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APPARATUS FOR CASTING CHOCOLATE, CREAM
AND OTHER CONFECTIONERY PASTE
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Fig. 1.

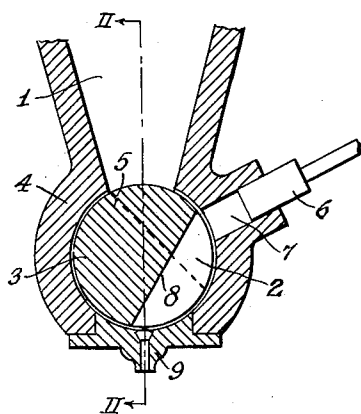
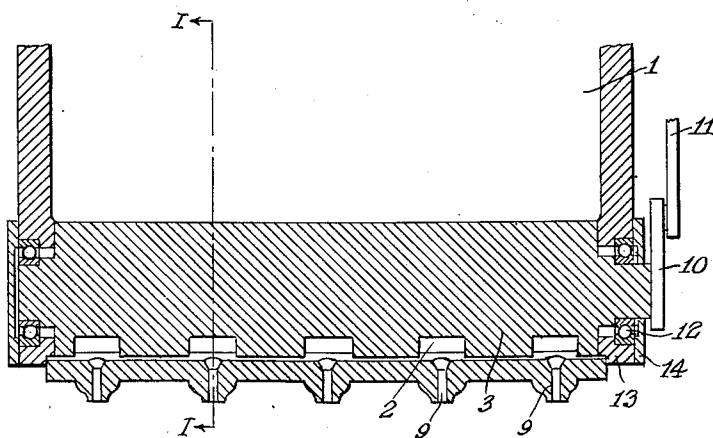


Fig. 2.



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APPARATUS FOR CASTING CHOCOLATE,
CREAM AND OTHER CONFECTIONERY
PASTE

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2 Claims. (Cl. 107—28)

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This invention relates to an apparatus of the type used for casting chocolate, cream, and other confectionery paste by means of a cylindrical container, provided with casting pistons and ap-
purtenant casting nozzles, and having a mechan-
ically operated revolving valve member with
chambers which alternately connect the casting
pistons and their cylinders with an upper feed-
er and the said nozzles.

In the known apparatus of this type, the en-
tire cylindrical part of the surface of the revol-
ving valve member is supported by the wall of
the container, but as the mechanical devices op-
erating the revolving valve member impart to
the latter an eccentric effect at each movement, it
will wear the wall of the container in the course
of time and itself be worn at the ends, whereby
sugar crystals may easily be forced in between
the valve member and the container wall where
they sinter, forming a hard greyish coating, which
can only be removed in an effective manner by
boiling the container; and leaks are formed
causing a reduction of the quantities of chocolate
cast through the nozzles located at the farthest
side at either end of the valve member.

To prevent the cast articles from being short
in weight, the manufacturer must lengthen the
stroke of the casting pistons, but as the stroke
of each individual piston cannot as a rule be ad-
justed, the consequence is that the articles cast
through the central nozzles will be rather heavy
and cause a loss to the manufacturer.

These disadvantages due to uneven wear of
the apparatus and a resulting growing inaccur-
acy of the casting are remedied by this inven-
tion by the fact that the valve member is pro-
vided with two bearings, one at either end, and
by a groove being provided between the rest of
the cylindrical surface of the valve member and
the cylindrical container, which groove is so wide
that sintering of sugar crystals in it is avoided,
yet so narrow that the necessary tightness is
preserved. In practice, for example, this groove
or clearance between the valve member 3 and
the cylinder 4 does ordinarily not need to exceed
 $\frac{1}{20}$ mm. and may generally be between $\frac{15}{1000}$
mm. and $\frac{1}{20}$ mm., corresponding to the sizes of
the sugar crystals in the confectionery masses
commonly encountered. Thus wear due to fric-
tion between the valve member and the container
is completely avoided, and therefore the said in-
accuracies do not occur.

By performing the invention in a special man-
ner, the valve member may be suspended in bear-
ings of the ball or roller bearing type, whereby

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the bearing friction is reduced to a minimum,
and thereby the exact centering of the valve
member in the container is best secured.

An apparatus constructed according to the in-
vention is shown in the drawing.

Fig. 1 shows a vertical cross section through a
casting container along the line I—I in Fig. 2,
and

Fig. 2 is a longitudinal section through the
same along the line II—II in Fig. 1.

From a funnel shaped feeder 1 the chocolate
paste glides down into chambers 2 in a revol-
ving valve member 3 in a cylindrical container
4 when the valve member is in the position shown
by the dotted line 5 in Fig. 1. By pistons 6 the
paste is drawn into casting cylinder 7, and when
subsequently the valve member is turned to the
position shown by the fully drawn line 8 in Fig. 1,
the pistons 6 force the paste out through nozzles
9 at the bottom of the container 4 in certain
measured quantities.

The valve member 3 is moved mechanically by
a crank 10 and connecting rod 11 at one end of
the valve member. At either end the latter is
carried in a ball bearing 12, which, by means of
caps 14, is fixed in the end walls 13 of the con-
tainer 4. Hereby friction between the cylindrical
surface of the valve member and the container
4 is avoided, as they are placed at such distance
from one another that tightness is obtained, thus
preventing the paste from forcing its way through,
yet at the same time sugar crystals are positively
prevented from sintering in the space between the
two cylindrical surfaces.

Having now described my invention, what I
claim as new and desire to secure by Letters
Patent is:

1. Apparatus for casting chocolate, cream and
other confectionery paste, which comprises a cy-
lindrical container, a feeder bin communicating
therewith, said container being provided with
casting pistons and complementary casting noz-
zles, a mechanically operated valve member po-
sitioned in said cylindrical container, bearings sup-
porting each end of said valve member inde-
pendently of said cylindrical container whereby
to maintain it in predetermined spaced relation-
ship with the inner surface of the said cylindri-
cal container, said valve member being provided
with chambers whereby to connect the casting
cylinders alternately with the feeder bin and the
casting nozzles, and a predetermined clearance
being provided between the outer surface of said
valve member and the inner surface of said cy-
lindrical container sufficiently great to prevent

sintering of sugar crystals contained in the confectionery masses processed in the apparatus while maintaining the tightness necessary to confine the said confectionery mass.

2. Apparatus according to claim 1 wherein the said bearings are ball bearings and the said clearance is sufficient to prevent sintering of sugar crystals up to $\frac{1}{20}$ mm. in size.

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