

(No Model.)

W. GRIESSER.

APPARATUS FOR MOISTENING AND CLEANING AIR.

No. 386,777.

Patented July 24, 1888.

Fig. 1.

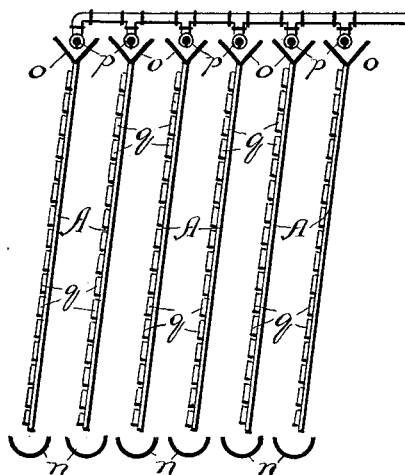


Fig. 2.

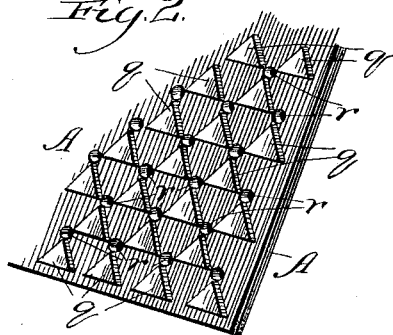


Fig. 3.

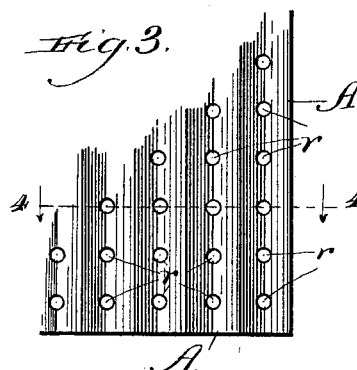
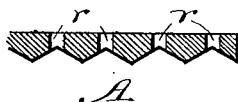


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM GRIESSER, OF CHICAGO, ILLINOIS.

APPARATUS FOR MOISTENING AND CLEANING AIR.

SPECIFICATION forming part of Letters Patent No. 386,777, dated July 24, 1888.

Application filed October 14, 1887. Serial No. 252,350. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GRIESSER, a subject of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Apparatus for Moistening and Cleaning Air, of which the following is a specification.

My invention relates to an improvement in apparatus for use particularly in a process of malting for moistening and cleansing air.

In the process referred to a blower is employed to force a current of moist air of desired temperature through conduits to bins containing the grain undergoing germination, the moistening and tempering of the air being accomplished, or, at least, attempted, by forcing it through a series of perforated metal plates or partitions within the conduit, kept wet by means of supply-pipes, which furnish a constant stream of water of the desired temperature. The passage of the air through water has also the effect of cleansing the air, a feature of importance in the said process. The perforated metal plates or partitions above referred to, as hitherto used, have been provided with smooth or substantially smooth faces, down which water from a supply-pipe is caused to trickle. Such perforated plates or partitions are not satisfactorily operative in their purpose, for the reason that the water has a tendency to follow the metal in its descent and avoid the perforations, and the air which is forced through the latter thus becomes insufficiently affected as to temperature, cleansing, and saturating.

It is my object to overcome this difficulty by providing a perforated plate or partition (commonly to be used in series) of novel construction, whereby the liquid is guided to drip across the perforations instead of trickling around them; and to this end my invention consists in a perforated plate or partition having its surface provided with raised portions forming guide-troughs between perforations, to cause a liquid trickling down the surface of the plate or partition to be guided to the perforations.

My invention further consists in details of construction and combinations of parts, as hereinafter more fully set forth.

In the drawings, Figure 1 is an edge eleva-

tion of a series of plates of my improved construction; Fig. 2, an enlarged perspective view of a portion of a perforated plate provided with my improvement; Fig. 3, a view illustrating a modification, and Fig. 4 a section on the line 4 4 of Fig. 3.

A is a plate or partition provided with perforations *r* and lugs or projections *q* between the perforations. The lugs *q*, which are formed or secured upon the device A, are preferably triangular in shape, and so arranged that each of their angles shall extend toward a perforation, *r*, and preferably to such perforation as shown. The plates A are usually arranged in series, as shown in Fig. 1, with longitudinally-perforated supply-pipes *p* above them, and troughs *o*, perforated or open at their bottoms, to direct the water upon the faces of the plates. Troughs *n* below the plates serve to receive the water.

In using my improved perforated plates I prefer to incline them slightly backward, as shown, which prevents the water from dripping directly to the troughs *n* from the projections instead of first trickling across the perforations, to which they are led by the guide-troughs afforded by the projections.

It will be seen that by the use of my improved construction of perforated plates the necessarily small quantity of water used to trickle over the surfaces is led over the apertures therein, and thus subjects the current of air which passes through them to complete saturation and thorough cleaning.

In the modification shown in Figs. 3 and 4 the plate A is corrugated longitudinally, and provided with perforations *r* in the grooves thus formed. This construction, when the plates are inclined, as shown in Fig. 1, also serves to guide the water trickling down its face to the perforations, and is within the spirit of my invention.

I do not herein claim, specifically, the construction herein referred to as the modified construction, but reserve the same for a separate future application for Letters Patent of the United States.

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

1. A perforated plate or partition for use in an apparatus for moistening and cleansing air,

having its surface provided with raised portions forming guide-troughs between perforations, substantially as and for the purpose set forth.

- 5 2. In an apparatus for moistening and cleansing air, the combination, with the water-supply, of a perforated plate or partition having its surface provided with raised portions, forming guide-troughs between perforations, and supported in operative position at an acute angle, substantially as and for the purpose set forth.

- 10 3. A perforated plate or partition for use in an apparatus for moistening and cleansing air,

having lugs *g* upon its surface between perforations, substantially as and for the purpose 15 set forth.

4. A perforated plate or partition for use in an apparatus for moistening and cleansing air, having triangular lugs *g* between perforations and extending to the latter, substantially as 20 and for the purpose set forth.

WILLIAM GRIESSER.

In presence of—

J. W. DYRENFORTH,
CHAS. E. GAYLORD.