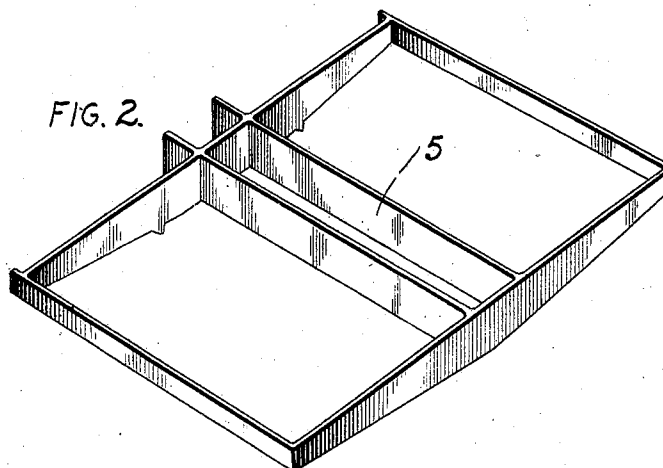
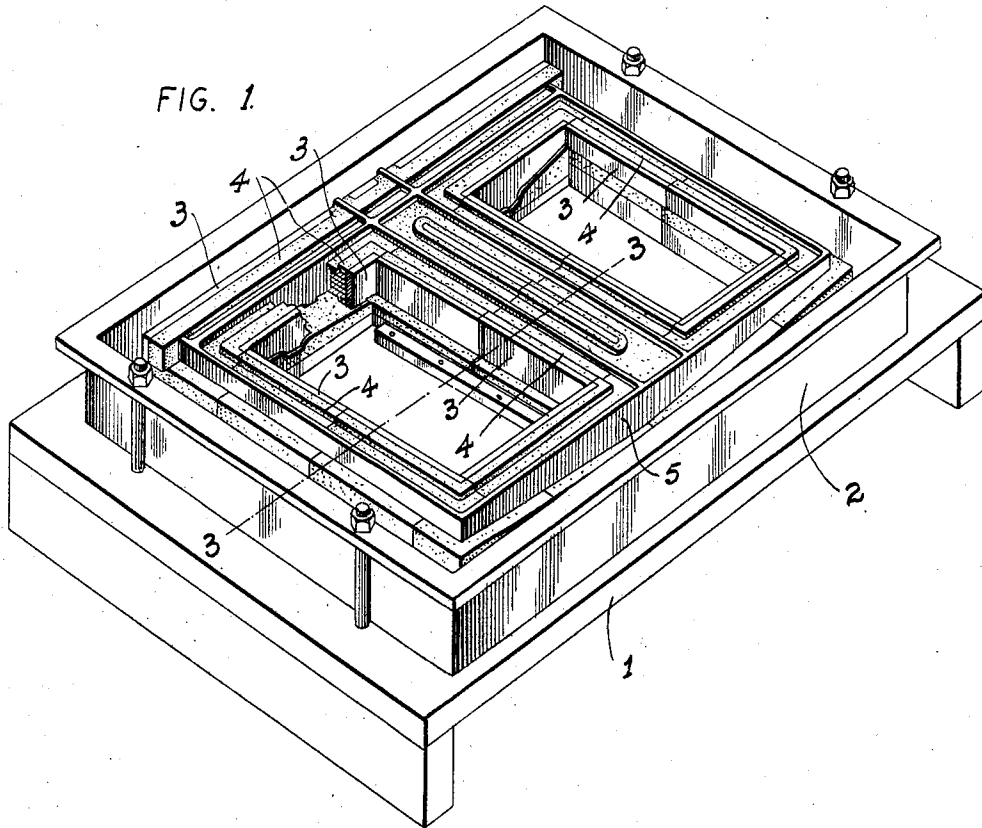


T. DE LA HUNTY.
MOLDING APPARATUS.
APPLICATION FILED JAN. 7, 1910.

976,464.

Patented Nov. 22, 1910.

2 SHEETS—SHEET 1.



WITNESSES

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Thomas de la Huntz

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2 SHEETS—SHEET 2.

FIG. 3

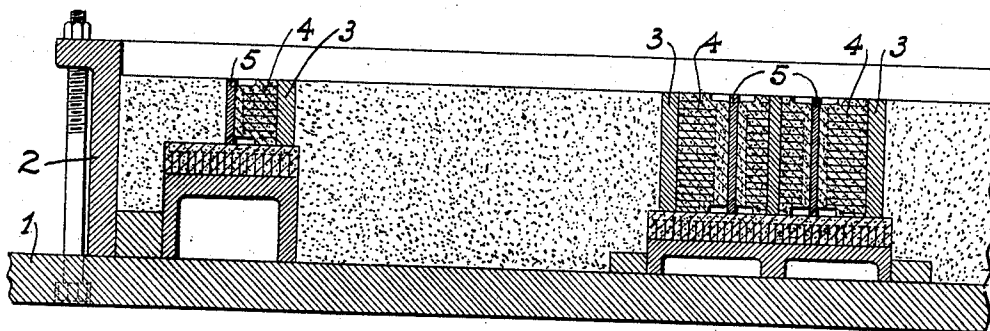


FIG. 4

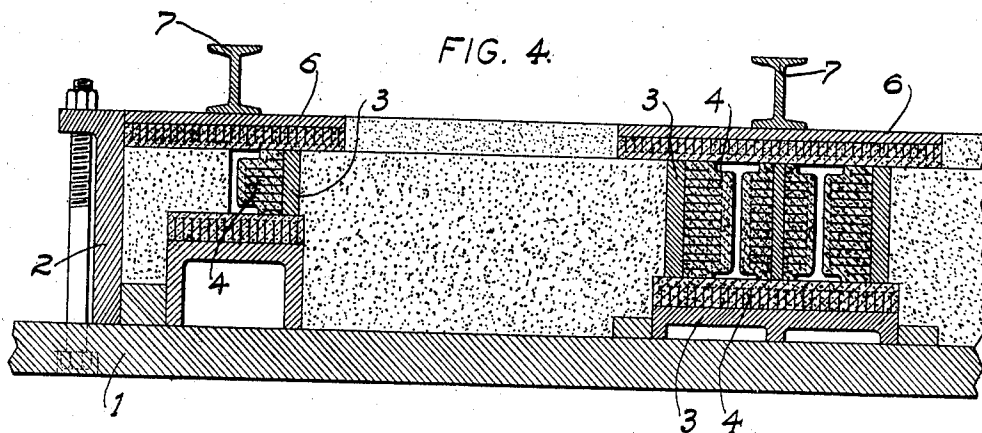
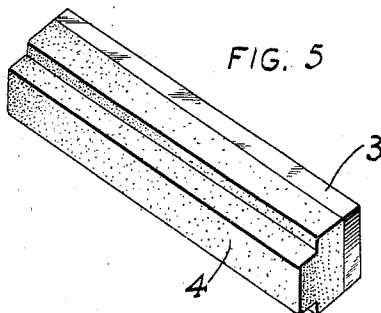


FIG. 5



WITNESSES

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UNITED STATES PATENT OFFICE.

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IRON & STEEL COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

MOLDING APPARATUS.

976,464.

Specification of Letters Patent.

Patented Nov. 22, 1910.

Application filed January 7, 1910. Serial No. 536,855.

To all whom it may concern:

Be it known that I, THOMAS DE LA HUNTY, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Molding Apparatus, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of a molding apparatus of my improved construction, the same being adapted for molding under-frames to be utilized in railway car construction; Fig. 2 is a perspective view of the pattern utilized in the apparatus seen in Fig. 1; Fig. 3 is an enlarged vertical section taken on line 3—3 of Fig. 1; Fig. 4 is a section similar to Fig. 3 and showing the flask completed; Fig. 5 is a perspective view of one of the units or sections utilized in my improved apparatus.

My invention relates generally to molding apparatus, the particular object being to form the matrix walls and cores of the flask in units or sections, thus providing for the building up or formation of the mold in much less time and with much less labor than is necessary under the present practice. Where a mold is formed or built up of units or sections, as contemplated by my invention, it is possible to utilize cores and matrix walls of green sand keyed to backing-plates, as shown in a companion case filed by me of even date, Serial No. 536,856, and as these green sand cores and matrix walls are readily formed, it is possible to quickly build up the flask with a minimum amount of labor, thereby effecting a considerable saving of time and consequent expense incident to the formation of flasks and mold-boxes.

To the above purposes, my invention consists in certain features of novelty herein-
after more fully described and claimed.

Referring by numerals to the accompanying drawings, 1 designates a base or bed-plate on which the mold is formed, and fixed on said plate is an open-topped box 2 which forms the flask. As hereinbefore stated, the mold is made up in sectional form, utilizing the unit system, and each unit or section preferably comprises a base or backing-plate

3, to which is keyed a body 4 of green sand, the same being pressed into proper shape in any suitable manner. The backing-plate may be dispensed with if desired. A series of the sections are properly located within the flask 2 to form the bottom of the matrix, after which the spacing frame 5 is positioned on the matrix base sections. The matrix walls are formed of a series of the sections fitted in around the frame 5, which matrix walls are given the proper form by a die or pattern utilized in the press which packs the green sand onto the backing-plate. After the sections forming the matrix walls have been assembled, the spaces outside the matrix walls and within the flask 2 are filled with green sand which is tamped down and leveled off flush with the tops of the matrix walls, thus building up the mold to the form shown in Fig. 3. The frame 5 is now removed and the drag is complete. A series of matrix top plates 6, or copes formed of backing-plates having green sand keyed to one side thereof are now positioned directly on top of the matrix walls, these forming top or cover plates for the mold, after which the spaces between said top or cover plates may be filled with green sand if desired.

Clamping bars 7 may be employed to hold the cope units in position. Suitable gates and vents are, of course, provided, but are not shown on the drawings. Thus a mold is formed wherein the matrix walls of the drag and cope are made in units or sections, and as said units are formed in suitable presses, much time and labor incident to the filling and tamping of the mold is saved. Extra large molds and molds of peculiar shape can be readily formed by utilizing the unit system as herein described, and such system also does away with the time, labor and expense involved in producing large patterns. Furthermore, by separately making and positioning the bottom, side and top units, castings can be made which under the usual method would be impossible because the patterns could not be drawn.

While I prefer to form the matrix walls and cores of backing plates having green sand keyed thereto, it will be readily understood that the sectional or unit idea can be carried out by utilizing green sand units

pressed into shape and not provided with backing-plates. Thus it will be seen how I have produced a mold wherein the walls, top and bottom of the mold opening are made up of unit sections.

I claim:

1. In a molding apparatus, a series of unitable sections of green sand assembled to form a matrix, and a filler of sand for the spaces outside the matrix walls.
2. In a molding apparatus, a base, a box positioned thereon, a series of green sand sections assembled on the base within the box to form a matrix, and a sand filler for the spaces outside the matrix walls.
3. In a molding apparatus, a mold having sectional matrix walls of green sand, one section engaging one portion of a pattern, and an independent section another portion of a pattern.
4. In a molding apparatus, a mold having sectional matrix walls of green sand, one section engaging one portion of a pattern, and an independent section engaging another and remote portion of a pattern.
5. In a molding apparatus, a mold having sectional matrix walls of green sand, one section engaging one portion of a pattern, and an independent section engaging another and substantial parallel portion of a pattern.
6. In a molding apparatus, a pattern having portions arranged at an angle to each other, a mold having sectional matrix walls of green sand, comprising sections inclosing the top, side and bottom of one portion of the pattern, and independent sections inclos-

ing the top side and bottom of another and angularly arranged portion of the pattern.

7. In a molding apparatus, a pattern having substantially parallel portions, and a mold having sectional matrix walls of green sand, comprising sections inclosing the top, side and bottom of one portion of the pattern, and independent sections inclosing the top side and bottom of a parallel portion of the pattern.

8. The art of making a mold, which consists in anchoring green sand upon a series of backing-plates assembling the units so formed, interposing a removable frame whereby said units are spaced apart, removing said frame and arranging the cover plates in position to complete the mold cavity.

9. The art of making molds, which consists in arranging a pattern frame within a flask, assembling green sand units about said frame, removing frame, and placing green sand units over the space occupied by the frame to complete the mold cavity.

10. The art of making a mold which consists in arranging a pattern frame having portions at an angle to each other within a flask, assembling independent green sand units about the several portions of the frame and removing the frame.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 29th day of December 1909.

THOMAS DE LA HUNTY.

Witnesses:

M. P. SMITH,
ALMA GEBHART.