

BEST AVAILABLE COPY
BEST AVAILABLE COPY

O. WIRZ.
APPARATUS FOR DRYING DOUGH AND PASTRY GOODS.
APPLICATION FILED MAY 8, 1907.

992,320.

Patented May 16, 1911.

Fig. 1.

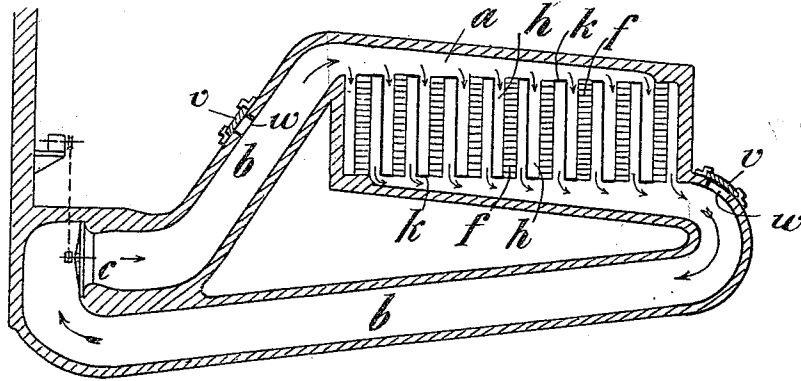
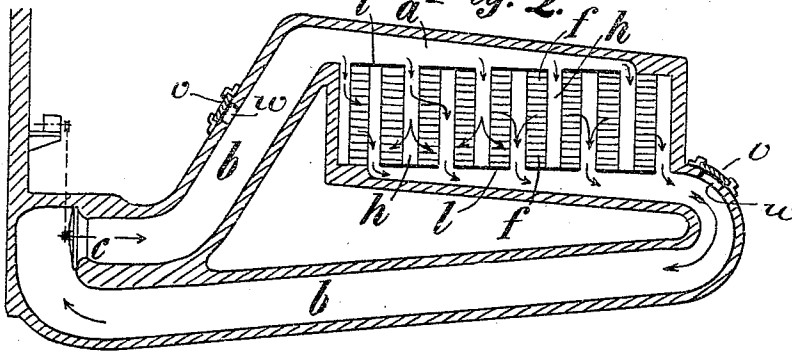


Fig. 2.



Witnesses.

William Tibbatts.
J. F. McCarthy

Inventor

Otto Wirz

per

Foster Freeman Weston & Co.
Attorneys

UNITED STATES PATENT OFFICE.

OTTO WIRZ, OF CANNSTATT, GERMANY, ASSIGNOR TO THE FIRM OF WERNER & PFLEIDERER, OF CANNSTATT, GERMANY.

APPARATUS FOR DRYING DOUGH AND PASTRY GOODS.

992,320.

Specification of Letters Patent.

Patented May 16, 1911.

Application filed May 8, 1907. Serial No. 372,512.

To all whom it may concern:

Be it known that I, Otto Wirz, chief engineer, and a subject of the Republic of Switzerland, a resident of Cannstatt, in the Kingdom of Württemberg and German Empire, have invented a certain new and useful Apparatus for Drying Doughs and Pastry Goods, of which the following is a specification.

The drying of doughy bakery goods, such as macaroni, broad noodles, thread shaped noodles, rolls, small lunar shaped breads and the like, was effected heretofore particularly in the open air and at a low temperature, which necessitated a considerable amount of air for the drying, besides requiring large rooms for this purpose, which could not be used for any other purposes.

This invention refers to an apparatus for the drying of doughy bakery goods in a closed box by artificially circulated air, means being provided for changing the direction of the currents of air, whereby a rapid intense drying of the doughy bakery goods takes place and only a small space is required for the entire drying apparatus.

The subject matter of the invention is shown in longitudinal section upon the accompanying drawing in several embodiments which only differ from each other in minor details, the invention residing particularly in providing within the interior of a closed room or space a number of boxes, in which the doughs to be dried are placed. These boxes which are arranged in series one above the other, are positioned in such a manner, that air circulating passages are formed between the several rows of boxes by means of sufficiently wide spaces. The said passages in combination with movable or stationary closing means make it possible, to change the way of circulating the air through the doughs, placed in the boxes, without any chance of fissures being formed in the doughs.

In the drawings: Figure 1 illustrates a more or less conventional and vertical section through a drying apparatus constructed in accordance with the present invention. Fig. 2 is a similar view illustrating a slightly modified construction.

Referring to the drawings and particularly to Fig. 1 it will be seen that the material to be dried is arranged in a room or chamber *a*, the several containers *f* being

grouped into a plurality of separated vertical stacks or series. A conduit *b* has its ends connected respectively with the top and bottom of the chamber *a*. In the form of invention shown in Fig. 1 a series of vertical partitions *h* are provided between the several stacks, and the channels or passages separating the said partitions from the adjacent stacks are closed alternately at the top and bottom as indicated at *k*. In *c* a reversible ventilator is provided, which is connected to the upper and to the lower openings of the channels or passages *h* by means of air admission and aspirating passages *b*. When the air is drawn in the direction of the arrow through the upper channel or passage *b* by the ventilator, the air passes from above into the passages to the right of the intermediate partitions *h*, it then passes through the drying boxes from left to right and escapes through the next channels situated to the left of the intermediate partitions, from which it flows into the lower air aspirating channel or passage *b* and continues to circulate in the manner hereinbefore described. By means of slides represented at *v* arranged to open and close apertures *w* provided in the channels or passages *b*, *b*, in suitable places, the drying air, which becomes gradually heated and saturated with moisture, may be mixed with outside air or may be replaced by such, so that it becomes again adapted to absorb moisture.

The modification according to Fig. 2 is similar to the modification according to Fig. 1, with the difference only, that the spaces *h* between the drying boxes *f* are constructed without partitions, the entire sectional area of the spaces being closed alternately one above and the other below, by means of closing lids *l*, so that the air admission and air escape passages are in common for each two of the adjoining rows of drying boxes. At *c* the reversible aspirator is also arranged, which is connected to the upper and lower openings of the channels or passages *h* between the drying boxes by means of the air admitting and aspiration channels or passages *b*, *b*. When the air is passed by the ventilator in the direction of the arrow through the channels *b*, *b*, the air enters the channels *h* which are open on top and thence it flows on either side into the drying boxes *f*, so as to escape and become united into one stream at the opposite sides of the drying

boxes *f* into the channels *h* which are opened at the bottom, whereafter the air passes into the air aspirating channel. Upon reversing the aspirator, the drying air passes in the reverse direction.

What I claim and desire to secure by Letters Patent of the United States is:—

1. In a dough or pastry drying apparatus, the combination of a drying chamber, a conduit having its ends connected respectively with the top and bottom of said chamber, holders for articles to be dried arranged in said chamber in a plurality of separated vertical stacks or series, means for causing a current of air to pass through the conduit and chamber, and means for causing the current to be deflected through the stack in the chamber in parallel.

2. In a dough or pastry drying apparatus, the combination of a drying chamber, a conduit having its ends connected respectively with the top and bottom of said chamber, holders for articles to be dried arranged in said chamber in a plurality of separated vertical stacks or series, a fan arranged within the conduit and adapted to cause a current of air to pass through the conduit and chamber, and means within the latter for causing such current to pass laterally through the stacks in parallel.

3. In a dough or pastry drying apparatus, the combination of a drying chamber, a con-

duit having its ends connected respectively with the top and bottom of said chamber, holders for articles to be dried arranged in said chamber in a plurality of separated vertical stacks or series, a reversible fan adapted to cause a current of air to pass through the conduit and chamber in either direction, and means adjacent the ends of the stacks in the chamber for causing the air current to pass in parallel through the stacks.

4. In a dough or pastry drying apparatus, the combination of a drying chamber, a conduit having its ends connected respectively with the top and bottom of said chamber, holders for articles to be dried arranged in said chamber, in a plurality of separated vertical stacks or series, vertical partitions between the different stacks, means permanently closing the spaces between each partition and the adjacent stacks alternately at the top and bottom, and means for causing a current of air to pass through the conduit and chamber.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

OTTO WIRZ.

Witnesses:

ERNEST ENTENMANN,
FRANZ DRISSNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

Watch # 371,684 - H & K.
French pat # 363,726 - S & T
Alloatti # 735,931 - S & T } S & T
French pat # 363,729 }