

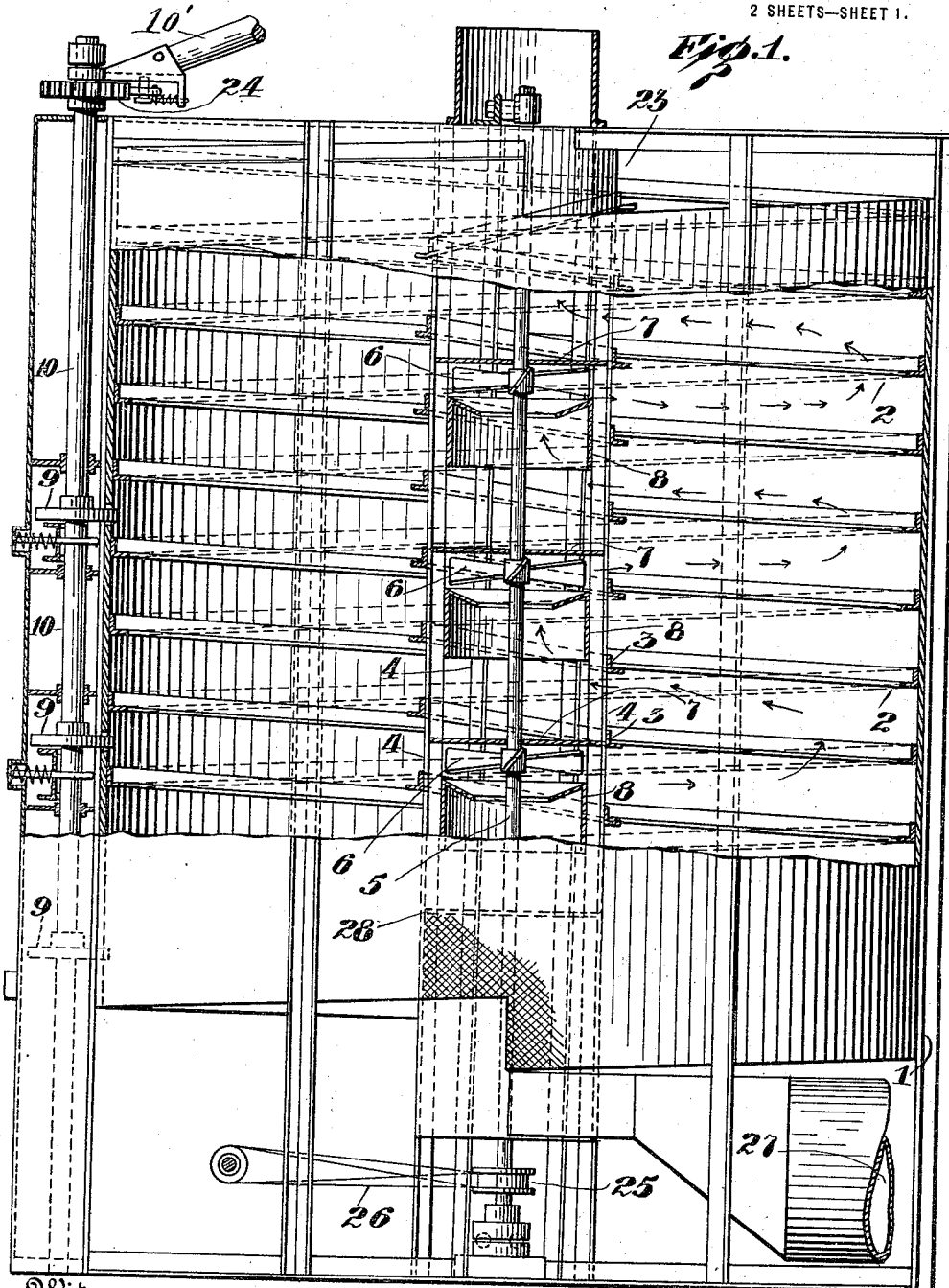
B. S. HARRISON.
DRIER.

1,191,075.

APPLICATION FILED MAY 4, 1915.

Patented July 11, 1916.

2 SHEETS—SHEET 1.



Witnesses:

C. S. Ashley
L. V. Brown

Inventor

Bert S. Harrison
By his Attorney
Arthur Jones Jr.

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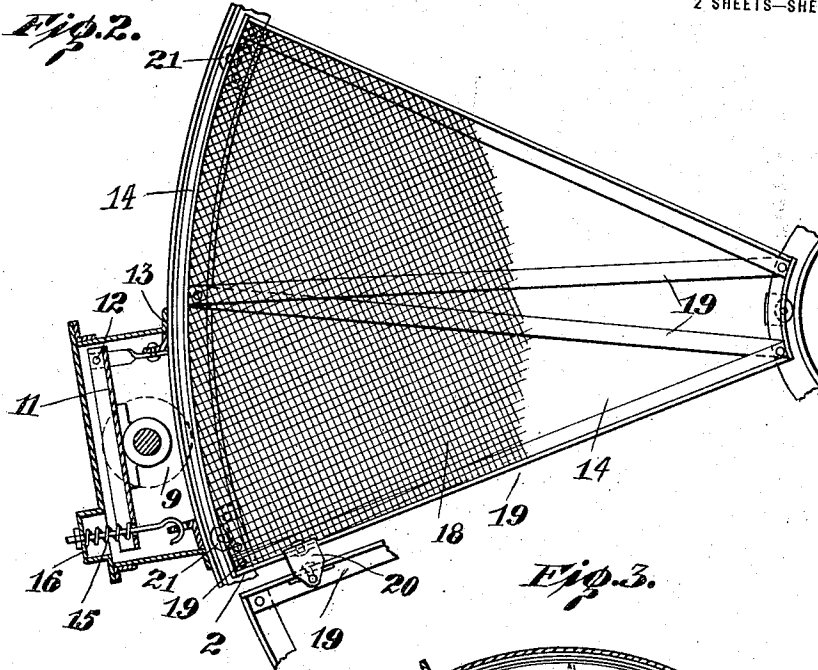


Fig. 3.

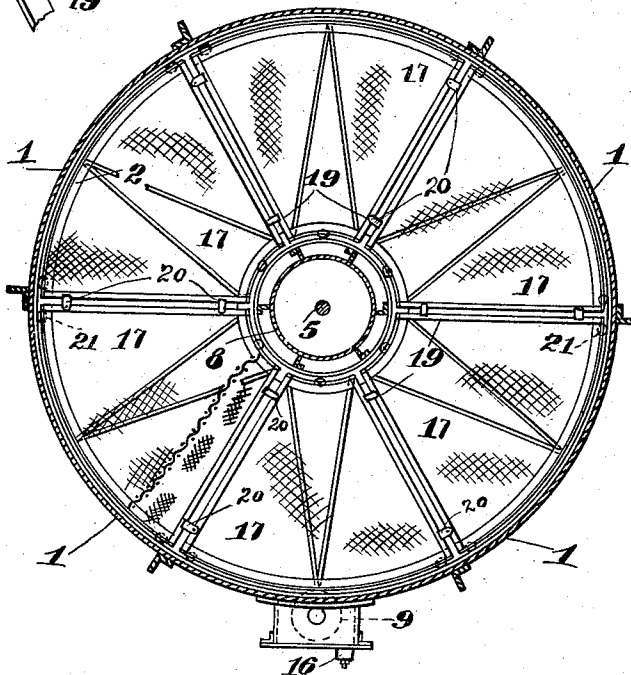
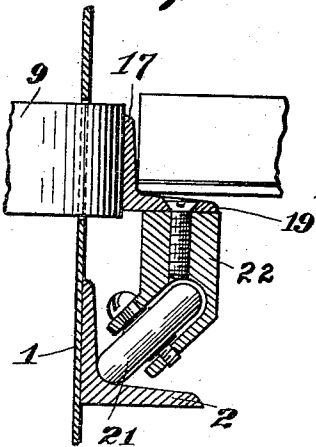


Fig. 4.



Witnesses:
L. S. Ashley
L. H. Brown

Inventor
Burt S. Harrison
By his Attorney
Amos T. Smith

UNITED STATES PATENT OFFICE.

BURT S. HARRISON, OF BROOKLYN, NEW YORK.

DRIER.

1,191,075.

Specification of Letters Patent.

Patented July 11, 1916.

Application filed May 4, 1915. Serial No. 25,690.

To all whom it may concern:

Be it known that I, BURT S. HARRISON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Driers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in driers and the object of my invention is to provide a simple, convenient and efficient device for drying vegetable products and the like. I accomplish this object by the device illustrated in the accompanying drawings, in which—

Figure 1 is a view of the device with parts broken away, Fig. 2 is a view of the tray, Fig. 3 is a view of a section of the device, and Fig. 4 is a detail of the caster.

Similar characters refer to similar parts throughout the several views.

My improved device comprises a cylindrical case or shell 1 provided on its inner face with an outer spiral track 2, preferably constructed of angle iron. A corresponding angle iron inner track 3 is carried by upright supports 4, 4 forming a core for said spiral track arranged about the axially disposed shaft 5 which carries a plurality of fans 6, 6. Above each of the fans 6 I provide a horizontal baffle plate 7 and below each of the fans 6 I provide a bell or air duct 8. On the side of the case 1 I provide a brake device comprising friction rollers 9, 9 set in the plane of the trays 17 carried by a shaft 10 and adjustable in apertures in the case 1 by means of a bearing plate 11 which is hinged at one end section 12 to retaining means 13 on the case 1 and is caused to bear upon the trays 17 by means of a spring 15 arranged between the plate 11 and the head 16. My improved trays 17 are sectors of a circle and are preferably provided with a floor of wire mesh 18 arranged upon a frame 19, 19. I also provide upon the trays 17 a coupling 20 to hold them in position. On the underside of the trays 17 I provide three casters 21 set at an angle of 45° to the plane of the tray by means of the off-set bearing 22. My device being thus assembled, the trays 17 carrying the material to be dried, are fed into the device upon the tracks 1 and 2 at the charging aperture 23 and pass downwardly along the said tracks, by gravity, until engaged by the upper fric-

tion roller 9. The trays are then moved along the tracks by rotating the friction wheels 9 bearing against the sides of the said trays. The said wheels 9 are preferably rotated for this purpose by turning the shaft 10 upon which the wheels 9 are mounted, by means of a bar 10' on the shaft 10. I provide a pawl and ratchet 24 of the usual construction on the shaft 10 and bar 10' for the purpose of facilitating this operation. The trays 17 are fed into the device to its capacity, as above described.

The shaft 5 carrying the fans 6 is rotated by means of a pulley 25 and belt 26 or in any desired manner, whereby the heated air supplied to the device preferably under pressure from any suitable source of supply, through the hot air duct 27 and discharged through a screen mesh 28 preferably provided at the inner mouth of the duct 27 below the baffle plate 28 will be progressively drawn into the bells or ducts 8 and expelled by the fans 6 upon and between the threads of spirally disposed trays 17 as indicated by the arrows in Fig. 1 whereby the heated air is distributed to all parts of the device, and is thereby brought into intimate contact, at high velocity with all drying surfaces thereby accomplishing with a minimum supply of heated air a maximum and uniform drying effect.

Having thus described my invention, what I claim is:

1. In a device of the character described, a shell, a spiral track therein, trays adapted to travel on said track, a fan set in the vertical core of the said spiral track and a baffle plate arranged above said fan, substantially as shown and described.

2. In a device of the character described, a shell, a spiral track therein, means for conveying a substance to be dried along said track, a fan set in the vertical core of the said spiral track and a baffle plate arranged above said fan, substantially as shown and described.

3. In a device of the character described, a shell, a spiral track therein, surrounding a vertical core, a fan in the said vertical core, intermediate the ends of said core, substantially as shown and described.

4. In a device of the character described, a shell, a spiral track therein, means for conveying a substance to be dried along said track, a fan set in the vertical core, of said spiral track, a baffle plate above said fan

and a bell below said fan, substantially as shown and described.

5 5. In a device of the character described, the combination of a shell, a spiral track therein, trays adapted to travel on said track, a vertical shaft adjacent said shell, horizontal wheels mounted on said shaft and adapted to frictionally engage the sides of said trays substantially as shown and described.

10 6. In a device of the character described, the combination of a shell, a spiral track therein, trays adapted to travel on said track, a vertical shaft adjacent said shell, wheels mounted on said vertical shaft and

adapted to frictionally engage the sides of said trays and means for releasing the trays substantially as shown and described.

7. In a device of the character described, the combination of a shell, a spiral track 20 therein, trays adapted to travel on said track and a plurality of casters on said trays having wheels set at an angle of less than ninety degrees to the plane of the trays and adapted to run on said track substantially 25 as shown and described.

In testimony whereof I hereunto affix my signature.

BURT S. HARRISON.

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