

F. O. MATTHIESSEN & E. E. QUIMBY.
Centrifugal Liquoring Apparatus.

No. 223,525.

Patented Jan. 13, 1880.

Figure 1.

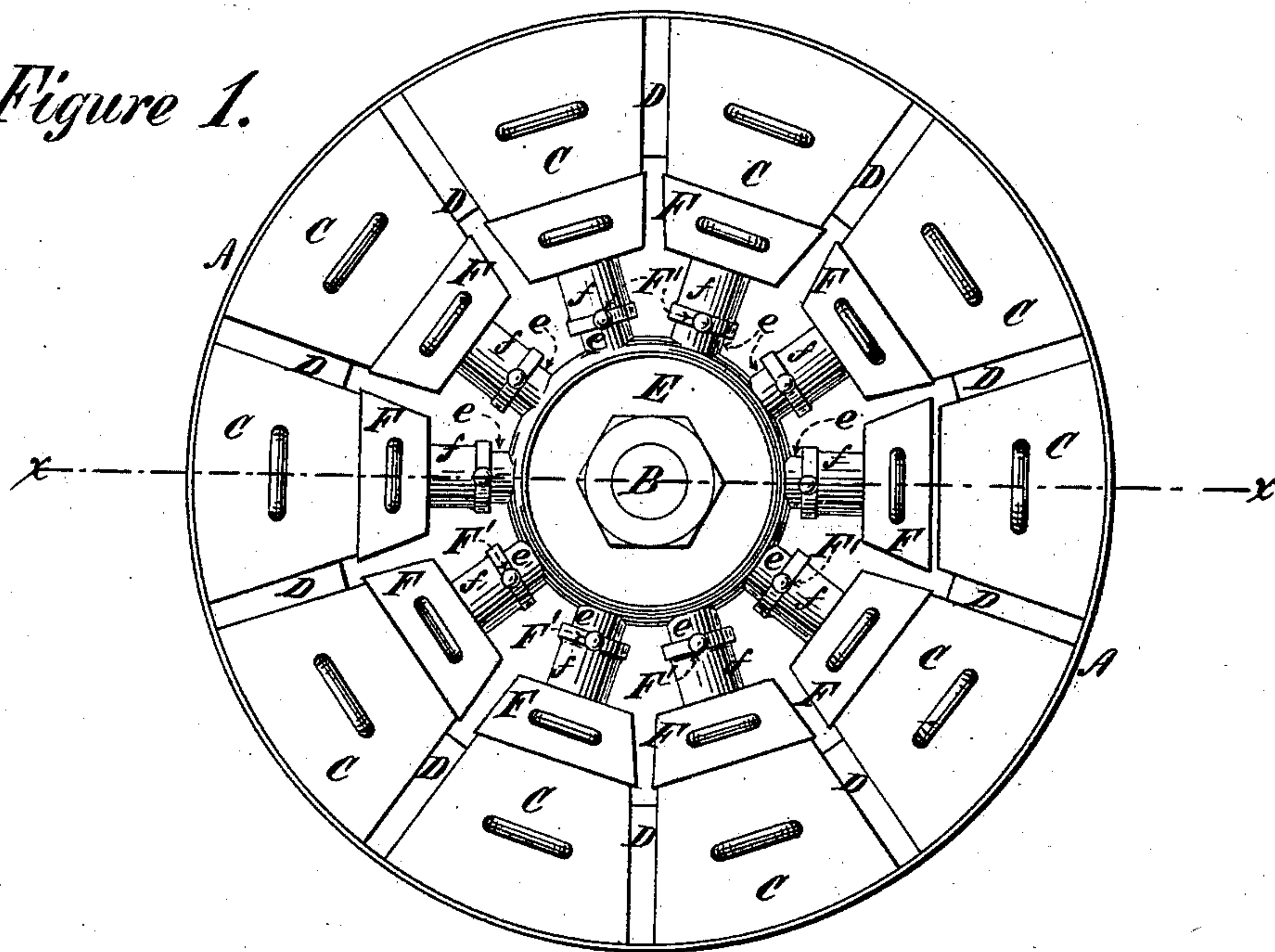
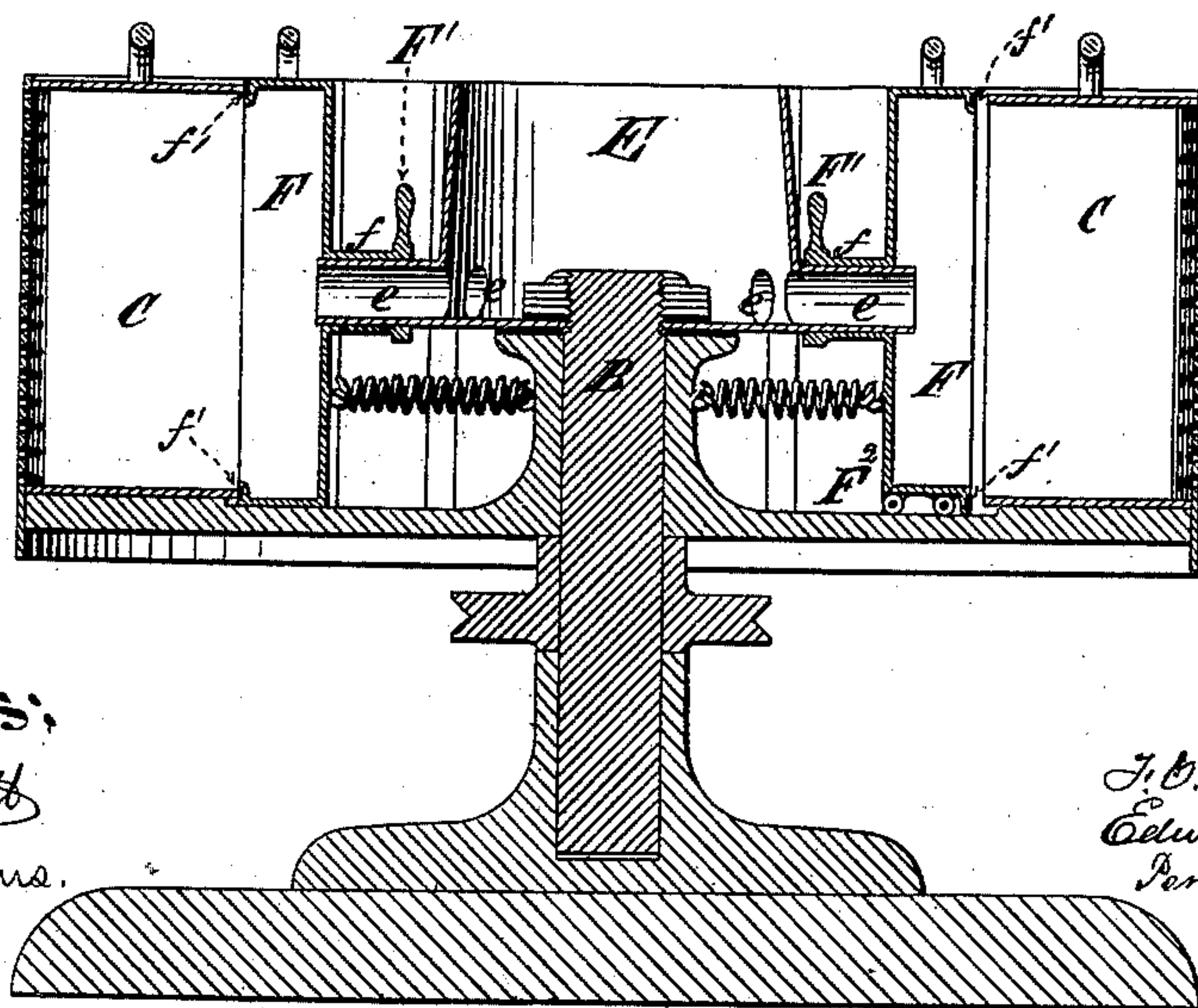


Figure 2.



Witnesses:

Geo. W. Mott
M. L. Adams.

Inventors:

F. O. Matthiessen
Edw. E. Quimby
Per Edw. E. Quimby
Atty.

UNITED STATES PATENT OFFICE.

FRANZ O. MATTHIESSEN, OF IRVINGTON, NEW YORK, AND EDWARD E. QUIMBY, OF ORANGE, NEW JERSEY, ASSIGNORS TO F. O. MATTHIESSEN & WIECHERS SUGAR REFINING COMPANY, OF JERSEY CITY, NEW JERSEY.

CENTRIFUGAL LIQUORING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 223,525, dated January 13, 1880.

Application filed June 11, 1879.

To all whom it may concern :

Be it known that we, FRANZ O. MATTHIESSEN, of Irvington, New York, and EDWARD E. QUIMBY, of Orange, New Jersey, have invented certain Improvements in Centrifugal Liquoring Apparatus, of which the following is a specification.

Our improvements relate to the class of devices employed to conduct white-liquor from the central reservoir of a centrifugal machine into the sugar contained in the molds without permitting any of such liquor to escape outside of the molds; and our invention consists in establishing in the basket of a centrifugal machine a central chamber provided with horizontal spouts projecting radially toward the inner open faces of the molds, respectively, and in connecting the liquoring-boxes with the spouts by telescopic joints, each liquoring-box being provided upon its inner vertical wall with a horizontally-projecting tube, which loosely surrounds one of the spouts from the central chamber.

The outer open face of the liquoring-box conforms in size and shape with the inner open face of the mold, and is provided with the usual gasket for making a tight joint between the outer face of the box and the inner face of the mold when the machine is in operation.

Mechanism may be employed to force the liquoring-boxes radially outward against the molds, and to withdraw them when it is required to remove the molds from the machine; or the boxes may be left free to be driven radially outward by centrifugal force when the machine is rotated, and to be pushed inward by hand or by a spring when the machine is stationary, when it is required to remove the sugar-molds.

The accompanying drawings, representing a centrifugal machine containing our improvements, are as follows: Figure 1 is a top view. Fig. 2 is a central vertical section through the line *x x* on Fig. 1.

The drawings represent the basket A of a centrifugal machine mounted upon the usual spindle B, and containing the ordinary molds C, equidistantly arranged in the outer portion

of the basket, and separated from each other by stationary vertical walls or posts D. The central portion of the basket is provided with the open chamber E, and the vertical rim of this chamber is provided with the radially-projecting spouts *e*. The number of spouts, it will be seen, equals the number of sugar-molds.

A liquoring-box, F, is provided for each sugar-mold, and each liquoring-box has upon the central portion of its rear vertical wall a short tube, *f*, in which one of the spouts *e* is loosely contained. The quadrangular open outer face of the box is provided with the usual gasket *f'*, which fits the inner edges of the top, bottom, and sides of the mold.

The rear end of the tube *f* is provided with the outwardly-projecting handle F', by means of which the liquoring-box may be pushed forward when the machine is at rest.

The centrifugal force generated by the rotation of the machine drives the boxes radially outward, thus compressing the gaskets, respectively, against the sugar-molds to make tight joints therewith.

When the machine has acquired the proper rate of speed to effect the packing of the joints between the boxes and the molds, the white-liquor is poured into the central chamber, and is driven therefrom by centrifugal force through the spouts into the liquoring-boxes, and thence into the sugar contained in the molds.

It will be seen that when the molds are removed from the machine the boxes may be moved radially outward until their rear tubular projections are withdrawn from their respective spouts, and the boxes may then be lifted from the basket. The boxes may be replaced in the same way by first dropping them into the empty cell from which the sugar-mold has been removed, and then pushing them inward, so that their tubular projections embrace their respective spouts. The lower straight edge of the box slides upon the floor of the basket.

If desired, the lower end of the box may be provided with friction-rollers F², to enable it to move more easily.

It will be observed that the horizontal spouts act as guides for insuring the movement of the liquoring-boxes in radial paths.

Guides for radially-moving boxes are described in another pending application, and therefore do not broadly form a part of this invention; but such guides are applied to the exterior of the boxes. In the present case the guides are the spouts, which, it will be seen, act upon the interior of the tubular projections from the rear vertical walls of the boxes.

We do not herein claim, broadly, a series of liquoring-boxes loosely contained in the basket of a centrifugal machine, or flexibly connected therewith, whereby centrifugal force acts to throw them outward against a like series of sugar-molds, or gravity acts to tilt them convergently inward away from the sugar-molds, as such boxes are the invention of F. O. Matthiessen, and are made the subject of claim in his application for a patent filed May 9, 1879, designated "Case A."

We claim as our invention—

1. A series of sugar-molds concentrically ar-

ranged in the basket of a centrifugal machine, in combination with an inner circle of liquoring-boxes connected, respectively, by telescopic joints with a centrally-placed reservoir, substantially as and for the purposes set forth.

2. The liquoring-box F, provided upon its open outer face with a gasket, f' , and upon the central portion of its inner vertical wall with a tubular projection, f , in combination with a horizontal spout, e' , projecting radially from the central chamber, E, substantially as and for the purposes set forth.

3. The liquoring-box F, provided upon its lower end with the friction-rollers F^2 , substantially as and for the purpose set forth.

4. The liquoring-boxes F, telescopically connected with the central reservoir, and each provided with a handle, F' , substantially as and for the purpose set forth.

F. O. MATTHIESSEN.
EDW. E. QUIMBY.

Witnesses:

M. L. ADAMS,
EDWD. PAYSON.