M. MURPHY.

VENTILATING VALVE.

APPLICATION FILED NOV. 23, 1912.

1,069,022. Patented July 29, 1913.

Fig. 1.

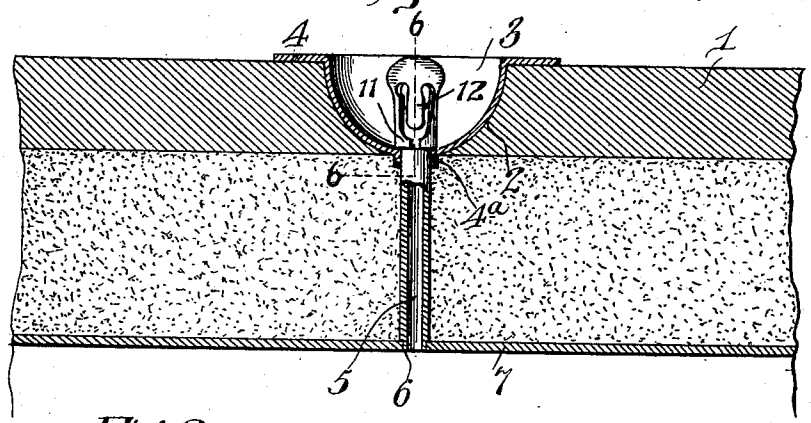


Fig. 2.

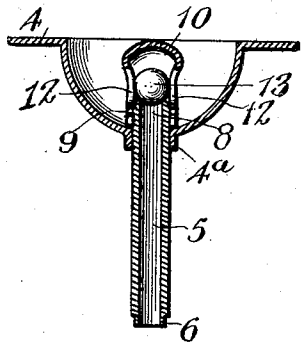


Fig. 6.

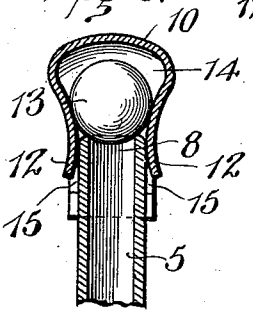


Fig. 3.

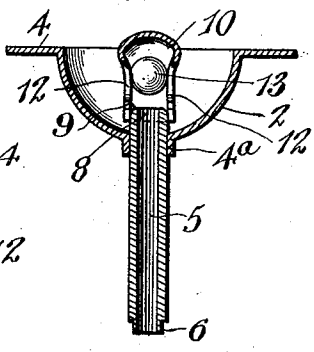


Fig. 4.

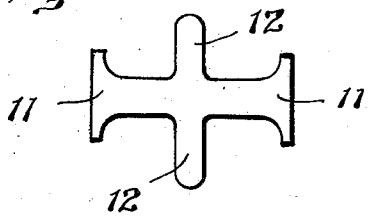
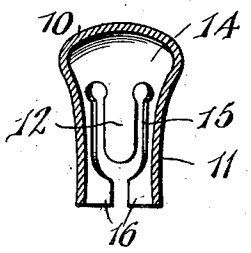


Fig. 5.



WITNESSES

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VENTILATING-VALVE.

1,069,022. Specification of Letters Patent. Patented July 29, 1913.

Original application filed February 14, 1912, Serial No. 677,408. Divided and this application filed November 23, 1912. Serial No. 733,190.

To all whom it may concern:

Be it known that I, MORTON MURPHY, a citizen of the United States, residing at Janesville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Ventilating-Valves, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to valves to be used in connection with fireless cook stoves or cookers and the like, and has particularly for its object the production of a simple mechanism which may be easily cleaned and which will not be likely to become corroded.

Another object of this invention is the production of an efficient valve cap which may be removed from the valve stem in order that the stem may be cleaned as well as the valve cap therefor.

This application is a divisional application from my previous application relating to a valve for fireless cooker, filed February 14, 1912, and bearing Serial No. 677,408.

A still further object of this invention is the production of a simple and efficient valve cap formed from a blank sheet of material which may be adjusted vertically upon the valve stem to control the exhaust of the steam or heat from the interior of the well of the fireless cook stove or cooker.

With these and other objects in view, this invention consists of certain novel constructions, combinations and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings:—Figure 1 is a transverse section through the top of the fireless cooker or cook stove showing the valve in connection therewith. Fig. 2 is a vertical sectional view through the valve mechanism showing the cap in its normal position upon the valve stem. Fig. 3 is a vertical sectional view through the valve mechanism showing the valve cap drawn to an adjusted position for allowing the escape of heat or steam from the interior of the well of the fireless cooker. Fig. 4 is a view of the blank from which the valve cap is formed. Fig. 5 is an enlarged sectional view through the valve cap detached from the valve stem. Fig. 6 is an enlarged sectional view taken on line 6—6 of Fig. 1.

By referring to the drawings by numerals, it will be seen that 1 designates the top of the fireless cook stove which is provided with an opening 2 within which opening is seated the basin 3. This basin 3 is provided with a circumferential rim 4 which rests upon the upper face of the top of the cook stove. The basin 3 is provided with a centrally located aperture 4^a through which aperture passes a stem or body 5 which is formed of a tubular structure. This stem is provided with a reduced lower end for constituting a reduced collar 6 which collar engages the inner lining 7 of the cook stove or cooker thereby constituting an efficient support for the stem 5. The stem 5 projects well within the basin 3 as indicated in Figs. 2 and 3 so as to constitute an upwardly extending end 8 which end is slightly rounded upon its upper edge as indicated at 9 for facilitating the placing of the valve cap thereon. A valve cap 10 is placed upon the upper end of the stem 5 and is formed from a blank sheet of material as indicated in Fig. 4. By forming the valve cap of sheet metal as described, it will be understood that a very efficient device has been produced which may be very cheaply manufactured. This blank is bent to form a pair of gripping jaws 11 which straddle the pipe or stem 5 of the valve mechanism and hold the cap 10 upon the stem 5. The cap 10 is also provided with a pair of inwardly curved lips 12 which lips engage the upper end of the tubular body or stem 5 and limit the downward movement of the cap 10 upon the stem 5. These inwardly curved lips 12 are formed so as to terminate short of the lower edge of the valve cap 10 thereby facilitating the sliding of the valve for the desired distance upon the valve stem 5. Through the medium of these lips 12 it will be understood that it will not be necessary to adjust the cap 10 upon the tubular body or stem 5 under ordinary circumstances to cause the valve to operate efficiently for these lips will act as a stop and support the cap in its adjusted position. When, however, it is desired to force the cap firmly upon the stem 5, additional pressure will have to be brought to bear upon the cap forcing the lower edge of the jaws 11 in engagement with the inner edge of the basin 3 as is illustrated in Fig. 2.

A ball 13 is used in connection with the valve and normally rests upon the upper edge 9 of the tubular body or stem 5 for

closing the passage therethrough. This ball has vertical movement within the enlarged pocket 14 formed in the upper end of the cap and this pocket is formed long enough to allow the ball to have sufficient vertical movement within the pocket after the cap 10 has been forced down upon the stem 5 as to allow the escape of the steam or other accumulated vapors from the well of the fireless cooker or cook stove through the body of stem 5. The lips 11 are so bent as to at all times engage the ball 13 when the ball is forced near the lower end of the cap, thereby preventing the ball 13 from becoming accidentally dropped from the cap 10. It should, of course, be understood that both the tongues 12 and the gripping jaws 11 are formed of spring metal so as to hang closely to the stem 5 as the cap is placed thereover.

The valve cap 10 may be raised to the position as shown in Fig. 3 when it is so desired thereby allowing the gases or vapors which may be accumulated in the well of the fireless cooker to escape from the upper end of the valve stem 5 and through the openings 15 formed between the lips 11 and 12. The cap 10 may be adjusted to different positions upon the upper end of the stem 5 so as to regulate the vertical movement of the ball 13 within the cap 10. When the cook stove or cooker is being used for baking or roasting, the cap is very slightly raised so as to allow the ball to have quite a movement within the cap, whereas while the cooker is used for boiling purposes the cap is forced down upon the upper end of the stem to only allow a slight movement of the ball 13 within the pocket 14 of the cap 10.

From the foregoing description it will be seen that a very simple and efficient valve has been produced which will be so operated as to allow the valve cap to be removed from the stem to be easily cleaned provided the same should become corroded.

It should be further obvious that I have provided a valve for a fireless cooker or cook stove for automatically removing the excess gas or vapors from the compartment or oven of the fireless cook stove thereby preventing the steam or moisture from leaking out around the sides or edges of the cooker or cook stove. I have also provided an efficient valve which may be adjusted to let the steam out of the compartment or oven of the fireless cook stove thereby producing a dry, or practically dry heat necessary for baking and roasting; also a safety valve which will prevent the steam pressure in the compartment or oven of the fireless cooker or cook stove from reaching a point of danger. In view of the fact that the valve is so placed within the basin 3 as to be shielded by the upper edge thereof, it will be further obvious that I have provided a fireless cook stove or cooker in such a way that the cookers may be stacked conveniently without the removal of any of the parts of the ventilating valve.

It will be seen by carefully considering the drawing that the gripping jaws are provided with laterally extending feet, the feet of one jaw extending toward the feet of the other jaw thereby constituting a substantially circular bottom for the cap for facilitating the insertion of the cap upon the upper end of the stem or tubular body or escapement tube 5. These laterally extending feet 16 also constitute a means for protecting the lower end of the tongues 12 in so far as these feet constitute a shield therefor.

Having thus described the invention, what is claimed as new, is:—

1. A valve of the class described comprising a tubular body portion, a detachable cap carried by the upper end of said body portion, said cap being formed from a blank sheet of material and provided with a pair of gripping jaws, a pair of stop lips positioned between said gripping jaws and at right angles thereto for limiting the downward movement of said cap upon said tubular portion, and said gripping jaws being adapted to firmly grip the upper end of said tubular body portion for preventing the accidental removal of said cap from said tubular body portion.

2. A valve of the class described comprising an elongated escapement tube, a cap carried by said escapement tube and removable therefrom, said cap provided with an enlarged head, a tube engaging portion, said tube engaging portion adapted to fit snugly around said escapement tube for holding said cap upon said tube, a spring tongue formed upon each side of said cap and engaging said escapement tube for resisting the downward movement of said cap upon said escapement tube and constituting a ball container for said cap, and a ball carried by said escapement tube and held within said cap and capable of having longitudinal movement relative thereto.

3. A valve for a fireless cooker of the class described comprising a basin, an escapement tube secured to said basin and extending upwardly thereon, a valve cap positioned upon the upper end of said escapement tube and adapted to be normally shielded within said basin, said cap comprising an enlarged head provided with inwardly bowed gripping jaws, laterally extending widened ends being bent to extend toward each other and constituting a substantially circular base for said cap, inwardly bowed lips interposed between said gripping jaws and terminating short of the lower ends thereof and adapted to constitute means for resisting the inward movement of said

cap upon said escapement tube, said cap provided with an enlarged head, and a ball positioned within said enlarged head and adapted to move vertically therein, and said inwardly bowed lips adapted to prevent said ball from becoming actually removed from said cap.

4. A valve of the class described comprising an elongated escapement tube, a cap carried by said escapement tube and adjustably mounted thereon, said cap provided with a widened head, a tube engaging portion, said tube engaging portion adapted to fit snugly around said escapement tube for holding said cap upon said tube, spring tongues formed upon said body and engaging said escapement tube for resisting the downward movement of said cap upon said escapement tube and constituting a ball container for said cap, a ball carried by said escapement tube and held within said widened head, said widened head adapted to facilitate the passing of the ball to one side of said head for permitting the free passage of steam through said valve casing, and said elongated escapement tube being provided with rounded upper ends for facilitating the placing of said valve cap thereon.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

MORTON MURPHY.

Witnesses:

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GEO. G. SUTHERLAND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."