H. P. BALL.

RANGE.

APPLICATION FILED DEC. 19, 1917.

1,323,567. Patented Dec. 2, 1919.

Fig. 1

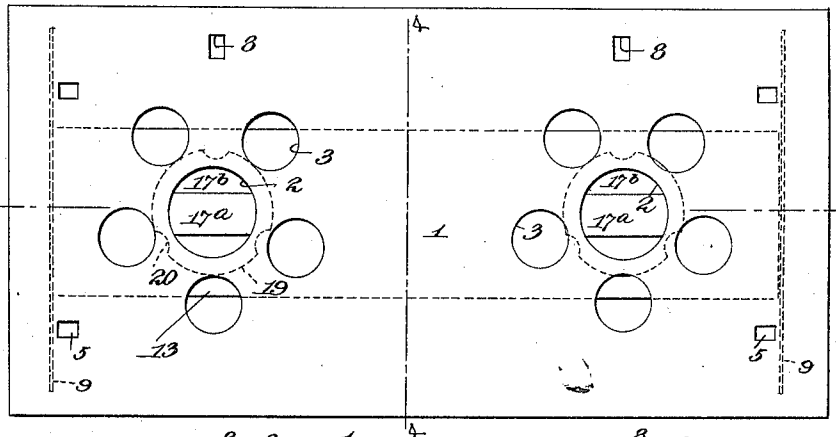


Fig. 2

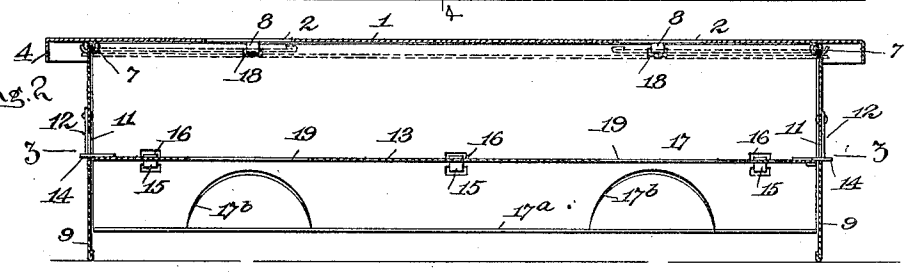


Fig. 3

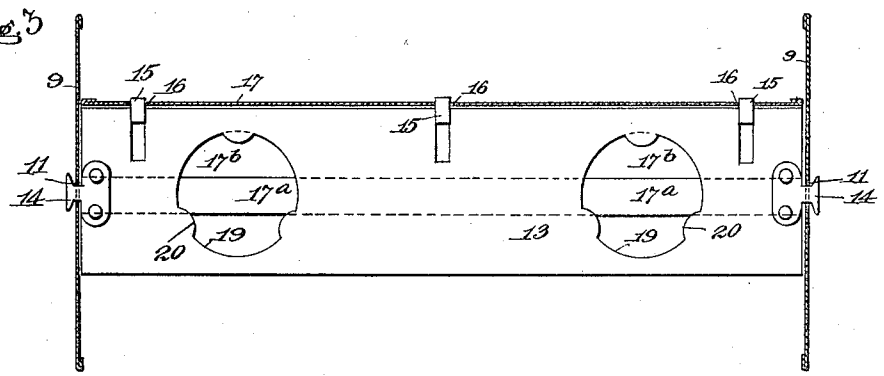
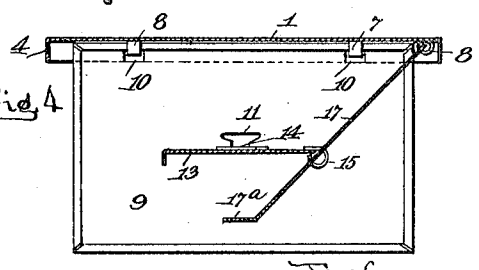


Fig. 4



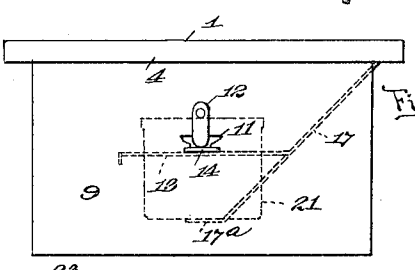
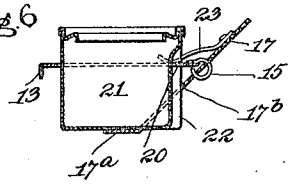


Fig. 5

Fig. 6



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UNITED STATES PATENT OFFICE.

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RANGE.

1,323,567. Specification of Letters Patent. **Patented Dec. 2, 1919.**

Application filed December 19, 1917. Serial No. 207,816.

To all whom it may concern:

Be it known that I, HENRY PRICE BALL, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented a certain new and useful Range, of which the following is a specification.

My invention relates to ranges and more particularly to cooking devices in which alcohol in solid or liquid form is employed as the heating medium.

The objects of my invention are:—

To provide a device on which a plurality of cooking utensils may be simultaneously employed with a separate heating unit cooperating with each utensil.

To provide means whereby the heating units will be secured in position against rotation and for supporting the same in proper relation to cooking utensil.

To provide means for firmly locking the parts of the range in operative position.

To provide means whereby the device may be folded into compact shape.

To provide means for shielding the flame from drafts.

These and further objects will more fully appear from the following specification and accompanying drawings considered together or separately.

I have illustrated my invention in the accompanying drawings in which like parts are designated by similar reference characters in all of the several figures and in which:

Figure 1 is a top plan view of my invention.

Fig. 2 is a longitudinal section on the line 2—2 of Fig. 1.

Fig. 3 is a horizontal section on the line 3—3 of Fig. 2.

Fig. 4 is a transverse section on the line 4—4 of Fig. 1.

Fig. 5 is an end view of the device, and Fig. 6 is a detail sectional view showing a modification.

In the drawings 1 designates the top plate of my improved range, which is provided with flame openings 2, 2. These openings may be of any desired shape. If desired auxiliary flame openings 3 may be grouped around each opening 2. The top plate is composed of sheet metal of a strength sufficient to support the cooking utensils and is provided with a depending flange 4 around its edge. The top plate is pierced with U-shaped slits 5, 5 adjacent to each end thereof and the tongues produced thereby are bent downward to form loops 7. Similar tongues 8 are formed adjacent to the rear edge of the top plate.

The top plate is supported on legs 9, 9 one adjacent to each end of the plate. These legs are formed of sheet metal and have their edges turned over to give additional strength. Each leg is provided near its upper edge with perforations 10, 10 corresponding in number and position to the loops 7 at that end of the top plate. The loops of the tongues pass through the opening 10 in the legs and form hinges whereby the legs are secured to the under side of the top plate in such a manner that they may fold to a position parallel to the plate. Each leg near its center is provided with a key hole 11. The key holes are approximately T shaped and are wider at the top than at the bottom. Pivoted to each leg adjacent to the key hole 11 is a button or keeper 12.

A shelf or heater support 13 is disposed between the legs 9, 9. The shelf is provided at each end with a T shaped key or projection 14 which projects through a key hole 11 with its shank resting in the contracted portion thereof. The engagement of the legs between the heads of the keys and the ends of the shelf 13 will securely retain the legs in position to support the top plate. The keepers 12 when turned to the position shown in Figs. 2 and 5 will prevent the keys 14 from being accidentally displaced. The edges of the shelf 13 may be strengthened in any well known manner.

Adjacent to the rear edge of the shelf 13 is a series of tongues forming loops 15 which pass through perforations 16, 16 in a screen 17 which is thereby hinged to the shelf. One edge of the screen has perforations 18, 18 therein which are engaged by the loops of the tongues 8 in the top plate. The top plate 1, shelf 13 and screen 17 are therefore securely linked together but in such a manner that the shelf and screen may be folded into close contact with and parallel to the top plate. The lower edge of the screen is disposed at an angle thereto and forms a foot 17^a which when the screen is in operative position is parallel to the top plate.

The screen proper is cut away to form openings 17^b which are in line with openings in the shelf 13.

The shelf 13 is provided with a series of openings 19 corresponding in number and position with the flame openings 2 and the openings 17^b. The openings 19 are substantially circular in form and each is provided with a series of inwardly projecting lips 20. The lips in the embodiment of the invention illustrated are three in number spaced 120 degrees apart. Within each opening 19 is seated a fuel container 21. This container is preferably of the type shown in my co-pending application for patent filed December 10, 1915, and numbered serially 66,041. This container is of substantially cylindrical shape and has three grooves 22 extending from its bottom upwardly for a considerable portion of the length of the container at which point they merge into cylindrical surface. The lips 20 correspond in number and position to the grooves in the container, so that when the latter is placed in the opening 19, the lips will enter the grooves and prevent the container from turning relatively to the shelf.

The foot 17^a of the screen is located below the shelf 13 and at such a distance below the top plate that when the container is placed within the opening 19 it will be seated within the opening 17^b and resting on the foot 17^a with its top at the proper distance below the top plate to give the best heating results and the bottom will be raised above the surface on which the legs stand to prevent the heat of the burning fuel from injuring the surface.

When the device is in use the flame from the flame opening at the top of the container 21 will be shielded from drafts from three directions by the screen 17 and the legs 9. The front of the device may be placed to leeward and while the fuel will obtain enough oxygen to support combustion, the flame will not be swayed by drafts but will mount vertically upward through the flame openings in the top plate. The distance between the top of the container and the bottom of the top plate is such that the flame on striking the plate will be spread so as to heat the whole of the bottom of the cooking utensil resting on the top plate.

When the device is not in use it may be folded to occupy a minimum amount of space. To pack the device the containers are first removed from the shelf. The buttons or keepers 12 are swung from engagement with the keys 14. The shelf 13 is raised until the cross heads of the keys are in alinement with the enlargements of the key holes. The legs are then swung outwardly until they are freed from the shelf. The shelf is now dropped and the legs are folded against the under side of the top plate. The shelf and screen 17 are now folded up over the legs. The legs, shelf and screen are within the space bounded by the flange 8 and the entire device will occupy no more space than does the top plate alone.

In the modification shown in Fig. 6 the keepers 12 are dispensed with and a spring 23 secured to the screen 17 bears on the shelf 13 and holds the keys 14 in position in the lower portions of the keyholes. When the legs are disengaged from the shelf the latter, by the elasticity of the spring 23 will then be held in contact with the upper face of the screen.

When the device is in its folded position the under side of the top plate, the inner sides of the legs and the upper side of the shelf and screen which may have become discolored by contact with the flame, are on the inside of the package and cannot soil other articles with which the device may come in contact.

In accordance with the provisions of the patent statutes I have described the principle of my invention, together with the apparatus which I now consider to represent the best embodiment thereof, but I desire to have it understood that the apparatus shown is merely illustrative, and that the invention may be carried out in other ways.

Having thus described my invention, what I now claim as new and desire to secure by Letters Patent, is:

1. A device of the character described, having a top plate, legs hinged to the top plate and adapted to be folded thereon, a shelf in hinged relation to the top plate and capable of movement toward and away from the top plate but incapable of movement longitudinally with respect to the top plate, and means for securing said legs to said shelf when in open position, substantially as set forth.

2. A device of the character described, having a top plate, legs hinged to the top plate and adapted to be folded thereon, a shelf, a screen hinged to the top plate and shelf respectively, whereby the shelf will be capable of movement toward and away from the top plate but incapable of movement longitudinally with respect to the top plate, and means for securing said legs to said shelf when in open position, substantially as set forth.

3. A device of the character described having a top plate, a side plate carried by and extending across each end of the top plate, a screen carried by and extending across the top plate between the side plates, a shelf hinged to the screen and extending between the side plates, there being an opening in each side plate, each of said openings being larger at one end than at the other, and headed keys carried by the shelf and engaging the openings.

4. A device of the character described having a top plate, a side plate carried by and extending across each end of the top plate, a screen carried by and extending across the top plate between the side plates, a shelf hinged to the screen and extending between the side plates, there being an opening in each side plate, each of said openings being larger at one end than at the other, keys carried by the shelf and engaging the openings, and heads on the keys to prevent withdrawal of the same from the openings.

5. A device of the character described having a top plate, a side plate carried by and extending across each end of the top plate, a screen carried by and extending across the top plate between the side plates, a shelf hinged to the screen and extending between the side plates, there being an opening in each side plate, each of said openings being larger at one end than at the other, headed keys carried by the shelf and engaging the openings, and a keeper engaging each key.

6. A device of the character described having a top plate, a side plate carried by and extending across each end of the top plate, a screen carried by and extending across the top plate between the side plates, a shelf hinged to the screen and extending between the side plates, there being openings in the side plates, each of said openings being larger at one end than at the other, headed keys carried by the shelf and engaging the openings, and a pivoted keeper engaging each key.

7. A device of the character described having a top plate, a side plate hinged to and extending across each end of the top plate, a screen hinged to and extending across the top plate from one side plate to the other, that side of the device opposite the screen being uninclosed, a shelf hinged to the screen and extending from one side plate to the other, means for removably securing the shelf to the side plates, whereby said side plates, screen and shelf may be folded to lie against the under side of the top plate, and a depending flange encircling the top plate, said flange being of a depth sufficient to inclose said side plates, screen and shelf when so folded.

8. A device of the character described having a top plate, a side plate hinged to and extending across each end of the top plate, a screen hinged to the under side of the top plate and extending between the side plates, a shelf hinged to the screen, said shelf extending between, and removably secured to the side plates, there being an opening in the shelf adapted to receive a fuel container, lips extending into the opening to engage the container, and a foot carried by the screen below the opening in the shelf.

9. A device of the character described having a top plate having a plurality of flame openings therein, a side plate hinged to and extending across each end of the top plate, a shelf carried by the top plate and removably secured to the end plates, there being a plurality of circular openings in the shelf and each adapted to receive a fuel container, said openings being positioned below and in line with the flame openings, lips extending into the shelf openings to engage the container, and a foot carried by the screen below and extending across the openings in the shelf, said foot being adapted to support the containers.

10. A device of the character described having a top plate, a side plate carried by and extending across each end of the top plate, a screen carried by and extending across the top plate between the side plates, a shelf carried by the screen and extending between the side plates, there being a key hole in the side plate, keys carried by the shelf and engaging the key holes, heads on the keys to prevent withdrawal of the same from the key holes, and means coöperating with the shelf to hold the keys seated in the key holes.

This specification signed and witnessed this 16th day of December, 1917.

HENRY PRICE BALL.

Witnesses:

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