H. E. KIMBALL.

STRIPPING PLATE MOLDING MACHINE.

APPLICATION FILED AUG. 1, 1911.

1,067,820.

Patented July 22, 1913.

2 SHEETS—SHEET 1.

Fig. 2.

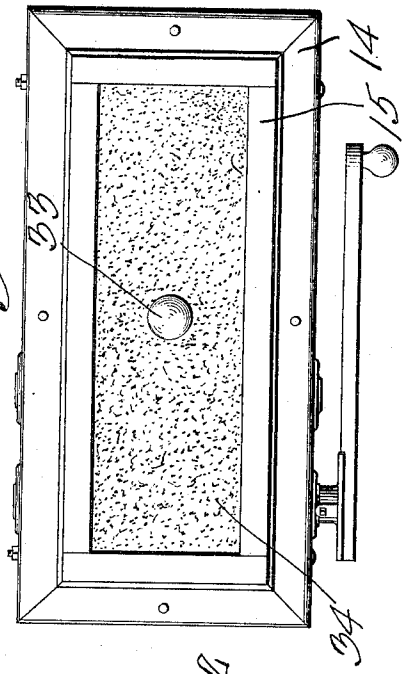


Fig. 3.

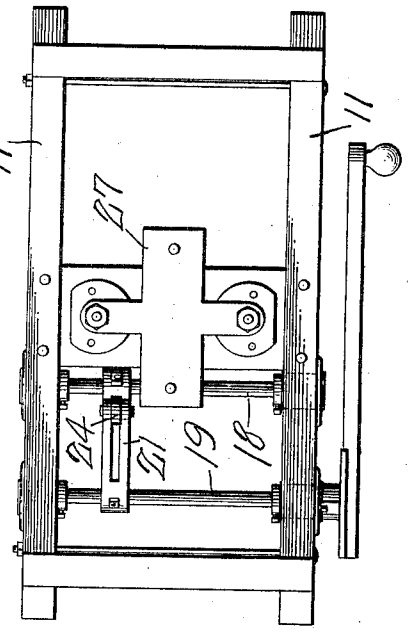
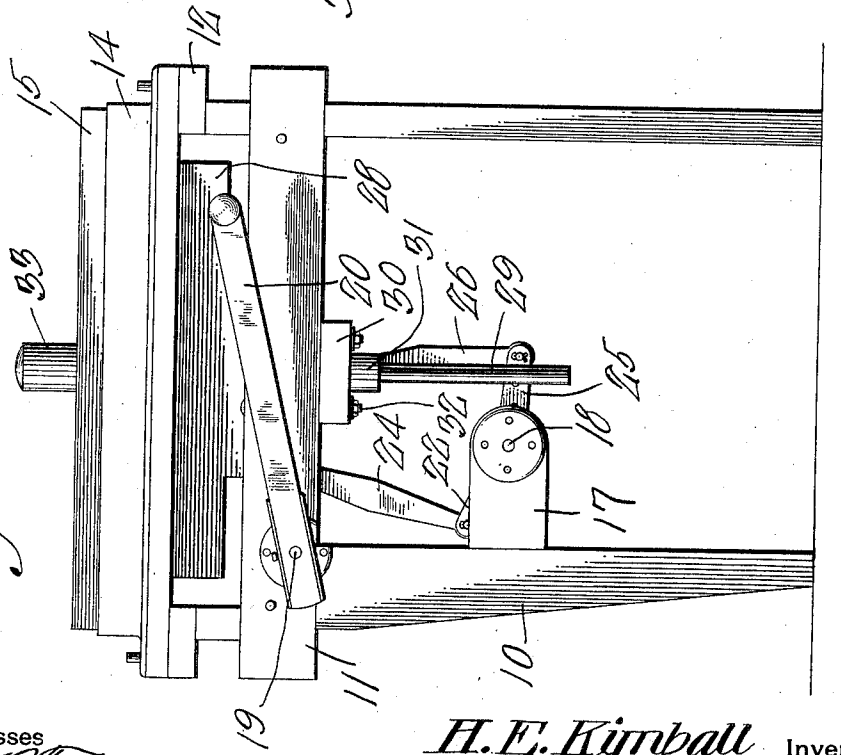


Fig. 1.



Witnesses

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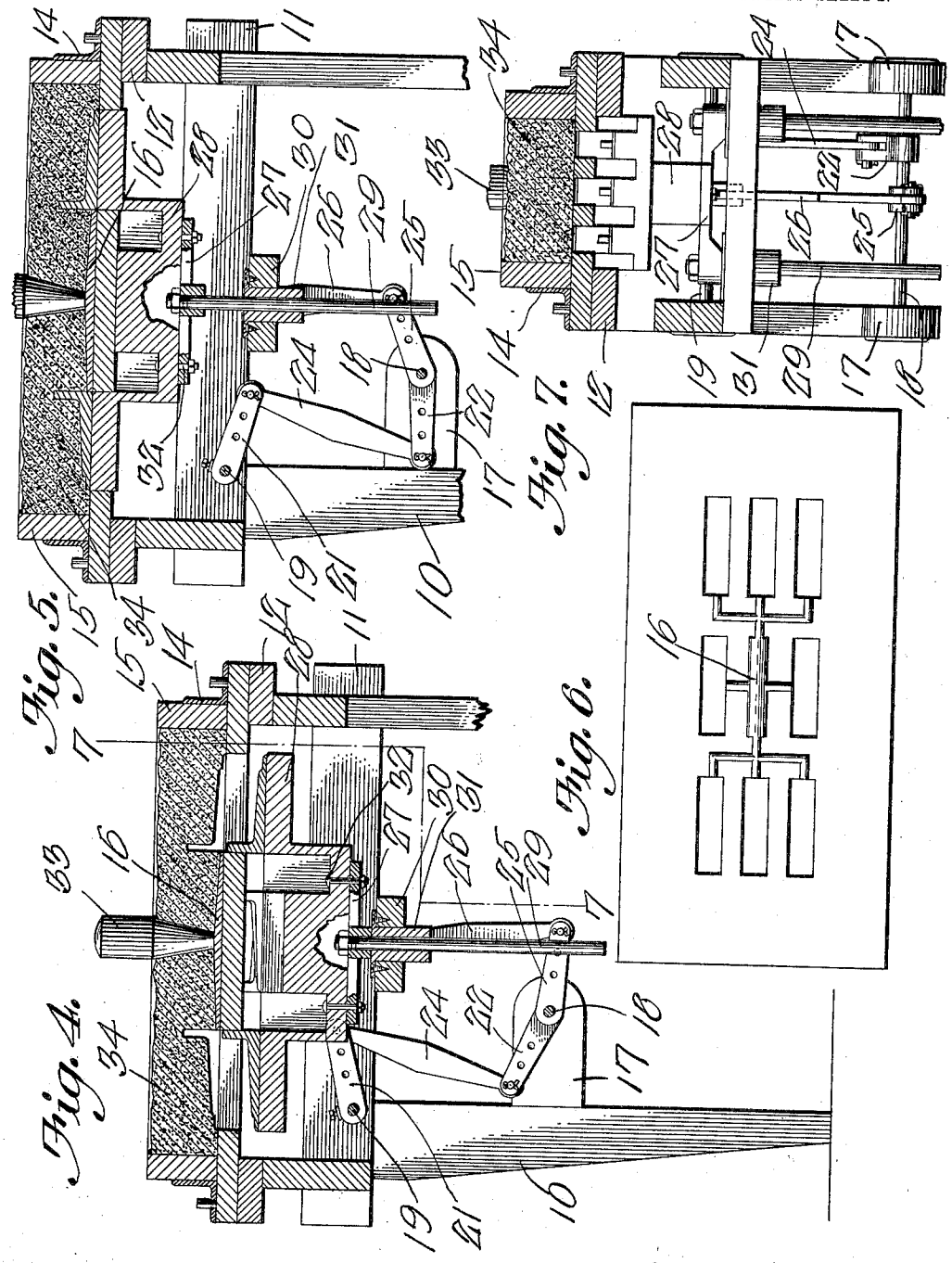


Fig. 5.

Fig. 7.

Fig. 6.

Fig. 4.

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UNITED STATES PATENT OFFICE.

HERBERT E. KIMBALL, OF DALLAS, TEXAS.

STRIPPING-PLATE MOLDING-MACHINE.

1,067,820. Specification of Letters Patent. Patented July 22, 1913.

Application filed August 1, 1911. Serial No. 641,735.

To all whom it may concern:

Be it known that I, HERBERT E. KIMBALL, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented a new and useful Stripping-Plate Molding-Machine, of which the following is a specification.

This invention relates to an improvement in stripping plate molding machines.

The primary object of the present invention is to provide a simple and efficient apparatus for forming sand molds.

A further object of the invention is to provide means for effectually guiding the pattern in its vertical movement, the mechanism for raising and lowering said pattern being such that the upward stroke of the pattern may be accurately regulated, thus providing means for making deep or shallow indentations, in the sand.

In the drawings, Figure 1 is a side elevation of the apparatus. Fig. 2 is a top plan view. Fig. 3 is a bottom plan. Fig. 4 is a sectional view, showing the pattern in its lowered position. Fig. 5 is a similar view showing the pattern extending through the stripping plate and within the flask. Fig. 6 is a top plan view of the stripping plate, Fig. 7 is a section taken on the line 7—7 of Fig. 4.

In the drawings 10 designates a stand which supports a plurality of beams 11 which support members 12 on which the stripping plate is positioned, the stripping plate being provided with guides 14 which prevent the displacement of the flask 15. The stripping plate is provided with apertures of a shape to permit the passage of the vertical moving patterns, the central portion of the plate supporting a gate pattern 16.

Arranged on the vertical supports 10, are the members 17 which support the shaft 18. A second shaft 19 is supported by the longitudinal beams 11 and to the shaft 19 is secured an operating lever 20.

Secured to the shaft 19 is an arm 21 which is linkedly connected to an arm 22 secured to the shaft 18, the said link being designated by the numeral 24. The arms 21 and 22 have been provided with a number of apertures to which the link 24 may be pivotally connected, thus providing for a regulation of the movement of the two arms, from which it will be apparent that by rotating the shaft 19 by means of the handle 20, the shaft 18 will be also rotated and at a definite ratio thereto depending upon the position of the link 24 with respect to the arms 21 and 22.

Arranged centrally on the shaft 18 is a bifurcated lever 25, the bifurcations of which are apertured, a link 26 having one of its ends secured between said bifurcations, the apertures in the same permitting an adjustment of said links. This link is secured to the under face of a plate 27 which is substantially rectangular, and which is positioned under the pattern block 28. Suitable guide blocks 30 are arranged upon the frame and are provided with central openings extending therethrough, the walls of said openings being provided with a suitable lining of babbitt as at 31. Guide plungers 29 are fixedly mounted to the pattern block and extend through and slidably engage the said guide blocks. The pattern block 28 is cut away, in order that the securing screws 32 may be properly positioned. Arranged on the pattern block is the pattern which is constructed in accordance with the configuration of the article to be molded, the pattern extending through the apertures in the stripping plate.

In operation, the pattern block is raised by depressing the lever mounted on the shaft 19, and the flask 15 is placed on the stripping plate, the guides 14 allowing said flask to be properly centered. A plug or block 33 is then placed centrally on the gate 16 which is arranged on the stripping plate, and the block may be held by the operator while the material 34 is being passed in. After the sand has been placed in the flask and the same has been tamped or hardened the pattern block is lowered and the plug 33 removed, the plug 33 leaving a sprue through which the metal is poured. In this manner one half of the mold is formed. In forming the other half of the mold the plug 33 is dispensed with and with the two halves of the mold assembled, the metal will pass through the sprue, the indentations or channels which have been made in the sand by the gate 16, allowing the same to flow into the depressions made by the patterns. In order to regulate the vertical movement of the patterns, the link 26 is adjustable within the various apertures in the arm 25 and thus the depth of the indentation in the sand may be accurately regulated, this arm 25 not only permitting of an adjustment rela-

tive to the shaft 18 but the bifurcations of the said arm between which the link 26 is secured provides for an adjustment of the said link.

The many advantages of a sand mold forming mechanism of this construction will be clearly apparent as it will be noted that the molding is accomplished in a simple and convenient manner.

Particular attention is called to the mechanism for vertically moving the pattern block, and the fact that the same is guided in its movement in a simple and convenient manner, the guides being positioned centrally and in alinement with the lever which imparts the vertical movement to the block, thus positively assuring an even upward movement of the block.

Attention is called to the construction and arrangement of the stripping plate, and the manner in which the same coacts with the vertically movable pattern, to effectually wipe the latter as it is removed from the sand.

What is claimed is:—

1. In a molding machine the combination of a frame, a stripping plate supported thereby, a shaft extending longitudinally of said frame and rotatably mounted thereon, an actuating handle rigidly secured to said shaft, an apertured arm secured to said shaft, a second shaft, an apertured arm extending therefrom, a link extending between said arms, a pattern carrying block mounted for vertical movement, a link pivotally secured thereto, an arm rigidly secured to said second mentioned shaft, and pivotally secured to said last mentioned link.

2. In a molding machine the combination of a frame, a stripping plate supported thereon, a pattern carrying block mounted for vertical movement, said block being formed with radially extending reduced portions upon which a pattern rests, a plate secured to the under face of said pattern carrying block, plungers arranged adjacent the ends of said plate, bearings supported by said frame and slidably engaging said plungers, a shaft extending transversely of said frame and rotatably mounted thereon, a handle rigidly secured thereto, an arm rigidly secured to said shaft, and provided with a plurality of apertures therein, a second shaft extending parallel to said first mentioned shaft, an arm rigidly secured thereto and provided with a plurality of apertures therein, a link extending between said arms and pivotally and detachably secured thereto, an arm rigidly secured to said second mentioned shaft and provided with a plurality of apertures therein, a link pivotally engaging said pattern carrying block plate and the last mentioned arm.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HERBERT E. KIMBALL.

Witnesses:
J. A. DENSON,
EUGENE MUNGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."