E. B. AYRES AND H. BOGATY.

AIR BAFFLE FOR DRIERS.

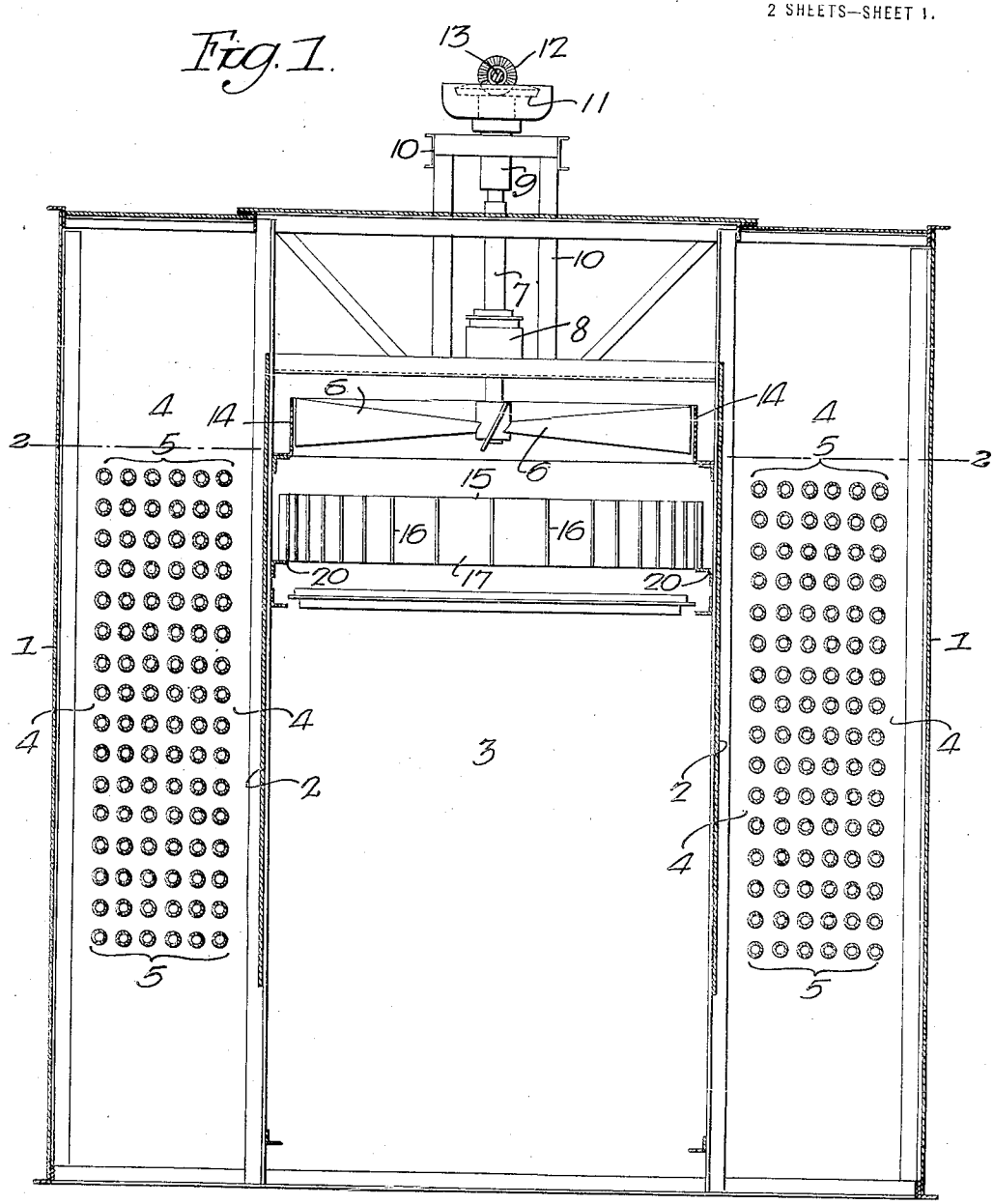
APPLICATION FILED NOV. 1, 1920.

1,412,598.

Patented Apr. 11, 1922.

2 SHEETS—SHEET 1.

Fig. 1.



Inventors-
Elwood B. Ayres.
Hermann Bogaty.
by their Attorneys-
Howson & Howson

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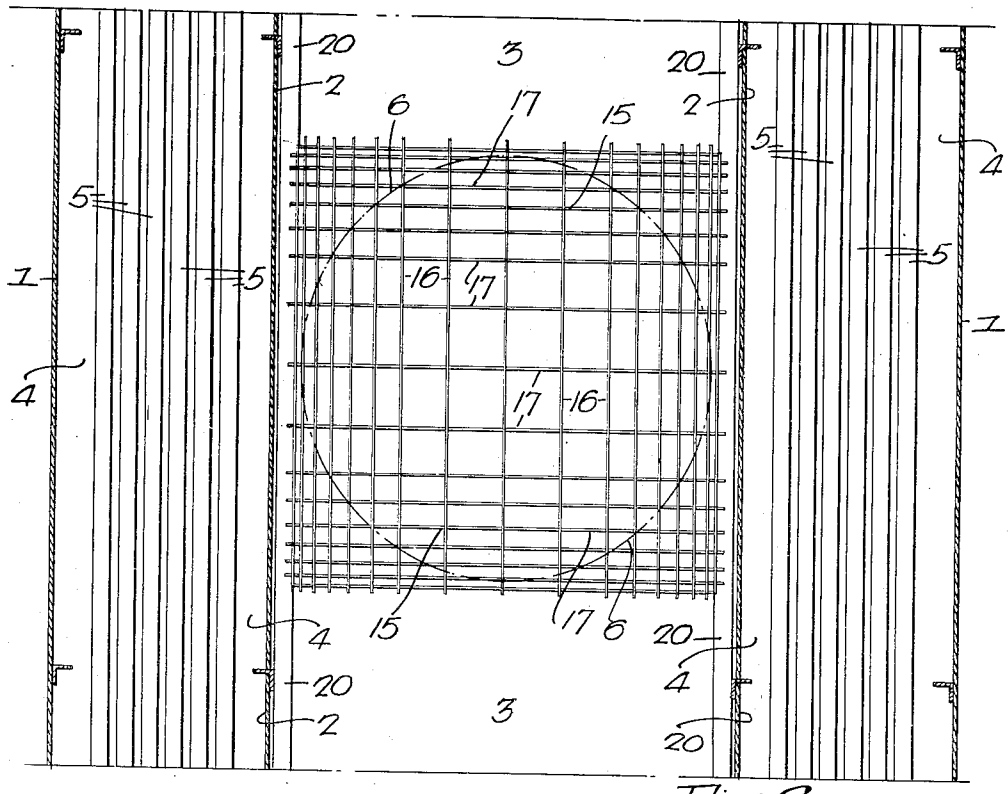


Fig. 2.

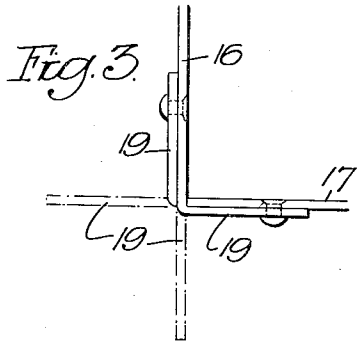


Fig. 3.

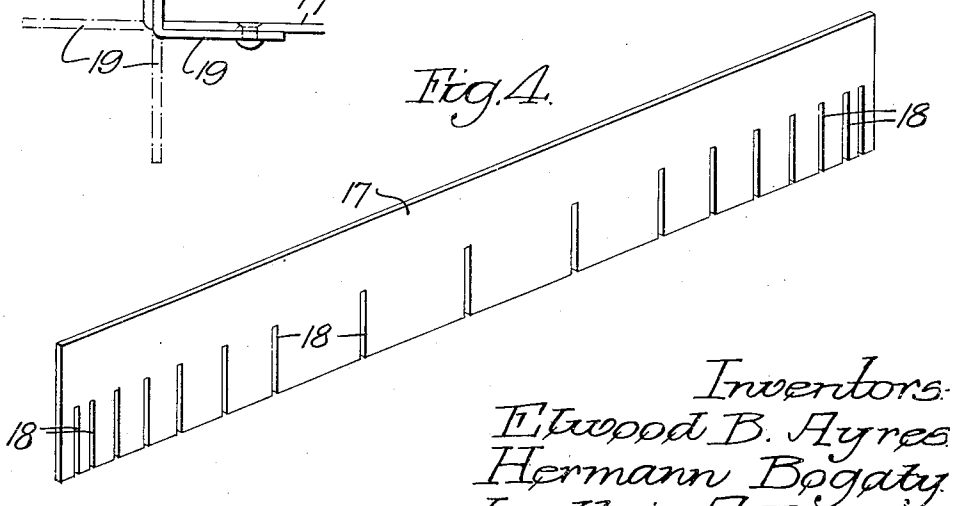


Fig. 4.

Inventors.
Elwood B. Ayres.
Hermann Bogaty.
by their Attorneys.
Arthur Hinson

UNITED STATES PATENT OFFICE.

ELWOOD B. AYRES AND HERMANN BOGATY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO PROCTOR & SCHWARTZ, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

AIR BAFFLE FOR DRIERS.

1,412,598. Specification of Letters Patent. Patented Apr. 11, 1922.

Application filed November 1, 1920. Serial No. 420,984.

To all whom it may concern:

Be it known that we, ELWOOD B. AYRES, a citizen of the United States, and HERMANN BOGATY, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Air Baffles for Driers, of which the following is a specification.

Our invention relates to certain improvements in driers in which the material to be dried is located in a drying chamber and heated air is circulated by means of a fan through the drying chamber and through a circulating chamber.

The object of our invention is to provide a means for breaking up the currents of air so as to eliminate any lateral currents or the swirling action of the air, due to the rotation of the fan, without interfering with the free circulation of the air.

In the accompanying drawings:

Fig. 1 is a transverse sectional view through a drier illustrating our invention;

Fig. 2 is a sectional plan view on the line 2—2, Fig. 1, of sufficient of a drier to illustrate the construction of the air baffle;

Fig. 3 is an enlarged sectional view, showing the manner of forming the ends of the baffle; and

Fig. 4 is a perspective view of one of the partitions of the baffle illustrating its construction.

Referring to the drawings, 1 is the casing of the drier. 2 are vertical partitions separating the interior of the drier into a central drying chamber 3 and circulating or heating chambers 4, in which are heating pipes 5, in the present instance. The material to be dried is supported in the drying chamber in any suitable manner and may be mounted on stationary supports or movable supports, depending upon the character of the drier. Directly above the drying chamber 3 is a circulating fan 6, mounted on a vertical shaft 7 adapted to bearings 8 and 9 carried by a frame 10 of any suitable construction, located on the upper portion of the drier. In the present instance, the bearing 8 is within the drying chamber while the bearing 9 is outside of the chamber. On the upper end of the shaft 7 is a bevel gear wheel 11, which meshes with the gear wheel 12 on the driving shaft 13.

14 is a casing surrounding the fan 6 and supported on angle bars forming part of the frame so that the circulation, in the present instance, is up through the heating chambers and down through the drying chamber. Located directly under the fan 6 is a baffle 15. This baffle can be located at any point between the fan and the material being dried, and is constructed as shown in Figs. 2, 3 and 4, having a series of right-angled partitions 16 and 17. The partitions 16 are slotted from the top to the center, while the partitions 17 are slotted as at 18, from the bottom to the center of the partition. The partitions are then assembled, similar to the separators of an egg crate, and the projecting ends 19 are bent over and riveted to the end partitions, as shown in Fig. 3. This is one method of making the air baffle. The details of construction may be modified without departing from the essential features of the invention.

As shown in Fig. 2, the partitions of the air baffle are wider apart at the center than at the edges, but they may be the same distance apart throughout, if found desirable. The air baffle is supported, in the present instance, on angle bars 20 secured to the partitions 2 and there may be as many of these air baffles as there are fans. In some types of driers, only one fan is necessary, while in other types a number of fans is used. In carrying out our invention, an air baffle is located under each fan.

By this invention, the air, as it passes from the fan, must pass in a straight course through the passages in the baffle, thus preventing lateral currents and also preventing the swirling action of the air without materially interfering with the rapid circulation of the air so that, when the air strikes the material being dried, it will not unduly disturb the material and will pass therethrough in a comparatively straight course.

We claim:

1. The combination in a drier, of a casing enclosing the drying chamber; a fan for circulating air through the drying chamber; and an air baffle located between the drying chamber and the fan and through which air is forced by the fan, said air baffle consisting of two series of

partitions, one series crossing the other and forming a series of independent air passages.

2. The combination in a drier, of a casing enclosing a drying chamber; a fan above the drying chamber; and an air baffle located under the fan and through which the air is forced by the fan, said air baffle consisting of a series of angular partitions, which are farther apart at the center than at the edges.

3. The combination in a drier, of a casing; two vertical partitions in the casing separating a central drying chamber from the side circulating chambers; means for heating the air in circulation; a fan located above the drying chamber for circulating air down through the drying chamber; and an air baffle located directly under the fan and above the material to be dried, said air baffle consisting of a series of partitions forming narrow passages for the air.

ELWOOD B. AYRES.
HERMANN BOGATY.