

No. 610,100.

Patented Aug. 30, 1898.

J. M. SPROUT.
DRY KILN.

(Application filed July 12, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

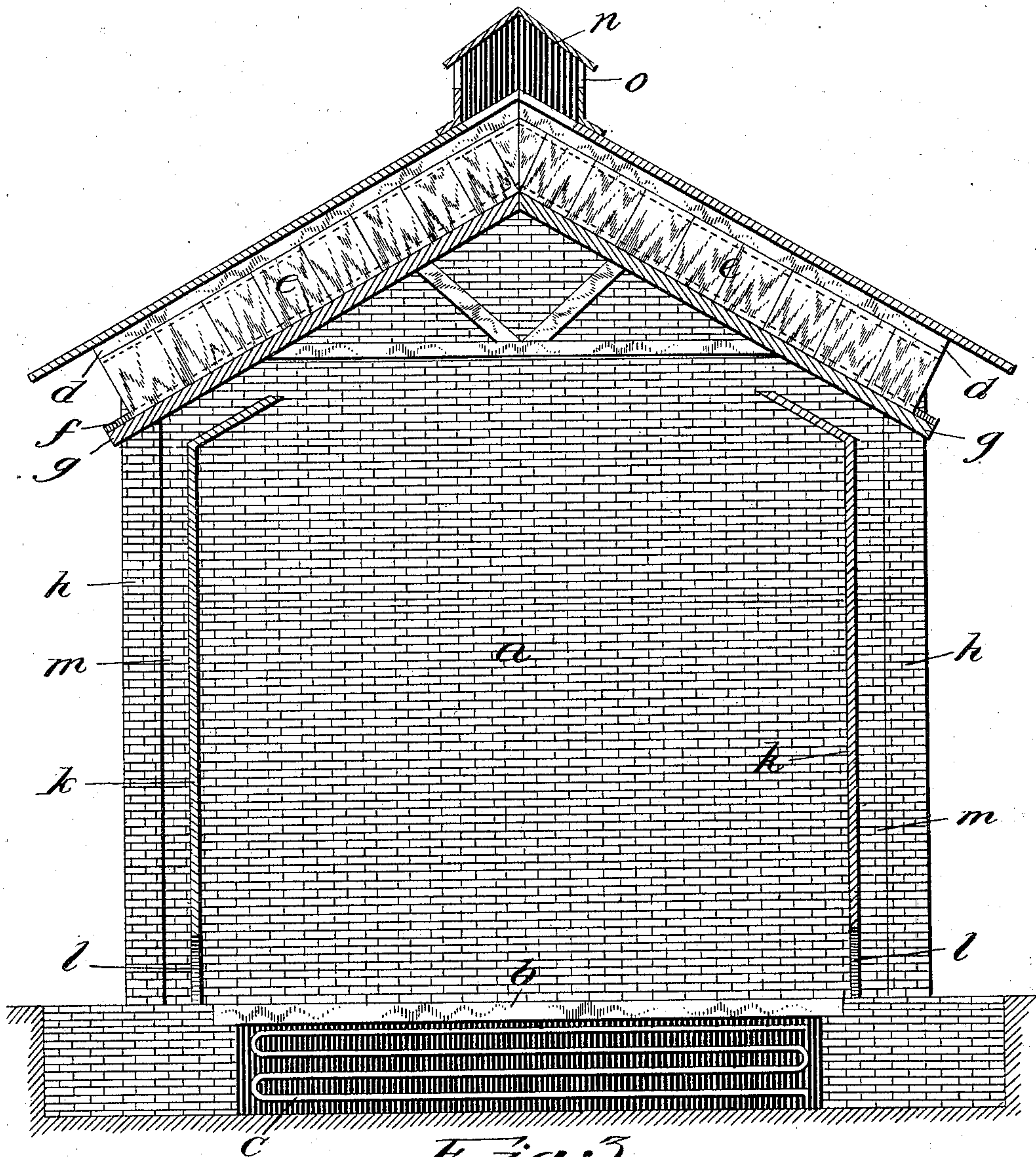
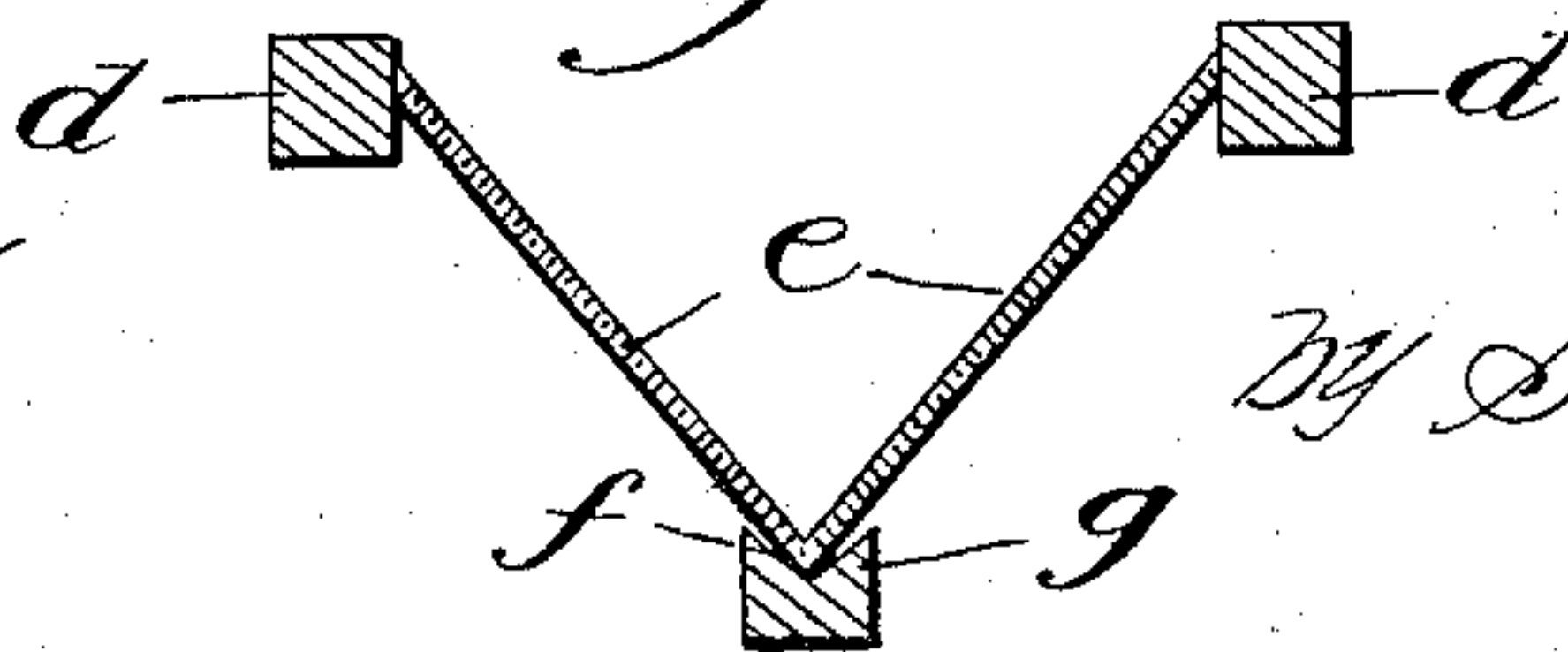


Fig. 3.

Witnesses
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A. M. Nixon



Inventor
J. M. Sprout.
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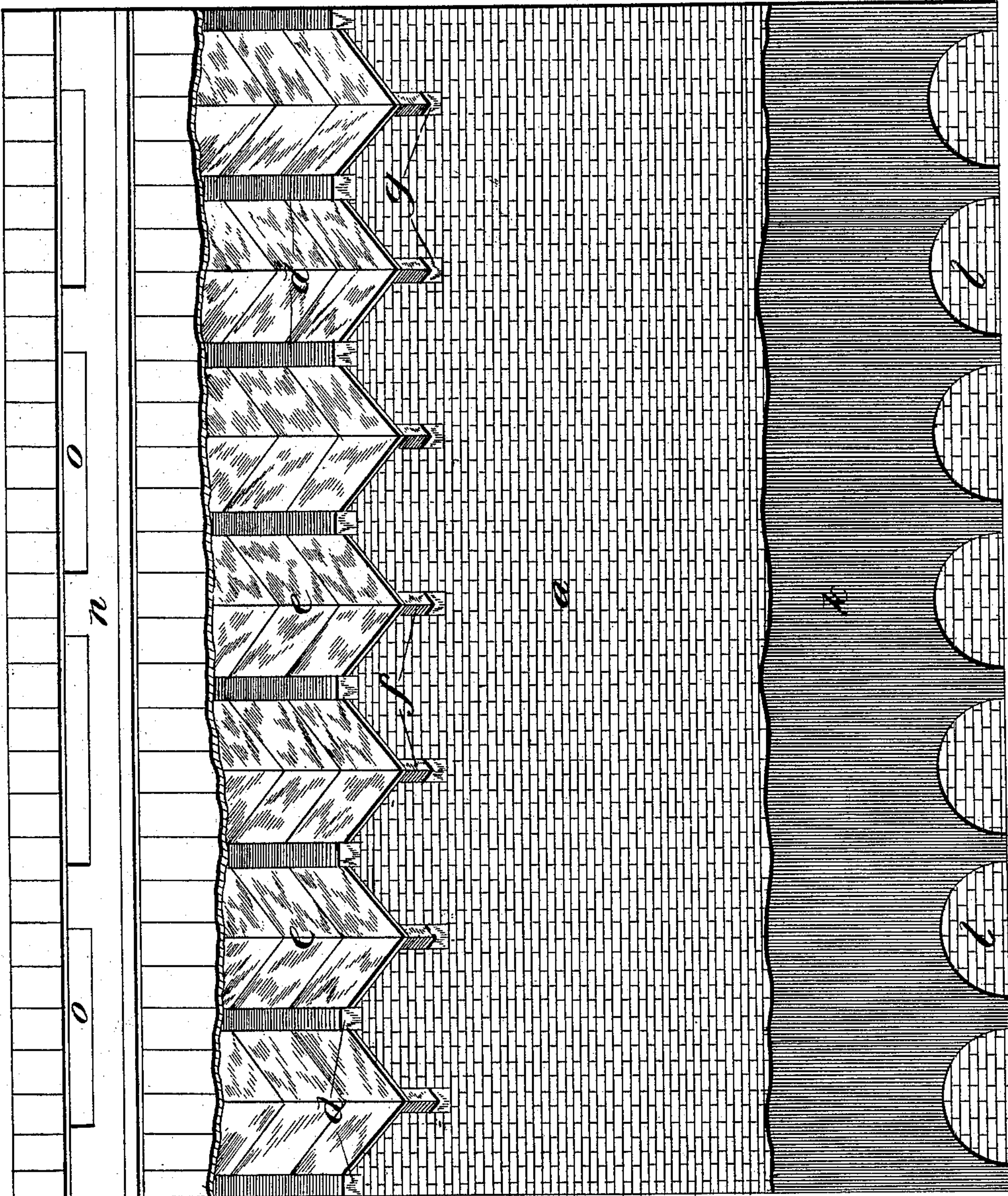
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Fig. 2.

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UNITED STATES PATENT OFFICE.

JAMES M. SPROUT, OF MUNCY, PENNSYLVANIA.

DRY-KILN.

SPECIFICATION forming part of Letters Patent No. 610,100, dated August 30, 1898.

Application filed July 12, 1897. Serial No. 644,176. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. SPROUT, a citizen of the United States of America, residing at Muncy, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Dry-Kilns, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in dry-kilns, and has for its object to construct a kiln wherein the moisture will be rapidly condensed and conducted away from the kiln as it is evaporated
15 or drawn from the lumber or other material being dried. The invention aims to accomplish this by means of a kiln which will be extremely simple in its construction throughout, the condensation being obtained by
20 means of condensing-plates set at an angle above the space containing the lumber or other material to be dried. Another feature of my improved construction is that the air thus freed from its moisture may be conducted
25 downwardly between an auxiliary wall and the wall proper of the drier, where it is discharged again into the drier proper in contact with the heating apparatus; and to this end the invention consists in the novel construction,
30 combination, and arrangement of parts to be hereinafter more specifically described, and particularly pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like letters of reference indicate similar parts throughout the several views, in which—

40 Figure 1 is a transverse vertical sectional view of my improved kiln. Fig. 2 is a side view of the kiln, partly broken away, showing a portion of the condensing-plates in perspective. Fig. 3 is a cross-sectional view of the condensing-plates and their supports, showing their arrangement.

45 Referring now to the drawings by reference-letters, *a* represents the kiln, which may be of any desired capacity and through which the tracks are run to receive the trucks carrying the lumber or other material to be dried.
50 Arranged underneath the floor *b* are the heating-pipes *c*, which may be of any desired style of arrangement and fed with steam from

any suitable source. The rafters *d d* of the kiln form a support against which the upper ends of the condensing-plates *e* rest, the lower
55 ends of said plates resting in a V-shaped groove *f*, formed in the upper face of an auxiliary rafter *g*, which is arranged midway between the rafters *d* and some distance below the same, so as to give the condensing-
60 plates an angle of about forty-five degrees when in their position within the V-shaped groove of the auxiliary rafter. These auxiliary or grooved rafters rest upon the side walls
65 *h* of the kiln and by reason of the inclined position of the same serve to carry off all condensed moisture which accumulates on the inclined condensing-plates, and is carried by
70 same into the groove of the rafters and delivered outside of the kiln, where it may be carried to any point desired.

I have also shown an auxiliary wall *k*, which extends vertically with the outer wall *h* to the height of the same and is there inclined inwardly a short distance into the kiln, said
75 wall being provided at its base with a series of openings *l l*. By this construction an air space or flue *m* is provided between the two walls, which, by reason of the draft created through the openings at the bottom of the
80 auxiliary wall, causes the cooled air to circulate through the flue, where it is again discharged into the kiln proper and into contact with the heating-pipes to be heated before
85 passing again through the material being dried.

I have also provided a means for the circulation of cool air over the upper surface of the condensing-plates by means of the V-shaped passage from eaves to apex of roof
90 between each set of rafters and under the roof proper, this V-shaped passage to connect with the cupola *n*, arranged over the apex of the roof, the sides of which are provided with
95 apertures *o* to permit the escape of the air therefrom as well as at the ends, which may be left open, if desired.

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

1. In a dry-kiln, the combination with the kiln proper, of condensing-plates formed of any suitable material, set at an angle above the kiln and resting against the rafters and

upon an auxiliary rafter or support which is grooved and lined with some waterproof material, to carry off the condensed moisture, substantially as shown and described.

- 5 2. A dry-kiln, consisting of the kiln proper, condensing-plates composed of any suitable material arranged at an angle above the kiln, and supported by grooved rafters or supports which receive and carry off the moisture from
10 the plates, substantially as shown and described.

3. In a dry - kiln, consisting of the kiln proper, a roof for said kiln, a set of rafters for said roof, another lower set of intermedi-

ate rafters, condensing-plates, each supported 15
by an upper and a lower rafter and forming the ceiling of the kiln, whereby are formed a series of passage-ways between said roof and ceiling, and a continuous current of cool air is brought in contact with the condensing- 20
plates, substantially as shown and described.

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

JAMES M. SPROUT.

Witnesses:

W. H. TIMMERMAN,
THOS. M. BOYD, Jr.