(No Model.)

# M. W. RYAN.

## LUMBER DRYING KILN.

No. 441,196. Patented Nov. 25, 1890.

Fig. 1.

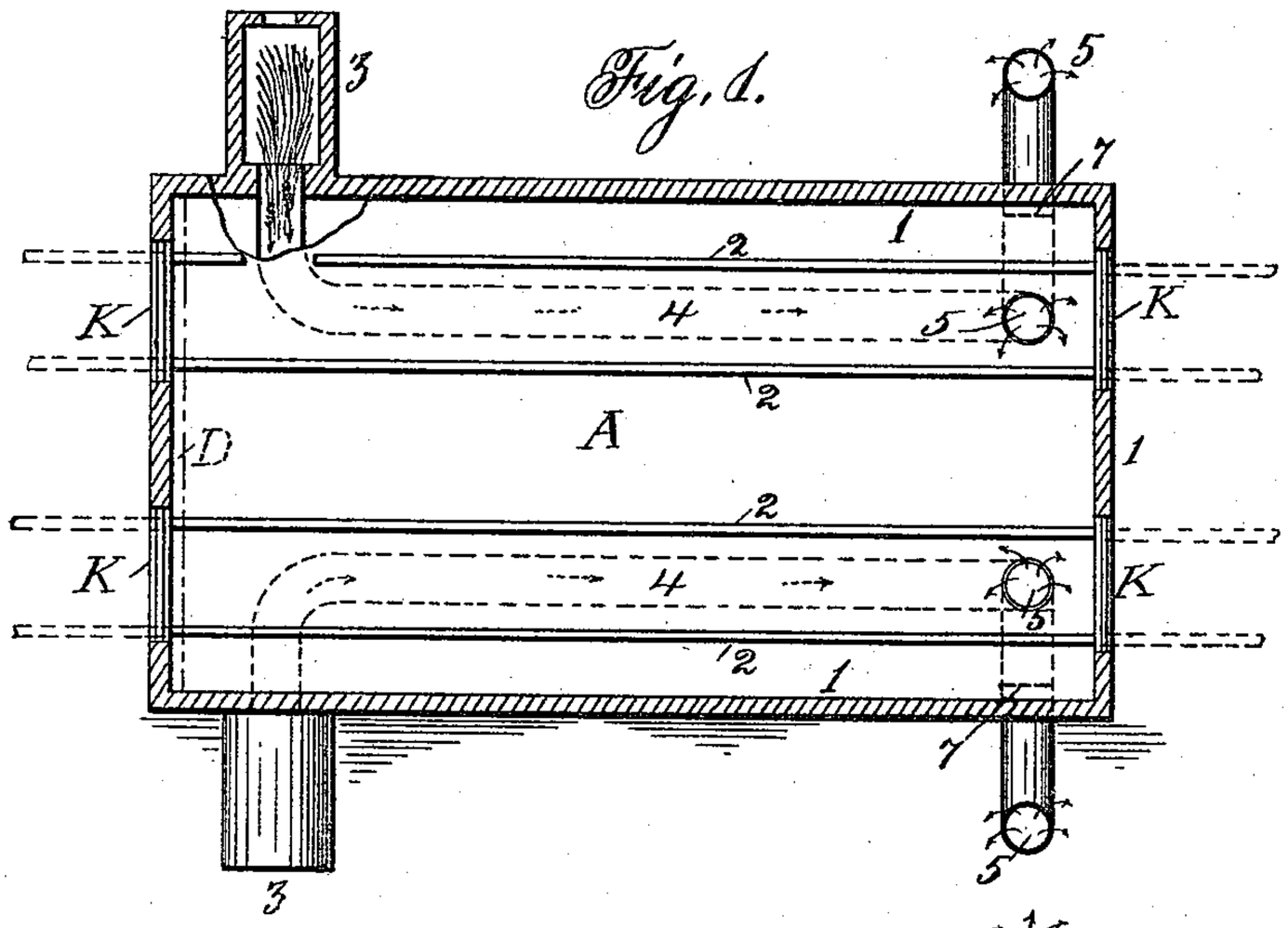



Fig. 2.

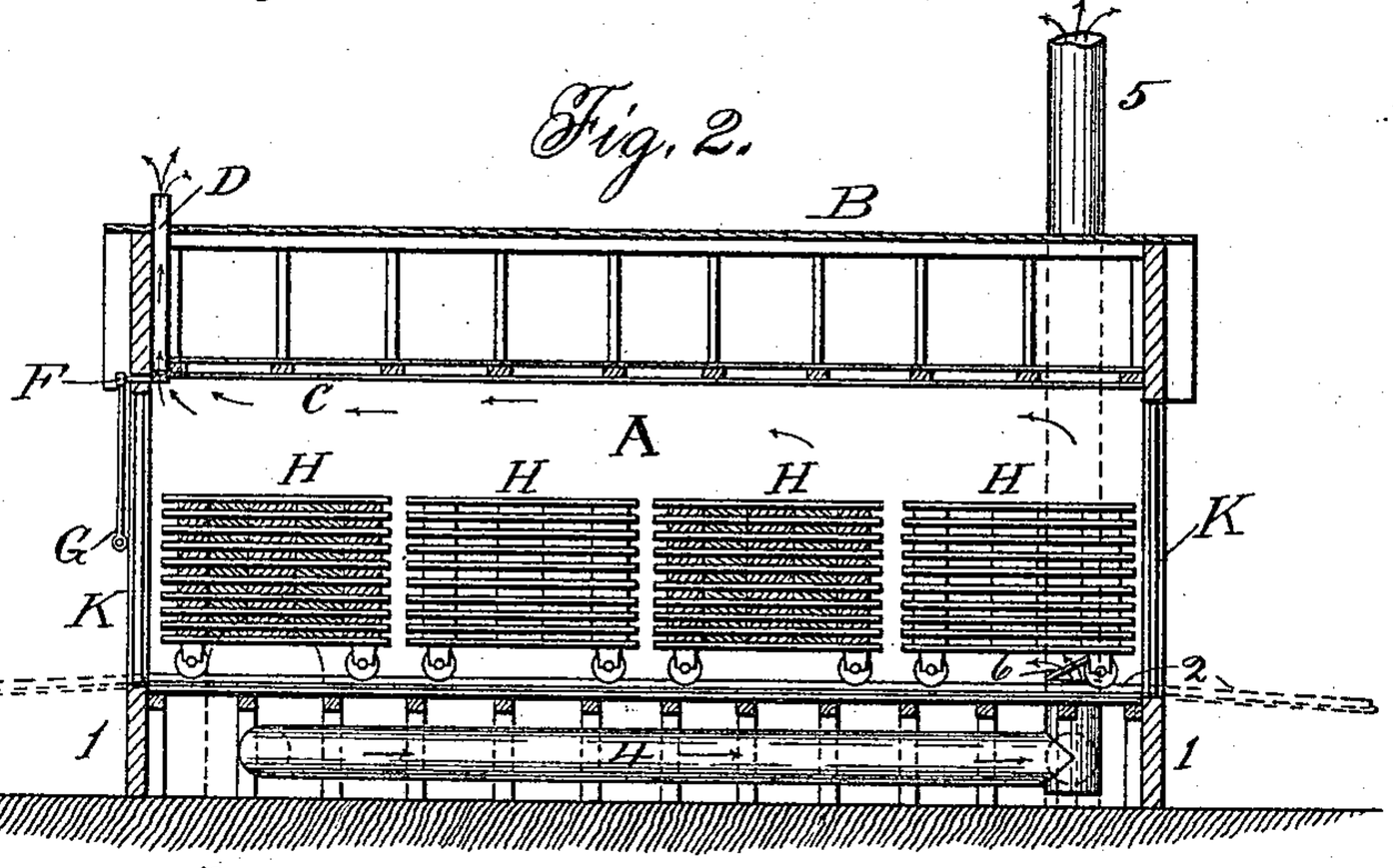
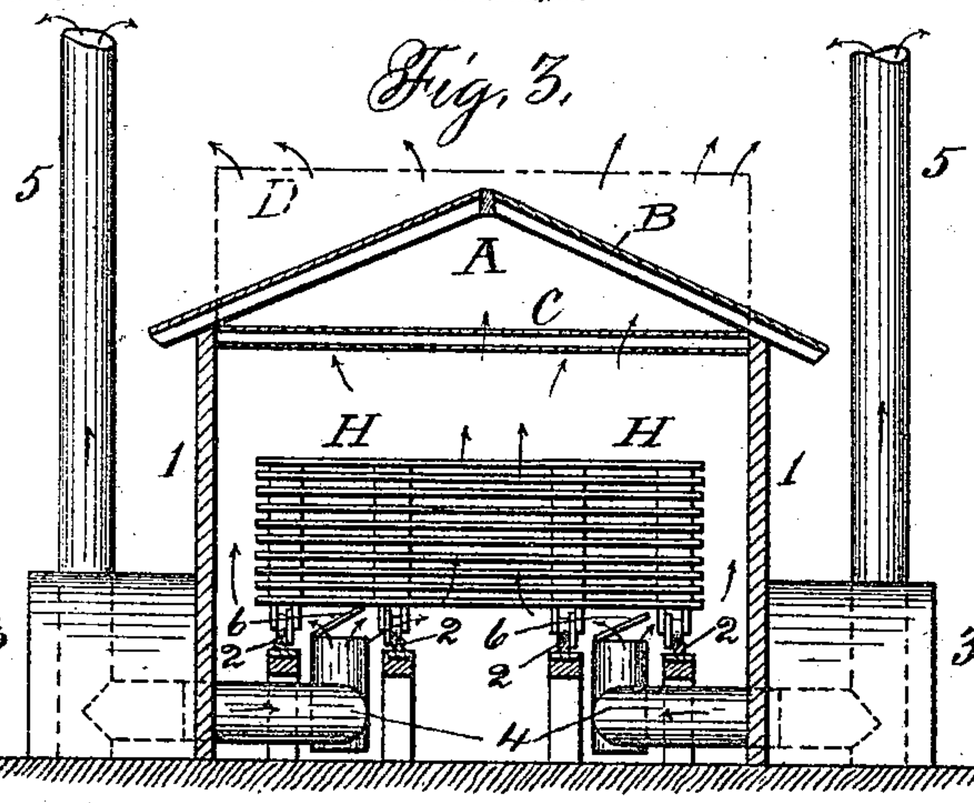



Fig. 3.

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# UNITED STATES PATENT OFFICE.

MARTIN W. RYAN, OF LAKE CHARLES, LOUISIANA.

## LUMBER-DRYING KILN.

SPECIFICATION forming part of Letters Patent No. 441,196, dated November 25, 1890.

Application filed February 3, 1890. Serial No. 339,007. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN W. RYAN, residing at Lake Charles, in the parish of Calcasieu and State of Louisiana, have invented certain new and useful Improvements in Lumber-Drying Kilns, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to lumber-drying kilns, and particularly to that kind of drier or kiln in which heat may be radiated to the lumber or the products of combustion may be conducted directly to the kiln or dry-room in which the lumber is placed.

The object of the invention is to produce a drying house or kiln having tracks extending from end to end, on which lumber may be conveyed without obstruction, and on which lumber-cars may pass and expose the lumber either to the direct or radiated heat; also to remove the furnace from the building, but provide for the passage of direct or radiated heat therefrom through the building or kiln in which the lumber is dried.

Figure 1 is a horizontal section near the top of the kiln, showing, generally, the arrangement of furnaces, stacks, tracks, and heating-flues. Fig. 2 is a vertical longitudinal section. Fig. 3 is a cross-section near the front of the kiln.

A indicates the kiln or dry-house.

Fig. 1 indicates the wall of the dry-house or kiln. This wall is preferably, but not necessarily, of brick or other incombustible material. The dry-house is preferably rectangular, with two tracks 2 2, running through from front to rear; but any number of tracks may be used.

A furnace 3 near the front of the kiln or dry-house, but separate therefrom, serves as a combustion-chamber. The smoke and products of combustion pass from the furnace 3 through a large pipe, flue, or conduit 4. The flue 4 leads from the side of the kiln into the interior thereof and then backward about parallel with the side of the building and between one of the trackways and below the level thereof to the rear of the building, where the flue turns out and passes into the stack or chimney 5.

Near the rear of the dry-house or kiln the flue 4 has an opening 5 and a cover or valve 6 therefor. This valve may be opened or closed, as desired. The roof or cover B may be of any suitable form and material. The ceiling C terminates a little short of the front wall of the building, and a narrow chimney or exhaust D, extending across the kilns from side to side, leads upward from the opening left by the ceiling at the front of the kiln.

A shutter or closing-valve F serves to open or close the exhaust D, and this shutter may be operated by handles G from outside the kiln.

The lumber-cars H H are of suitable and usual construction to run on tracks 2 2. The cars H may be loaded with lumber and run into the kiln on tracks 2 2, and the doors K and valves 6 may be closed. Then when the fire is built in the furnace 3 the products of combustion will pass through the pipe 4, and, passing along between the tracks 2 2, these products will escape by stack 5. The radiation of heat from the flues 4 will serve to dry the lumber on cars H. When the fire has got well under way and the lumber is partially dried, the doors 6 6 may be opened and the stack 5 shut off, as by dampers 7. This will divert the smoke, &c., from stack 5 into the main compartment of the kiln. The smoke and hot gases will pass toward the front of the kiln, as indicated by arrows, Fig. 2, and so out at chimney or exhaust D. The damper F will control the escape of heat by the chimney D.

The advantage of this invention are cheapness of construction, ease of manipulation, and certainty of operation.

What I claim is—

1. A lumber kiln or drier having a track therethrough and parallel with the side thereof, a furnace outside the kiln at the side thereof having a heat-conduit entering the kiln, thence running in the same direction as the track, but below the level of the track, and thence turning out at the side of the kiln to the stack, the named elements combined, as described, so that a car may move in at one end of the building and out at the other, passing along the line of the heat-conduit without obstruction therefrom, substantially as described.

2. In a lumber-drier, the walls of the drying-kiln, a track parallel with the side wall, a

furnace at the side of the kiln, a heat-conduit from said furnace leading into the kiln, and thence parallel with and below the track to near the rear of the building, where said conduit is provided with a cover or valve opening into the kiln, the conduit leading thence out the side of the kiln to the stack, all combined substantially as described.

3. In a lumber-drier, a kiln having a track extending from end to end and parallel with the side walls, a furnace at one side of the kiln having a heat-conduit entering the side near the front of the kiln, and thence extending along and below the track to near the rear of kiln, where it has a valve opening into the kiln, the conduit leading out at the side of the kiln near the stack, and a narrow chimney extending entirely across the front of the kiln, the parts combined substantially as described.

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

MARTIN W. RYAN.

Witnesses:

FRANK. SHUTTS,

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