

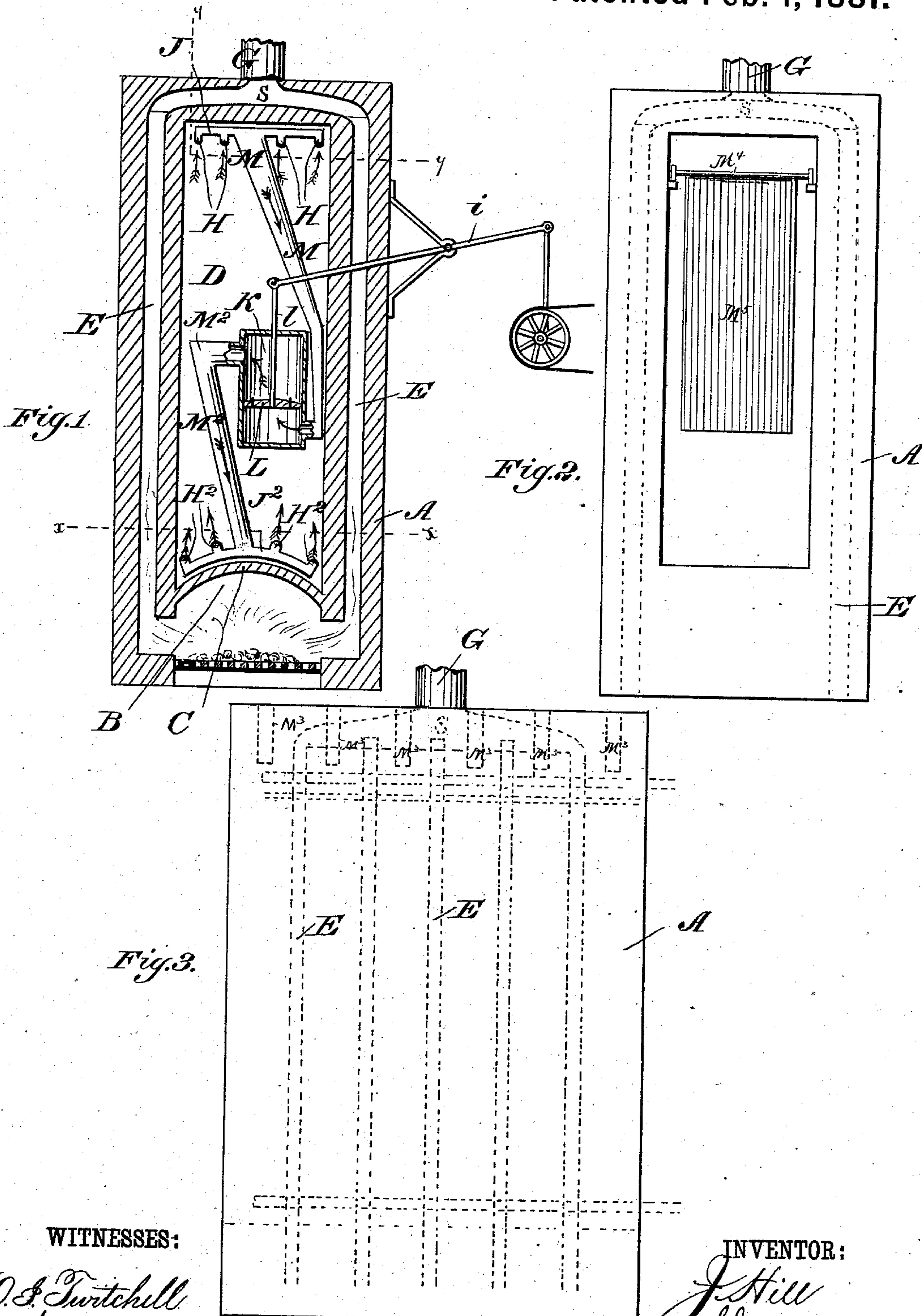
(Model.)

2 Sheets—Sheet 1.

J. HILL.
Japanning Oven.

No. 237,183.

Patented Feb. 1, 1881.



WITNESSES:

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(Model.)

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Fig. 4

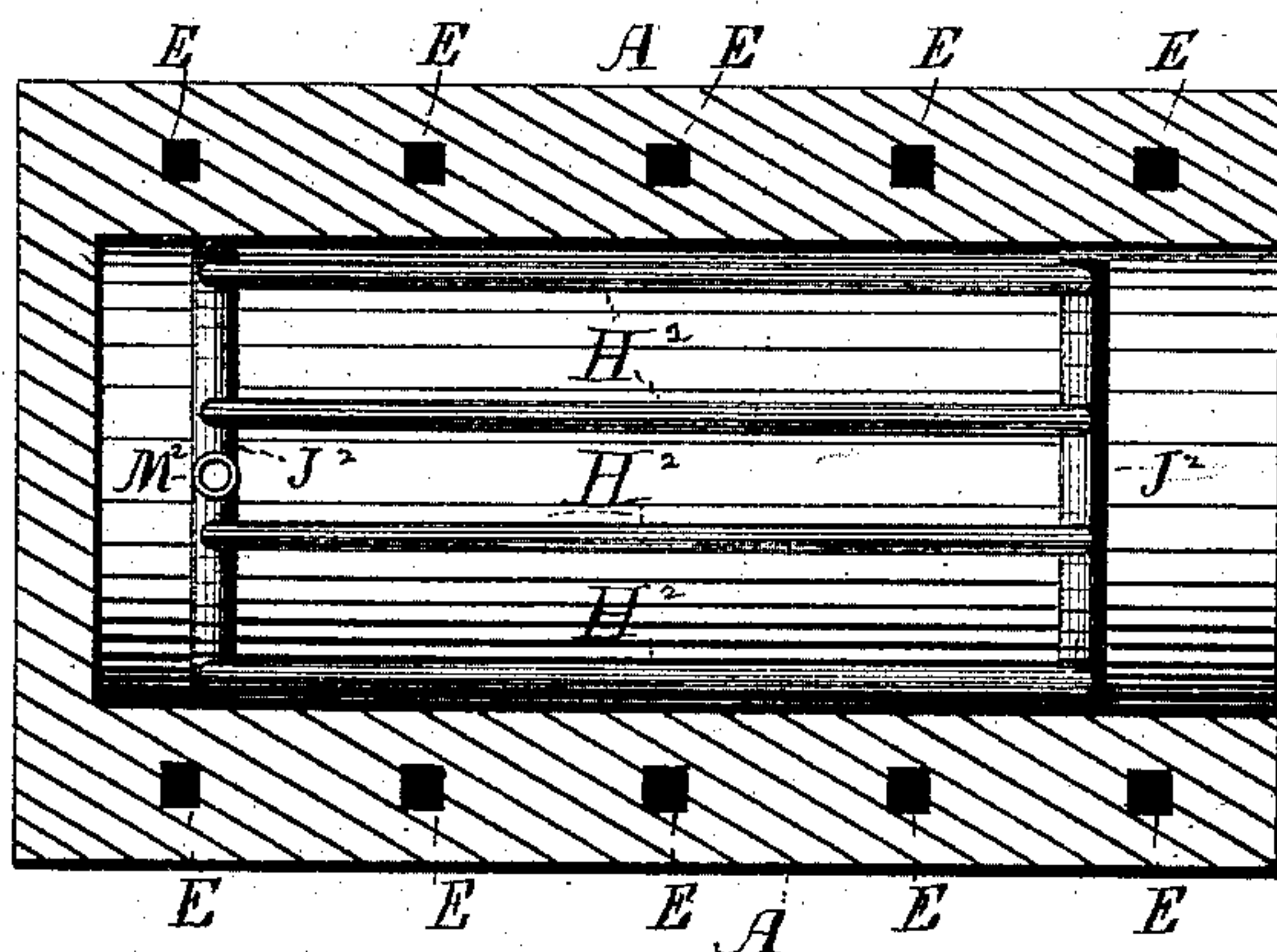
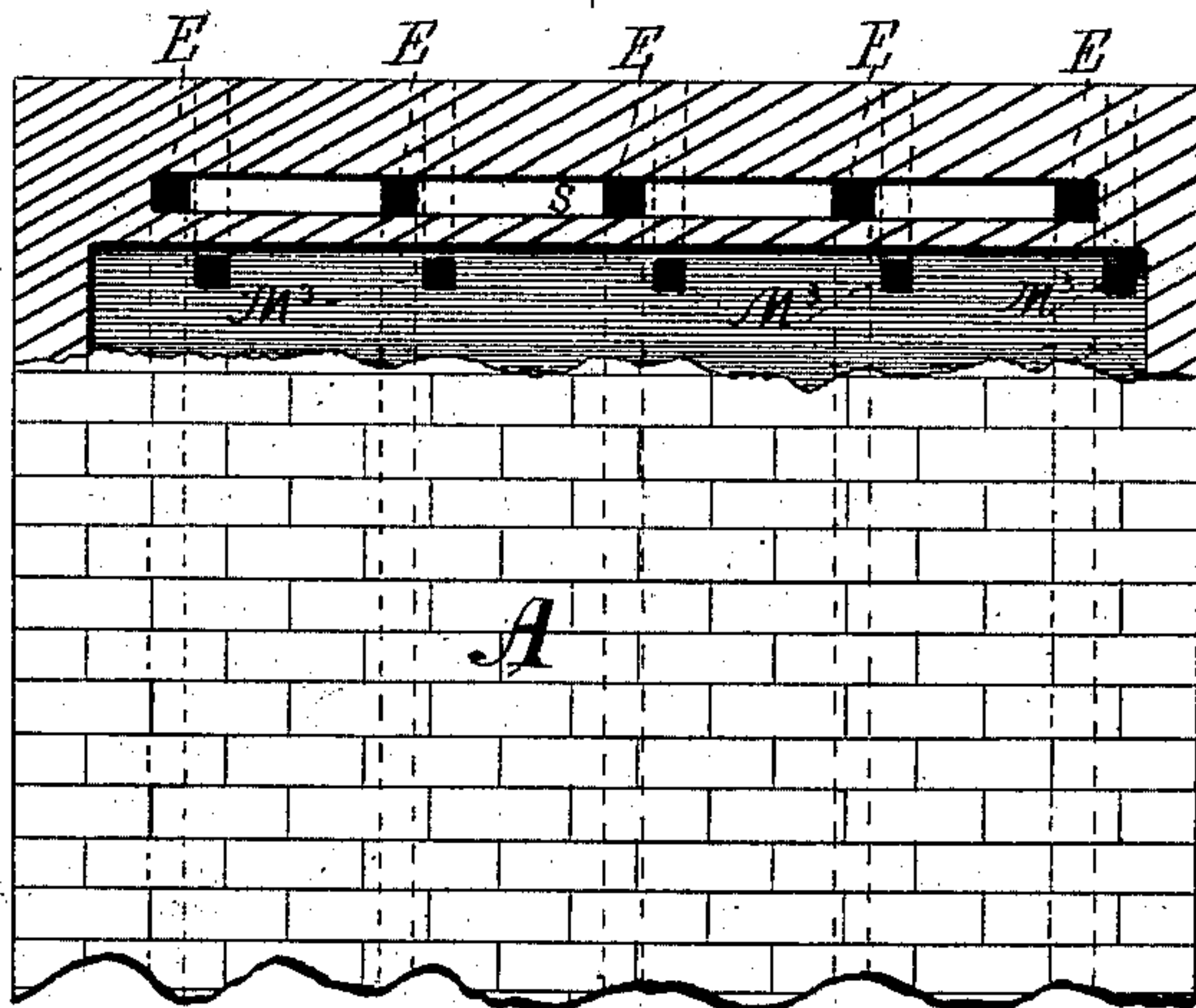


Fig. 5



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES HILL, OF PROVIDENCE, RHODE ISLAND.

JAPANNING-OVEN.

SPECIFICATION forming part of Letters Patent No. 237,183, dated February 1, 1881.

Application filed July 1, 1880. (Model.)

To all whom it may concern:

Be it known that I, JAMES HILL, of Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Japanning-Ovens, of which the following is a specification.

My invention consists in a novel construction of an oven and a blowing apparatus employed in connection therewith, whereby provision is made for keeping up a uniform temperature of the air in the oven in which the japanned articles are placed for the purpose of baking them.

In the accompanying drawings, Figure 1 is a transverse vertical sectional view of an apparatus embodying my improvements. Fig. 2 is an end view. Fig. 3 is a side view. Fig. 4 is a horizontal section taken on line $x x$ of Fig. 1. Fig. 5 is a sectional view of the oven in side elevation, broken away on line $y y$ of Fig. 1, the pipes and cylinder being removed.

Similar letters of reference indicate corresponding parts.

A represents the furnace, in the lower portion of which is the fire-place B, provided with an arched roof or top, C. Inside of the furnace-walls is the oven D, and between the oven-walls and the furnace-walls are vertical flues E, which extend up and open into a space, S, over the oven, and by said space communicate with a smoke-stack or chimney, G. Inside of the oven D are pipes H, near the top, running longitudinally with the oven and communicating with a transverse pipe, J, arranged about midway of the length of the oven, and near the bottom are similar pipes, H², communicating with a similar transverse pipe, J². Both of these series of pipes are perforated toward the inside of the oven.

At about the center of the oven is a cylinder, K, in which works a piston, L, provided

with a valve opening upward. The piston-rod l works through a stuffing-box or packing in the top of the cylinder, and is connected to the inner end of a beam, i , which extends outside of the furnace, and has its outer end connected with a crank or other suitable device for oscillating it. The cylinder K communicates by a pipe, M, with the transverse pipe J, and by a pipe, M², with the transverse pipe J².

As the piston L rises and falls, operated by the beam i , the air is drawn downward through the pipe M and forced downward through the pipe M², and a continuous current of hot air is kept up through the perforations in the pipes H and H² and through the oven, as indicated by the arrows in Fig. 1, so as to keep the temperature of the interior of the oven at a uniform degree and thoroughly bake the japanned ware suspended therein without blistering, warping, or caking the varnish thereon.

The oven may be furnished with fresh air through L-shaped passages M³, extending into the oven from the top of the furnace, as shown in Figs. 3 and 5 of drawings.

In Fig. 2 a rack, M⁴, for holding the article M⁵ to be dried is shown. Any suitable or desired device, however, may be used in place of the rack shown, the object merely being to properly hold the article while being dried.

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

The combination, with the oven D and the pipes J J² and H H², of the pipes M M², cylinder K, and piston L, as shown and described, for the purpose specified.

JAMES HILL.

Witnesses:

JAMES H. HILL,

ALMIRA F. MATHEWSON.