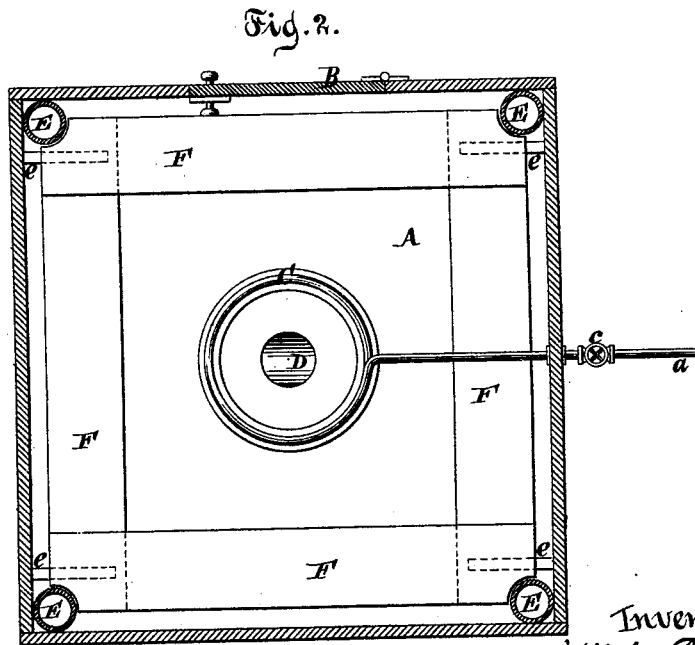
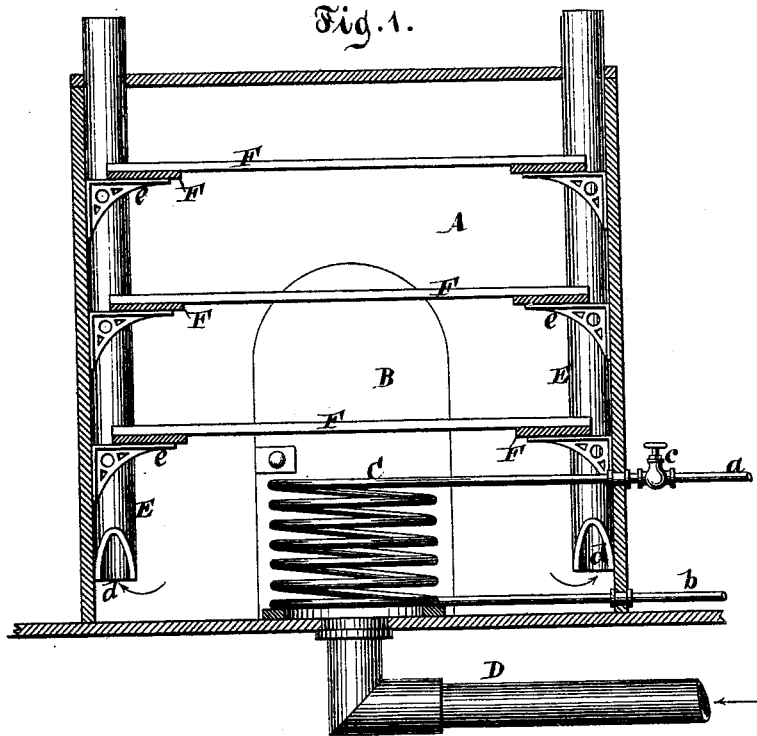


W. PICKHARDT.

DRIER.

No. 190,616.

Patented May 8, 1877.



Witnesses.  
Otto Hufeland  
Chas. Wablers.

Inventor.  
William Pickhardt  
by  
Van Santwood & Hauck  
his attorney

# UNITED STATES PATENT OFFICE

WILHELM PICKHARDT, OF NEW YORK, N. Y.

## IMPROVEMENT IN DRIERS.

Specification forming part of Letters Patent No. **190,616**, dated May 8, 1877; application filed April 4, 1877.

*To all whom it may concern:*

Be it known that I, WILHELM PICKHARDT, of the city, county, and State of New York, have invented a new and useful Improvement in Drying-Rooms, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a vertical section. Fig. 2 is a horizontal section.

Similar letters indicate corresponding parts.

This invention consists in introducing fresh air into a drying-room by means of a pipe which leads into said room through the floor immediately within a vertical steam-coil, the drying-room being provided with one or more flues or pipes having their lower ends cut off obliquely, and extending from near the floor out through the drying-room into the external atmosphere, all of which will be fully hereinafter described in detail.

In the drawing, the letter A designates my drying-room, which is closed, and to which access can be had through a door, B, that is constructed to close tight. On the floor of my drying-room is situated a steam-coil, C, which is supplied with steam through a pipe, *a*, and from which the steam exhausts through a pipe, *b*. A suitable stop-cock, *c*, regulates the supply of steam to the coil. Through the floor of my drying-room extends an air-supply pipe, D, which extends outside of the drying-room, and opens underneath the steam-coil C, so that the air which enters through said pipe, by coming in contact with the steam-coil, becomes immediately heated. From the floor of my drying-room rise one or more air-discharge flues, E, which are provided with openings *d* near the floor, and which extend out into the open atmosphere, said opening being made by cutting the end of the pipe or flue at an angle, or obliquely, so as to afford and induce ready admission of the air which has absorbed moisture from the articles to be dried. In the example shown in the drawing I have shown these discharge-flues in the corners of the room, but they may be placed in any other convenient position. I have also shown only one steam-coil in the middle of the room; but two or more such coils may be used, according to the size of the room.

On the walls of the room are secured a series of brackets, *e*, for the support of shelves or trays F, on which the articles or materials to be dried are placed; or said shelves or trays may be supported by any suitable means throughout the room. After these shelves or trays have been charged, the room is closed and steam is admitted to the coil C. The air which comes in contact with the heated coil becomes rarefied and rises up, and thereby a current of air is created through the air-supply pipe D, and this air, on entering, becomes immediately heated by contact with the steam-coil, so that it rises, and by these means the heated air, which first rises to the top of the room, is driven toward the walls, and forced down in contact with the articles or materials spread on the shelves or trays F. By contact with these articles, the heated air absorbs moisture and it becomes cooled, so that it sinks down and is finally driven off through the discharge-flues E. By adjusting the stop-cock *c* of the steam-supply pipe *a*, the temperature of the air in the drying-room can be controlled, and I am enabled to dry successfully materials which, when heated above or below a certain temperature during the process of drying, become spoiled.

My room can, however, be used for drying articles or materials of any desired description.

What I claim as new, and desire to secure by Letters Patent, is—

In a drying-room, the combination of a series of horizontal trays, F, an air-supply pipe, D, leading into the room through the floor, a steam-coil arranged vertically directly over the mouth of the air-supply pipe for heating the fresh air as it is introduced, and one or more air-discharge pipes, E, having their lower ends formed obliquely and from near the floor, extending out through the drying-room into the external atmosphere, as and for the purpose herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 28th day of March, 1877.

WM. PICKHARDT.

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.