

S. F. WHITMAN.
Candy-Mixing Machine.

No. 160,494.

Patented March 2, 1875.

FIG. 1.

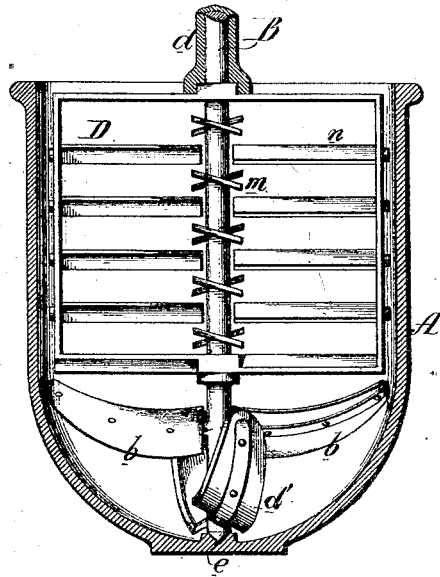
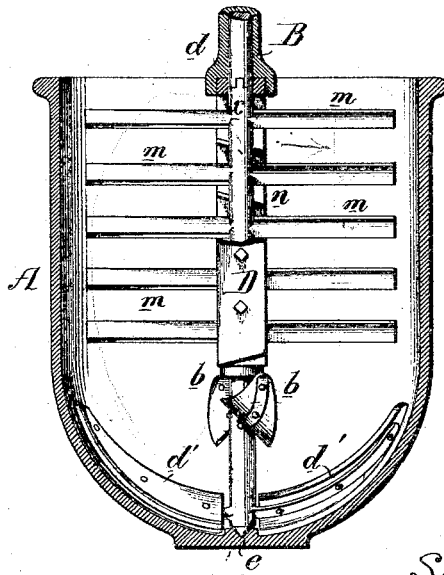


FIG. 2.



Witnesses, Hubert Howson
Thomas M. Brown

Stephen F. Whitman
by his Atty.
Howson and son

UNITED STATES PATENT OFFICE.

STEPHEN F. WHITMAN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CANDY-MIXING MACHINES.

Specification forming part of Letters Patent No. 160,494, dated March 2, 1875; application filed January 23, 1875.

To all whom it may concern:

Be it known that I, STEPHEN F. WHITMAN, of Philadelphia, Pennsylvania, have invented certain Improvements in Candy-Mixing Machines, of which the following is a specification:

The object of my invention is to concentrate and mix, without burning them, candy compositions of a gummy consistency; and this object I attain in the manner I will now proceed to describe, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figures 1 and 2 represent the heating and mixing apparatus, with the agitating-vanes in different positions.

A is a vessel, made cylindrical throughout the greater portion of its height, the inside of the vessel terminating in a concave bottom, and being heated by steam or otherwise. In a central bearing, *e*, on the bottom of the vessel, turns a vertical shaft, B, which passes through a tubular shaft, *d*, the two shafts being caused to revolve in contrary directions by appropriate driving appliances. At the lower end of the shaft B, and projecting from opposite sides of the same, are the two vanes, *d'* *d'*, bent to conform to the concave bottom of the vessel, one edge of each vane being in close proximity with the vessel without being in absolute contact therewith. These vanes are inclined transversely, as shown, so that as they revolve in the direction of the arrow they will have a tendency to raise the compound in the vessel.

At a short distance above these vanes, and at right angles to the latter, two similar inclined vanes, *b b*, project from the shaft. These vanes, however, need not be curved so abruptly as those below, but they must be inclined transversely, so as to have the same tendency to raise the compound in the vessel.

A series of horizontal vanes, *m*, inclined transversely, project from opposite sides of the shaft B, and are arranged to pass between similar vanes *n* carried by a yoke, D, which is arranged to revolve on the said shaft B, the latter passing through a tubular shaft,

d, which is so connected to a central projection of the said yoke as to be the medium for driving the same in directions contrary to that in which the shaft B revolves. This shaft is in two parts, fitted together as shown at *x*, Fig. 2, so that the upper portion of the shaft, together with the tubular shaft, can be elevated above, and out of gear with, the lower portion, and with the yoke, thereby permitting the said yoke, with its vanes, and the lower portion of the shaft B, with its vanes, to be removed from the interior of the vessel A when the mixed and concentrated compound has to be withdrawn from the same.

The shafts B and *d* are driven in contrary directions, so that the tendency of one to carry the compound round in one direction is counteracted by the tendency of the other to carry it round in the opposite direction, both sets of vanes being so inclined transversely as to direct the compound upward, that portion which is projected outward, to the sides of the vessel, descending until it comes within the influence of the lower inclined and curved vanes. Hence, there is a constant circulation of the compound within the vessel, a circulation promoted by its concave bottom, which directs the outer descending volume of the compound to the center of the vessel at the bottom of the same, whence it is directed upward by the lower vanes.

No portion of the compound can, owing to the lower vanes, remain in contact with the heated bottom of the vessel for a sufficient length of time to permit it to be unduly baked or damaged by excessive heat.

I do not claim, broadly, the combination of a vessel and two series of vanes alternating and rotating in opposite directions; but I claim as my invention—

1. The combination of the vessel A, having a concave bottom, with the inclined rotating vanes *d'*, curved to accord with the said concave bottom of the vessel, as set forth.

2. The combination of the vessel A, the shaft B, carrying vanes *b* and *d'*, and the two sets of vanes *m n*, arranged above the vanes

b d', and caused to revolve in contrary directions, as specified.

3. The shaft B, made in two parts detachable from each other, and the lower portion carrying the vanes *m*, in combination with the tubular shaft *d*, and with the yoke D carrying the vanes *n*, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

STEPHEN F. WHITMAN.

Witnesses:

HUBERT HOWSON,
HARRY SMITH.