

(No Model.)

3 Sheets—Sheet 1.

T. H. MOONEY.
MOLD.

No. 424,892.

Patented Apr. 1, 1890.

Fig. 1.
on line $\alpha\alpha$

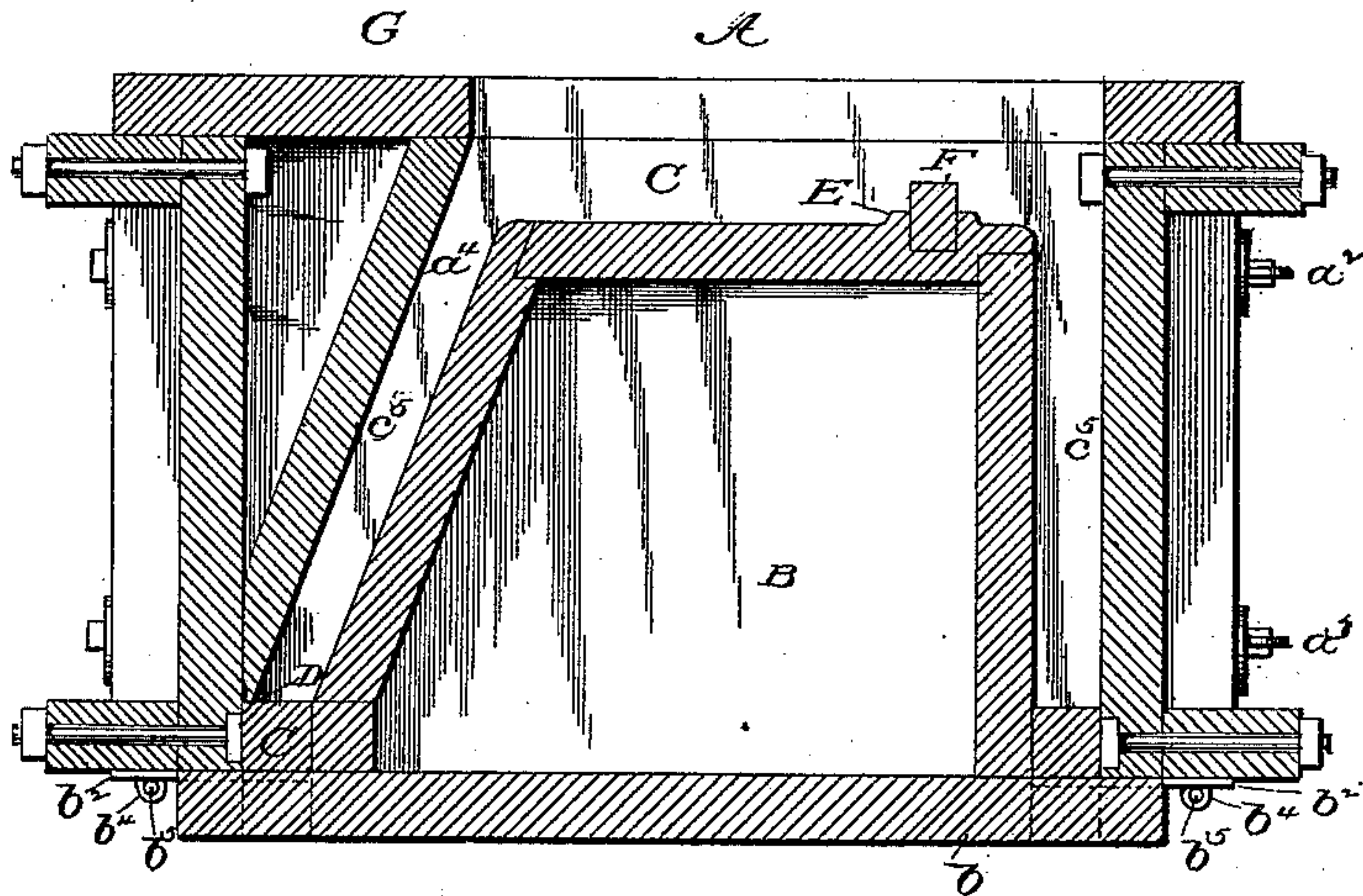
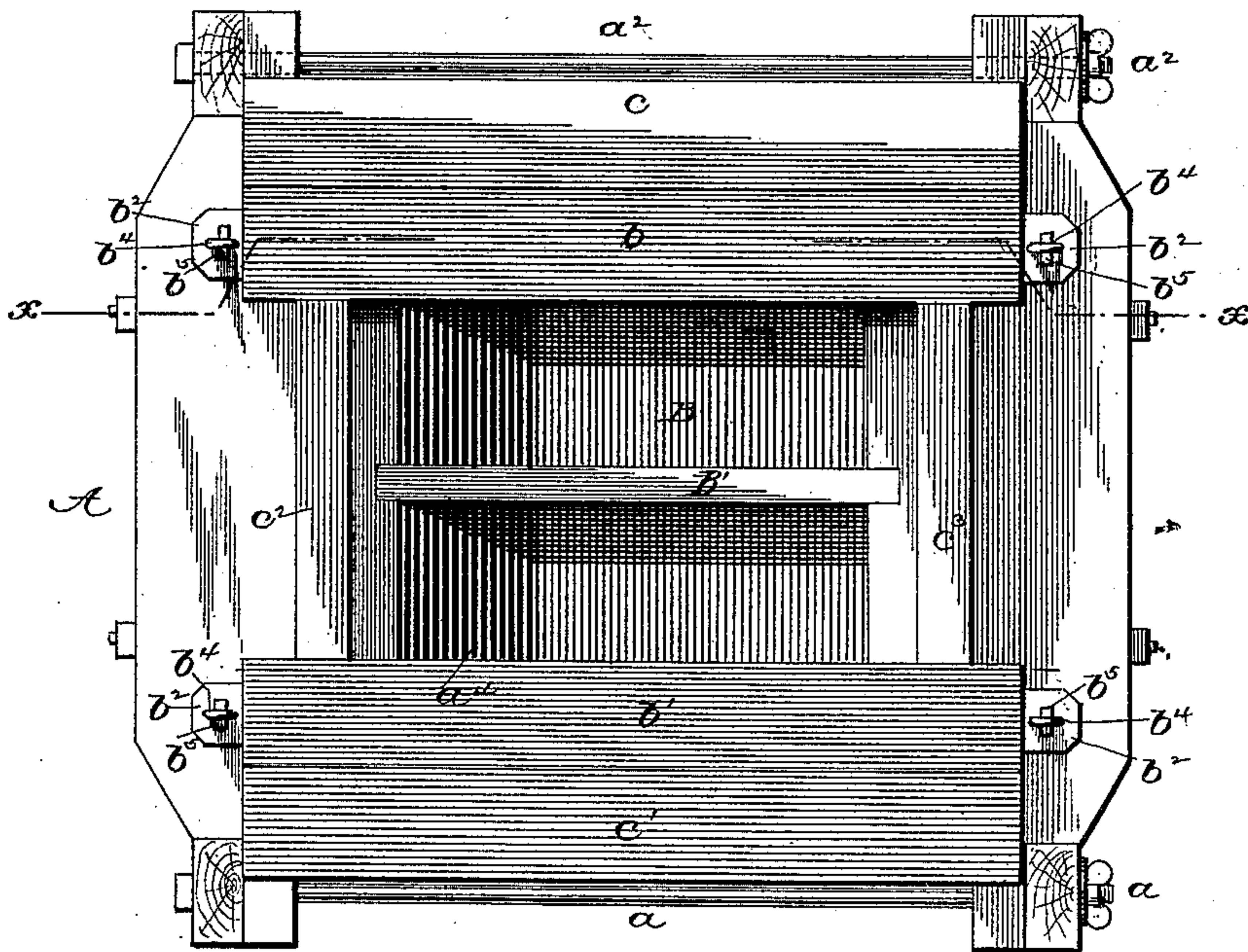


Fig. 2.



Witnesses:

W. W. Montimer
A. R. Kennedy

Inventor:

T. H. Mooney
By Phil. T. Dodge
Att'y

(No Model.)

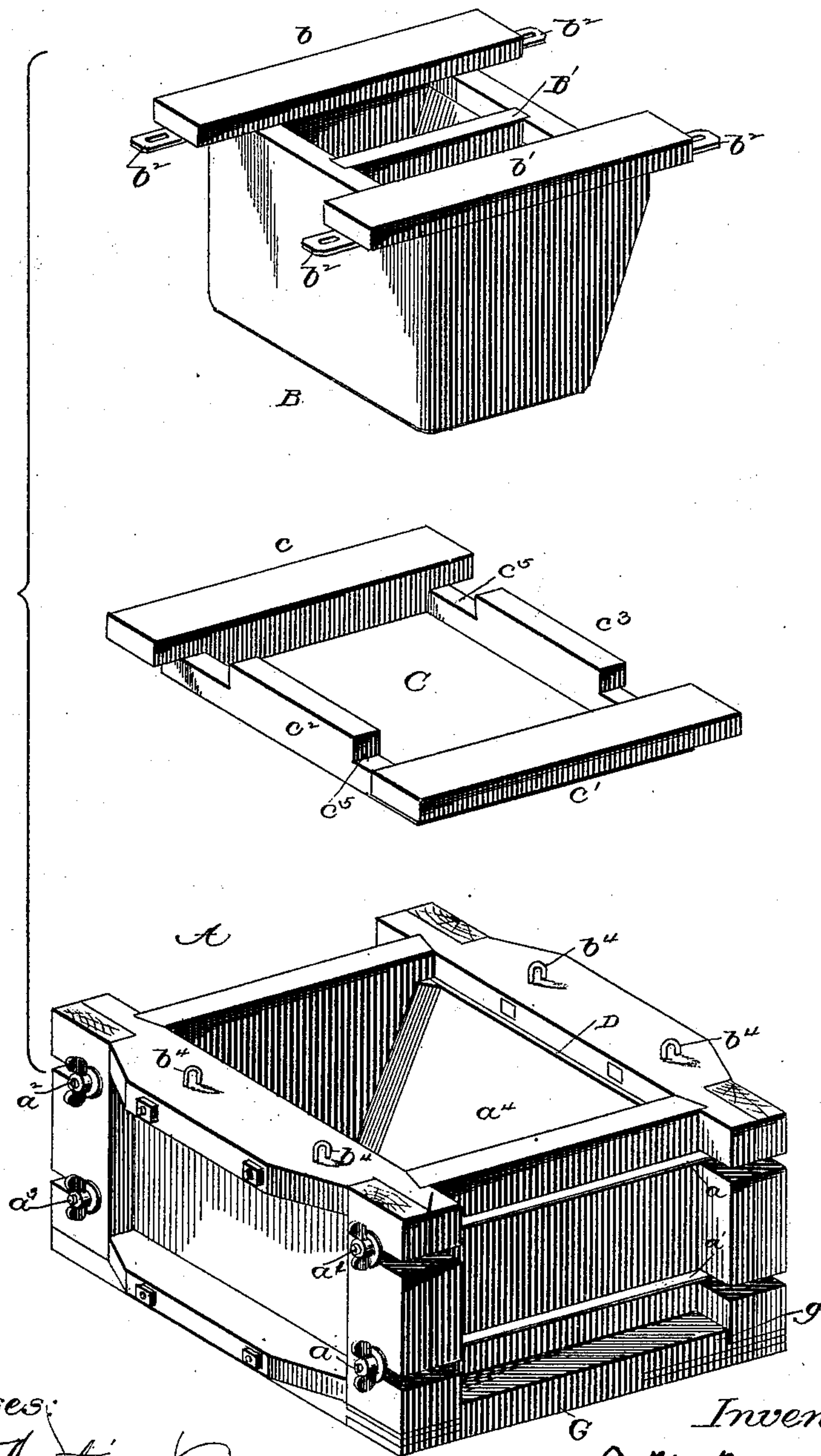
3 Sheets—Sheet 2.

T. H. MOONEY.
MOLD.

No. 424,892.

Patented Apr. 1, 1890.

Fig. 3.



Witnesses:
W. H. Mortimer
A. R. Kennedy

Inventor:
T. H. Mooney
By *Phil. T. Dodge*
Atty

(No Model.)

3 Sheets—Sheet 3.

T. H. MOONEY.
MOLD.

No. 424,892.

Patented Apr. 1, 1890.

Fig. 4.

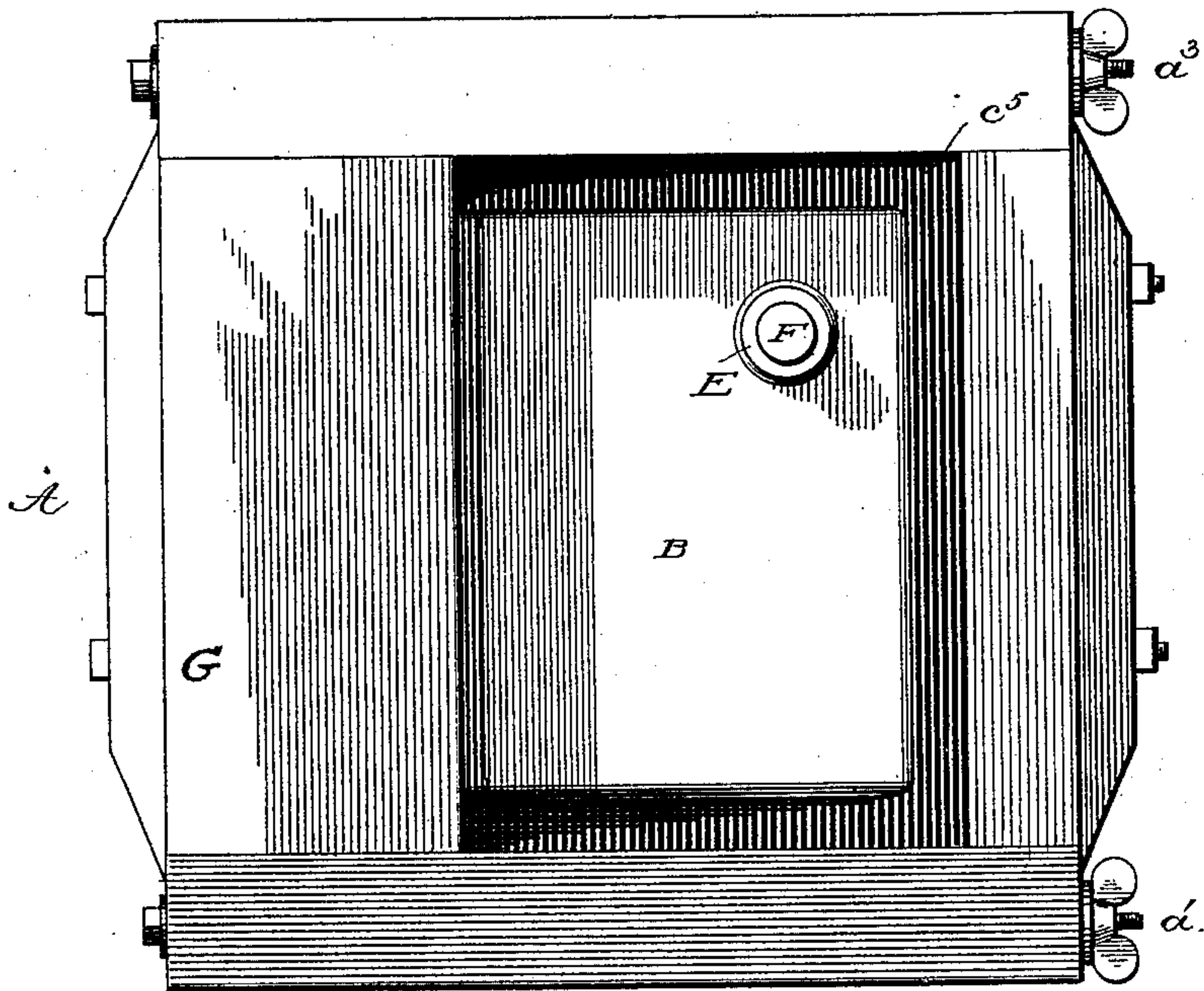
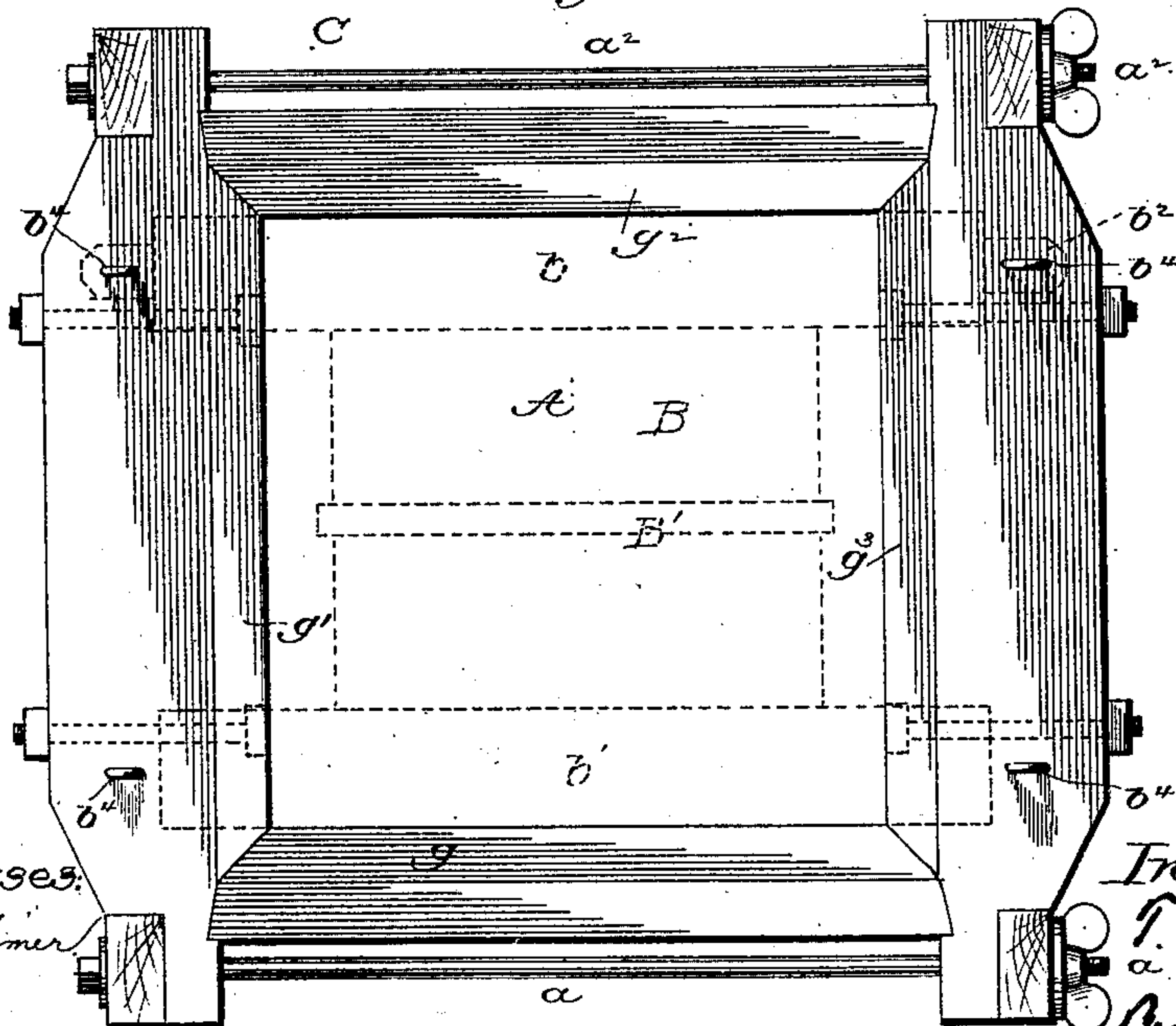


Fig. 5.



Witnesses:
M. M. Martin

A. A. Kennedy

Inventor:

T. H. Mooney

By Phil. T. Dodge
Att'y

UNITED STATES PATENT OFFICE.

THOMAS H. MOONEY, OF DAYTON, OHIO.

MOLD.

SPECIFICATION forming part of Letters Patent No. 424,892, dated April 1, 1890.

Application filed December 12, 1889. Serial No. 333,488. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. MOONEY, of Dayton, in the county of Montgomery and State of Ohio, have invented certain Improvements in Molds, of which the following is a specification.

My invention relates to molds for casting wash-tubs, sinks, coffins, or analogous vessels from plastic substances—such as artificial stone, &c.—the object being to provide a mold of this character by the employment of which the casting may be treated or finished on its interior surface before it has become hard.

To this end my invention consists in combining with a removable core and a matrix an intermediate structure so formed that the core may be withdrawn while the casting is still soft without injury or mutilation to its sides or edges.

The invention also consists in minor details of construction and combination of parts, hereinafter described and claimed.

Referring to the accompanying drawings, Figure 1 is a vertical cross-section through a mold constructed in accordance with my invention, on the line $x x$ of Fig. 2. Fig. 2 is a bottom plan view of the same. Fig. 3 is a perspective view of the parts of the mold in its preferred form in an inverted position. Fig. 4 is a top plan view of the mold with the core in position. Fig. 5 is a modification.

In the drawings, A represents a matrix or casing open at the top and bottom and consisting of the four side walls sustained rigidly in position by means of tie rods or bolts a, a', a^2 , and a^3 . These bolts rest in open slots in projecting ends of the two opposite side walls, and are provided with nuts which may be adjusted to bind the four walls together, or loosened to permit the walls to fall apart when the casting is to be removed. The space inclosed by the walls may be of various forms, according to the shape of the article to be cast. In the present case I have represented a mold suitable for casting wash-tubs having three vertical sides, a downwardly and inwardly inclined side, and a horizontal bottom. Consequently one of the walls of the matrix is provided with the inclined face a^4 , as shown in the drawings.

B represents a core adapted to extend into the matrix, as shown. This core is of a form

on its exterior corresponding to the interior of the article to be cast, and is of a size somewhat smaller than the interior of the matrix, so that a space is left, into which the material to form the tub is placed. On its under side the core is provided with ribs or rails $b b'$, the ends of which extend beyond the core, so that when the latter is inserted in the matrix the ends of the rails will act by encountering the ends of the opposite walls of the matrix to govern the relative positions of the core and the matrix.

Each of the rails is provided at its ends with a plate b^2 , having a slot adapted to receive a perforated head b^4 , projecting from the opposite walls of the matrix. The perforated head is constructed to receive a wedge-shaped key b^5 , which, being inserted after the core has been placed in position, will act to hold it firmly in place. The core is provided with a handle B' , by means of which it may be withdrawn from the matrix.

C represents a frame, which is formed on its inner sides to snugly surround the base of the core and on its outer sides to fit the interior of the matrix near its base. The frame is located at the base of the mold between the core and matrix, and serves as a bottom to close the intermediate space into which the artificial stone or other material is placed. It is provided on its under side, like the core, with ribs or rails $c c'$, the ends and outer edges of which project beyond the frame when the latter is in position encounter the bottom of the matrix. This frame is further provided between the rails on opposite sides with projecting portions c^2 and c^3 , the space c^5 between the ends of the projecting portions and the sides of the rails being of a sufficient width to receive the projecting ends of the rails on the core, which when seated in place and secured by the fastening devices before described will act to hold the frame securely in its proper position.

As shown in Figs. 1 and 3, the inclined wall of the matrix at its junction with the mold at its base is provided with a shoulder D, beneath which the upper corner of the frame C engages. This construction insures a tight joint between these parts.

The operation of casting is as follows: The frame is first placed in position in the matrix.

while the latter is inverted, as shown in Fig. 3, the projecting portions of the side rails resting on the matrix. The core is then inserted, the ends of its rails extending across the frame into the spaces c^3 , and also resting on the matrix, and the openings in the plates b^2 passing over the perforated heads. The keys b^4 are then inserted. The mold, being inverted, is placed in the position shown in Fig. 1, and the plastic material of which the tub is to be formed is deposited, filling the mold. The mold is again inverted, the fastenings of the core removed, and the latter withdrawn. The screws on the tie-bolts may then be loosened, and the matrix will fall apart and the casting may be removed. It will be observed that under my construction the core may be withdrawn while the casting is still soft, and this without injury to the sides or edges of the molded tub, as the frame C, closely surrounding the core, acts as a stop to prevent the soft material from clinging to or following the core as it is withdrawn.

The employment of a mold constructed as set forth permits the interior of the molded article to be "finished" or treated while in a soft condition, the composition for treating a tub in this manner forming the subject-matter of an application for Letters Patent of the United States filed by me on the 12th day of December, 1889.

In Fig. 5 I have represented a modification of the frame C. In this case, instead of making the frame in one piece and removable, it is formed of four sections $g g'$, &c., each connected to one of the walls of the matrix, so that when the latter are in position an uninterrupted ledge will be formed, extending around the interior of the matrix.

In order that the molded tub may contain the usual discharge-opening, I provide the core on its upper end with a circular rib or projection E and with a removable plug F, seated in a depression within the circular rib and extending upward some distance. The employment of a removable plug for this purpose, as distinguished from a rigid projection, is advantageous, in that the plug may be withdrawn independently of the core while the molded article is soft without incurring the risk of mutilating the sides of the discharge-opening which would exist were the plug connected rigidly to the core, inasmuch as

the comparatively large and heavy core could not be withdrawn with the ease and precision with which the plug could be withdrawn.

In order that the upper edge of the matrix may be protected while in use, I provide the removable frame G, which is open at its center and seated on the upper end of the matrix. This frame is provided with the depending ribs $g g'$ on opposite sides, which when the frame is in place extend along the sides of the two opposite walls of the matrix between the ends of the opposing adjacent walls. In this way the frame is prevented from being displaced.

While I have shown and described a mold for casting tubs of a peculiar form, and while I have described the employment of a mold for casting articles from artificial stone to be treated on the interior while soft, it is to be understood that the form of the mold may be varied to meet the demands of the trade, and it may be employed for casting from other materials than those mentioned, provided the essential features of the construction are preserved.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is--

1. In a mold, the combination, with the matrix and removable core, of the intermediate structure independent of the core and closely surrounding the same.

2. In a mold, the combination, with the matrix, of the removable frame and the removable core within the said frame, and provided with projections extending over the frame and onto the matrix, and suitable devices for securing the core to the matrix.

3. In combination with the core adapted for removal from a matrix, a detachable projection on the core for forming an aperture in the molded article.

4. In a mold, the combination, with the matrix provided with an opening, of a removable shield located adjacent to the said opening and provided with an aperture.

In testimony whereof I hereunto set my hand, this 23d day of November, 1889, in the presence of two attesting witnesses.

THOMAS H. MOONEY.

Witnesses:

M. J. SWADENER,
E. T. HALL.