

FORM 2
THE PATENT ACT 1970 &
The Patents Rules,2003
COMPLETE SPECIFICATION
(See section10 and rule 13)

TITLE OF THE INVENTION:

A MILK BOILING VESSEL WITH A MILK STORAGE CONTAINER

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The following specification particularly describes the nature of this invention and the manner in which it is to be performed.

FIELD OF THE INVENTION

The present invention relates to the field of making milk boiling vessel. This invention deals with making a new vessel with an extended space to avoid the overflow of foamed milk. A separate storage container is enabled to save the foamed and spilt milk.

BACKGROUND OF THE INVENTION

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Milk is one of the most prevalent foods consumed by humans in their daily lives. It contains lipids, proteins, lactose, carbs, vitamins, and minerals, all of which are essential for a healthy life. Milk is used to make basic hot beverages such as tea and coffee. Milk is a vital ingredient in many homemade items such as curd, kheer, cake, mango shake, paneer, and so on. As a result, milk is one of the most prevalent meals that are extremely necessary in daily life. India is the world's leading milk producer, accounting for 23% of worldwide milk production. From 146.31 million tonnes in 2014-15 to 209.96 million tonnes in 2020-21, milk production in the country has expanded at a compound annual growth rate of roughly 6.2 percent. According to the NSO's HCES, the weighted all-India average daily per capita consumption of milk in rural and urban areas was 139.3 ml (or 143.5 grams) in 2004-05 and 154.8 ml (159.4 grams) in 2011-12. The availability of milk per capita in India is around 225 mL per day. From 307 grams per person per day in 2013-14 to 406 grams per person per day in 2019-2020, milk availability per capita has increased by 32.24 percent.

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According to the Food and Agriculture Organization, milk is a favorable substrate for microorganism growth. Milk spoils as a result of the proliferation of germs like this. As a result, various preventative procedures, such as freezing or boiling, are required to preserve the milk for a longer period of time. In the event of freezing, it must be kept at a temperature of 32-39 degrees Fahrenheit, which can only be achieved by using a refrigerator. In almost all countries, boiling is preferable for preventing milk spoilage because it does not necessitate additional equipment or time. The boiling point of a non-volatile chemical increases as the number of particles or molecules in the liquid increases. Milk is a multi-component liquid containing lipids, proteins, and lactose in various forms. Because of its chemical composition, milk has a slightly higher boiling point than water, at 100.50. Whenever heat is given to milk, the fat and protein come to the surface in the form of cream since it is lighter than water.

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It completely covers the surface. Heat causes the water to turn into vapour. These water vapours become trapped behind the cream layer of fats and proteins and attempt to escape. When milk is heated more, it causes upward pressure, which lifts the layer, causing milk to pour out of the vessel. To solve this problem, a few easy ways have been suggested, such as swirling the milk and maintaining the long hand spoon in the milk to remove the vapour, but it requires constant monitoring. To get around this problem, some containers, such as a milk cooker and a milk pan, are used to boil milk. A milk cooker is a vessel with two walls separated by a tiny gap that is filled with water. When water is heated, it begins to boil and condenses into vapour. These vapours begin to heat the milk, and the milk begins to heat at a temperature below that of its boiling point. (212.3 degrees Fahrenheit). It doesn't produce vapour bubbles and keeps the milk from spilling out. When water vapours build up in the cooker, they create pressure and try to escape through the whistle, which produces sound. When the whistle becomes louder, it signals the milk has boiled and the heating can be turned off. The main benefit of this cooker is that it can boil milk without spilling it. However, there are certain drawbacks, such as the fact that it produces a continuous sound as water vapours escape through the whistle, causing noise pollution and disrupting the entire environment in the house for a period of time. It will be dangerous for the vessel if we neglect to turn off the stove. Due to milk spills, the gas burner holes are blocked. Its price is also higher than that of other vessels. Because of these drawbacks, most people boil milk in standard stainless-steel pans. As a result, the majority of individuals are still dealing with the problem of milk pouring out of the vessel. As a result, a low-cost alternative with greater benefits and the same convenience as a standard vessel is required. Milk pouring out of the vessel when heated is a regular problem. A milk-saving vessel with a storage container that captures the milk that spills out of the vessel is required. However, a few inventions, such as a milk conserving vessel with a collection chamber and so on, are not user-friendly. A milk storage container is added to the vessel to collect spilled milk from the milk boiling vessel.

PRIOR ART STATEMENT

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1. The patent 202231004764 was published on February 25, 2022 and is related to a milk overflow warming alarm (Milk OWA) in which a transistor, a resistor, a diode, a buzzer, a lithium battery, an

5 alligator clip, and a switch are all included. The sensor probe is positioned just above the milk's top surface. When the milk rises to the point where the sensor probe comes into contact with it, the information from the sensor probe is sent to the transistor, which turns on the buzzer and makes it sound.

10 2. The Patent 202221003791 was published on February 18, 2022 and relates to the technological field of blending or infusing tea or coffee, with a focus on a simple, portable, and cost-effective gradient-based beverage infuser for blending or infusing liquids. A shaft means, a handle, a base, a loose tea chamber, and a tea sachet chamber form the device. The shaft, the loose tea chamber, and the tea bag chamber all have an extended section. The tea sachet chamber is also located along the extended portion of the shaft, and includes a door, a retainer for holding one or more tea sachets in place, and an entrance. The device is also used in the present invention, as are the systems and techniques.

15 3. The patent CN215016118U was published on 2021-12-07 and relates to The utility model reveals a multifunctional combination method milk pot, consisting of a pot body and a hot milk frame, the hot milk frame including one with a support ring and a hot teacup. The dead lever is fixedly attached to the bracing piece and is passed through on the upper portion of the support ring, with both sides intently attached to the form of the hot teacup. The lower extreme is intently attached to the supporting weight of the hot teacup; one end of the stay cord is fixedly connected to the balancing weight; and one side of the stay cord is fixedly connected to the hemispheric egg frame of the dead lever.

20 4. An Indian Patent 201921032660 was filed on 13/08/2019 and relates to a Spill-Proof Milk Boiling Apparatus/Device. Our innovation is a device that protects milk from spilling or overheating. The person who is boiling the milk does not need to keep an eye on it all the time. Rather, he can use this technology to leave the milk alone to boil unattended. It is placed directly on the vessel that is used to boil milk and can be placed on any size vessel. Bamboo is used to construct the apparatus or device. It is divided into two sections and has slits and handles cut into it.

25 5. An Indian Patent 201717047140 was filed on December 28, 2017 and relates to a milk frothing equipment with a steam probe including an inner steam tube enclosed by an outer tube spaced annularly from the inner tube and a nozzle positioned on the end of said outer tube near to the outlet end of said inner tube. During the steam cycle, the air gap between the inner and outer tubes insulates the outer

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tube from the heat created in the inner tube.

5 6. The Patent ES2414181T3 was published on 08/07/2013 and relates to a coffee machine that includes a boiling container that holds ingredients such as water, coffee, and sugar to create a liquid mixture, a heater that heats the boiling vessel for a set period of time, a level sensor that measures the height of the mixture in the boiling vessel during boiling, and a control unit that controls the boiling process based on the data received from the level sensor and characters or Using information from and customized to conduct a coffee preparation program according to the amount of details specified, variations in the height of the mixture were adapted to decide how many cups the user had prepared the mixture before boiling.

10 7. The Patent CN105992540B, published on November 19, 2019, relates to using information from and customized to conduct a coffee preparation program according to the amount of details specified. Variations in the height of the mixture were adapted to decide how many cups the user had prepared the mixture before boiling.

OBJECTIVE OF THE INVENTION

- 20 1. The main object of the present invention is to provide a milk boiling vessel with a milk storage container.
2. To provide a milk boiling vessel with a milk storage container that has a considerably lower cost as compared to other alternatives made for the same purpose.
3. To provide a milk boiling vessel with a milk storage container that can be used for saving milk, tea, coffee, and so on while cooking or boiling.
- 25 4. To avoid the stove getting stained with spilled milk or other milk-related foods.
5. To provide a milk boiling vessel with a milk storage container that is equally convenient as a regular vessel.

SUMMARY OF THE INVENTION

30 Milk is a compound liquid that contains fat in the form of an emulsion, protein in the form of colloids, and lactose in the form of a real solution. When milk is heated, the fat that is lighter than water congeals on the surface, along with some protein, forming a layer known as cream. When milk is boiled in an

open vessel, it flows out. Spilling milk on the stove will ruin it, and cleaning the spilled milk off the glass top stove will take a long time. If the gas burner gets wet, it may not work to prevent spilt milk or other milk-related foods from staining the stove. We invented a milk boiling vessel with a milk storage container which comprises of a cylindrical shaped vessel (1A), an extended portion of the milk boiling vessel (1B), a heat-proof handle (1C), a pouring part of the milk boiling vessel (1D), a stainless steel hook (1E), and a milk storage container (2) made up of magnetic stainless steel or cast iron. The milk boiling and saving vessel (1) can be used for heating milk or other foods similar to milk, like tea, coffee, etc. A milk storage container (2) is used to store the milk or other milk-related foods that spill out from the vessel (1) during heating or boiling. One side of the boiling vessel has an inbuilt stainless steel hook (1E) which is used to attach a stainless steel storage container (2), which consists of a hook (2A), a container (2B), and a heat-proof handle (2C). The hook (2A) is used to connect the milk storage container to the milk boiling vessel. The problem specified in the background is resolved by the new invention of a milk boiling vessel with a milk storage container.

BRIEF DESCRIPTION OF THE DRAWINGS

Other features of the invention are described briefly in Figure 1, Figure 2, Figure3, Figure 4, Figure 5, Figure 6 and Figure 7.

Figure 1 represents a perspective view of a milk boiling vessel with a milk storage container.

Figure 2 represents a perspective view of the milk storage container.

Figure 3 represents a perspective view of a milk boiling vessel without a storage container.

Figure 4 represents a perspective view of "storing milk" in a storage container vessel that is attached to a milk-boiling vessel.

Figure 5 represents a perspective view of the "pouring of milk" in another vessel from a storage container of a milk-boiling vessel.

Figure 6 represents a perspective view of the pouring of milk into a milk-boiling vessel from a storage container.

Figure 7 represents a perspective view of the pouring of milk from a milk-boiling vessel into a separate vessel.

DETAILED DESCRIPTION OF THE INVENTION

Figure 1 represents a perspective view of a milk boiling vessel with a milk storage container. The present invention proposes a milk-boiling vessel (1), comprising a cylindrical shaped vessel container (1A), an extended portion of the milk boiling vessel (1B), a heat-proof handle (1C), a pouring part of the milk boiling vessel (1D), and a stainless steel hook (1E) as shown in figures 1 & 2, and a milk storage container (2) made up of magnetic stainless steel, stainless steel, or cast iron. The milk boiling and saving vessel (1) can be used for heating milk or other foods similar to milk, like tea, coffee, etc. A milk storage container (2) is used to store the milk or other milk-related foods that spill out from the vessel (1) during heating or boiling.

Figure 2 represents a perspective view of the stainless storage container (2), which consists of the hook (2A), container (2B), and heat-proof handle (2C). Figure 3 represents a perspective view of milk boiling vessel without a storage container. If only a small quantity of milk or milk-related foods needs to be boiled, then the milk-boiling vessel alone can be used. The top portion of the boiling vessel is extended; one side portion of the vessel is wide. The extension will go down as a slope and end at the other side (i.e., the pouring part of the boiling vessel) as shown in figure 3. While heating, the milk and milk-related products like tea, coffee, etc., spill out of the vessel due to distraction. The wasting milk is automatically stored in the milk storage container, which is easy to handle as shown in figure 4.

Figure 5 represents a perspective view of the "pouring of milk" in another vessel from a storage container of a milk-boiling vessel. The top portion of the milk boiling vessel is wide and sloped, so the foamed milk will not be spilled; in case the foamed milk spills out of the vessel, it will be poured and stored in the storage container directly through the pouring part of the boiling vessel without spilling out on the top of the stove, burner, etc., As shown in figure 6, the stored milk in the storage container can be poured into the boiling vessel for further processing or cooking. The milk storage container can be easily removed and attached to the milk boiling vessel by using a heat-proof handle.

Figure 7 represents a perspective view of the pouring of milk from a milk-boiling vessel into a separate vessel. After boiling the milk, it is very easy to transfer or pour the milk into the other vessel using the heat-proof handle and pouring part of the milk boiling vessel.

The milk boiling vessel and milk storage container have several technical advantages.










- All people can use this milk boiling vessel.
- This vessel can be used in gas stoves, induction stoves, firewood stoves, and so on.

- The vessel is frequently lost during heating due to minor distractions from storing milk.
 - This proposed vessel may be used and cleaned in the same way as a standard vessel.
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- The vessel may be used to heat a variety of liquid foods and hot drinks, such as tea, coffee, curry, and so on, to prevent undesirable loss.
 - When compared to some other options, the milk-saving vessel has a lower cost-to-benefit ratio.
 - The milk saving vessel is the best option in terms of cost, benefits, complexity, and convenience when compared to other options.
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- The multipurpose milk storage container stores the spilled milk outside of the milk boiling vessel, and the same will be used as a container for other products.

WE CLAIMS

1. A milk boiling vessel with a milk storage container.
 2. A new milk boiling vessel with a storage container regardless of stove type.
 3. A new milk boiling vessel with an extended portion on the top of the vessel to avoid the spilling of the milk.
 4. A Multipurpose cylindrical milk storage container.
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A MILK BOILING VESSEL WITH A MILK STORAGE CONTAINER

ABSTRACT OF THE INVENTION

- 5 A milk boiling vessel with a milk storage container that includes a cylindrical shaped vessel (1), an extended portion of the milk boiling vessel (1B), a heat-proof handle (1C), a pouring portion of the milk boiling vessel (1D), a stainless steel hook (1E), and a milk storage container (2) made of magnetic stainless steel or cast iron. The milk boiling and saving vessel (1) can be used for heating milk or other foods similar to milk, like tea, coffee, etc. A milk storage container (2) is used to store the milk or other milk-related foods that spill out from the vessel (1) during heating or boiling. One side of the
- 10 boiling vessel has an inbuilt stainless steel hook (1E) which is used to attach a stainless steel storage container (2), which consists of a hook (2A), a container (2B), and a heat-proof handle (2C). The hook (2A) is used to connect the milk storage container to the milk boiling vessel. The shape of the milk boiling vessel (1) plays a vital role in preventing the spilling of milk out of the vessel. If the milk spills out of the vessel due to human distraction, it will be stored in the milk storage container (2).

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