

(No Model.)

E. F. ROGERS.
NATURAL DRAFT DRY KILN.

No. 497,687.

Patented May 16, 1893.

FIG. 1.

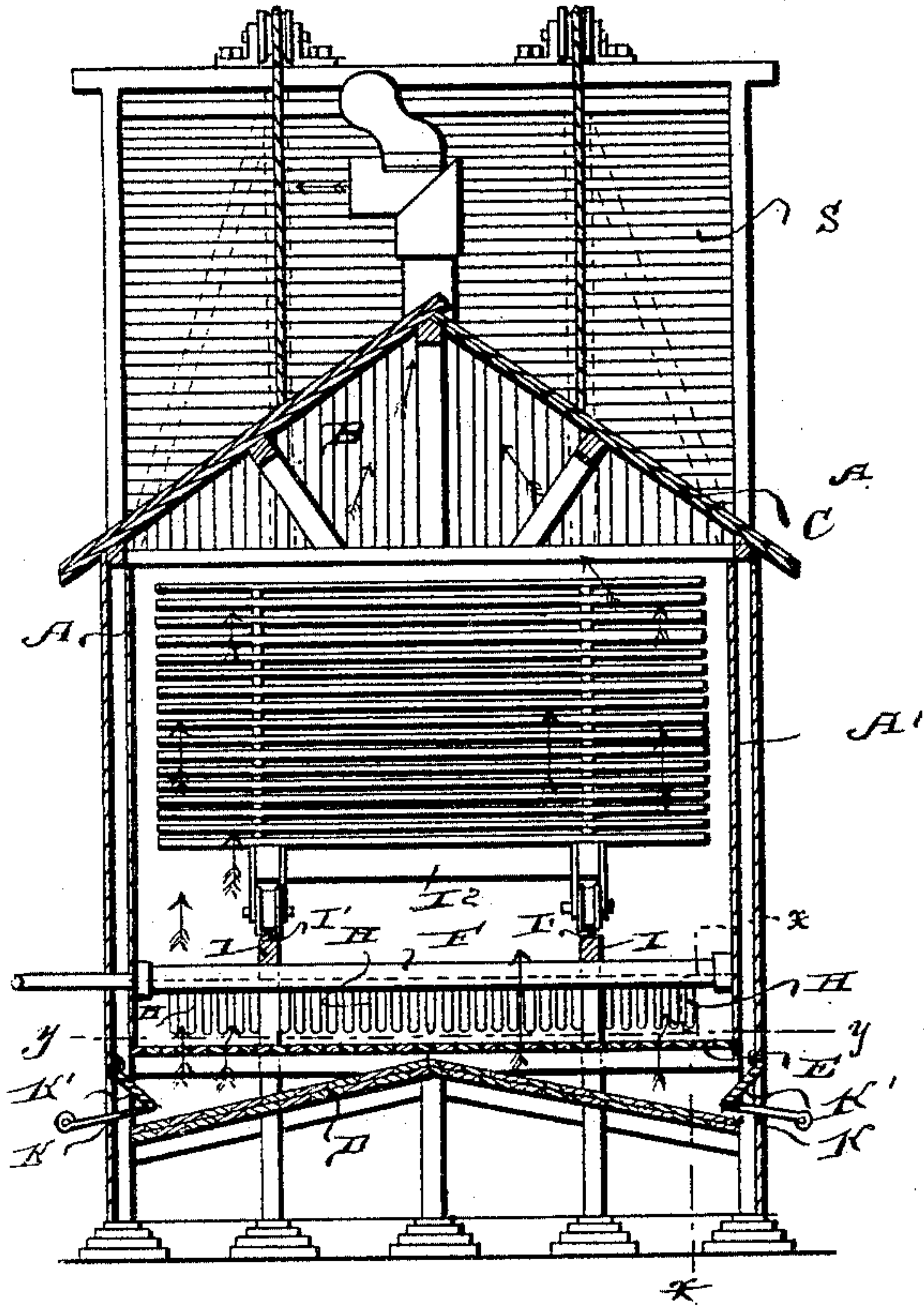


FIG. 2.

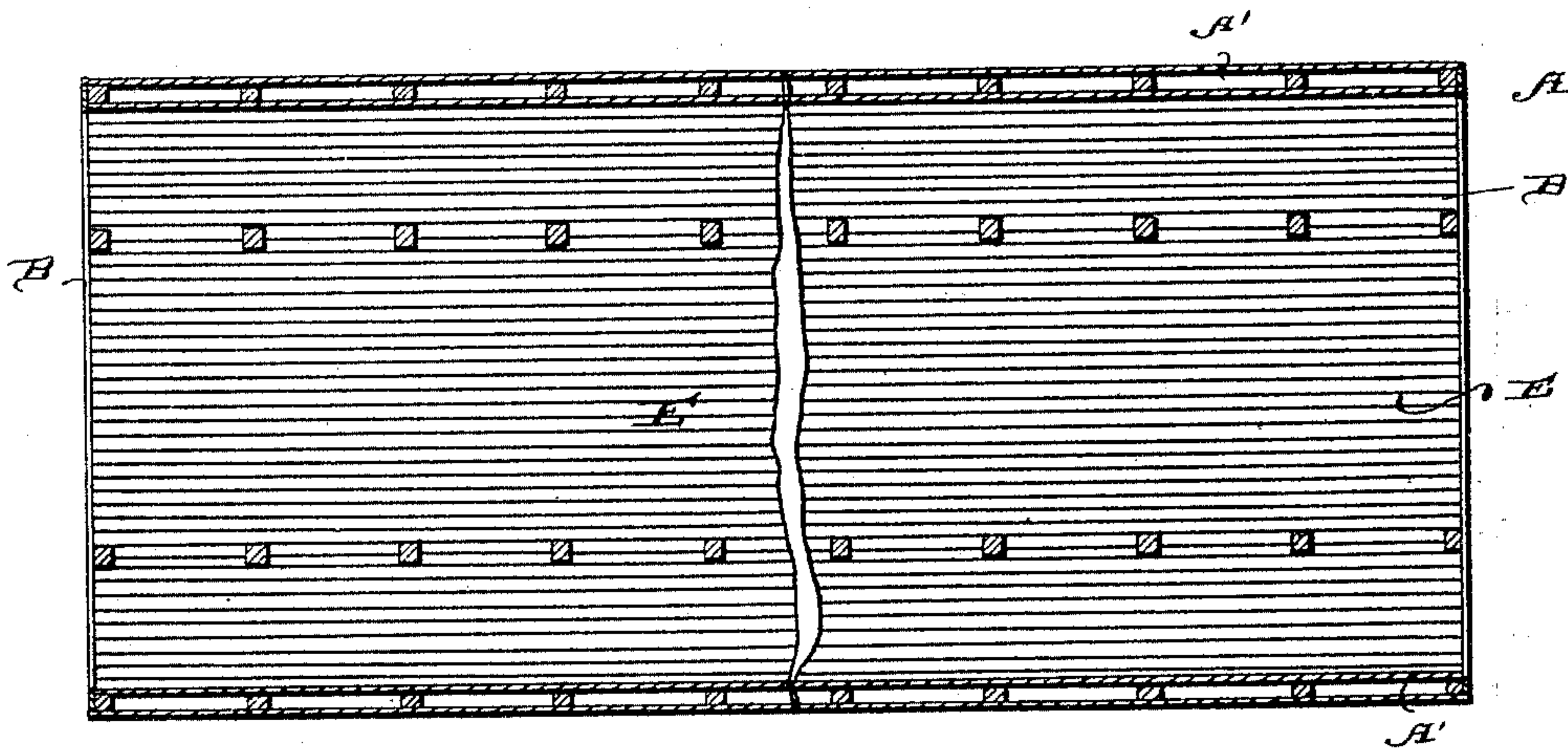
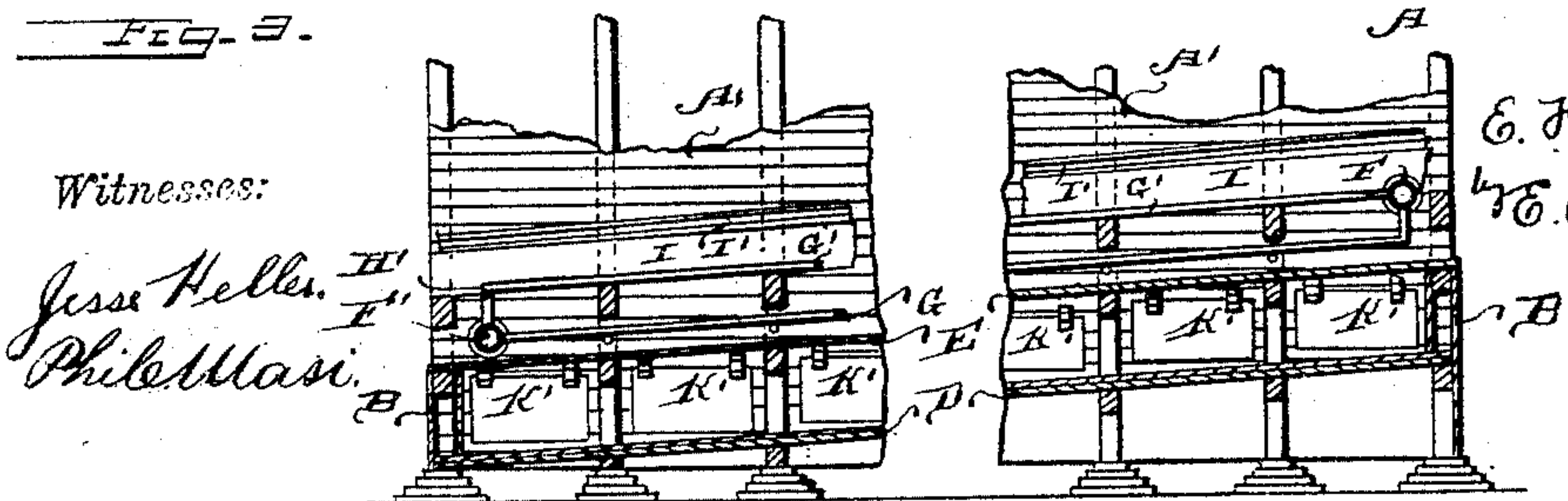


FIG. 3.



Witnesses:

Jesse Heller.
Phil Massi.

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UNITED STATES PATENT OFFICE.

EDWARD F. ROGERS, OF NORFOLK, VIRGINIA.

NATURAL-DRAFT DRY-KILN.

SPECIFICATION forming part of Letters Patent No. 497,687, dated May 16, 1893.

Application filed July 5, 1892. Serial No. 438,902. (No model.)

To all whom it may concern:

Be it known that I, EDWARD F. ROGERS, a citizen of the United States, and a resident of Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Natural-Draft Dry-Kilns; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical transverse section of the kiln. Fig. 2 is a horizontal section of same on line 7 7 partly broken away. Figure 3 is a vertical longitudinal section partly broken away.

This invention has relation to certain new and useful improvements in dry kilns, and it consists in the novel construction and combination of parts, all as hereinafter specified.

Referring to the accompanying drawings, the letter A designates the kiln structure, having its side walls A', A', ends B, B, and roof C, of ordinary construction. Said structure is provided with two floors, the lower floor D being formed of two thicknesses, spaced from each other by paper or other suitable material, whereby any dampness rising from the ground is prevented from passing up into the kiln. Said floor is usually inclined from the center to the longitudinal walls of the structure, as indicated.

E is the upper floor, which is placed a short distance above the floor D. This floor is formed of narrow slats or strips laid side by side, and adapted by reason of their shrinkage to form narrow openings through which the air is admitted to the kiln. If the proper material is employed in the construction of this floor, the shrinkage of the slats will be sufficient to provide openings which I find to be of the proper size to secure the best results. Above said floor is a series of steam pipes, consisting of the two transverse header pipes F, F', one at each end of the kiln, and connected by the double series of longitudinal pipes G, G'. The steam is admitted into

the header F, and passes thence downwardly through short vertical expansion pipes H, into the lower series G of the longitudinal pipes, which are at their other ends connected directly to the discharge header F'. The upper series G' of pipes, connect at their rearing ends directly to the header F, and at their opposite ends are connected to the header F', by the downward expansion pipes H', which connect with the discharge header. By this arrangement of the pipes, but little space is required, and sufficient fall is provided to take off all water of condensation.

The air is admitted through a series of small openings K located in either longitudinal wall of the structure, a short distance above the ground, which lead into the chamber between the two floors. Thence it passes upwardly through the slat floor and around and between the steam pipes; thence circulating through the drying room, and out the hooded flues L at the top. The circulation is indicated on the drawings by arrows. The openings K are provided with doors K', by means of which the circulation may be regulated, as desired.

I, I, indicate the track stringers; I', I', the track, and I² the car. The ends of the kiln are closed by the counterbalanced doors S, in the usual manner.

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

In a dry kiln, the structure A having its floor provided with air passages, and the system of steam pipes arranged above said floor, said system comprising the two transverse header pipes F, F', one at each end of the kiln, the double series of longitudinal pipes G, G', between said headers, and the vertical expansion pipes connecting said longitudinal pipes and headers, one of said headers being above the level of the other, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD F. ROGERS.

Attest:

W. G. GRANBERY,
C. M. TATEM.