

Oct. 23, 1923.

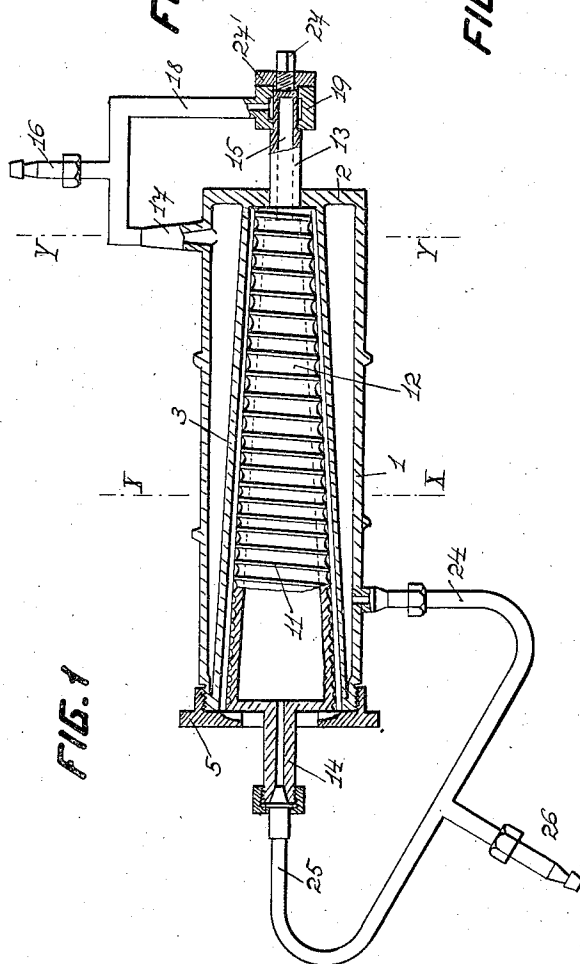
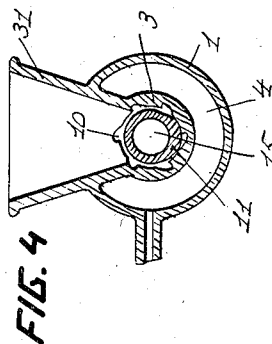
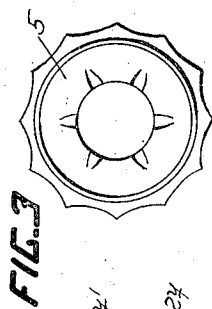
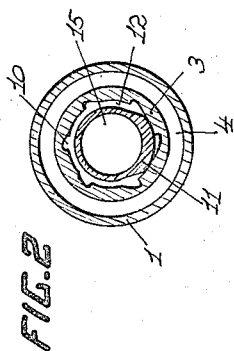
F. KUBES

1,471,697

APPARATUS FOR MAKING SUGAR FONDANT

Filed Sept. 9, 1922

2 Sheets-Sheet 1



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By *Mark Clerk*
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Oct. 23, 1923.

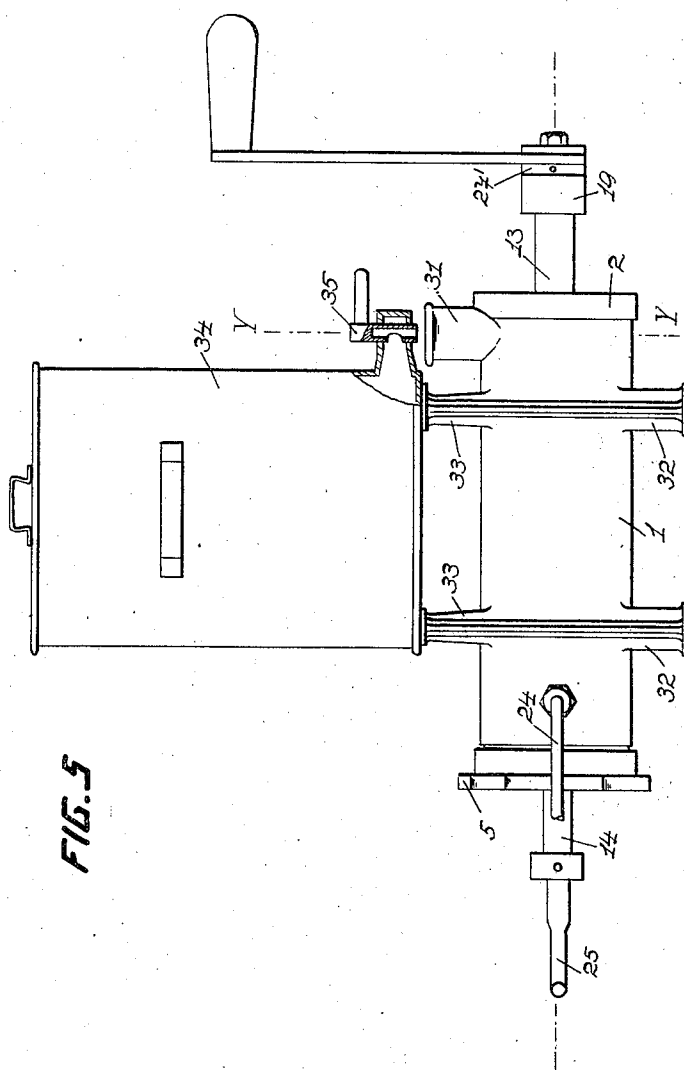
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F. KUBEŠ

APPARATUS FOR MAKING SUGAR FONDANT

Filed Sept. 9, 1922

2 Sheets-Sheet 2



By *F. Kubes* ^{Inventor}
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UNITED STATES PATENT OFFICE.

FRANTIŠEK KUBEŠ, OF PRAGUE-NUSLE, CZECHOSLOVAKIA.

APPARATUS FOR MAKING SUGAR FONDANT.

Application filed September 9, 1922. Serial No. 587,247.

To all whom it may concern:

Be it known that I, FRANTIŠEK KUBEŠ, a citizen of the Czechoslovakian Republic, residing at Prague-Nusle, Bohemia, Czechoslovakia, have invented certain new and useful Improvements in Apparatus for Making Sugar Fondant, for which I filed an application in Czechoslovakia on August 18, 1919, of which the following is a specification.

For the purpose of converting boiled sugar mass into a substance of creamy consistency such as is required for pouring the same into the form of sweetmeats of the kind known as fondants, an apparatus has already been employed wherein the boiled sugar mass is fed along a helical channel located in a rotary body.

The product yielded by such known apparatus is however not sufficiently fine in grain because the sugar mass in its progress along the said helical channel is not sufficiently mixed and kneaded so that crystallization of the sugar is not completely prevented.

The present invention has now for its object to provide an improved apparatus for producing a product having satisfactory fineness of grain throughout, crystallization of the sugar being completely prevented.

The improved apparatus comprises a rotary body having the form of a truncated cone whereby the sugar mass is caused to advance with continuously increasing peripheral velocity, thus keeping pace with the cooling of the sugar.

The casing of the improved apparatus is formed with longitudinal grooves which are preferably made of saw-tooth form in cross section whereby, in addition to promoting the kneading of the sugar mass, a better advance movement or feed of the sugar mass is effected.

One embodiment of an improved apparatus according to this invention is illustrated by way of example in the accompanying drawings in which:—

Figure 1 is a horizontal axial section of the improved apparatus.

Figure 2 is a vertical cross section taken along the line X—X of Figure 1.

Figure 3 is an inside view of the cover.

Figure 4 is a vertical cross section taken along the line Y—Y of Figure 1, and

Figure 5 is a side elevation of the complete apparatus.

As shown, the improved apparatus consists of a casing 1—2—3 which is cylindrical outside and conical inside. In this casing there is rotatably mounted a hollow truncated-conical roller 11 the ends of which terminate in hollow necks 13 and 14 respectively. A helical channel 12 is formed in the circumference of the roller 11, and its cross section preferably tapers or decreases gradually towards the larger end of the conical roller. The neck 13 is rotatably mounted in a bearing 19, and is prevented from axial movement by a nut 27' mounted on an externally screw-threaded portion which terminates in a square portion 27 for receiving, for instance, a hand crank (not shown).

The truncated conical roller 11 is further prevented from axial movement by the cover 5 which is screwed upon the screwthreaded end of the casing 1—2—3. The casing 1—2—3 has supports 32 on its underside, and on its upper side it has lugs 33 upon which rests the vessel 34 containing the boiled sugar. From this vessel the boiled sugar is allowed to flow according to requirement by means of a cock 35 into the open-topped inlet 31 which delivers the boiled sugar mass on to the narrow end of the truncated conical roller 11.

Cooling water supplied from the pipe 16 is distributed through tapering pipes 17 and 18 respectively into the cooling jacket 4 of the casing and through the aperture 20 into the cavity 15 of the neck 13. The cooling water flows away through the pipes 24 and 25 which respectively connect the cavity 4 of the casing and the neck 14 of the hollow truncated conical roller 11 with a common discharge pipe 26.

The casing 1—2—3 is formed internally with longitudinal grooves 10 having in cross section approximately the shape of saw teeth so arranged that the steep or sloping sides of the teeth are directed oppositely to the direction of rotation and act as scraping surfaces.

The hot boiled sugar mass flows out from the vessel 34 through the inlet 31 into the interior of the hollow casing 1—2—3, and, while being cooled on the outside by the cooling jacket 4 of the casing and on the inside by the cavity of the truncated conical

roller, the said sugar mass flows through the helical channel 12 with continuously increasing velocity towards the continuously widening end of the truncated conical roller

6 11. In its movement the sugar mass is being continually scraped off by the projecting saw-tooth surfaces of the grooves 10, so that it becomes thoroughly mixed and kneaded, whereupon it flows out through the
10 apertures of the cover 5 in a fine granular, creamy, plastic, cooled mass in the axial direction through the apertures of the cover 5 in a continuous stream into a vessel placed beneath.

15 What I claim is:—

1. In an apparatus for the manufacture of fondant from a hot viscous boiled sugar mass, the combination with a cooled casing having a conical cavity, of a hollow conical
20 roller located in said cavity, and a helical groove formed in the periphery of said conical roller, whereby the hot viscous sugar mass fed into said helical groove at the small end of said conical roller, is caused
25 by the rotation of said conical roller to advance at a continuously increasing circumferential velocity towards the large end of said conical roller, keeping pace with the cooling of the sugar mass, whereby the latter is prevented from crystallizing.

30 2. In an apparatus for the manufacture of fondant from a hot viscous boiled sugar

mass, the combination with a cooled casing having a conical cavity, of a hollow conical roller located in said cavity, and a helical
35 groove formed in the periphery of said conical roller, diminishing in cross section towards the large end of said roller, whereby the hot viscous sugar mass fed into said helical groove at the small end of said conical roller, is caused by the rotation of said
40 conical roller to advance at a continuously increasing circumferential velocity towards the large end of said conical roller, keeping pace with the cooling of the sugar mass, whereby the latter is prevented from
45 crystallizing.

3. In an apparatus for the manufacture of fondant from a hot viscous boiled sugar mass, comprising the combination claimed
50 in claim 2, the further combination with the specified cooled casing, of ribs of saw-tooth shape in cross section, located longitudinally along the inside wall of said cooled casing, whereby the sugar mass advancing in
55 the helical grooves of the specified conical roller, is scraped, and thoroughly mixed and kneaded in its progress through said casing.

In testimony whereof I have signed my name to this specification.

FRANTIŠEK KUBEŠ.

Witnesses:

ING MEROVINT MATHAUSER,
IAN ROUER.