Feb. 19, 1924. 1,484,016

A. D. FISHER

CONFECTIONERY

Filed May 3, 1922

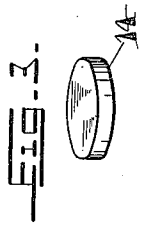


Fig. 3.

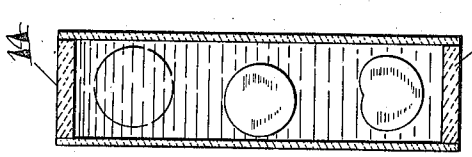


Fig. 4.

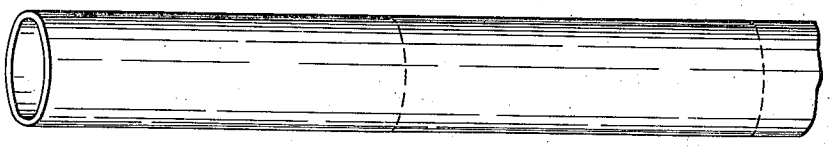


Fig. 2.

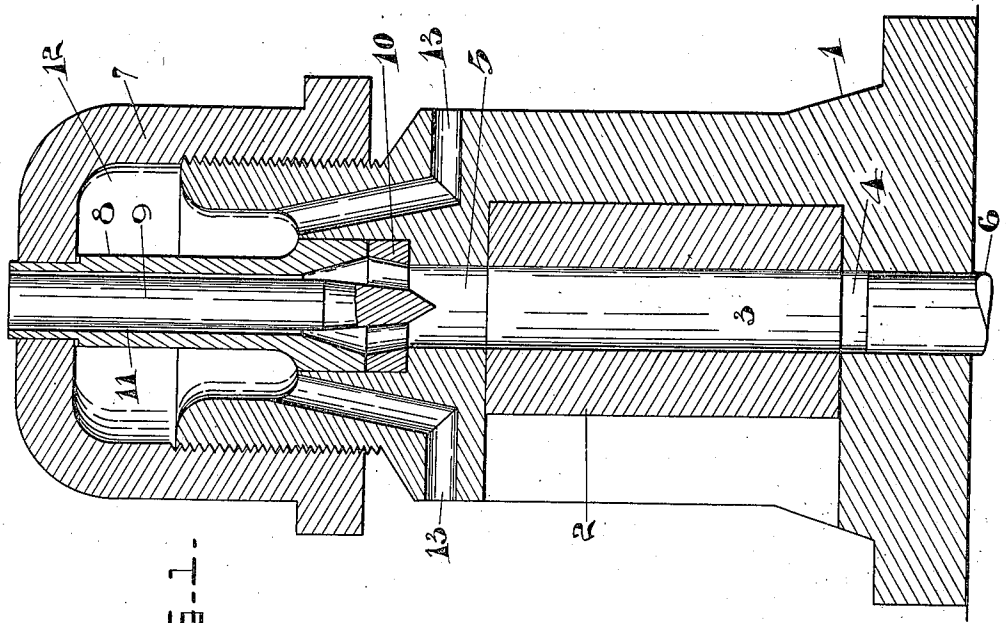


Fig. 1.

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UNITED STATES PATENT OFFICE.

ALEXANDER D. FISHER, OF TORONTO, ONTARIO, CANADA.

CONFECTIONERY.

Application filed May 3, 1922. Serial No. 558,210.

To all whom it may concern:

Be it known that I, ALEXANDER D. FISHER, of the city of Toronto, in the county of York, Province of Ontario, Canada, a subject of the King of Great Britain, have invented certain new and useful Improvements in Confectionery, of which the following is a specification.

This invention relates to the production of chocolate coverings or containers particularly adapted for filling with hand rolled fondant or ice cream, and my object is to produce a chocolate covering of substantially uniform thickness in all parts, of a dense and non-porous nature, which will not readily crack or break, and which is not liable to deteriorate under the action of semi-liquid fillings.

I attain my object by subjecting the chocolate to high pressure at a suitable temperature and in such a manner as to give the compressed chocolate the desired shape for the container.

In the preferred process of manufacture the chocolate in its solid condition is caused to flow and is extruded through a suitable aperture in the form of a tube of any desired cross section.

The tubing is produced by means of the apparatus hereinafter described and illustrated in the accompanying drawings in which—

Fig. 1 is a vertical section of the apparatus;

Fig. 2 a perspective view of a portion of the product;

Fig. 3 a perspective view of one of the plugs used for closing the end of the tubular container; and

Fig. 4 a longitudinal section of a container suitably filled and sealed.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

1 is the base of the apparatus in which is formed a chamber, into which may be slid a block 2 which closely fits the chamber, and is formed with a bore 3 adapted, when the block is in position, to come into alinement with an opening 4 through the bottom of the base and an opening 5 at the top of the base. Through the opening 4 a ram 6 is adapted to operate. This may be operated by hydraulic pressure or other means capable of applying high pressure thereto. 7 is a yoke threaded or otherwise suitably detachably secured to the upper end of the base. This yoke engages a tube forming die. While any suitable form of die might be employed, the specific construction shown will give satisfactory results.

The die comprises an outer annular member 8 and a core member 9. The core member may be formed integral with a disk 10, which sits on a shoulder formed around the upper part of the opening 5. Through this disk is formed a plurality of openings communicating with the opening 6. The lower end of the annular member 9 rests on the disk 10, and its inner wall is downwardly flared to form with the lower end of the core member 9 a passage gradually tapering upwardly and terminating in the annular space 11 of a width equal to the thickness of the chocolate tube desired. The bounding walls of this space are preferably equally spaced at all parts. The parts of the tube forming die, of course, will be suitably shaped according as the tube to be produced is of round, square, oblong or other cross sectional shape. The yoke 7, engaging the upper end of the tube forming die, holds all the parts in their proper position.

The mode of operation in forming the chocolate tubing is to fill the bore of the block 2 with bulk chocolate, that is, solid chocolate which may be broken up to any convenient size, which may be either pure or suitably compounded, as these terms are employed by confectioners. The ram is then operated and the chocolate subjected to sufficient pressure to cause its extrusion from the die at a temperature sufficiently low that it will retain its form.

I find that though the bulk chocolate is fed into the apparatus at atmospheric temperature, considerable heat is generated as it is forced through the dies, and means must therefore be provided to control the temperature of the dies and therefore of the tubing. A chamber 12 is therefore formed surrounding the die member, and the yoke member is adapted to close this chamber. Passages 13 are formed, preferably through the base member, through which fluid at a suitable temperature may be passed. Under some conditions and to prevent the necessity of employing excessive high pressure, it may be desirable to heat the chocolate more or less before or after it is fed into the apparatus, and, in this case, the cooling

of the die may require to be more severe, in which case a cold brine supplied by refrigerating apparatus may require to be provided as the cooling medium. In any case, the important point is to so control the temperature of the chocolate during the process that it will flow sufficiently freely through the apparatus and yet not so freely that it does not become suitably compressed during the process, and to insure that it issues from the apparatus at a temperature which will enable it to retain its form.

The tube, after forming, is cut off into suitable lengths by rotating knives, or hot wires, as may be found most suitable. The short tube so formed for filling must be closed at one end, and, after filling, the open end also closed. The closure may be effected in various ways, either by filling with chocolate softened by heat, or by the use of compressed plugs 14, such as shown in Fig. 3. These are readily cemented into place by the use of a little heat softened chocolate. The filling may be of any known fondant, but such tubular containers are particularly well adapted to contain fillings of maraschino cherries or other fillings more or less liquid or semi-liquid, and also to contain ice cream or other frozen products, since the chocolate, owing to the pressure to which it has been subjected, is hard, dense, nonporous and without the weak places, which are found in the chocolate coating of machine or hand dipped chocolates.

By using containers, such as described, I am enabled to use hand rolled fillings, which are recognized as being of superior quality and, at the same time, secure the keeping qualities of the machine made products.

What I claim as my invention is:—

1. A tube composed of a dense and nonporous die-extruded chocolate.

2. A process of forming tubular chocolate tubes which consists in continuously forcing solid bulk chocolate through a die, controlling the temperature of the chocolate during compression so as to maintain a suitable degree of plasticity, and cutting the tubing into suitable lengths as it is expelled from the die.

3. A process of forming tubular chocolate tubes which consists in continuously forcing solid bulk chocolate through a die, controlling the temperature of the chocolate during compression by circulating fluid around the die so as to maintain a suitable degree of plasticity in the chocolate, and cutting the tubing into suitable lengths as it is expelled from the die.

4. A process of forming tubular chocolate tubes which consists in continuously forcing solid bulk chocolate through a die, and controlling the temperature of the chocolate during compression so as to maintain a suitable degree of plasticity in the chocolate.

Signed at Toronto, Can., this 13th day of April, 1922.

ALEXANDER D. FISHER.