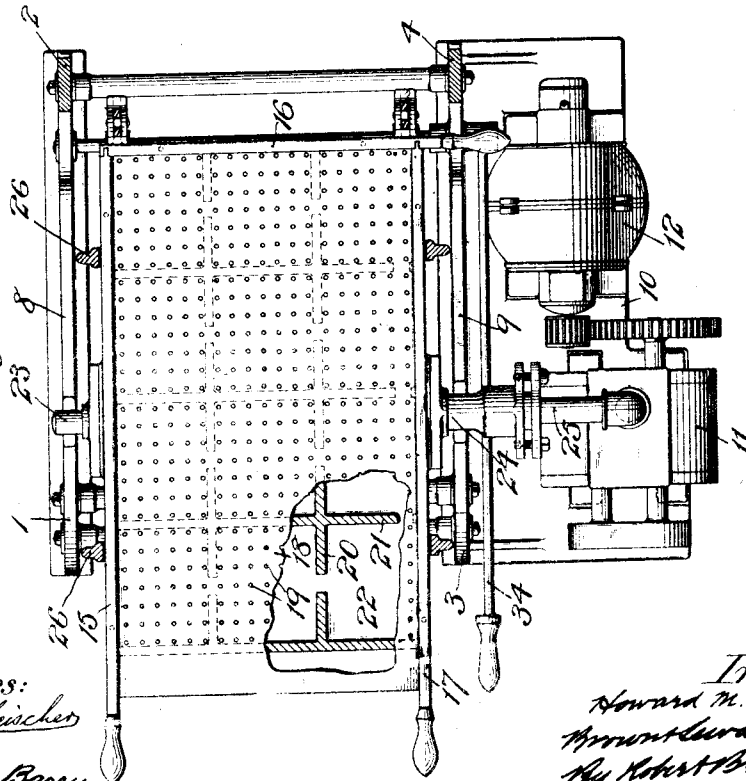


Fig. 3.



Witnesses:
Harry E. Gleicher
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Attest
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UNITED STATES PATENT OFFICE.

HOWARD M. BARBER, OF STONINGTON, CONNECTICUT, ASSIGNOR TO C. B. COTTRELL & SONS COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

MACHINE FOR CASTING STEREOTYPE-PLATES.

1,033,372.

Specification of Letters Patent.

Patented July 23, 1912.

Application filed December 9, 1910. Serial No. 596,481.

To all whom it may concern:

Be it known that I, HOWARD M. BARBER, a citizen of the United States, and resident of Stonington, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Machines for Casting Stereotype-Plates, of which the following is a specification.

This invention relates to improvements in machines for casting stereotype plates.

The object broadly of my invention is to provide a casting box against one surface of which a matrix, with or without an interposed overlay, will be snugly held, by suction during the operation of casting.

My invention more particularly consists in a vacuum pan forming a part of the casting box proper, the inner wall of the vacuum pan being perforated for holding the matrix by suction with or without an interposed overlay, snugly in engagement therewith whereby a more perfect stereotype plate may be produced than by the methods heretofore in common use.

In the accompanying drawings, Figure 1 represents the casting machine in side elevation, Fig. 2 is a front view of the same, Fig. 3 is a horizontal section taken in the plane of the line A—A of Fig. 1, looking in the direction of the arrows, a portion of the perforated inner wall of the vacuum pan being broken away to illustrate more clearly the strengthening partitions which connect the inner and outer walls of the pan, and Fig. 4 is a transverse vertical section taken in the plane of the line B—B of Fig. 1, looking in the direction of the arrows.

The frame of the casting machine is constructed as follows: The front and rear uprights 1 and 2 at one side of the machine are connected to the front and rear uprights 3 and 4 at the other side of the machine by suitable cross bars 5, 6 and 7. The brace for the uprights 1 and 2 is denoted by 8 and the base for the uprights 3 and 4 is denoted by 9, which latter base is extended laterally as shown at 10 to form a suitable support for an exhaust pump, 11, and a motor 12, for driving the same. In the present instance, a rotary exhaust pump and an electric motor for driving it are shown.

The casting box of the machine comprises a hollow vacuum pan 13, a cover 14 and removable bars 15, 16 and 17, forming the three side walls of the casting chamber. The

inner wall 18 of the vacuum pan is perforated as shown at 19. A plurality of longitudinal and transverse partitions 20, 21, connect the inner wall 18 with the outer wall 22 of the vacuum pan so as to prevent the pan from warping or becoming distorted. The partitions 20 and 21 are cut away as required to permit an open communication between all of the chambers formed by said partitions. The casting box is pivoted to the front uprights 1 and 3 of the frame by providing the vacuum pan 13 with trunnions 23, 24, mounted in the upper ends of said uprights. The trunnion 24 is made hollow and communication from the interior of the hollow vacuum pan to the exhaust pump 11 is established through a pipe 25 extending through said hollow trunnion 24. The pan 13, cover 14 and bars 15, 16, 17, are locked in their closed position by four screw clamps each comprising a yoke 26 hinged to lugs 27 on the vacuum pan 13 and having a clamp screw 28 passing through its overhanging arm 29 into engagement with the top of the cover 14. When the casting box is in its horizontal position, its front portion rests upon a brace 30 uprising from the cross bar 6 and its rear portion rests upon the upper ends of two arms 31, 32, fixed to a rock shaft 33. A hand lever 34 is also fixed to this rock shaft 33 for swinging the arms 31, 32, out of their supporting engagement with the casting box to permit the box to be swung down into a substantially vertical position for carrying out the casting operation. The cross bar 7 forms a support for the cover 14 when the cover is swung upwardly to open the casting box. The cover 14 may be provided with an eye 35 as a means of attachment to a hoisting device for swinging the cover into its raised position.

In operation, the box is brought into its horizontal position and the cover swung back into its open position. The matrix is placed upon the perforated inner wall of the vacuum pan 13 with or without an overlay interposed between the back of the matrix and the said perforated inner wall. The exhaust pump 11 is then started and the matrix is sucked down onto the face of the vacuum pan for holding the matrix snugly in position thereon. The removable bars 15, 16, 17, are then placed in position over the edges of the matrix and the cover is closed and clamped in the usual manner. The cast-

ing metal is then poured into the open end of the box while the matrix is held by suction against the inner wall of the vacuum pan thus insuring the formation of a stereotype plate of superior quality. The box is returned to its horizontal position, the stereotype plate and matrix removed and the cycle of operations may then be repeated.

It is evident that various changes might be resorted to in the construction, form and arrangement of the several parts without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the construction herein set forth, but

What I claim is:—

1. In a machine of the character described, a casting box having a matrix engaging surface and a suction device for holding the matrix in position on said surface.

2. In a machine of the character described, a tilting casting box having a matrix engaging surface and a suction device for holding the matrix in position on said surface.

3. In a machine of the character described, a casting box having a matrix engaging perforated surface and a suction device for holding a matrix in position on said perforated surface.

4. In a machine of the character described, a tilting casting box having a matrix engaging perforated surface and a suction device for holding the matrix in position on said perforated surface.

5. In a machine of the character described, a casting box including a vacuum pan having a matrix engaging perforated inner wall for holding the matrix in position thereon by suction.

6. In a machine of the character de-

scribed, a tilting casting box including a vacuum pan having a matrix engaging perforated inner wall for holding the matrix in position thereon by suction.

7. In a machine of the character described, a casting box including a hollow pan having perforations through its matrix engaging inner wall and means for exhausting the air from said pan for causing a matrix to be held against said perforated wall by suction.

8. In a machine of the character described, a tilting casting box including a hollow pan having perforations through its matrix engaging inner wall and means for exhausting the air from said pan for causing a matrix to be held against said perforated wall by suction.

9. In a machine of the character described, a casting box including a hollow pan having perforations through its inner matrix engaging wall and an exhaust pump connected to the interior of the hollow pan whereby the matrix may be held in position on said perforated wall by suction by the operation of the pump.

10. In a machine of the character described, a tilting casting box including a hollow pan having a hollow trunnion, and an exhaust pump connected to the interior of the pan through said hollow trunnion, the matrix engaging wall of the pan being perforated whereby the matrix is held in position thereon by suction by the operation of the pump.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this fifth day of December A. D. 1910.

HOWARD M. BARBER.

Witnesses:

A. R. STILLMAN,

KARL G. STILLMAN.