Also in the device described in the Patent Publication 2, a proportion of the granulated objects cannot be increased relative to the food dough. Since the granulated objects are exposed on a surface of the product in the Patent Publication 2, an obtained product appears to include more granulated objects than those in the conventional product, and has improved texture. However, since an actual amount of the granulated objects depends on an amount of the granulated objects previously mixed into the food dough, an amount of the granulated objects which is not present on the surface is small relative to the amount of the granulated objects on the surface. If the proportion of the granulated objects in the mixed dough is increased, the granulated objects may be caught by a pin and a disk so that the dough may stay. Thus, it is difficult to increase the proportion of the granulated objects.

[0007]

Since a device described in the Patent Publication 3 also uses a discharge mechanism, a proportion of the granulated objects in a mixed dough cannot be increased. Further, after the granulated objects are mixed with a food dough, the granulated objects are uniformly distributed in the mixed dough. Thus, even if texture of a surface of a product is made coarse, the granulated objects exposed on the surface of the product would have a uniform appearance covered with the food dough. Thus, it is difficult to obtain appearance which a person can sufficiently recognize as it is handmade.

[0008]

Therefore, embodiments of the present invention provide a forming method of forming a combined food product in which the granulated objects are combined with a food dough, and by the method, the proportion of the granulated objects relative to the food dough can be made larger, and/or in which the combined food product has an appearance as if it were handmade.

MEANS FOR SOLVING THE PROBLEM

[0009]

An aspect of the present invention is directed to a forming method of forming a combined food product containing granulated objects, the forming method including steps of (a) discharging a tubular food dough having a bottom, (b) filling a predetermined amount of a plurality of granulated objects into an inside of the tubular food dough having the bottom, and (c) cutting and dividing the tubular food dough which includes the granulated objects which are filled into pieces, wherein upper surfaces of the granulated objects which are filled are ununiformly covered by a part of the food dough, further comprising a step of providing cutting edges of a plurality of shutter pieces to define a shutter opening, and providing sealing parts and scraping parts of the plurality of shutter pieces, wherein in the step (c), by closing the shutter opening defined by the cutting edges, the tubular food dough is cut, and the combined food product is divided, wherein in the step (c), when the shutter opening is closed, the tubular food dough is sealed by the sealing parts to form a bottom in the step (a) for a combined food product which is formed next, and wherein in the step (c), when the shutter opening is closed, the upper surface of the granulated objects which are filled is ununiformly covered with the food dough by the scraping parts.

[0010]

In an embodiment, in step (c) of the above-stated forming method, a shutter opening may be defined by cutting edges of a plurality of shutter pieces, and the food dough may be cut and divided by closing the shutter opening by using the cutting edges. Further, in the step (c), the tubular food dough may be sealed by a sealing part which is defined by an upper surface of the cutting edge to form a new bottom. Further, upper surfaces of the granulated objects which are filled may be ununiformly covered with the food dough by a scraping part which is defined by a lower surface of the cutting edge. Further, the food dough may be embedded into a gap between the granulated objects which are filled.

[0011]

Further, in an embodiment, in the step (a) of the above-stated forming method, the food dough may be discharged through an annular space defined by a plurality of cylinders concentrically arranged in an overlapping way.

[0012]

Further, an embodiment, in the step (b) of the above-stated forming method, the granulated objects may be dropped due to their own weights through the innermost cylinder of the plurality of cylinders arranged in the overlapping way to be the granulated objects which are filled.

[0013]

Further, in an embodiment, in the above-stated forming method, the food dough may be a dough which is mixed with the granulated objects.

[0014]

Further, in an embodiment, the forming method may further include a step (d) of pressing the combined food product to force the food dough into a gap between the granulated objects which are filled.

[0015]

Further, an embodiment, the forming method may further include a step (e) of quick freezing the combined food product.

[0016]

Disclosed herein is the above-stated combined food product which is formed by using the above-stated forming method.

EFFECTS OF THE INVENTION

[0017]

According to embodiments of the present invention, in comparison with the conventional method, it is possible to make the combined food product contain more granulated objects, and the amount of the granulated objects to

be exposed on a surface of the combined food product is easy to adjust, so that the texture and appearance can be improved. Further, by ununiformly arranging food dough on the upper surface of granulated objects exposed on the surface of the combined food product, the combined food product after baking has an unconventional natural appearance as if it were handmade.

## BRIEF DESCRIPTION OF THE DRAWINGS

[0018]

Fig. 1 is a front view of a forming device used in a forming method according to the present invention.

Fig. 2 is a partially enlarged side view of the forming device used in the forming method according to the present invention.

Fig. 3a is a view showing a process of a first embodiment of the present invention.

Fig. 3b is a view showing a process of the first embodiment of the present invention.

Fig. 3c is a view showing a process of the first embodiment of the present invention.

Fig. 4 is a top view of a combined food product after formed according to the first embodiment of the present invention and baked.

Fig. 5 is a photograph showing a state of an upper surface of the combined food product after formed according to the first embodiment of the present invention and baked.

Fig. 6 is a photograph showing a state of a lower surface of the combined food product after formed according to the first embodiment of the present invention and baked.

Fig. 7 is a cross-sectional view along the line A-A in Fig. 4 of the combined food product after formed according to the first embodiment of the invention and baked.

Fig. 8a is a view showing a process of a second embodiment of the present invention.

Fig. 8b is a view showing a process of the second embodiment of the

Claims

1. A forming method of forming a combined food product containing granulated objects and a food dough comprising steps of:

(a) discharging a tubular food dough from a discharging device and forming a bottom of the tubular food dough;

(b) supplying a predetermined amount of granulated objects to an inside of the tubular food dough formed with the bottom; and

(c) cutting the tubular food dough to divide a combined food product filled with the supplied granulated objects;

wherein in the step (c), the combined food product is formed so that an upper surface of the granulated objects which are filled is partially and ununiformly covered with the food dough,

further comprising a step of providing cutting edges of a plurality of shutter pieces to define a shutter opening, and providing sealing parts and scraping parts of the plurality of shutter pieces,

wherein in the step (c), by closing the shutter opening defined by the cutting edges, the tubular food dough is cut, and the combined food product is divided,

wherein in the step (c), when the shutter opening is closed, the tubular food dough is sealed by the sealing parts to form a bottom in the step (a) for a combined food product which is formed next, and

wherein in the step (c), when the shutter opening is closed, the upper surface of the granulated objects which are filled is ununiformly covered with the food dough by the scraping parts.

2. The forming method according to claim 1,

wherein the discharging device includes an annular space defined between a plurality of cylinders which are concentrically arranged in an overlapping way, and

wherein in the step (a), the tubular food dough is discharged through the annular space.

3. The forming method according to claim 2,

wherein in the step (b), the granulated objects are dropped due to their own weights through the innermost cylinder of the plurality of cylinders concentrically arranged in the overlapping way to supply the granulated objects.

4. The forming method according to claim 1,

wherein in step (c), the food dough is embedded into a gap between the discrete granulated objects located on the upper surface of the granulated objects which are filled.

5. The forming method according to claim 1,

wherein the food dough is a mixed dough into which the granulated objects are mixed.

6. The forming method according to claim 1, further comprising a step (d) of pressing the combined food product which is formed to force the food dough between the discrete granulated objects which are filled.

7. The forming method according to claim 1, further comprising a step (e) of quick freezing the combined food product which is formed.