

J. W. HANNA.

Lumber Drier.

No. 59,998.

Patented Nov. 27, 1866.

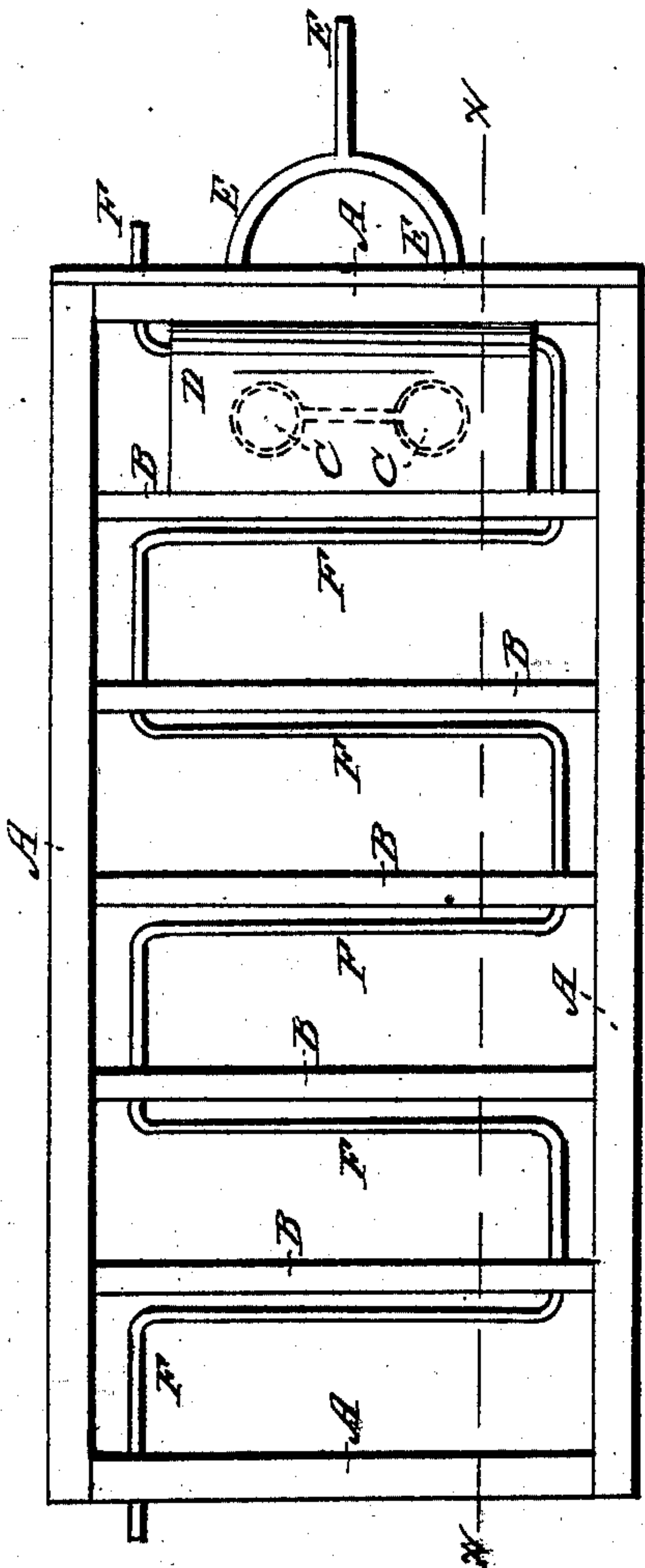


Fig. 1

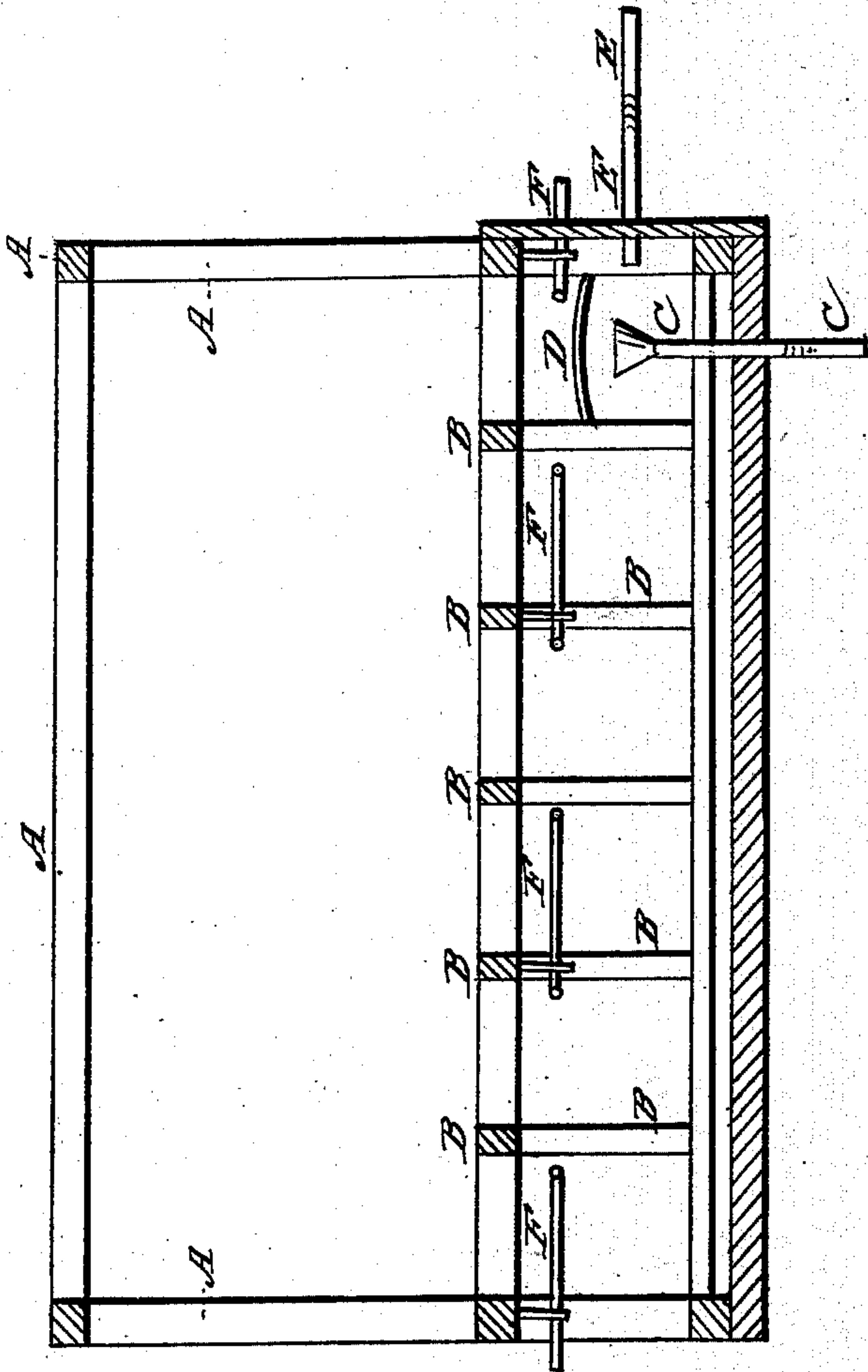


Fig. 2

Witnesses:

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APPARATUS FOR DRYING LUMBER.

JAMES W. HANNA, OF WABASH, INDIANA, ASSIGNOR TO HIMSELF AND
JAMES H. OSGOOD, JR.

Letters Patent No. 59,998, dated November 27, 1866.

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JAMES W. HANNA, of Wabash, in the county of Wabash, and State of Indiana, have invented a new and useful improvement in Drying Lumber; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a top or plan view of my improved apparatus, the covering being removed.

Figure 2 is a vertical longitudinal section of the same taken through the line *z z*, fig. 1.

Similar letters of reference indicate like parts.

My invention has for its object to furnish an improved means for drying lumber, which will be free from any danger of fire, and which will preserve the lumber from checking. And it consists, first, in steaming the lumber and then drying it with heated air; second, in the combination and arrangement with the kiln, of the pipes for introducing the exhaust steam, the heating steam, and the blast to cause a circulation of heated air through the kiln, as hereinafter more fully described.

A is the frame of the kiln. B is the frame or staging upon which the lumber is arranged for steaming and drying. The frames A and B should be enclosed with an air-tight covering in the ordinary manner. The lumber to be steamed and dried is piled upon the frame or staging B, in such a way that the steam and air may pass readily through it and come in contact with all its parts. After the lumber has been arranged exhaust steam is admitted through the pipes C, and the lumber thoroughly steamed. These pipes C are connected with the engine, and introduce the steam into the lower parts of the kiln. D is a plate placed in front of the discharging orifices of the pipes C, to receive and disperse the steam as it issues from the pipes C, so that it may permeate the entire pile of lumber and steam it all evenly. When the lumber has been steamed sufficiently the exhaust steam is shut off, and a blast of air forced through the kiln to expel the steam. This air is introduced into the kiln through the pipe or pipes E, the outer ends of which are connected with a fan-blower in the ordinary manner. The pipes E enter the lower part of the kiln as shown in fig. 2, and the air and steam escape through a vent in the rear part of the kiln. When the exhaust steam has been expelled the live steam is introduced directly from the boiler into the pipe F, which is coiled beneath the staging upon which the lumber is arranged. This heats the air within the kiln, vaporizing and conveying off the moisture and drying the lumber. The heated air is made to circulate through the kiln by means of the blast of fresh air introduced through the pipes E, which in turn is heated by the coil of steam pipe F, and is driven off, conveying with it more moisture from the lumber, until said lumber is thoroughly dry. By means of this invention lumber may be thoroughly dried without any danger of fire, as no fire is admitted into the kiln. Lumber dried in this way does not check and thus become injured and lessened in value.

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

1. The combined process of steaming and drying lumber, substantially as herein described and for the purpose set forth.

2. The combination and arrangement with the kiln of the pipe or pipes C, for admitting the exhaust steam; the pipe or pipes E, for admitting the blast of air; and the pipe F, for introducing the live steam, substantially as herein described and for the purposes set forth.

JAMES W. HANNA.

Witnesses:

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