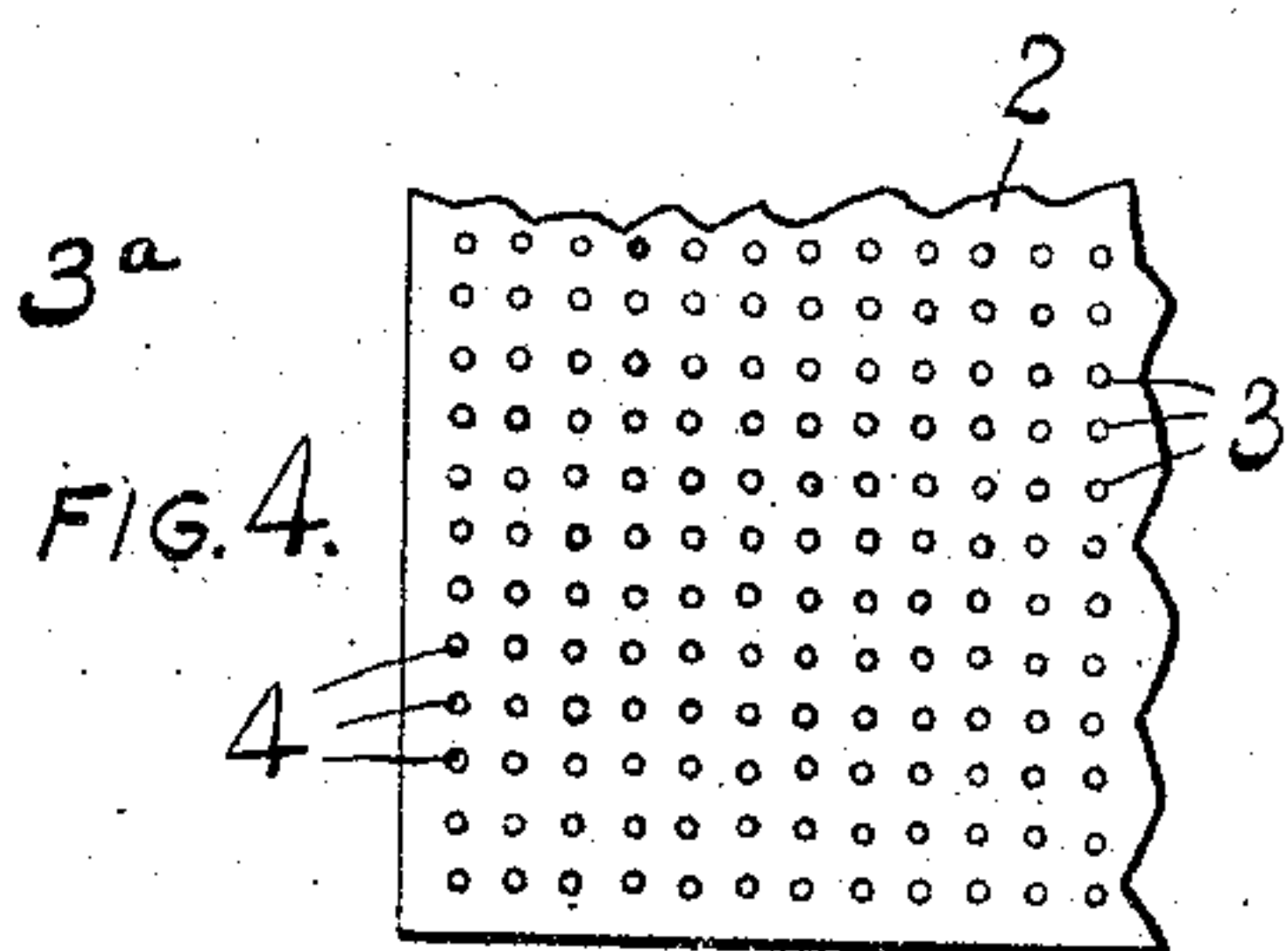
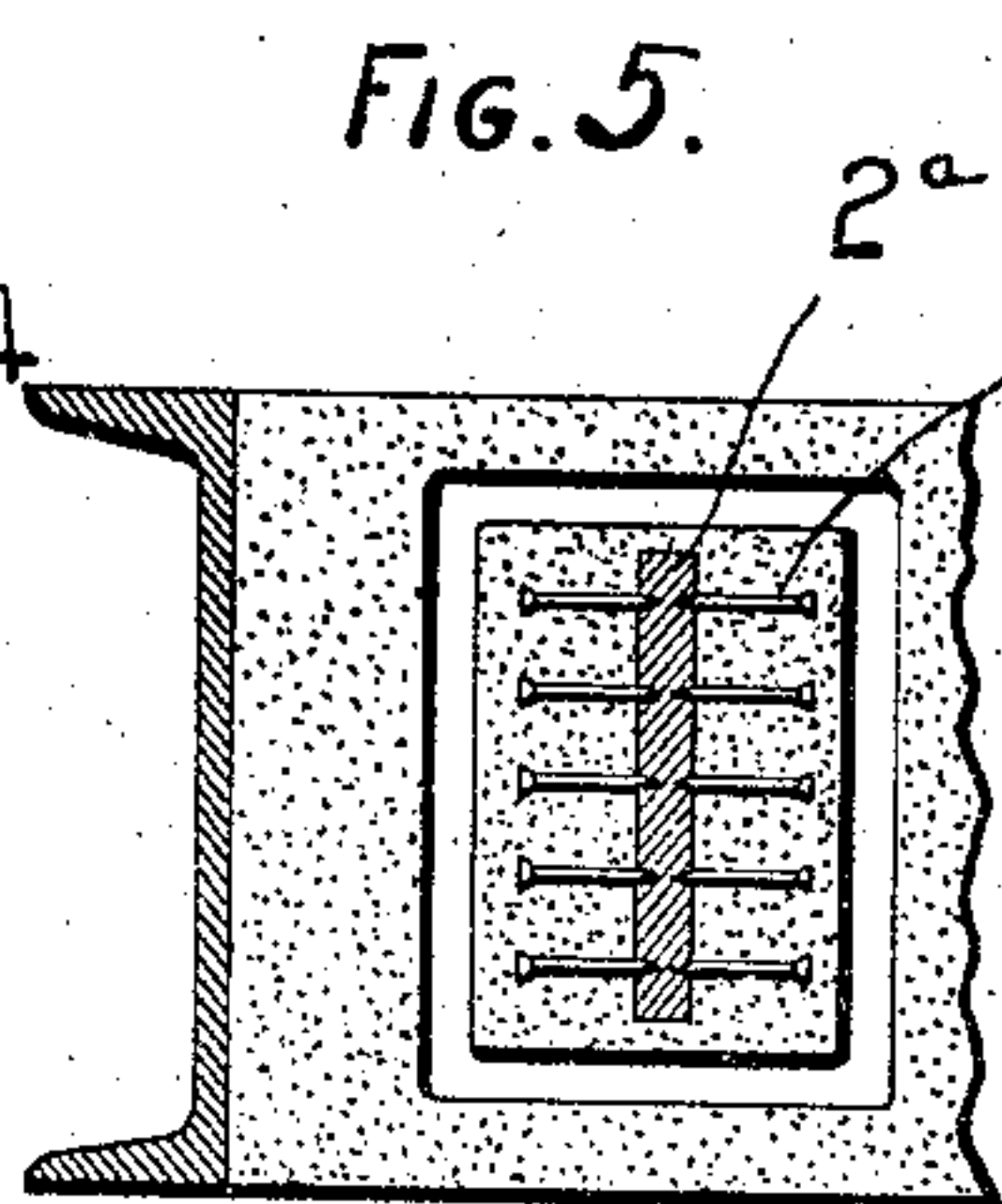
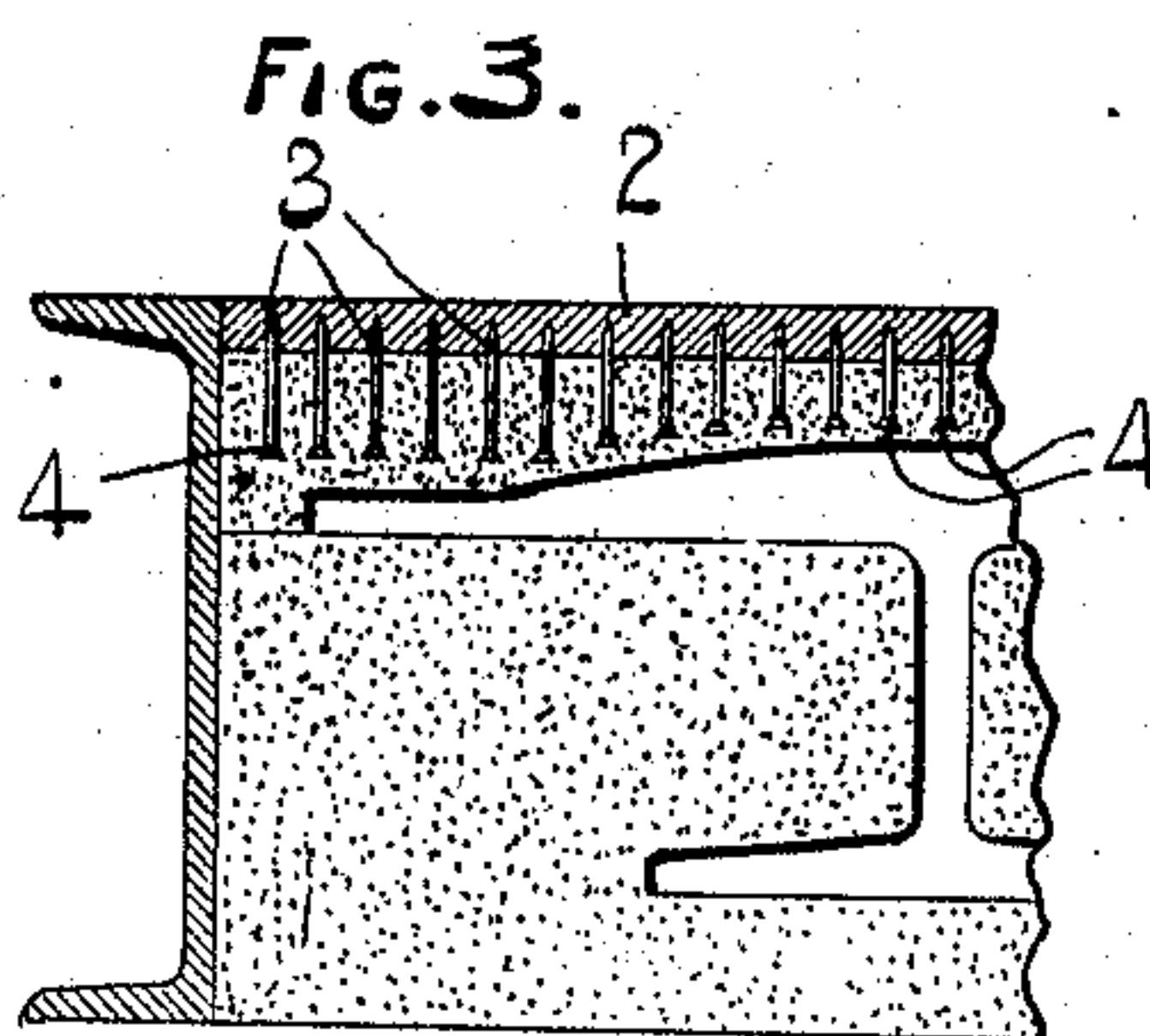
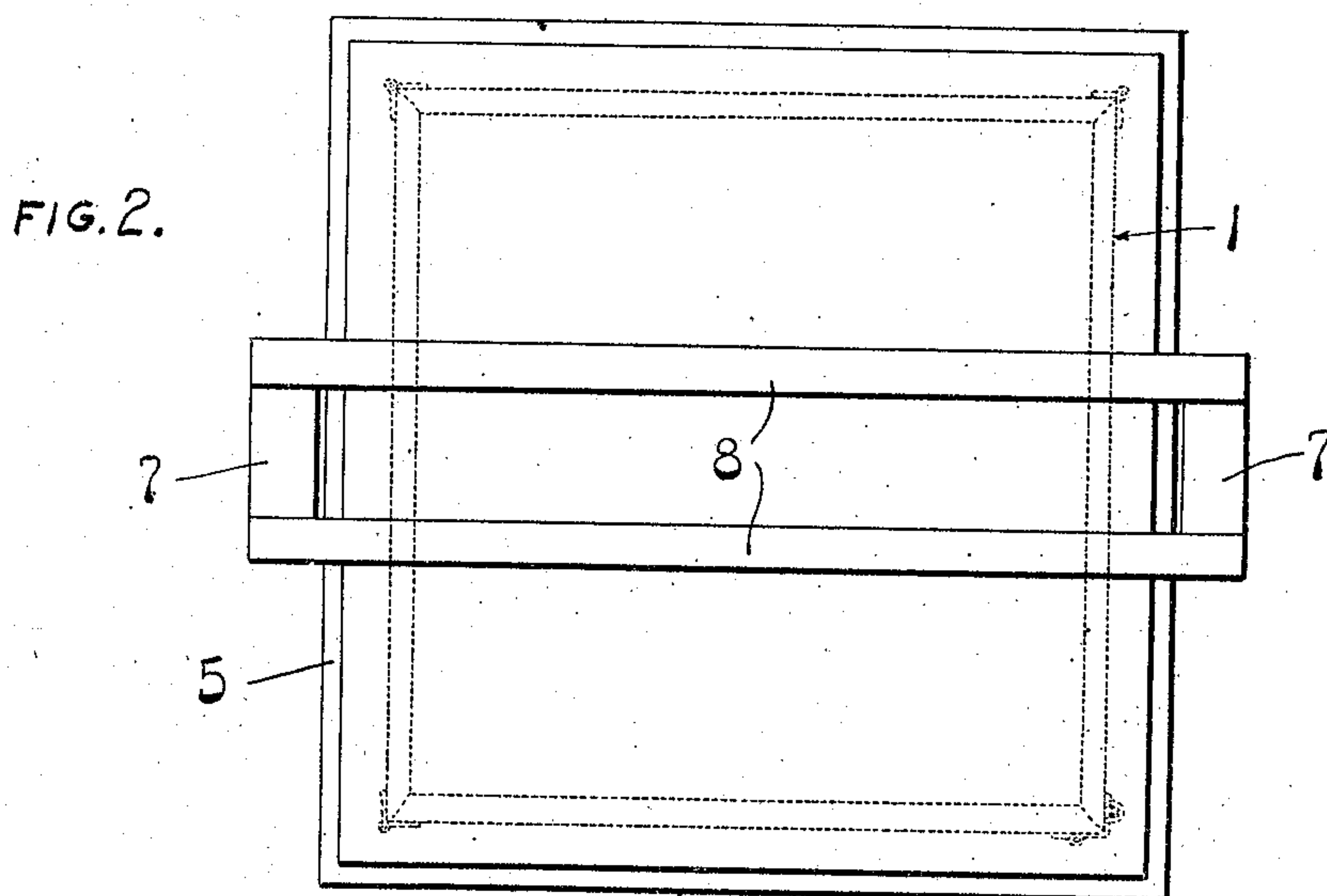
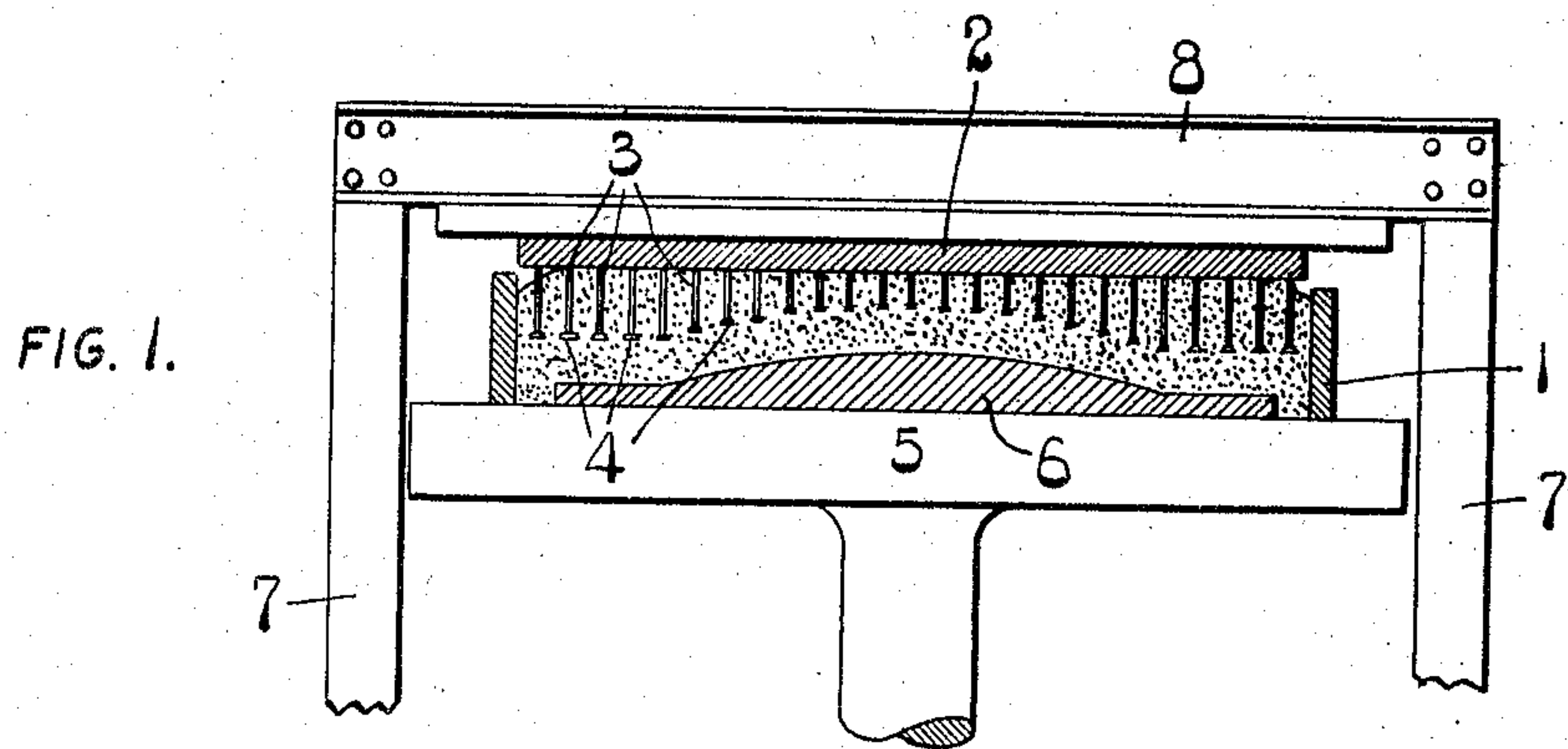


T. DE LA HUNTY.
GREEN SAND CORE.
APPLICATION FILED JAN. 7, 1910.

976,465.

Patented Nov. 22, 1910.



WITNESSES

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UNITED STATES PATENT OFFICE.

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GREEN-SAND CORE.

976,465.

Specification of Letters Patent. Patented Nov. 22, 1910.

Application filed January 7, 1910. Serial No. 536,856.

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 Green-Sand Cores, 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 an elevation of a simple apparatus utilized for producing green sand cores and showing the forming-box, pattern and backing-plate in section; Fig. 2 is a plan view of the apparatus; Fig. 3 is a detail section of a portion of a flask showing one of the green sand cores in position therein; Fig. 4 is a detail view of one corner of the backing-plate to which the green sand is keyed. Fig. 5 is a sectional view of a modification.

My invention relates generally to cores particularly adapted for use in flasks and mold-boxes, and the particular object of my invention is to form a core of green sand which can be used as an inside or outside core, as well as a matrix wall, said core being so formed as that it will readily withstand the rough usage to which cores are ordinarily subjected during the formation of the flask or mold-box.

A further object of my invention is to provide means whereby green sand is keyed to a backing-plate in order that a very substantial core may be formed, and immediately utilized for any part of the flask, thereby eliminating the time, labor, and consequent expense involved in the present practice of baking and hardening cores.

To the above purposes, my invention consists in the features of novelty hereinafter more fully described and claimed.

Referring by numerals to the accompanying drawings, 1 indicates the forming-box, which is preferably constructed of four walls the ends of which are hinged to one another at three corners and the remaining corner being provided with a suitable fastening device, thus enabling the box to be readily opened after the green sand has been keyed to the backing-plate to form the core. The backing-plate 2 is preferably a solid metal plate, and projecting from one face thereof is a series of pins or fingers 3, the

outer ends of which are enlarged to form heads 4 which materially assist in keying the green sand to the plate.

5 designates a plate carried by the piston or plunger of a press or squeezing machine, and which plate carries a pattern 6 which is utilized for forming the matrix in the green sand core.

7 designates the frame of the press or squeezing-machine, the upper portion of which is provided with cross pieces 8 against which the backing-plate 2 engages when the pressing or squeezing operation takes place.

While I prefer to form the backing-plate of metal, said plate can be formed of wood or like material in which nails, screws, or pins are seated, as shown in Fig. 3. Where the backing-plate is formed of metal, the pins or fingers are preferably formed integral therewith and the surfaces of said pins or fingers can be roughened or corrugated, as desired, and the heads of the pins may vary in size and contour.

In the formation of my improved core, the pattern is positioned on the plate 5, after which the box 1 is positioned on said plate around the pattern, and said box is now filled with green sand. The backing-plate is now positioned upon the sand within the box 1 and the press or squeezing machine is now operated to elevate the plate 5, and as a result the backing-plate 2 is forced into the upper portion of the box 1, and the green sand is packed onto the backing-plate 2 and is keyed thereto by the fingers or pins 3 embedded in said sand. The plate 5 is now permitted to descend, after which the forming-box 1 is removed from the core and the plate 2 carrying the green sand core is now lifted from the plate 5 and pattern 6 and is ready to be positioned in the flask or mold-box. The sand is very tightly packed in and around the pins carried by the backing-plate, and therefore a very substantial core is provided, which core can be readily handled and transported from the point where it is formed to the point where the flask or mold-box is located.

In the formation of green sand cores, as contemplated by my invention, the time and labor ordinarily involved in baking or hardening cores is entirely done away with, and therefore the flask can be formed in much less time and with less expense than by the methods heretofore practiced. While

my improved cores are particularly adapted for matrix walls and flask covers, it will be readily understood that inside and outside cores can be formed in the manner herein-
5 described.

In Fig. 5 I have shown my invention being utilized in connection with a core in which there is a wooden arbor 2^a, on each side of which are the anchor pins or projec-
10 tions 3. Green sand is pressed on each side of the arbor at the same time, and the core thus formed being arranged in the hole cavity in the usual way. When the molten metal is poured in the cavity and around the
15 core, the wooden arbor will be destroyed or consumed, the heat of the metal penetrating through the sand. In this way, the pins drop out and can be knocked out with the sand.

I claim:

1. The combination of a green sand core and a destructible arbor embedded therein.
2. The combination of a green sand core, a destructible arbor embedded therein, and anchoring means arranged on the opposite
25 sides of the arbor.
3. An arbor for green sand cores composed of combustible material and having anchoring means upon the opposite faces for supporting said green sand.

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.