

Specification

Cutting Board Disinfection Container

Technical Field

The invention relates to a kitchen disinfection equipment, in particular to a container for disinfecting and storing the cutting board.

Background of the Invention

The cutting tools are required to process the food during cooking, the cutting board is required to use with the cutting tools. When cutting with a sharp knife, not only the food is cut, but also the fine scratches or cracks would be generated on the cutting board. This fine scratches or cracks will inadvertently inhale the debris of the ingredients. If not handled properly, bacteria will grow and contaminate the ingredients used on the cutting board, which may cause food poisoning and affect the health of the person eating it.

Currently, there are disinfecting devices for cutting board in the market. Generally speaking, they perform the disinfection through spraying the disinfectant and hot water on the surface of cutting board. However, as the fine scratches or cracks on the surface of cutting board may be deep, the above disinfecting method cannot reach the depth, so it is not thorough.

Summary of the Invention

In view of the deficiency of above prior art, the invention provides a cutting board disinfection container which allows the disinfectant to infiltrate into depths of fine scratches or cracks on the surface of the cutting board for sufficient disinfection.

The cutting board disinfection container is provided with a sealed cavity, the cutting board to be disinfected is placed in the cutting board cavity; said cutting board cavity is also connected with a disinfection gas delivery device, a cleaning solution delivery device and a gas booster; another end of said disinfection gas delivery device is connected to a disinfectant container, another end of said cleaning solution delivery device is connected to a cleaning solution container; the disinfection process of cutting board comprises the following steps:

- a. Put the cutting board to be disinfected into the cutting board cavity, then close the cavity, and keep the cavity sealed;
- b. Switch on the disinfection gas delivery device, the disinfection gas is input into the cutting board cavity; then switch on the gas booster to increase pressure in the cutting board cavity, the disinfectant infiltrates into the gap of cutting board under pressure;
- c. After the disinfection completed, switch off the disinfection gas delivery device and switch on the cleaning solution delivery device, the cleaning solution is sprayed to the cutting board cavity, until the disinfectant on the cutting board is cleared.

Wherein, said gas booster comprises an air booster pump, the high pressure output end of air booster pump is connected with the cutting board cavity.

Wherein, said disinfectant delivery device is further provided with a atomizer, the disinfectant container is connected with the atomizer, the output end of atomizer is connected with the cutting board cavity.

Wherein, said cleaning solution is the hot water, said cleaning solution delivery device is further provided with a atomizer and a heater, said cleaning solution container is filled with water, the heater is connected with the cleaning solution container, the atomizer is connected to the output end of heater, the output end of atomizer is connected to the cutting board cavity.

Wherein, below said cutting board cavity is provided with a recycling container for collecting disinfectant and cleaning solution.

Wherein, said cutting board cavity is further provided with an exhaust valve for exhausting high-pressure gas;

Perform the following step after Step c is completed: d. Switch off the cleaning solution delivery device, and keep the gas booster running, then open the exhaust valve, the high-pressure gas of the gas booster flows through the cutting board cavity to take the water away from the surface of cutting board, and discharge it out of the cutting board cavity through the exhaust valve, thus allow the surface of cutting board to air dry; finally switch off the gas booster and close the exhaust valve.

Wherein, said atomizer is the ultrasonic vibration atomizer.

Wherein, the top of said cutting board cavity is an open mouth, the open mouth is provided with an openable cover, the bottom of cover and the open mouth are sealed, the cover and the side of open mouth are sealed and fixed by a buckle.

Advantageous effect of the invention: Deliver the disinfectant to the cutting board cavity when disinfecting the cutting board, and spray the disinfectant on the surface of cutting board; in the mean time, increase the pressure in the cutting board cavity through a gas booster to allow the disinfectant on the surface of cutting board to infiltrate into the depths of fine scratches or cracks of cutting board under pressure, so that perform the sufficient disinfection, finally spray the cleaning solution on the surface of cutting board to clear the disinfectant; in comparison with the prior art, the invention can more effectively perform disinfection on the scratches or cracks of cutting board through increasing pressure, in order to keep the cutting board clean.

Brief Description of the Drawings

Below further describes the invention combining with the drawings:

Figure 1 is the structure diagram of the invention;

Figure 2 is the diagram of disinfection and cleaning process of the invention;

Figure 3 is the diagram of air dry process of the invention.

In the figures, 1. cutting board cavity, 2. disinfectant container, 3. cleaning

solution container, 4. atomizer, 5. recycling container, 6. exhaust valve, 7. cover, 8. cutting board, 9. gas booster.

Detailed Embodiment of the Invention

As shown in Figure 1, the cutting board disinfection container is provided with a sealed cutting board cavity (1), the cutting board to be disinfected (8) is placed in the cutting board cavity (1); said cutting board cavity (1) is also connected with a disinfection gas delivery device, a cleaning solution delivery device and a gas booster (9); another end of said disinfection gas delivery device is connected to a disinfectant container (2), another end of said cleaning solution delivery device is connected to a cleaning solution container (3). Deliver the disinfectant to the cutting board cavity (1) when disinfecting the cutting board (8), and spray the disinfectant on the surface of cutting board (8); in the mean time, increase the pressure in the cutting board cavity (1) through a gas booster (9) to allow the disinfectant on the surface of cutting board (8) to infiltrate into the depths of fine scratches or cracks of cutting board (8) under pressure, so that perform the sufficient disinfection, finally spray the cleaning solution on the surface of cutting board (8) to clear the disinfectant; in comparison with the prior art, the invention can more effectively perform disinfection on the scratches or cracks of cutting board (8) through increasing pressure, in order to keep the cutting board (8) clean.

To generate relatively high pressure in the cutting board cavity (1), the gas

booster (9) comprises the air booster pump, the high pressure output end of air booster pump is connected with the cutting board cavity (1).

The disinfectant can be sprayed on the surface of the cutting board (8), but the drops of disinfectant might be big during spraying, which lead more disinfectants, cleaning solution and cleaning time are consumed for clearing the disinfectant on the cutting board (8). Thus, the atomizer (4) is further added, the atomizer (4) can be the ultrasonic vibration atomizer (4) to achieve atomization of the disinfectant, make the disinfectant particles that entering the cutting board cavity (1) very tiny. In this way, less disinfectant can be used to overlay the surface of cutting board (8) more evenly. The disinfectant container (2) is connected with the atomizer (4), the output end of atomizer (4) is connected with the cutting board cavity (1), please refer to Figure 2.

Wherein, the cleaning solution uses hot water. Water is the lowest-cost cleaning solution, and the hot water can kill bacteria when it is over 60°C, while the higher the temperature is, the quicker the bacteria will be killed. Besides, hot water will also increase the dissolvability of disinfectant, thus more effectively clear the disinfectant on the cutting board (8). The cleaning solution delivery device is provided with a atomizer (4) and a heater, said cleaning solution container (3) is filled with water, the heater gets water from the container then heat it, and deliver to the atomizer (4), after the hot water is atomized then deliver to the cutting board cavity (1), please refer to Figure 2.

The use of atomized disinfectant and hot water is less during the disinfection process, so the disinfectant and hot water after used can be collected, and may be cleaned up after using for a period. Therefore, below the cutting board cavity (1) is provided with a recycling container (5) for collecting disinfectant and cleaning solution.

After cleaning by the cleaning solution, the water may remain on the surface of cutting board (8). In order to make the remaining water evaporate more quickly, can use the gas booster (9) to form airflow in the cutting board cavity (1) to take the water away, thus the cutting board cavity (1) is further provided with an exhaust valve (6) for exhausting high-pressure gas. When needing to air dry the cutting board (8), just open the exhaust valve (6), then the high-pressure gas input from the gas booster (9) flows through the cutting board cavity (1) to take the water away from the surface of cutting board (8), and discharge it out of the cutting board cavity (1) through the exhaust valve (6), thus allow the surface of cutting board to air dry, please refer to Figure 3.

In order to place and take out the cutting board (8) conveniently, the top of the cutting board cavity (1) is an open mouth, the open mouth is provided with an openable cover (7), it is convenient to place or take out the cutting board (8) through opening the cover (7). The bottom of cover (7) and the open mouth are sealed, the cover (7) and the side of open mouth are sealed and fixed by a buckle, so that keep high pressure in the cutting board cavity (1) during the disinfection process.

Claims

1. Cutting board disinfection container, wherein: The container is provided with a sealed cutting board cavity (1), the cutting board to be disinfected (8) is placed in the cutting board cavity (1); said cutting board cavity (1) is also connected with a disinfection gas delivery device, a cleaning solution delivery device and a gas booster (9); another end of said disinfection gas delivery device is connected to a disinfectant container (2), another end of said cleaning solution delivery device is connected to a cleaning solution container (3); the disinfection process of cutting board comprises the following steps:
 - a. Put the cutting board to be disinfected (8) into the cutting board cavity (1), then close the cavity (1), and keep the cavity (1) sealed;
 - b. Switch on the disinfection gas delivery device, the disinfection gas is input into the cutting board cavity (1); then switch on the gas booster (9) to increase pressure in the cutting board cavity, the disinfectant infiltrates into the gap of cutting board (8) under pressure;
 - c. After the disinfection completed, switch off the disinfection gas delivery device and switch on the cleaning solution delivery device, the cleaning solution is sprayed to the cutting board cavity (1), until the disinfectant on the cutting board (8) is cleared.
2. The cutting board disinfection container of Claim 1, wherein: Said gas booster (9) comprises the air booster pump, the high pressure output

end of air booster pump is connected with the cutting board cavity (1).

3. The cutting board disinfection container of Claim 1, wherein: Said disinfectant delivery device is further provided with a atomizer (4), the disinfectant container (2) is connected with the atomizer (4), the output end of atomizer (4) is connected with the cutting board cavity (1).
4. The cutting board disinfection container of Claim 1, wherein: Said cleaning solution is the hot water, said cleaning solution delivery device is further provided with a atomizer (4) and a heater, said cleaning solution container (3) is filled with water, the heater is connected with the cleaning solution container (3), the atomizer (4) is connected to the output end of heater, the output end of atomizer (4) is connected to the cutting board cavity (1).
5. The cutting board disinfection container of Claim 1, wherein: Below said cutting board cavity (1) is provided with a recycling container (5) for collecting disinfectant and cleaning solution.
6. The cutting board disinfection container of Claim 1, wherein: Said cutting board cavity (1) is further provided with an exhaust valve (6) for exhausting high-pressure gas;

Perform the following step after Step c is completed:

- d. Switch off the cleaning solution delivery device, and keep the gas booster running, then open the exhaust valve (6), the high-pressure gas of the gas booster (9) flows through the cutting board cavity (1) to take the water away from the surface of cutting board (8), and

discharge it out of the cutting board cavity (1) through the exhaust valve (6), thus allow the surface of cutting board (8) to air dry; finally switch off the gas booster (9) and close the exhaust valve (6).

7. The cutting board disinfection container of Claim 3 or Claim 4, wherein: Said atomizer (4) is the ultrasonic vibration atomizer.
8. The cutting board disinfection container of Claim 1, wherein: The top of said cutting board cavity (1) is an open mouth, the open mouth is provided with an openable cover (7), the bottom of cover (7) and the open mouth are sealed, the cover (7) and the side of open mouth are sealed and fixed by a buckle.