S. T. SWASEY.

Drying-Apparatus.

No. 161,990. Patented April 13, 1875.

Fig. 1.

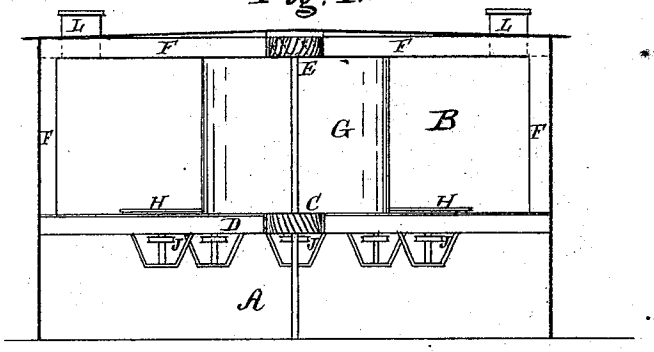
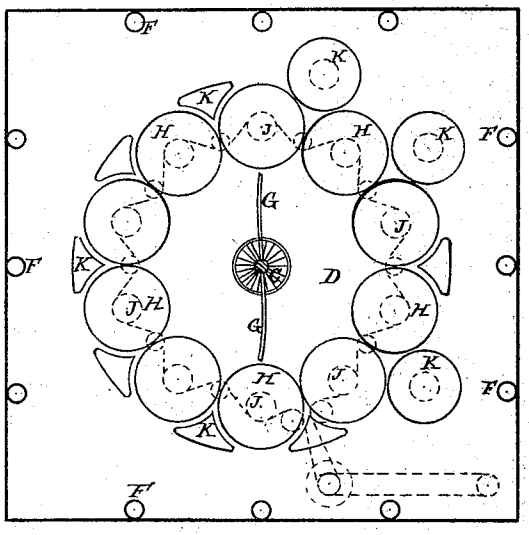


Fig. 2.



Witnesses.
C. Warren Brown
A. M. Gay.

Inventor:
Samuel T. Swasey.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

SAMUEL T. SWASEY, OF SALEM, MASSACHUSETTS.

IMPROVEMENT IN DRYING APPARATUS.

Specification forming part of Letters Patent No. **161,990**, dated April 13, 1875; application filed March 20, 1875.

To all whom it may concern:

Be it known that I, SAMUEL T. SWASEY, of Salem, in the county of Essex and State of Massachusetts, have invented an Improved Drying Apparatus; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to an improved drying apparatus, which, while it may be used for various purposes, I shall describe as applied only to the manufacture of glue, and is an improvement on my previous invention, a patent for which was allowed March 4, 1875, and which consisted of a chamber or room in which the air was heated, and from whence it was carried or driven, by a fan-blower, through tubes or pipes into a chamber or room above, there distributed through the crates of glue by means of deflecting-tubes, and the heated air, when it became saturated with the moisture from the glue, passed off through ventilators arranged for that purpose.

My present apparatus, like that above described, consists of a building, preferably of two stories, the upper of which is used as a drying-room, while the lower is provided with steam-pipes or other suitable heat-radiating surfaces, for the purpose of heating the air which is drawn or forced into the drying-room above.

In my previous invention I described but a single fan-blower, which was to be placed in the center of the floor of the drying-room. As with this arrangement the heated air from the lower room may not be equally distributed by the deflecting-tubes, I do away with said deflecting-tubes, and place pipes or tubes arranged vertically about the sides of the building, up through which some of the heated air will rise from the chamber below. These pipes pass along the ceiling and are all brought to a common center, where a second fan-wheel takes or draws the heated air therefrom and forces it downward, so that it may be directly acted upon by the large fan or distributer, the same as the distributer acts upon the air forced up by the fan-wheel in the second floor; or in some cases it may be desirable to leave the distributing-fan out, and use only the fan-wheels, which force the heated air into the chamber from above and below.

As it is not desirable to have any space over my crates, I place a sheathing under the pipes, which are laid along the ceiling, and build my frames or stack my crates up to said sheathing, in order to utilize the air from the whole length of the distributing-fan.

Another feature of my invention is, that I so arrange my crates on frames or platforms that I can keep them revolving, thereby presenting all sides to the action of the air from the distributer, enabling me to dry the glue more evenly and rapidly; and while they may be arranged and revolved in buildings at present used for drying glue, and in which I may place one or more distributers to assist in circulating the atmosphere as it draws through, I consider it far better to use them in a room where the glue will be subjected to an atmosphere rendered dry by artificial means, and shall describe them as in connection with my other improvements only. They may be made to revolve by any well-known mechanism.

In order to utilize all the heated air as it is forced outward by the distributing-fan, I place other frames or platforms, either stationary or revolving, opposite the openings between the revolving crates above described. The heated air, after being forced through these various crates, passes off through ventilators, as described in my previous patent.

In the drawings which accompany and form a part of this specification, Figure 1 is a sectional elevation, and Fig. 2 is a plan, of a building, showing my apparatus.

A represents the chamber in which the air is heated; B, the chamber into which the heated air is forced by the fan-wheel C, placed in the floor D, and the fan-wheel E, which draws the heated air from the pipes F. The fan C drives the heated air up, and the fan E drives it down, when it is forced laterally by the distributing-fan G. Just outside of this distributer G, and completely encircling it, I place platforms H, (on which I stack my crates,) having shafts fitted in bearings, and provided with pulleys J, to which the power is applied which causes them to revolve. K K represent the second series of crates, which are placed op-

posite the openings between those of the first; and L L, the ventilators through which the heated air passes after having become saturated with moisture.

I claim—

1. A drying apparatus consisting of heated-air chambers A B, fan-wheels C E, and pipes F, in combination with the ventilators L, substantially as described.

2. A drying apparatus consisting of chambers A B, fan-wheels C E, pipes F, and distributing-fan G, in combination with the ventilators L, substantially as described.

3. In a drying apparatus, the revolving frames H, in combination with the distributing-fan G, substantially as herein set forth.

4. In a drying apparatus, the revolving frames or platforms H, distributing-fan G, fan-wheels C and E, pipes F, and ventilators L, arranged in combination with the heated-air chambers A B, substantially as, in the manner, and for the purpose described.

SAMUEL T. SWASEY.

Witnesses:

L. E. HAZZARD,

C. WARREN BROWN.