

(No Model.)

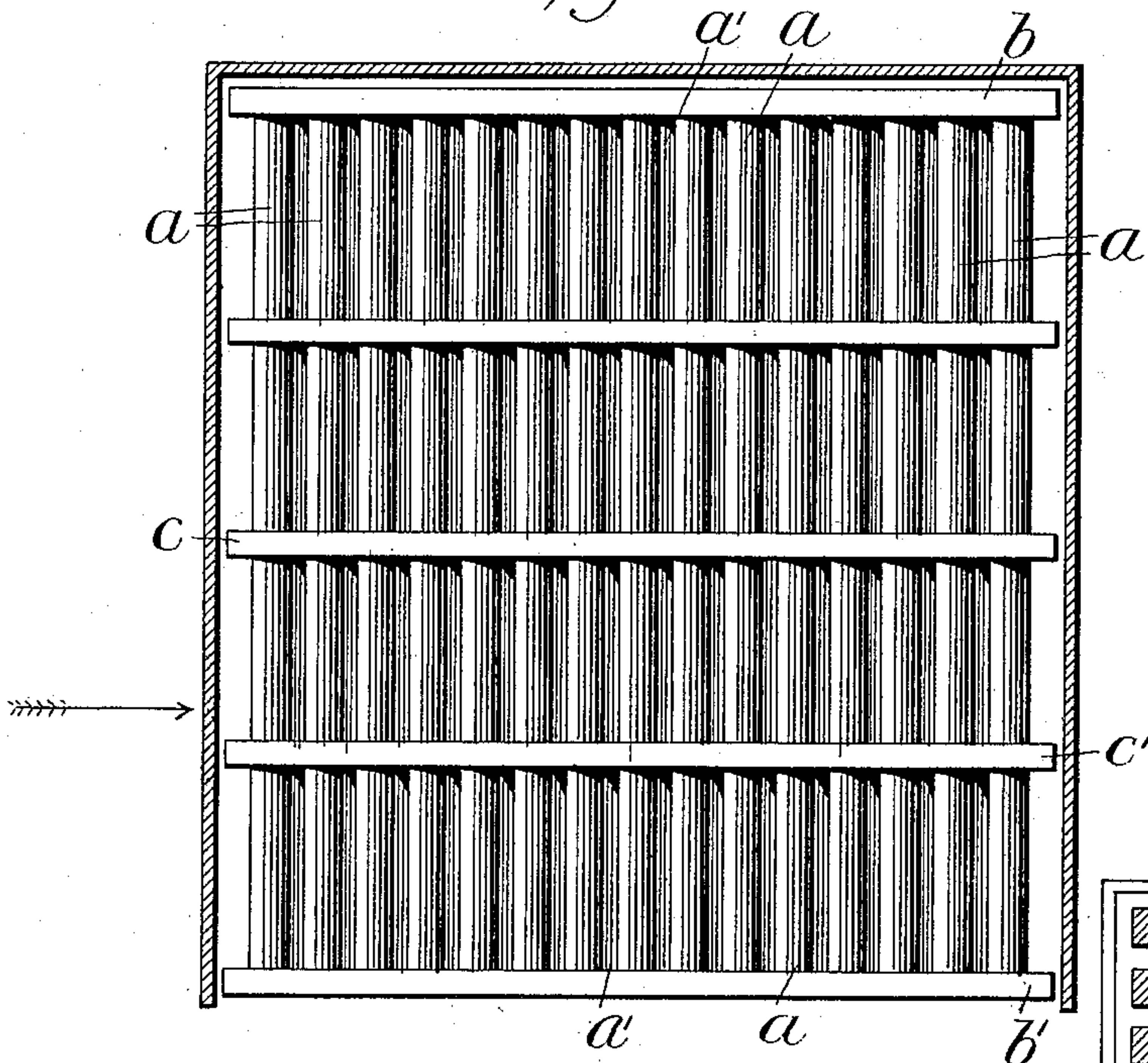
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SAFE.

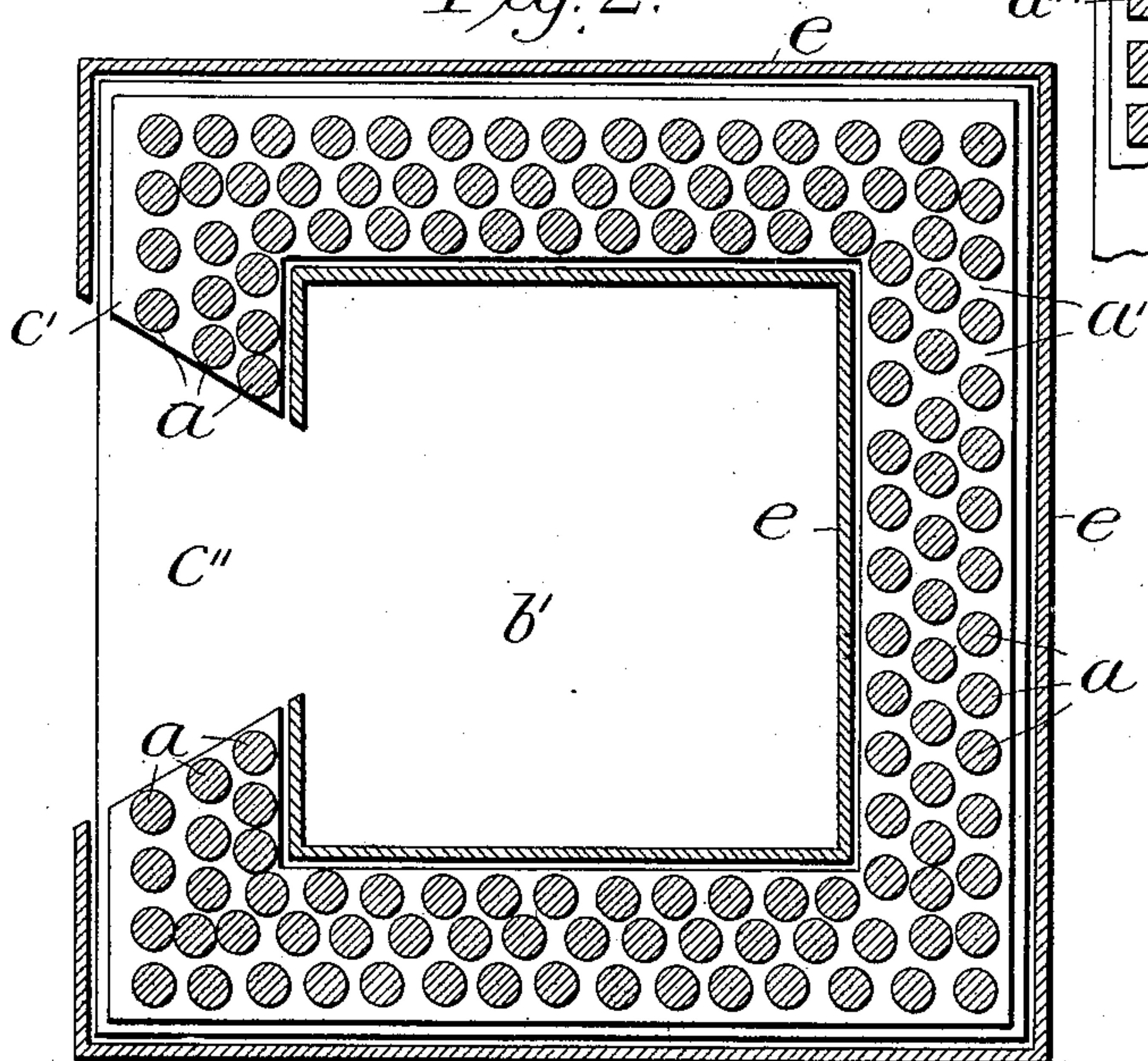
No. 559,111.

Patented Apr. 28, 1896.

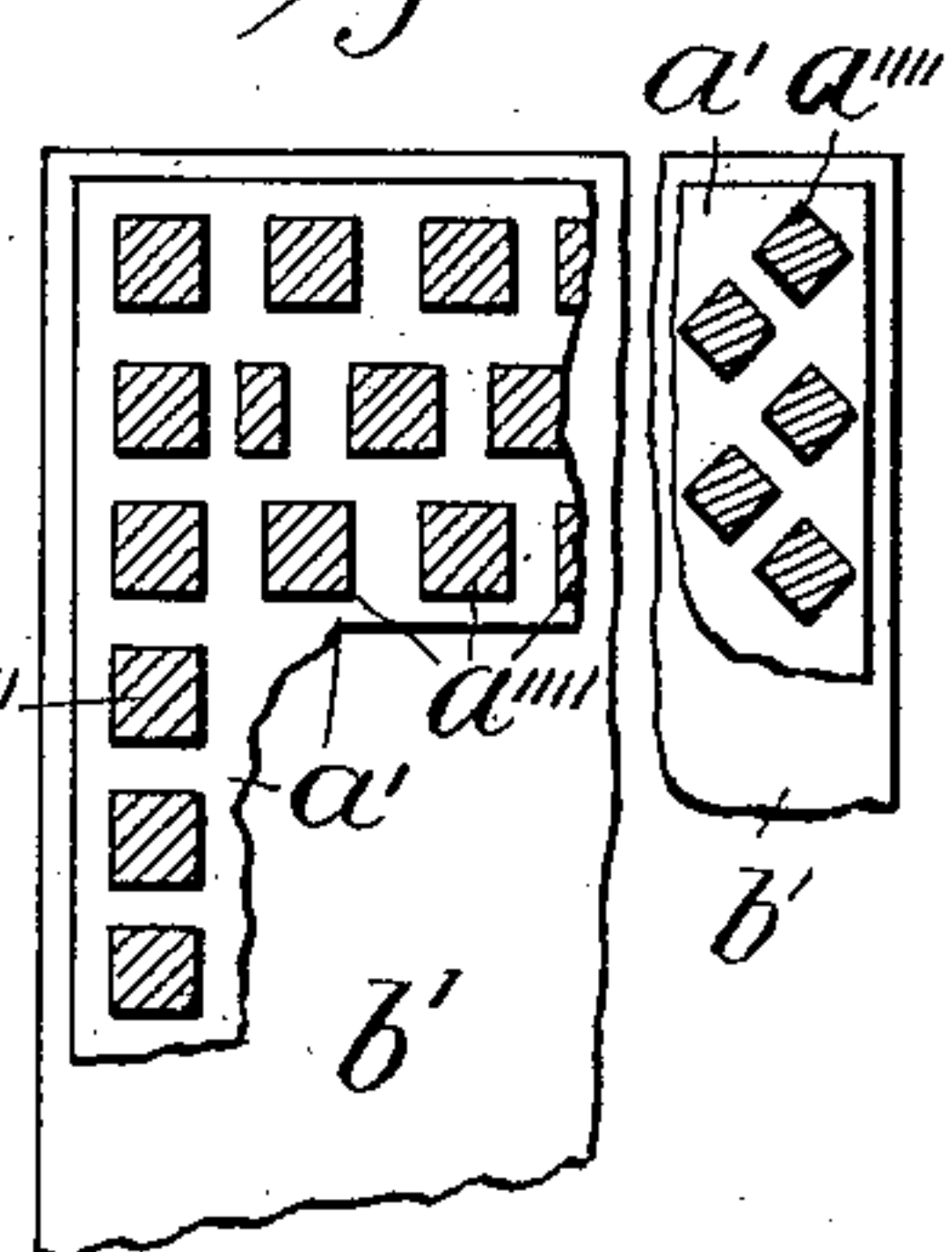
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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Fig. 4.

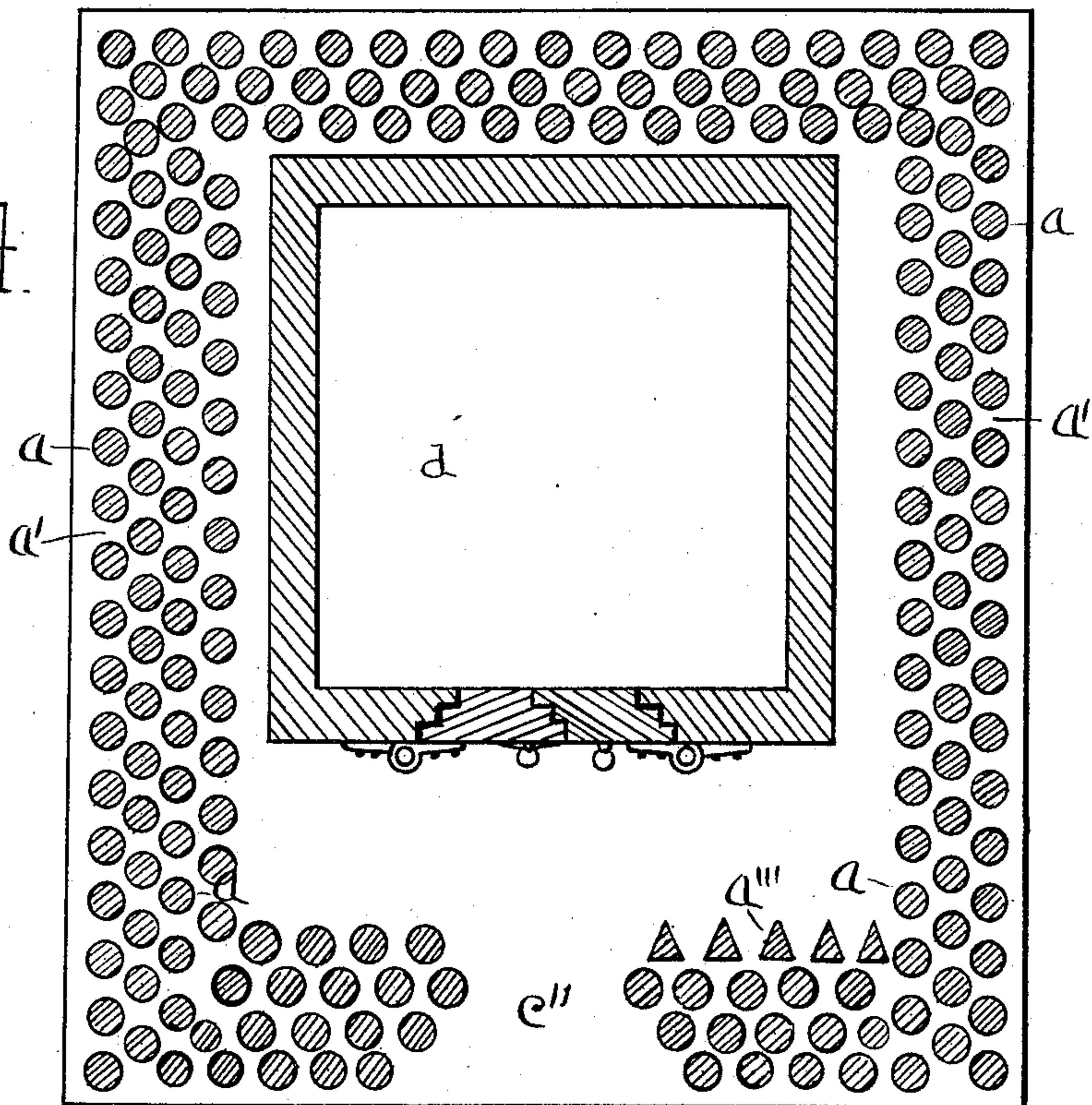
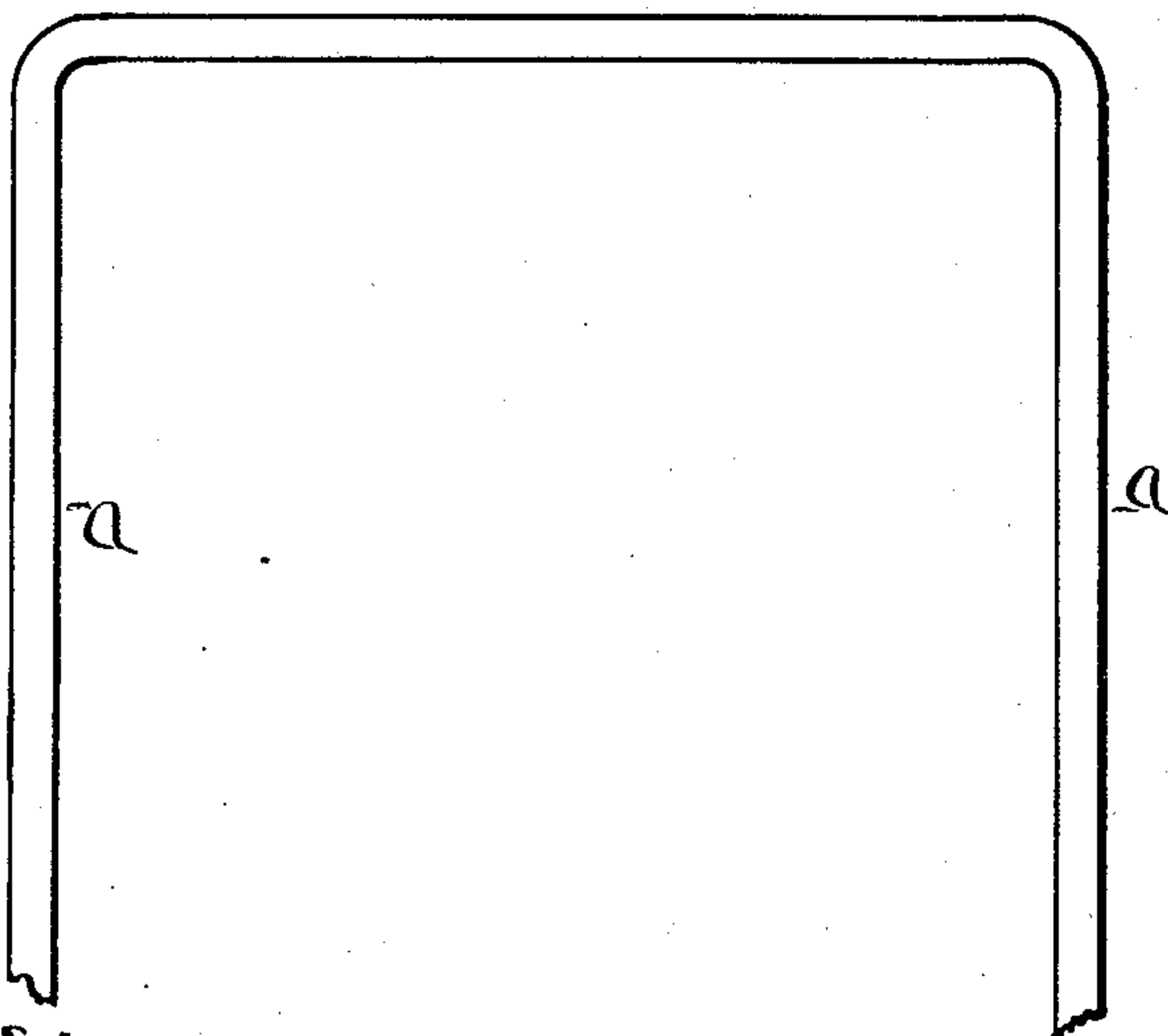


Fig. 5.



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# UNITED STATES PATENT OFFICE.

LAFAYETTE L. TREMAN, OF ITHACA, NEW YORK.

## SAFE.

SPECIFICATION forming part of Letters Patent No. 559,111, dated April 28, 1896.

Application filed February 6, 1895. Serial No. 537,462. (No model.)

*To all whom it may concern:*

Be it known that I, LAFAYETTE LEPINE TREMAN, a citizen of the United States of America, and a resident of Ithaca, Tompkins county, New York, have invented an Improved Metallic Wall for Use in the Construction of Bank-Vaults, Safes, and Like Structures, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to safes, vaults, cars, and other receptacles for valuables liable to be destroyed or opened by explosives, and it has for its object to provide outside of said receptacle, or as a part thereof, a burglar-excluding wall of such character that the blowing open of the safe or other receptacle will not destroy the wall or open it to give access to the contents of the safe, and which also shall preclude inspection or the introduction of a tool to the interior; and it consists in the construction hereinafter described and particularly pointed out.

Referring to the drawings, Figure 1 is an elevation of the side wall of a safe, an inclosing case being shown in section. Fig. 2 is a transverse section of the same on line indicated by the arrow in Fig. 1. Fig. 3 is a partial plan of a safe-floor plate and the rod wall supported thereon and provided with a binding or stay plate. Fig. 4 is a horizontal section showing an ordinary safe inclosed by one made according to the present improvement. Fig. 5 is a U-shaped rod adapted with others of substantially like form to constitute the roof and side walls of a safe.

In the several figures the letters *a a* indicate rods having intervals or interspaces *a'*. Said rods are placed in rows at suitable distances apart, the rods of each row being set to break joint with those of an adjacent row or rows. Any desired number of rods may be employed. The rods may be the same size or of different sizes, and may be round, square, or of other shape in cross-section, and they may vary in size in the same structure, and separate structures may have the same or different sizes, as desirable. The rods may have various forms in cross-section, as indicated in Fig. 3. As shown in Fig. 5, rods which are angular in cross-section may be variously placed with reference to each other.

The rods may be held at their tops and lower ends by plates *b b'*, or may be bent substantially as indicated in Fig. 4, so as to render said plates unnecessary, it being important, however, that connecting or stay plates be employed. These can be placed at any suitable horizontal plane. In some cases a plate *b'* may constitute the floor and a plate *b* the roof of the safe or chamber. As many plates to resist explosives or mechanical violence may be used as are desirable. The rods and plates combined should have sufficient strength to resist explosions and the several rows should be so arranged that inspection of the interior or the introduction thereto of tools is precluded; and to further protect the rods themselves they are made of a size, form, and material adapted to resist attacks. Solid rods are illustrated as preferred in use, though the benefits of the stay-plates and multiplicity of rows with alternate arrangement of rods are not dependent upon the solidity of the rods, it being mainly important that they be firmly held in place in manner to resist an exterior mechanical attack or the force of an explosive. Chrome or hardened steel is very suitable material for the rods.

The inclosing walls made of rods terminate at the doorway *c'*, as indicated in Fig. 2, the doors not being represented.

In Fig. 3 is illustrated an ordinary safe *d*, inclosed in a chamber made according to the present improvement. At the front of the safe, between it and the outer walls, is shown space for the door of the safe to swing in, which space gives room for the expansion of the gases of the explosives, whereby they will act with less violence on the rod walls.

The bent rods indicated in Fig. 4 may be held together or stayed by plates *c*, both at their tops and sides. The floor of the safe or chamber may also be of rods. Though the rods are illustrated as perpendicular, they may be otherwise arranged and may be either inclined or horizontally disposed.

To exclude dirt and to give my structures the usual and an ornamental appearance, I inclose them in a casing *e*, and may also provide an internal casing *e'*, which casing may be made of wood, papier-mâché, or sheet metal. Portions of the wall of my structures, where least exposed, may be made, if desirable, like



the usual walls of safes, and the rest composed of rods. Special angle-pieces or corner-pieces may be used.

The plates *c* may be made wide enough to stay all the rods. The hinges of the doors can be attached to the plates *c*, or to special fixtures fastened to the rods.

I am aware that it has been proposed to inclose a safe in a cage made of rods, and such device is not of my invention. My improvement is characterized by an arrangement of rods in rows stayed together in manner to preclude inspection of the interior or the direct introduction of a tool, and which arrangement yet allows the free passage of expanding gases. The rods may be made solid and should be strong to resist the drill or other tool or an explosive force. Whatever their form in cross-section as much strength should be secured as practicable. For an increase of strength my intermediate stay-plates *c c'* are well adapted, as they tie the rods together so that they support each other, and they are strengthened thereby at or near their weakest points and approximately midway of their ends.

Having thus described my invention, what I claim is—

1. The described open-work walls for the side wall, roof and floor of bank-vaults, safes, transportation-chambers, and like structures; constructed of the rods *a*, held to each other, by binding-plates, there being open interstices or spaces, between the rods, and the binding-plates, suited to and for the escape

of the gases of explosives through them, substantially as set forth.

2. The described open-work walls for bank-vaults, and like structures, composed of the rods *a*, and the binding-plates *c*, in combination with the casings *e e'* inclosing the walls, substantially as set forth.

3. In a receptacle for valuables having a wall composed of rows of rods, the rods in each row being arranged opposite spaces between like rods in an adjoining row to exclude vision and tools, and stay-plates binding the rods together, there being an open space about each rod continuous with the space within and without the wall whereby the gases of explosives may freely expand, substantially as set forth.

4. In the described structure for safes and compartments, the wall constructed of rods bound together by plates *c* in any suitable manner in combination with a safe inclosed therein; the compartment having a wall of rods situated at a distance from the safe not less than the width of a door of the latter whereby it is adapted to allow the doors of the inner safe to swing open outwardly within said compartment and also to allow ample space for the expansion of the gases of explosives used by burglars, before they pass through the rod-composed walls of the outer compartment, substantially as set forth.

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