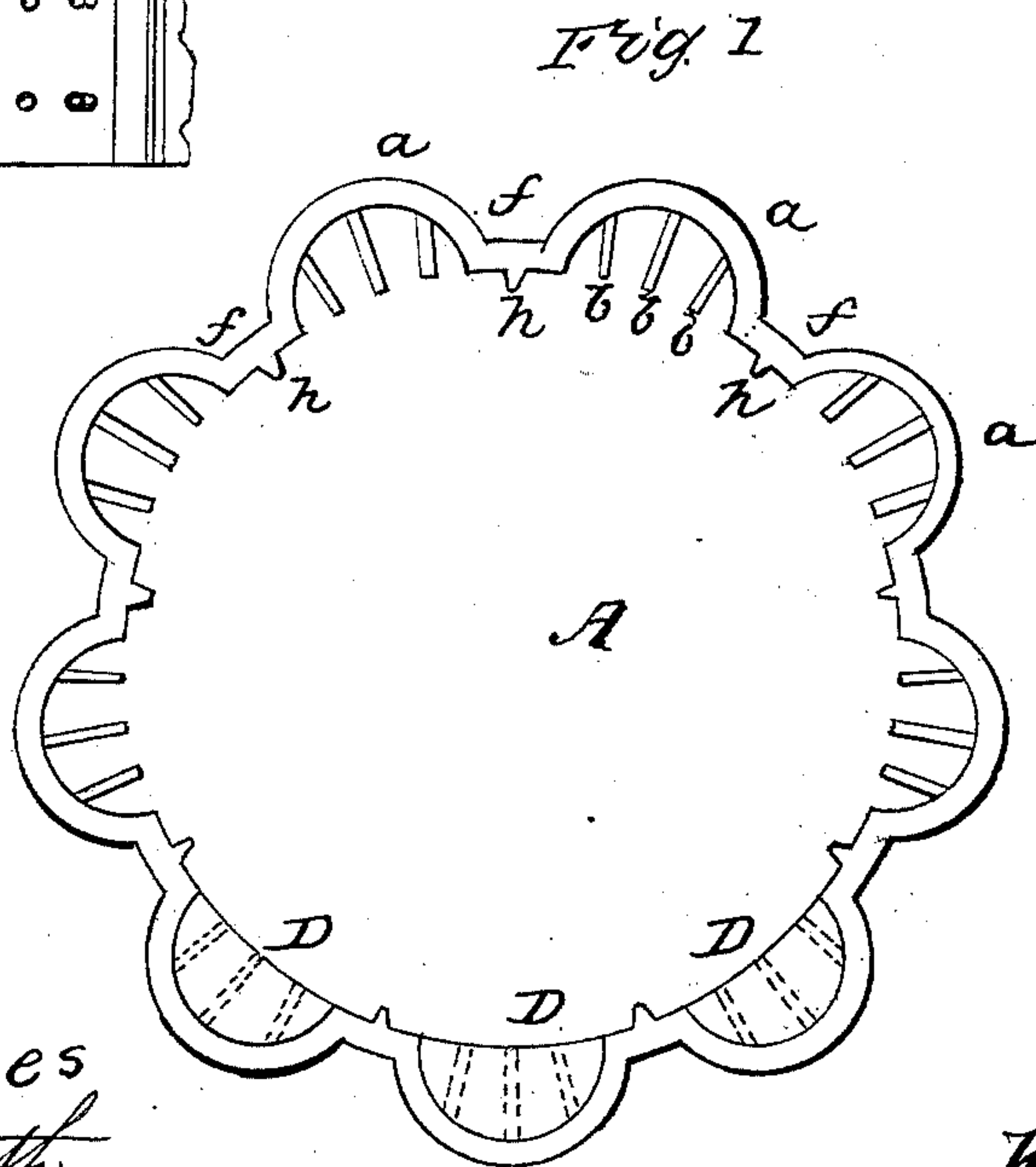
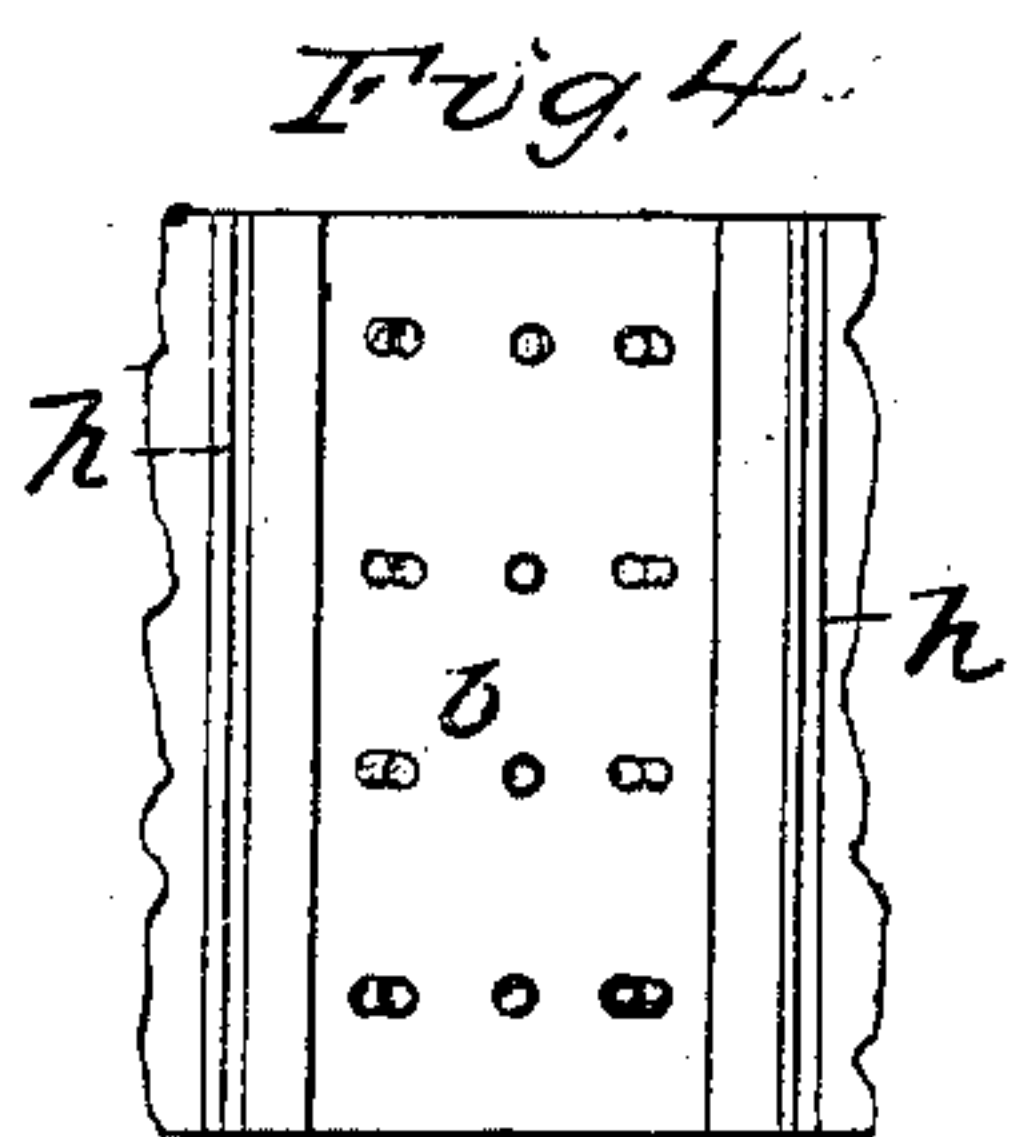
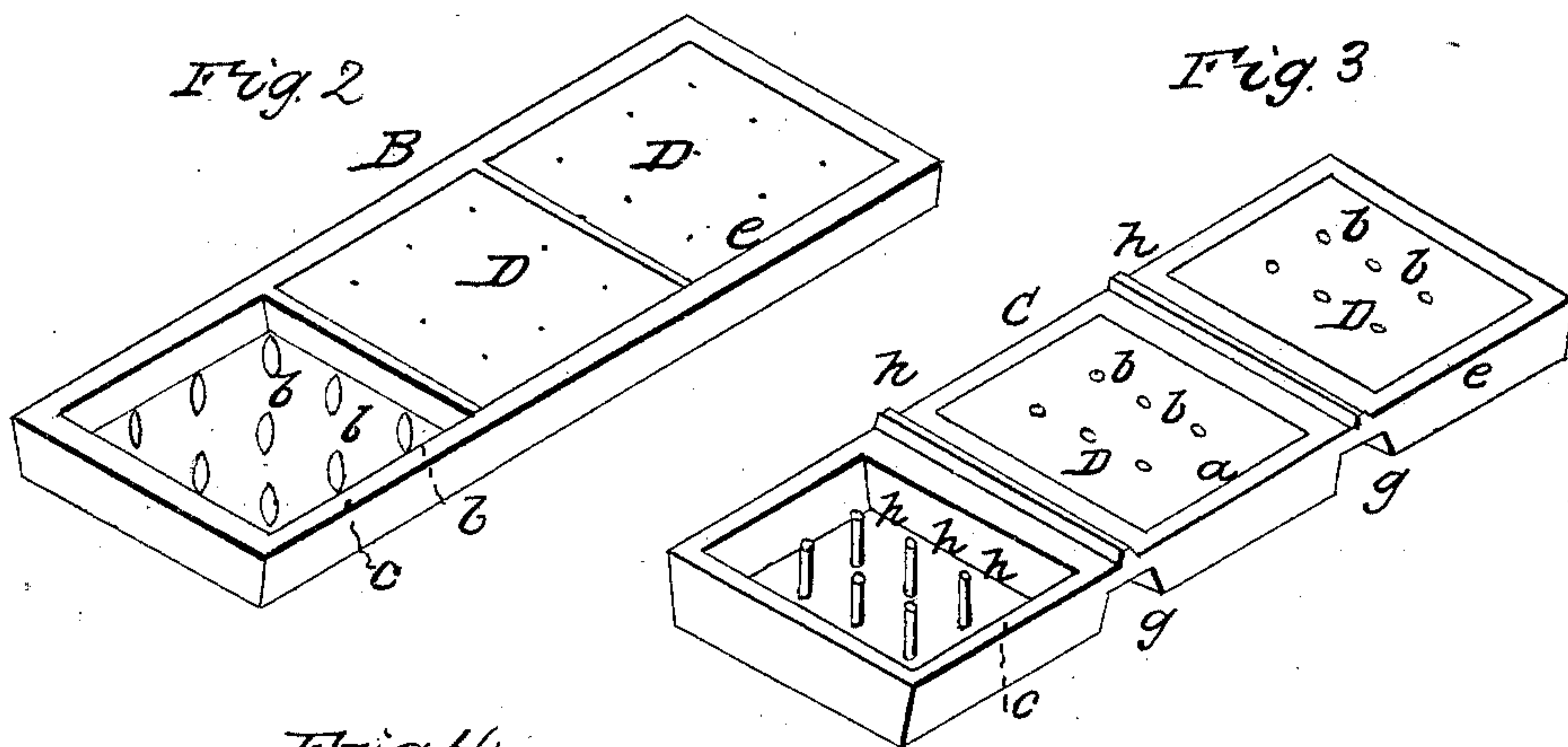


W. SANFORD.

Stove Lining.

No. 35,181.

Patented May 6, 1862.



Witnesses
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UNITED STATES PATENT OFFICE.

WATSON SANFORD, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN STOVE-LININGS.

Specification forming part of Letters Patent No. 35,181, dated May 6, 1862.

To all whom it may concern:

Be it known that I, WATSON SANFORD, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Fire-Pots and Guard-Plates or Linings for Fire-Pots; and I do hereby declare that the following is a description thereof in terms which I now think sufficiently full, clear, and exact, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a horizontal section of a fire-pot or guard or lining. Figs. 2 and 3 are perspective views of sections of guard-plates, or linings which may be used as such, or as the body of the fire-pot; and Fig. 4 an inner view of a section of Fig. 1, with the fire-clay removed.

The nature of my invention consists in providing the corrugations or cells of a fire-pot guard-plate or lining, to be placed within fire-pots, with pins, points, or projections, which shall extend through the fire-clay, thereby, in conjunction with other devices, performing several important functions.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

My invention is applicable to any shape, form, or construction of stove or furnace, and it may be applied either to the fire-pot itself or as a guard-plate or lining within such fire-pot. Its object is to yield an increased heating-surface, more equably to diffuse the heat, and more securely to retain and more effectually to preserve the fire-clay, or whatever may be used in its stead of an analogous nature.

To these ends the fire-pot A is constructed with vertical or other corrugations *a*, from the inner concave sides of which rise the pins *b*, which are cast with the fire-pot; or, instead of making this the fire-pot, it, or the plates B or C, cast with cells or panels *c d e*, from which project the pins *b*, may be used as a fire-guard or lining to be placed within the fire-pot. In this latter case the exterior concave portions, *f*, of the corrugations, or the channels *g* of the plate C, will admit of the circulation of air between the said guard-plates or linings and the shell of the stove or furnace to aid in the combustion, as well as to protect the iron

and temper the heat. As the corrugated cylinder or hoop A may be used as a fire-pot, so may also the plates B and C.

I have already stated that pins, points, or projections are cast with and project from the inner concave portion of the corrugations *a* and the cells or panels *c d e*. These are spread all over the surfaces of such parts and but a short distance apart, rising flush with the inner surface of the fire-pot or guard-plate. When, therefore, the fire-clay or like material D is applied to and fills the depressions, the pins project through and expose their heads to the action of the fire, and thus not only retain the fire-clay, but conduct the heat through and diffuse it equably all over such portion of the exterior of the stove, furnace, or fire-guard as is covered on the interior with the fire-clay or like material. These pins serve another and a very important object. When stone or anthracite coal is used as a fuel, a vitreous substance is formed in the combustion which adheres to the fire-clay, soapstone, or fire-brick, usually employed as a guard against too intense heat, with so much tenacity as to injure the protecting substance and often to destroy it on its removal. These pins prevent such adhesion to the extent that the fire-clay is nearly equal in endurance to the stove or furnace itself, since this vitreous substance has no affinity with iron, and this office is assisted by the ribs *h*, which are cast with the stove or furnace or guard or lining, and between the sections of fire-clay or other like material, by reason of their preventing in a measure the fuel or clinkers coming in contact with the said fire-clay, &c. These ribs *h* also, keeping the fuel away from the general surface of the fire-pot or lining, permit the air to circulate between it and the fuel, thus preserving the iron, furnishing oxygen to the fire, and tempering the heat of the room.

I am aware that a guard-plate for the fire-pots of stoves, &c., has been used in which the fire-clay has been retained in a cast-iron framing, and I myself some years ago conceived the idea of filling the corrugations of a fire-pot with the same material; but in these instances no pins passing through the separate sections of fire-clay were employed.

What, therefore, I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The pins *b*, as and for the purpose specified.

2. The combination of the pins *b*, with the corrugations *a*, or cells or panels *c d e*, substantially as and for the purpose set forth.

3. The combination of the pins *b* and corrugations *a*, with the ribs *h*, in the manner and for the purpose indicated.

4. When my invention is used as a guard-plate or lining, the exterior concave portions, *f*, or channels *g*, for the purpose of admitting air between the said guard-plate or lining and the shell of the stove or furnace, as set forth.

WATSON SANFORD.

Witnesses:

JOHN R. KENNADAY,
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