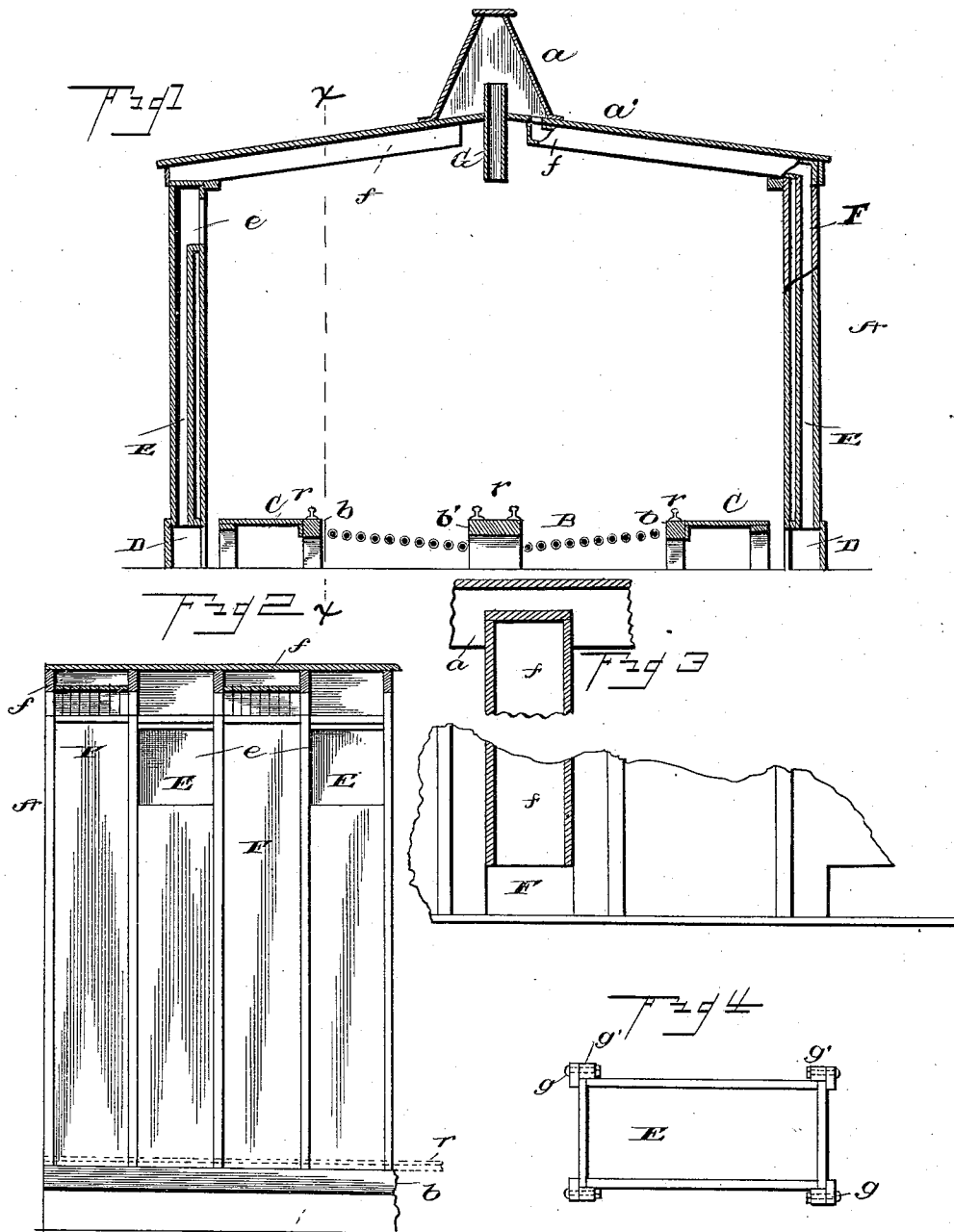


(No Model.)

H. S. SERVOSS.
DRYING KILN.

No. 469,067.

Patented Feb. 16, 1892.



Witnesses

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Inventor

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UNITED STATES PATENT OFFICE.

HENRY S. SERVOS, OF ATLANTA, GEORGIA.

DRYING-KILN.

SPECIFICATION forming part of Letters Patent No. 469,067, dated February 16, 1892.

Application filed March 25, 1891. Serial No. 386,339. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. SERVOS, a citizen of the United States of America, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Drying-Kilns, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention pertains to drying-kilns, having reference more especially to that class of kilns which are provided with condensing-surfaces or passage-ways on which the air used in the drying-chamber deposits any
15 moisture that may exist therein.

The invention comprises a dry-kiln having a series of ducts or passage-ways extending from the top or roof at about the center thereof and along down the sides of the kiln and opening into the lower portion thereof beneath the heating medium, and a second series of ducts or passage-ways extending from the top or roof and also opening into the kiln beneath the heating medium thereof.

25 The invention further comprises the detail construction, combination, and arrangement of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

30 In the accompanying drawings, Figure 1 is a vertical sectional view illustrative of my improved kiln, parts being broken away to clearly show the connections or points of communication between the flues. Fig. 2 is a sectional view on the line *x x*, Fig. 1. Fig. 3 is a detail horizontal sectional view showing the upper ends of the ducts or passage-ways. Fig. 4 is a horizontal sectional view of one of the ducts or passage-ways.

40 Referring to the drawings, A designates a drying-kiln, and *a* a continuous narrow chamber running longitudinally the full length of the kiln over the roof *a'* thereof.

B designates a series of steam-pipes located between two parallel rafters or supports *b*
45 *b'*, the latter being at about the longitudinal center of the kiln and the former a short distance from each side of said kiln. A rafter or support *b* is arranged adjacent to each side
50 of the kiln, and upon these rafters or supports the lumber or other articles to be dried are located, or the same may be placed in cars

(not shown) moving on rails *r*, supported by these rafters or supports. A walk or platform C is arranged between each outer rafter 55 or support *b* and the sides of the kiln whereon the operator may walk.

D is an outer longitudinal horizontally-disposed air-chamber extending the full length of kiln A and opening at one side into said kiln 60 beneath the walk or platform C and the heating medium B, so that the air is thoroughly heated as it passes into the kiln.

E is a series of metallic ducts or passage-ways located outside of each side of kiln A, 65 and at their lower ends they open into the air-chamber D, while their upper ends are coincident with openings *e* in the top of each side of the kiln. In this manner the heated air in the kiln is drawn through the openings 70 *e*, down through the ducts or passage-ways E into the chamber D, and back into the kiln, the air in its passage having deposited portions of its moisture on the metal surface of the ducts or passage-ways by reason of the 75 contact of the air with said surface.

F designates a second series of ducts or passage-ways arranged alternately with relation to the ducts or passage-ways E, and likewise opening at their lower ends into air-chamber D. The upper ends of these ducts or passage-ways F have opening thereinto the outer ends of flues or passage-ways *f*, extending through the frame-work of roof *a'* and leading from the dome or chamber *a*. 85 An opening or flue G, extending through roof *a'* throughout the length of kiln A, opens into this dome or chamber *a* and permits the air in the central portion of said kiln to pass into said dome or chamber and come in contact with the metal sides thereof, and after depositing its moisture travels through the flues or passage-ways *f*, down through the ducts or passage-ways F into air-chamber D, and back into the kiln beneath the heating 95 medium. Thus it will be seen that by means of my improved kiln the air is conducted from every point thereof out through cooling ducts or passage-ways, depositing its moisture therein and returned back to said kiln beneath the heating medium therefor. 100

In Fig. 4 I have shown a horizontal sectional view of one of the ducts or passage-ways E F. It will be seen that the same is com-

posed of four sides or sections having uninterrupted interior surfaces and united together on the outside by bolts or pins *g*, passed through coincident holes or apertures of overlapping lugs or battens *g'*. In this way the ducts are free from any obstruction on their inner surfaces.

I claim as my invention—

1. The herein-described improved drying-kiln having a series of exterior ducts or passage-ways extending from the top or roof to the bottom thereof and a second series of ducts or passage-ways extending from the longitudinal center of said top or roof, both of said series of ducts or passage-ways opening into said kiln at their lower ends beneath the heating medium, as set forth.

2. The herein-described improved drying-kiln, comprising the kiln having a central opening in its top or roof, the narrow chamber located thereover, the lower longitudinal air-chamber, the series of ducts or passage-ways *E*, leading from the sides of said kiln into said air-chamber, the series of ducts or passage-ways *F*, and flues or passage-ways connecting said latter ducts or passage-ways with said narrow chamber, as set forth.

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

HENRY S. SERVOSS.

Witnesses:

J. C. BELL,
W. J. GRAY.