

No. 702,552.

Patented June 17, 1902.

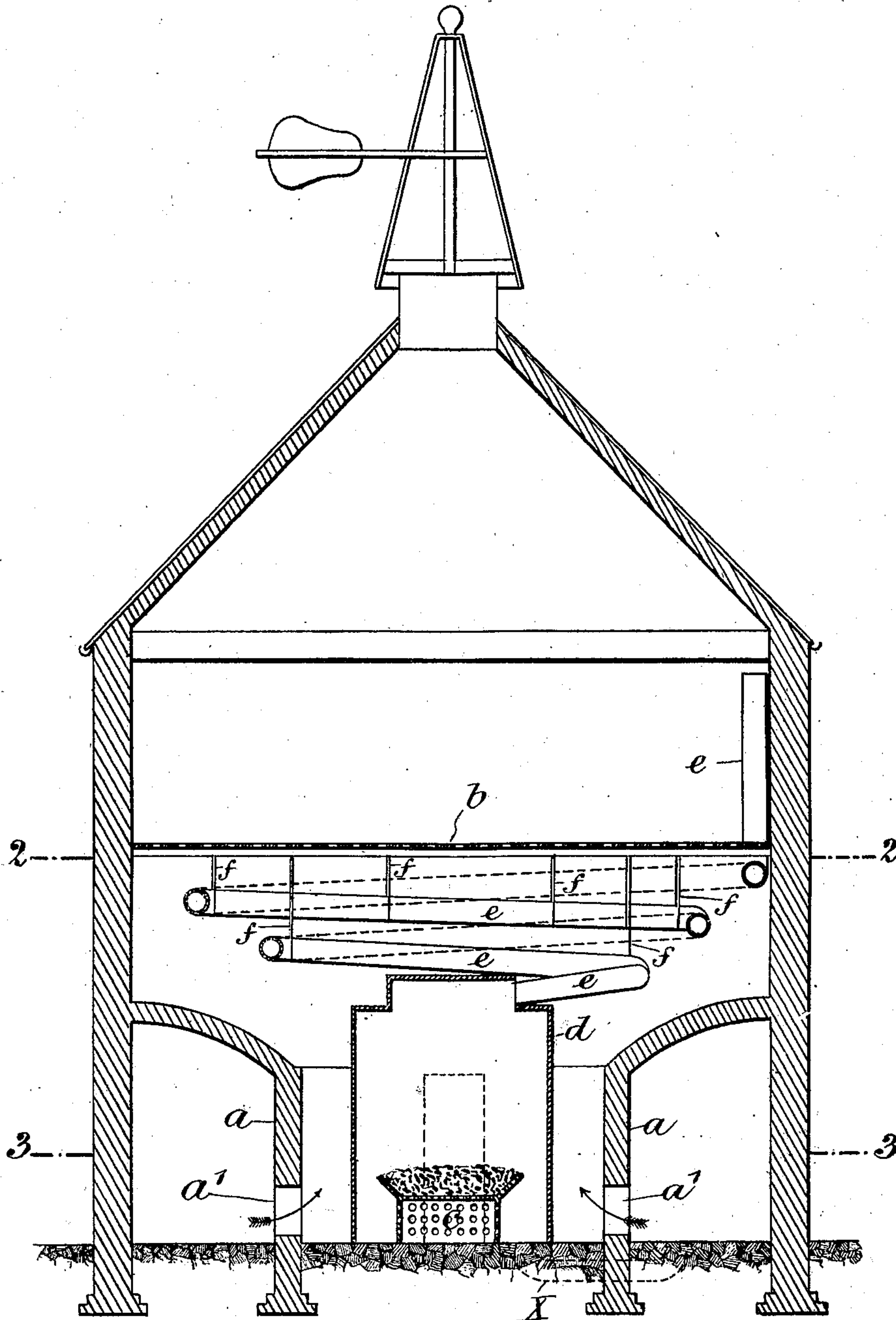
T. HAYNES, JR.  
MALT KILN.

(Application filed Jan. 27, 1902.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



Witnesses.

A. M. Parkins.  
J. A. Macdonald.

Inventor.

Thomas Haynes, Jr.,  
By his Attorney,  
Baldwin Davidson & Wright

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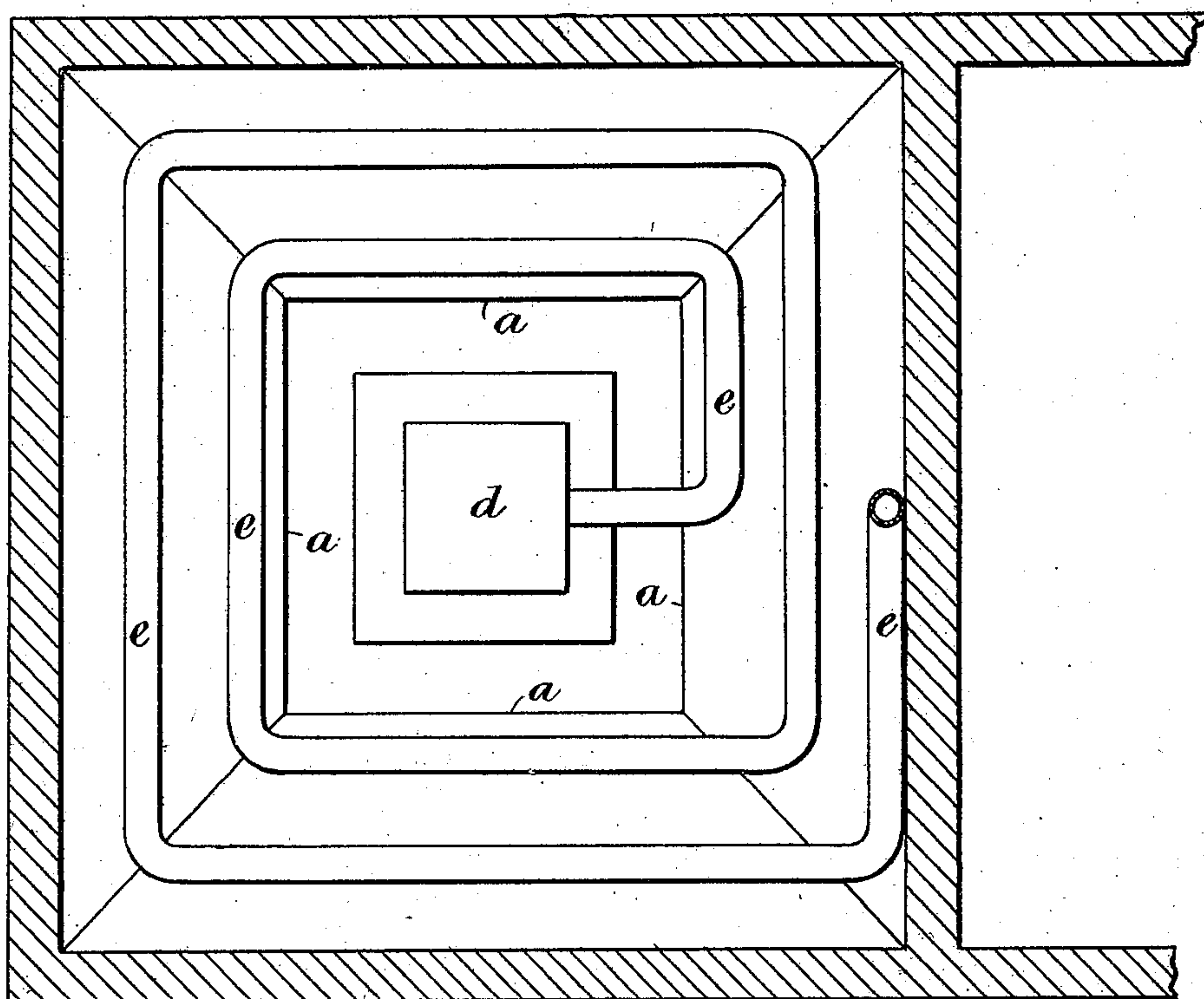
MALT KILN.

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(No Model.)

3 Sheets—Sheet 2.

*Fig. 2.*



*Witnesses*

*A. M. Perkins  
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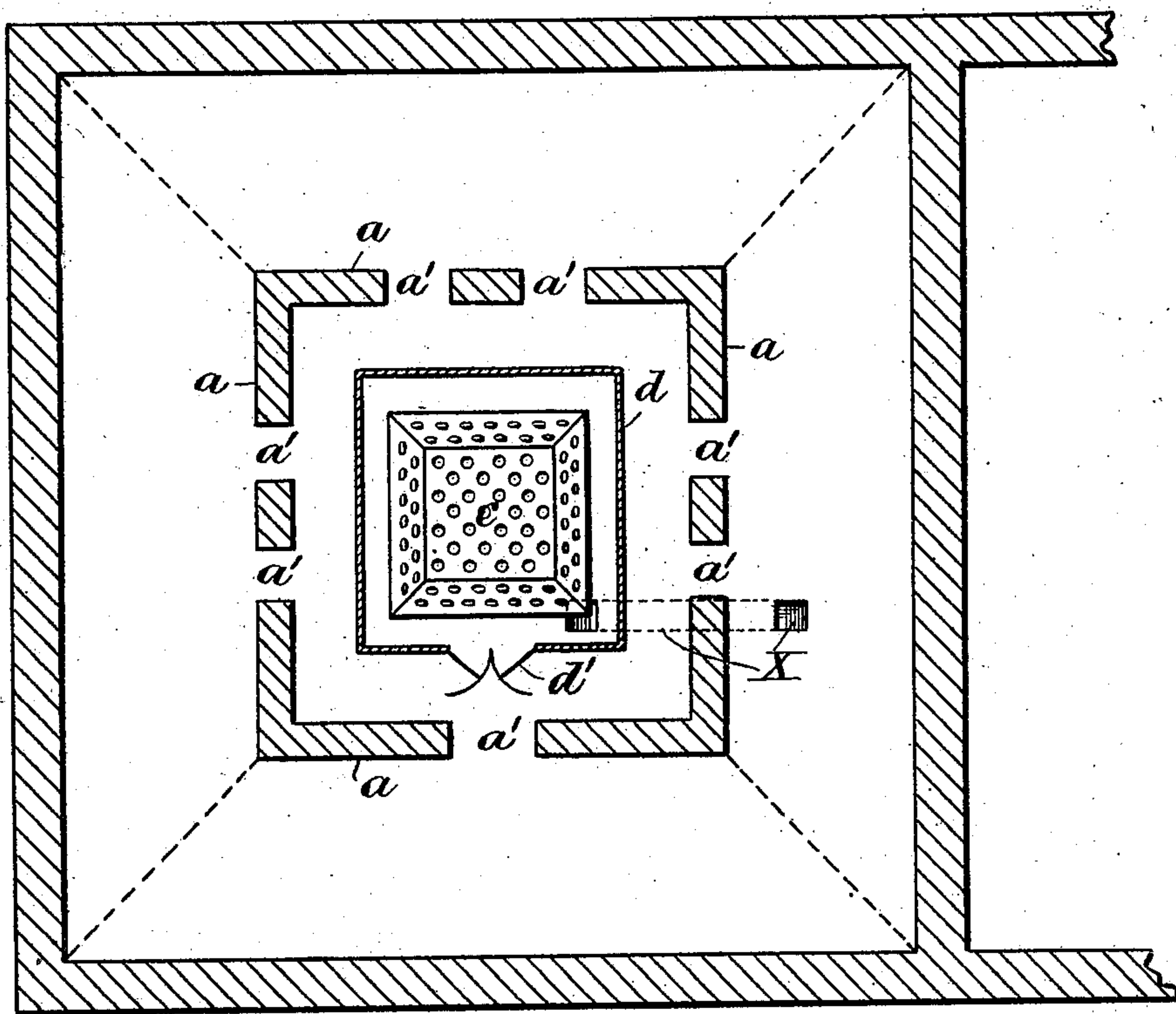
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(No Model.)

3 Sheets—Sheet 3.

Fig. 3.



Witnesses

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# UNITED STATES PATENT OFFICE.

THOMAS HAYNES, JR., OF RADCLIFFE-UPON-TRENT, ENGLAND.

## MALT-KILN.

SPECIFICATION forming part of Letters Patent No. 702,552, dated June 17, 1902.

Application filed January 27, 1902. Serial No. 91,457. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS HAYNES, Jr., maltster, a subject of the King of Great Britain, residing at Radcliffe-upon-Trent, in the county of Nottingham, England, have invented a certain new and useful Malt-Kiln, of which the following is a specification.

The kiln forming the subject of this invention dries the grain without exposing it to the products of combustion, and the arrangement is especially designed for the alteration to this system at a very small cost of existing kilns, although it may also be adapted for new kilns.

Figure 1 is a vertical section of an ordinary malt-kiln altered in accordance with this invention, and Figs. 2 and 3 are sections on the lines 2 2 and 3 3, respectively.

*a* represents the walls of the outer casing, having in them the usual openings *a'* for the admission of air. The outer casing is, as usual, of non-conducting material.

*b* is the perforated malting-floor, and *c* the fire place or basket. No change whatever is made in these parts, which are of the usual type. The basket *c* may be perforated in the manner indicated.

*d* is a sheet-metal inner casing surrounding the fire-basket *c* and provided with a door *d'* to give access to the fire. Air may be supplied to the fire by a passage X, extending from the outside to the interior of the inner casing *d*.

*e* is a coiled flue-pipe leading upward from the top of the casing *d*.

*f* represents wires supporting the flue-pipes. 35

The flue preferably terminates within the inclosure, as indicated in Fig. 1; but it will be observed that it terminates above the floor of the malting-chamber, so as not to discharge into the malt. 40

I wish it to be understood that I do not claim, broadly, malt-kilns in which the grain is dried without contact with the products of combustion; but

What I claim is— 45

The combination with a malt-kiln having a perforated malting-floor, of a basket or holder for containing an open fire, a casing of conducting material surrounding the basket and having its walls arranged at such distance from the fire as to be out of contact therewith and the flame therefrom, a casing of non-conducting material surrounding the inner casing, air-inlets in said outer casing for admitting air around the inner casing beneath the malting-floor, and a coiled flue leading upward from the top of the inner casing arranged beneath the malting-floor and discharging above the malt-level. 50 55

THOS. HAYNES, JR.

Witnesses:

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