

(No Model.)

2 Sheets—Sheet 1.

B. F. WATKINS.

OVEN FOR DRYING CORES OR MOLDS.

No. 298,803.

Patented May 20, 1884.

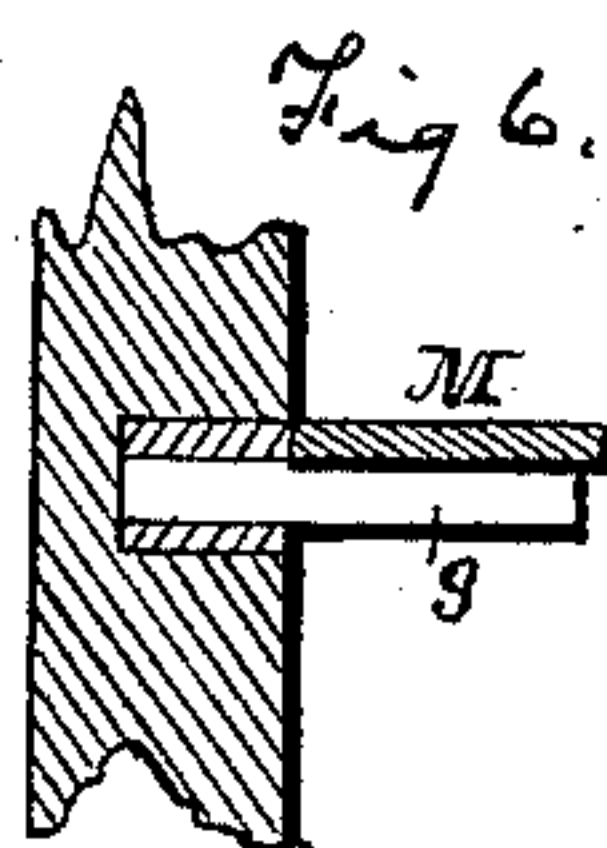
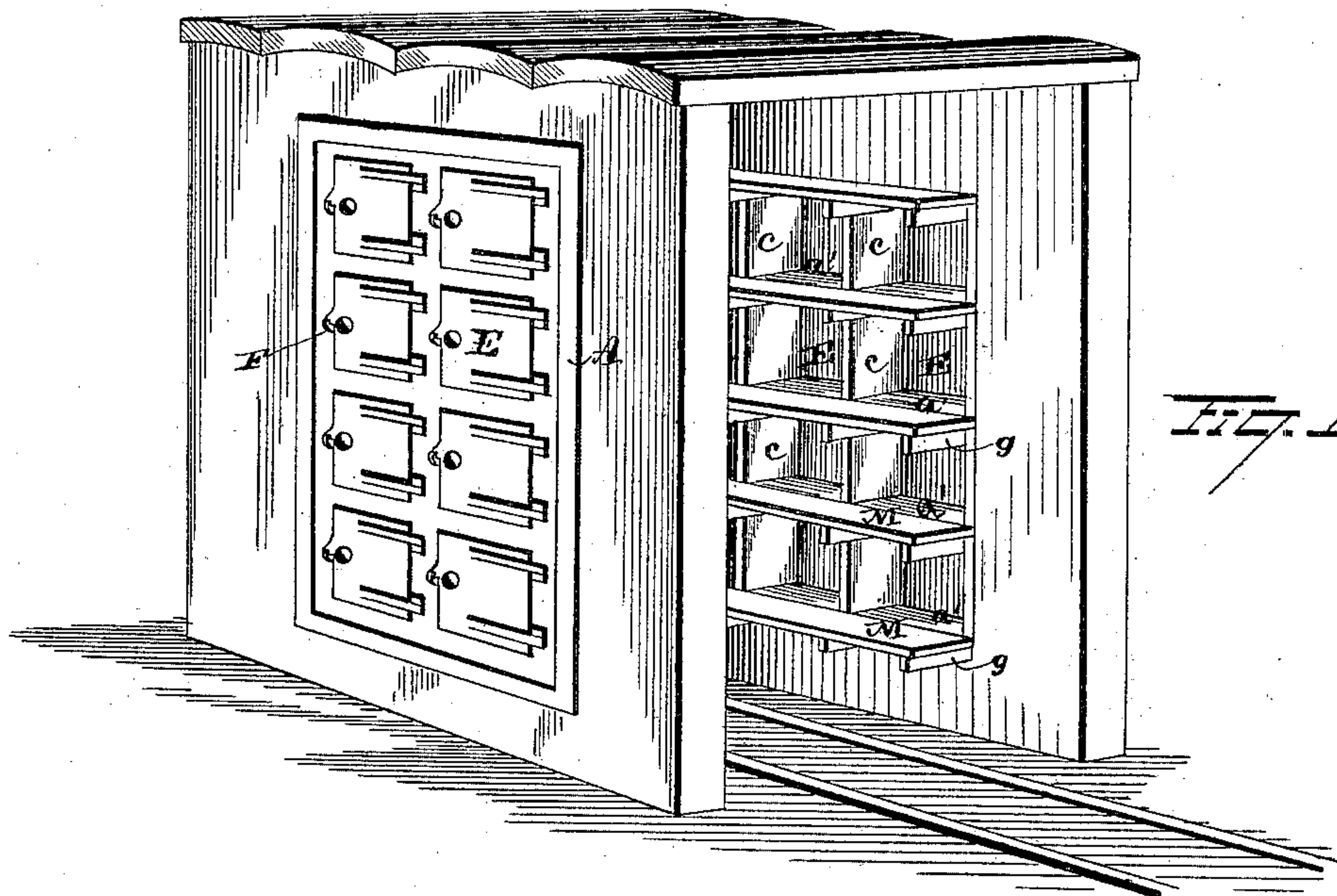
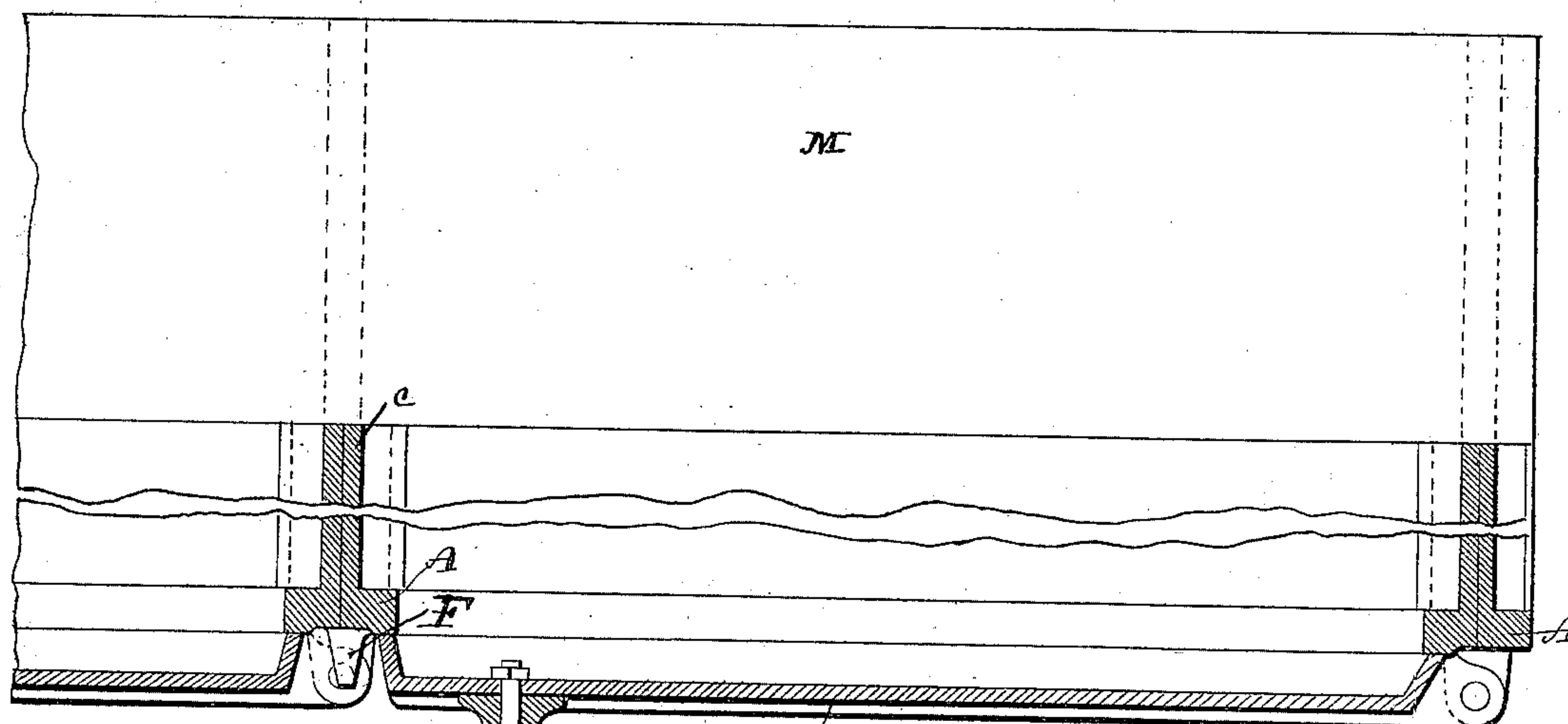


Fig. 5.



WITNESSES
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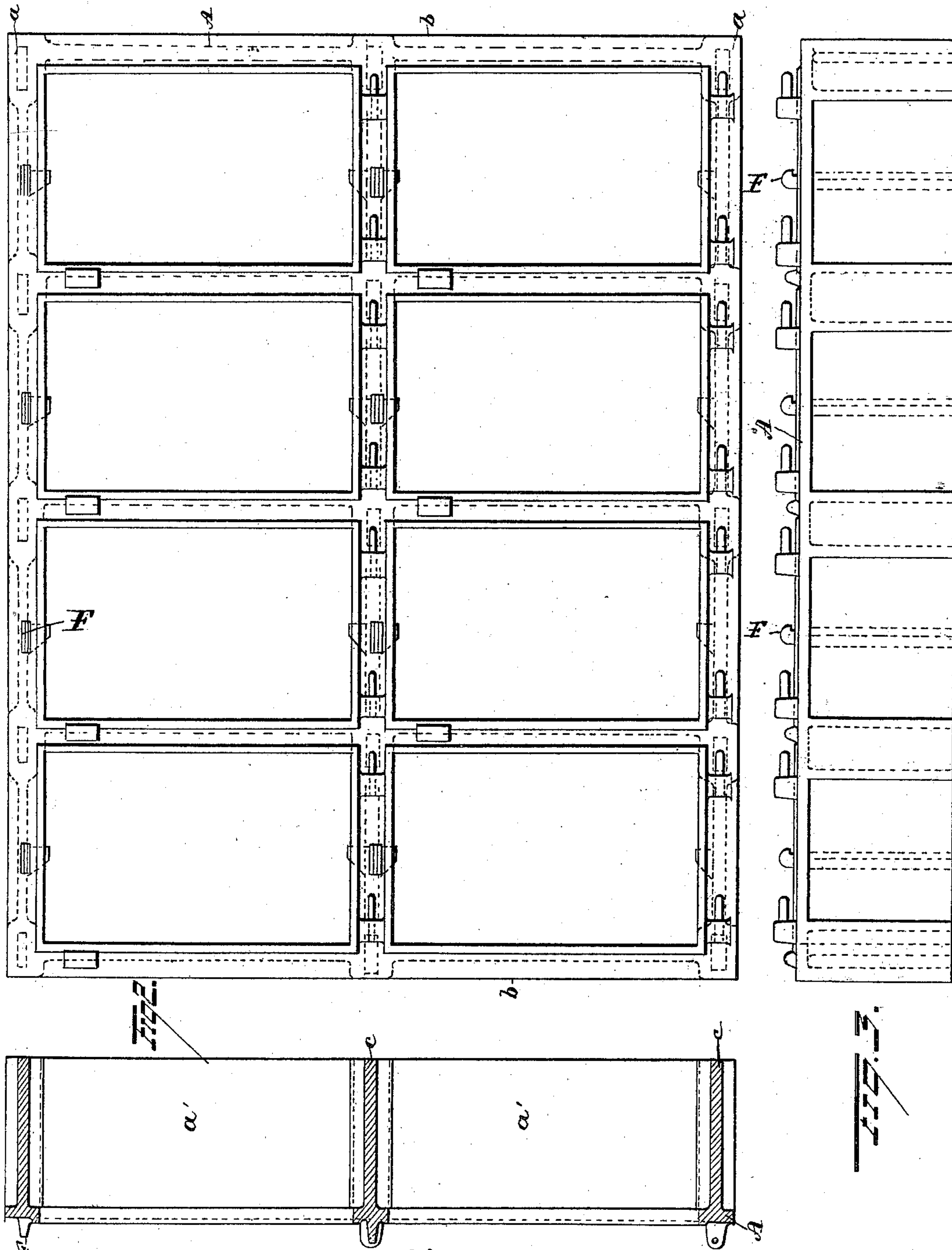
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UNITED STATES PATENT OFFICE.

BENJAMIN F. WATKINS, OF ALLIANCE, OHIO.

OVEN FOR DRYING CORES OR MOLDS.

SPECIFICATION forming part of Letters Patent No. 298,803, dated May 20, 1884.

Application filed January 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. WATKINS, of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful
5 Improvements in Ovens for Drying Cores or Molds; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and
10 use the same.

My invention relates to an improvement in foundry and other drying ovens, the object of the same being to utilize the space now occupied by the walls, and effect a great saving
15 in time, fuel, and labor.

In all foundries the large and small molds and cores are generally baked or dried in the same oven at the same time, and as it takes a much longer time to dry a large mold or core
20 than it does a small one, it becomes necessary to open the main doors very often for the purpose of taking out and replacing the small molds or cores. These ovens are heated to 300° or 400°, and every time a mold or core is
25 taken out or one put in, the large doors are opened for the purpose of enabling the heated air to escape, so as to reduce the temperature sufficiently to enable the workman to enter. This method, beside necessitating considerable
30 loss of time, is also objectionable in that it is expensive, as the heat which would be utilized if the doors were kept closed is lost, thus rendering it necessary for the larger cores or molds to remain in the oven for a longer period than
35 would be necessary if the doors could be kept closed.

My invention consists in providing the walls of an ordinary drying-oven with one or more openings adapted to be closed by one or more
40 doors, which enable small cores or molds to be placed within the oven and removed therefrom without the necessity of opening the larger doors.

My invention further consists in providing
45 the walls with a series of openings and doors, and with series of sockets for the purpose of supporting a series of shelves on the inside of the oven, the said shelves being accessible from the outside.

50 In the accompanying drawings, Figure 1 is a view in perspective of an oven embodying my invention. Fig. 2 is a detached view in

front elevation of one of the metallic frames, showing the doors secured thereto. Fig. 3 is a side view thereof with the doors removed. 55 Fig. 4 is a sectional view of Fig. 3 with the doors removed. Fig. 5 is a similar view with the doors in position, and Fig. 6 is a sectional view showing the manner of securing the shelves to the furnace-wall. 60

The drying-oven is constructed on any desirable plan, being provided with rails on which trucks carrying large cores and molds are moved, flues, and the large or end doors through which the large cores or molds are carried. 65

Within one or more walls of the oven I secure the metallic frames A, which latter are preferably rectangular in shape, and consist, essentially, of the top and bottom parts, *a*, the sides *b*, and one or more partitions, *c*, the said 70 sides and partitions being of the same width, for the purpose of supporting shelves *a'*, on which the small molds or cores are placed. These frames are provided with one or more horizontal partitions, *a'*, formed integral with or 75 separate from the partitions *c*, and divide the frame into two or more equal or unequal compartments, each of which is provided with a cast-iron door adapted to fit snugly up against the frame. The frames are preferably the 80 same thickness as the walls of the oven, so as not to project beyond the same.

Opposite each compartment, and preferably in the same horizontal plane with the partitions *a*, are situated the brackets *g*, which latter fit into sockets set in the walls of the oven and support shelves M, which latter can, if desired, run through the entire length of the oven. 85

Each compartment is provided with a hinged door, E, which latter is provided with a wooden 90 knob for releasing the latch from its keeper F, which latter is formed integral with or secured to the partition and one side wall of the frame.

I prefer to have the doors open in the same direction as shown; but, if desired, they can be 95 arranged otherwise, or pivoted from the top, so as to cause them to close by gravity.

When it is desired to bake a small mold or core, it is simply necessary to open one of the compartment-doors, place the article on the 100 shelf, and close the door. When the mold or core has baked or dried, it is removed through the same opening, thereby enabling a workman to put in or take out the molds or cores with-

out entering the oven. The large cores and molds are carried into the interior of the oven through the main doors.

It is oftentimes necessary for a workman to enter the oven when the latter is heated to a temperature of 300° or 400°, and it very often happens that in his haste to get out he breaks or destroys other work in his way; but by my improved oven the loss of material caused by accidental breakage in this manner is entirely obviated.

It is evident that many slight changes in the construction and relative arrangement of the several parts might be resorted to without departing from the spirit of my invention, and hence I would have it understood that I do not restrict myself to the exact construction of parts shown and described, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

25 1. A foundry or other drying oven provided with a track, a large door for the passage of a truck, a series of shelves secured to one or both side walls of the oven, and a series of small doors by means of which access can be

had to the shelves without entering the oven, substantially as set forth. 30

2. A foundry or other drying oven provided with the main or large doors, a series of sockets set into the walls of said oven, brackets secured to the sockets, shelves supported on the brackets, and a door or doors adapted, when open, to expose the shelves, substantially as set forth. 35

3. A foundry or other drying oven provided with a large door, metallic frames set into the side walls of the oven and divided up into compartments, each of which is provided with a door, and shelves secured to the side walls or to the metallic frames forming a portion of the side walls, for the purpose of holding small cores, the said shelves being so situated relative to the small doors to enable the cores to be placed on and removed from the shelves through the door-openings without entering the oven, substantially as set forth. 40 45 50

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

BENJ. F. WATKINS.

Witnesses:

GEORGE W. GAGELY,
A. J. PACKER.