

No. 666,428.

Patented Jan. 22, 1901.

W. E. LEIGHTON.
SARDINE DRIER.

(Application filed July 5, 1900.)

(No Model.)

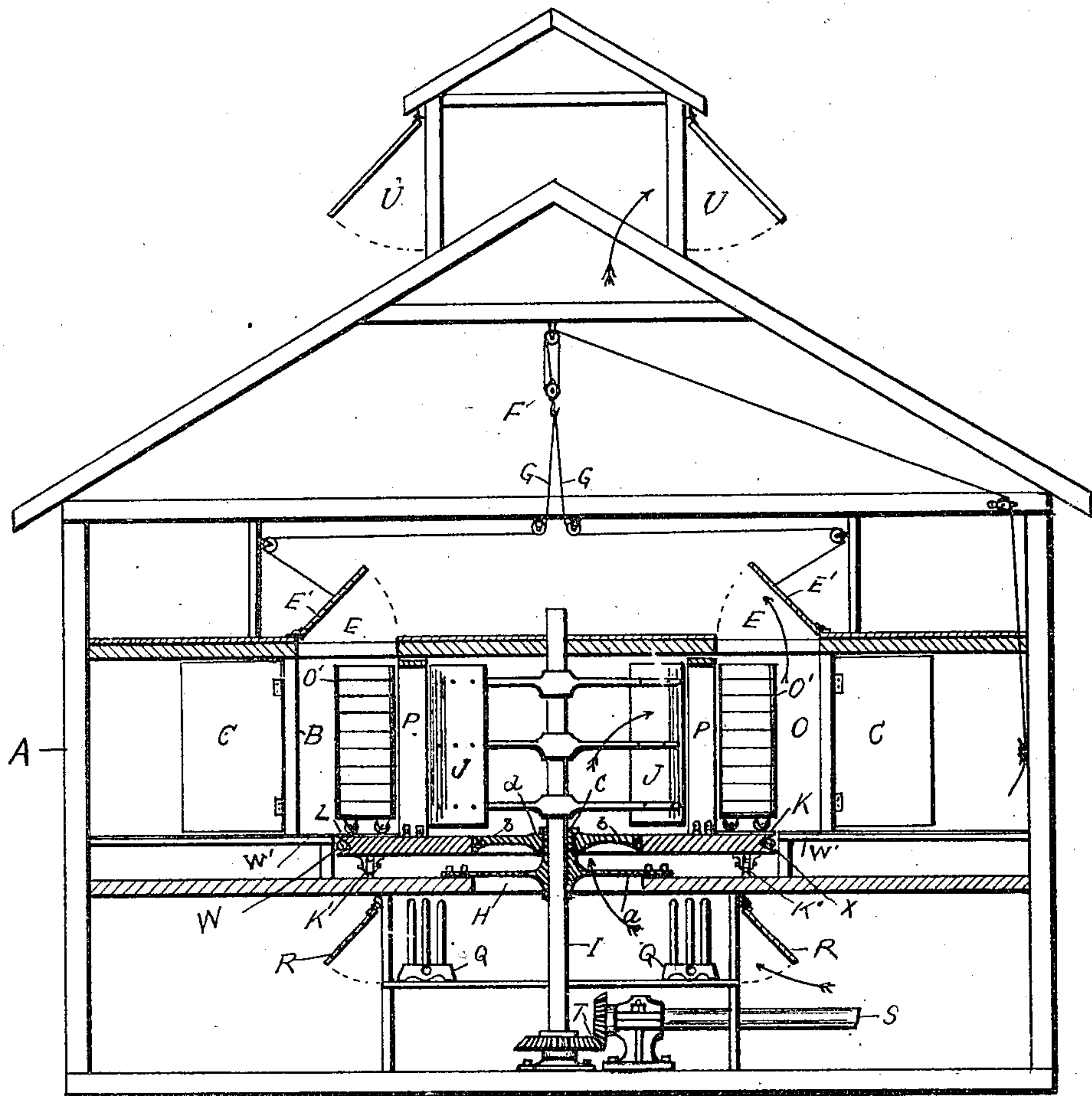


Fig. 1.

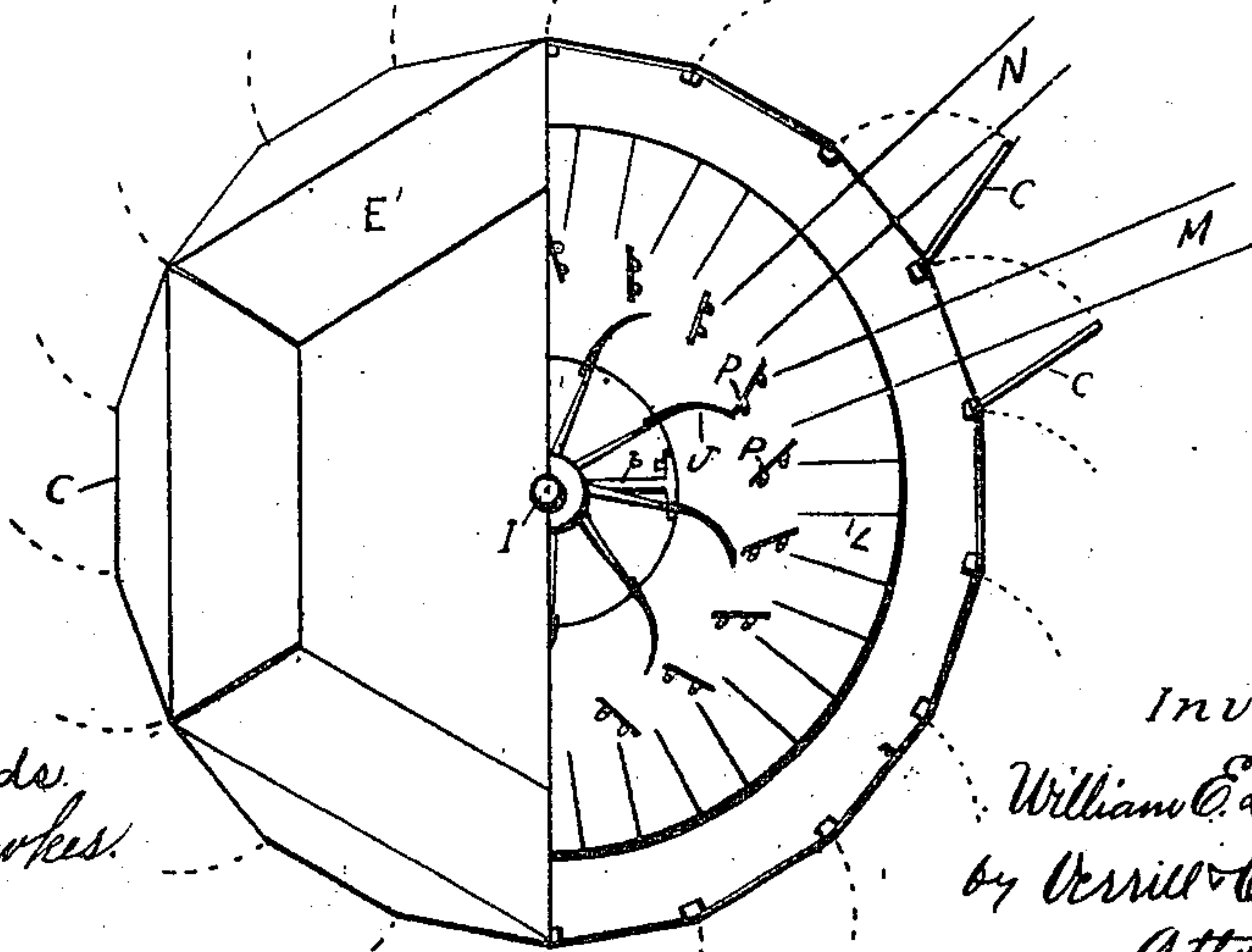


Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

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SARDINE-DRIER.

SPECIFICATION forming part of Letters Patent No. 666,428, dated January 22, 1901.

Application filed July 5, 1900. Serial No. 22,469. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. LEIGHTON, a citizen of the United States, residing at Pembroke, in the county of Washington and State of Maine, have invented certain new and useful Improvements in Sardine-Driers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In the process of canning sardines it becomes necessary to subject the fish to a drying process, and as hitherto practiced this has been a slow and expensive process; and my improvement is designed to make a drier constructed to dry the fish quickly, cheaply, and efficiently and which at the same time is convenient and easy of operation.

In the drawings herewith accompanying and making a part of this application, Figure 1 is a central sectional view of my improved drier, parts being shown in elevation; and Fig. 2 is an outline plan view of the drying-chamber, a portion of the ceiling being removed, showing turn-table, fans, tracks, and partitions.

The same letters of reference refer to like parts.

In said drawings, A represents a suitable building, within which is located a drying-chamber B, in which the process of drying is carried out. In the walls of chamber B are removable sections C at the points coincident with the tracks hereinafter fully described. In the ceiling of chamber B are air-escape ports E, having doors E', by the opening of which to a greater or less extent the size of said ports may be graduated as desired. By means of a pulley F and connecting-cables G all of said doors can be operated at the same time. In the bottom of the chamber is an opening H. Centrally mounted in said opening is a shaft I, carrying a series of fans J, radially disposed. In said chamber adjacent to said opening is a circular turn-table K, mounted on trucks K' and having thereon a series of radially-disposed tracks L. Each of the series of tracks on the turn-table as the turn-table revolves is adapted to register with tracks M, leading from the flaking-room (not

shown) into said chamber and to the edge of the turn-table, and also with tracks N, leading from said chamber to the frying-room, (not shown,) as seen in Fig. 2. The tracks on the turn-table should be on the same level as the other tracks.

Outside the fans is an open space O, which in the construction shown is wider than the length of the drying-racks O', upon which the fish are placed. If there is any space left between the racks and the fans, the space may be filled by a series of boards or partitions P, located between the outer edge of the fans and the racks in position to clear the fans. These partitions serve to break up any rotary tendency of the air and tend to cause it to be projected through the racks and also serve to keep the racks from coming in contact with the fans.

Below the opening H in the chamber is arranged a heating apparatus Q, through which the air must pass before it enters the chamber and becomes dried and heated in its passage through said heating apparatus. The heating apparatus may be inclosed in any convenient way and have doors R opening into said inclosure, by means of which the amount of air permitted to enter can be regulated.

The shaft which carries the fans may be supported by braces a, extending out from a sleeve c and secured to the floor of the drying-chamber. The shaft may be operated in any convenient manner—as, for example, by means of a shaft S, geared to it, as seen at T.

The turn-table has independent rotation around shaft H as a center. A hub b, loosely mounted on sleeve c and secured to the turn-table, serves to maintain the turn-table concentric with said shaft. The turn-table may be operated in any convenient manner either by hand or by power applied thereto. A convenient method is by passing a cable around a groove X in the circumference of the table.

In the top of the building are openings U, through which the air after passing through the chamber can escape.

It will be evident that the details of construction may be varied in many ways without departing from the spirit of my inven-

tion—as, for example, other means may be employed to introduce the hot dry air into said chamber.

The operation of my improved drier is as follows: The turn-table is turned until one of the series of tracks registers with the track leading from the flaking-room. A rack of fish is then introduced into the chamber, traveling on the tracks leading from the flaking-room until the rack rests upon the turn-table, having passed entirely beyond the stationary part W' of the bottom of the chamber. The turn-table is then turned one track-space and another rack introduced, and so on until all of the series of tracks are full. Then as soon as the fish on the rack first introduced has become sufficiently dried it is taken out on the track which leads to the frying-room, and at the same time another rack may be introduced on the track leading from the flaking-room, after which the operation of taking out one rack and introducing another can be periodically continuous. The current of air first passes through the heating apparatus, and thence it passes through the opening H into the chamber. It is then forced by the fans directly through the racks and in direct contact with the fish thereon. After it has passed through and in contact with the wet fish and has become charged with moisture therefrom it passes up through the openings E in the top of the chamber, and thence escapes to the open air through the openings U in the house.

Having thus described my invention and its use, I claim—

1. In a sardine-drier, a suitable building, a substantially circular chamber therein having a central opening in the bottom and air-escape openings in the top, a revoluble shaft centrally mounted therein carrying fans, a revoluble turn-table concentric with said shaft, tracks leading into said chamber from the flaking-room and out of said chamber to the frying-room and a series of tracks on the turn-table adapted to register with the first-named tracks, means for introducing the air into said chamber, means for revolving said fans and means for revolving said turn-table independently of said fans.

2. In a sardine-drier, a suitable inclosing building, a substantially circular chamber therein having a central opening in the bottom and a revoluble shaft centrally mounted therein carrying fans, a revoluble turn-table concentric with said shaft, vertical partitions arranged in said chamber adjacent to the ends of said fans, tracks leading into said chamber from the flaking-room and out of said chamber to the frying-room, a series of tracks on the turn-table adapted to register with said first-named tracks and means for introducing dry air into said chamber and means for revolving said fans and means for revolving said turn-table.

3. In a sardine-drier, a suitable inclosing building, a substantially circular chamber having openings in the bottom and openings in the top, a turn-table in said chamber adapted to carry racks of fish, tracks leading into said chamber from the flaking-room and out of said chamber to the frying-room, portions of the walls of said chamber adjacent to said tracks being removable, a series of tracks on the turn-table adapted to register with said first-named tracks, means for introducing dry air into said chamber, means for revolving said turn-table and means for forcing a current of dry air through said racks operating independently of said turn-table.

4. In a sardine-drier, a suitable inclosing building, a substantially circular chamber therein having top and bottom openings, a revoluble turn-table in said chamber having a central opening, means for introducing air into said chamber through said openings, doors in the walls of said chamber, means for forcing the air outwardly in all directions over said table and means for rotating said table independently of said air-forcing means.

5. In a sardine-drier, a suitable inclosing building, a drying-chamber therein having an air-inlet opening at the bottom and air-outlet openings at the top, an inclosure below said chamber and adjacent to said air-inlet opening containing air-heating apparatus, a revoluble turn-table located in said chamber and having a central opening concentric with the opening in the bottom of said chamber, tracks leading into said chamber from the flaking-room and out of said chamber to the frying-room, tracks on the turn-table adapted to register with said above-named tracks, rotary fans centrally mounted in said drying-chamber, vertically-disposed partitions interposed between said fans and the ends of the tracks on said turn-table, whereby air set in motion by the rotation of said fans is directed through racks of fish supported on said turn-table.

6. In a sardine-drier, a suitable inclosing building, a chamber therein having top and bottom openings, means for introducing air through said bottom opening, a revoluble turn-table located in the bottom of said chamber and having a central opening to admit air above the table, a series of radially-disposed tracks on said table, tracks leading into said chamber from the flaking-room and out of said chamber to the frying-room adapted to register successively with said first-named tracks as the table revolves, means for forcing air outwardly across said table and means for rotating said table.

In testimony whereof I affix my signature, in presence of two witnesses, this 25th day of June, 1900.

WILLIAM E. LEIGHTON.

Witnesses:

WILLIAM H. WELCH,
ROSCOE E. WILDER.