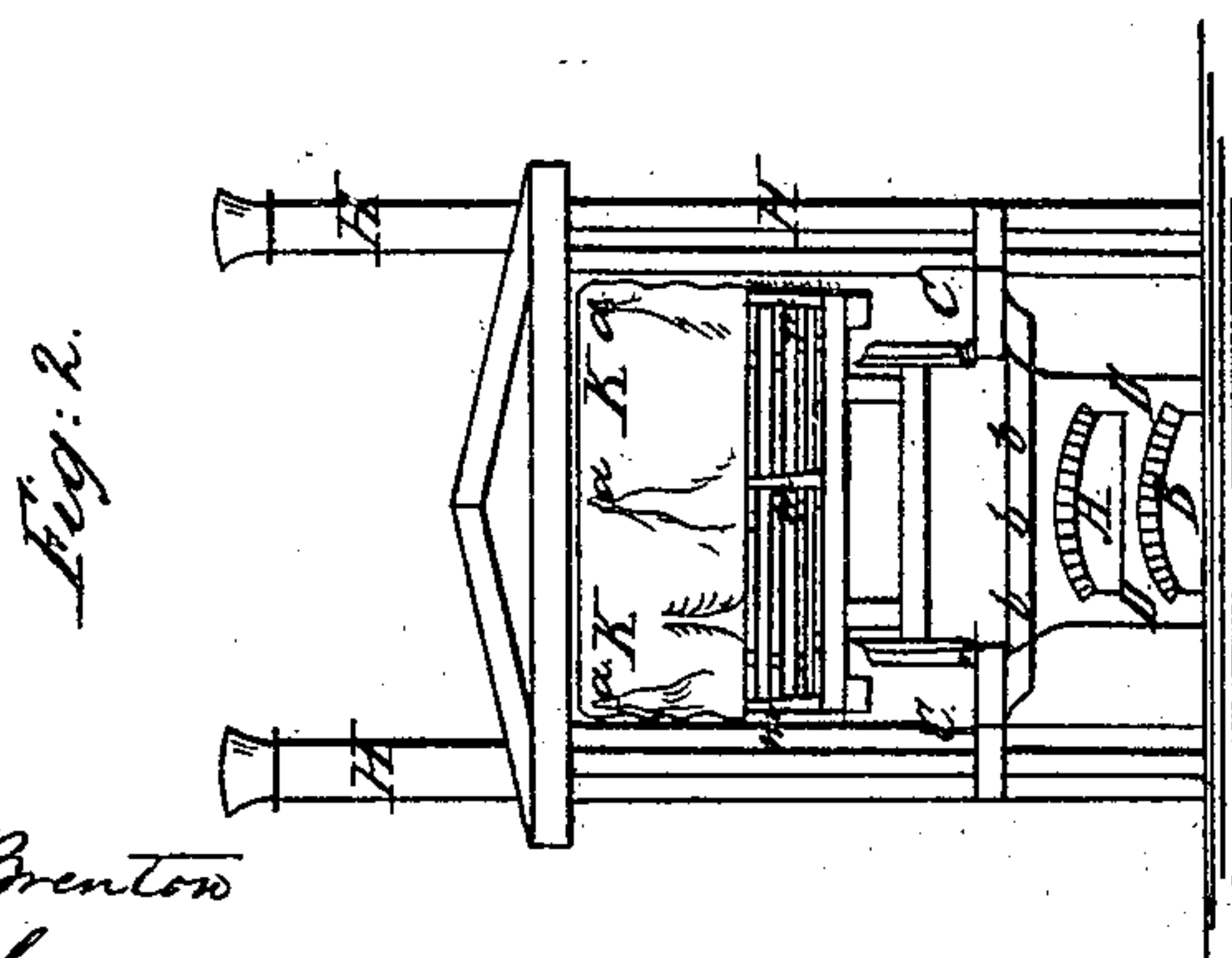
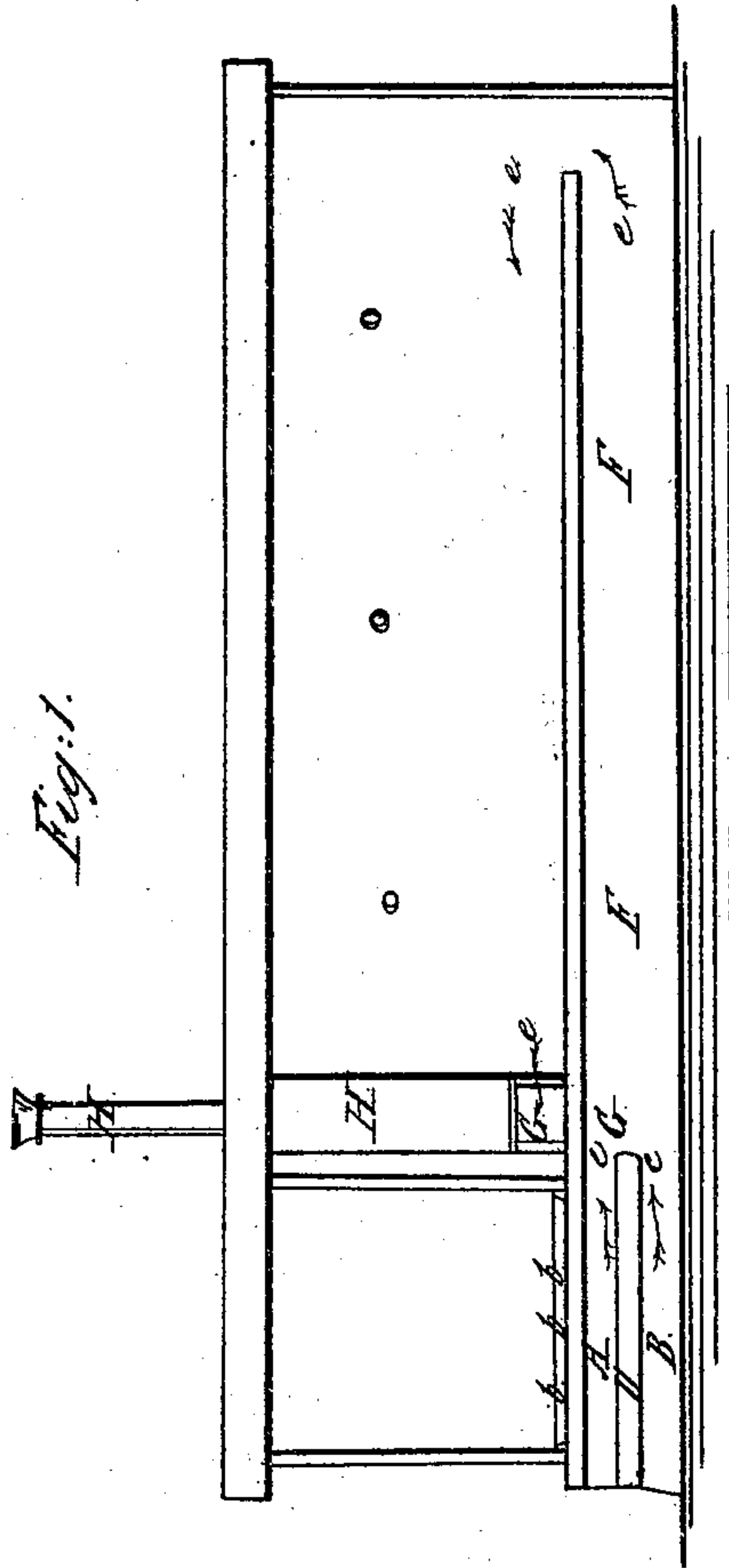


R. P. JOHNSON & E. J. SUMMER.
LUMBER DRIER.

No. 79,661.

Patented July 7, 1868.



Witnesses

Edwin L. Brenton
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Inventor:

Richard P Johnson
 Eli J Sumner

United States Patent Office.

RICHARD P. JOHNSON AND ELI J. SUMNER, OF WABASH, INDIANA.

Letters Patent No. 79,661, dated July 7, 1868.

IMPROVEMENT IN LUMBER-DRIERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, RICHARD P. JOHNSON and ELI J. SUMNER, of Wabash, Wabash county, Indiana, have invented a new and useful improvement on the machine and method of themselves, said JOHNSON and SUMNER, being "An Improvement in Apparatus for Drying Lumber," secured by Letters Patent, No. 66,594, and dated on the 9th day of July, 1867; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, fig. 1 and fig. 2, making a part of this specification, in which—

Figure 1 is an interior vertical longitudinal section, and in which

Figure 2 is a vertical cross-section of the same—

Similar letters of reference indicating corresponding parts.

This invention relates to and is supplemental to our foregoing invention, referred to, and is intended to become a part of the same, and consists of modifications and improvements of it in the following particulars, to wit:

First, in constructing our furnace in two chambers, which are represented by the flues A and B, one directly above the other, the upper one, A, immediately below the steam-pans *b b b*, and the under one, B, directly under that, and separated from it by a horizontal partition, D, extending backward beyond the steam-pans, where the two flues, A and B, are then united at the point G, and the current of draught is then continued along the arrow-line *e e e e*, until the hot air, having first passed through the large flue F F and the dry-chamber O O O, escapes by the mouth C through the chimneys H H.

Second, in placing the escape of the chimney H H in the drying-chamber, near the floor, at the point C.

Third, in suspending a curtain of leather, woollen cloth, metal, or other not easily-combustible material from the stanchions, *m m m*, of the car loaded with lumber, by the hooks *a a a*, so as to fill and fit closely into the upper part and sides of the drying-chamber, but not so as to obstruct the movement of the cars back and forth in the drying-chamber; how low the curtain to be suspended, to depend on the size and condition of the lumber, and the circumstances of the heat and velocity of the air, as occasion may require.

By these means, the following results are gained, to wit:

First. By the use of the double furnace, by firing in the flue A, steam can be generated in the steaming-pans *b b b b* when required, while the heated air from that flue is carried along the arrow-line *e e e e* into the drying-room O O O, or, if not required, by firing in the flue B, hot air only can be created; and, in either case, cold air will be admitted by the draught through the other flue, which, by its oxygen, will at once complete the combustion of all the sparks from the burning-flue, and obviate all danger of burning the lumber; at the same time, by dampers, the temperature can be moderated to any degree required.

Second. By the curtain K K, the hot air, which would otherwise rise to the ceiling of the drying-room, by its greater levity, is thus forced to pass under the curtain, and maintain the same temperature near the floor of the drying-room as at the top.

Third. By placing the mouth of the chimney near the floor, at C, as the current of escaping air is directed along and near the floor of the drying-room, instead of at the ceiling above.

We claim as new, in connection with our lumber-drying apparatus, and desire to secure by Letters Patent—

1. The double furnace A and B, separated by a horizontal partition, and provided with a common escape-flue, in the manner and for the purposes set forth.

2. The providing the cars with curtains, or like device, in the manner and for the purposes as set forth.

RICHARD P. JOHNSON,
ELI J. SUMNER.

Witnesses:

W. P. JENKINS,
ELI J. NEWTON.