March 1, 1932. S. A. HARRINGTON 1,847,529

COOKING STOVE

Filed Feb. 7, 1929

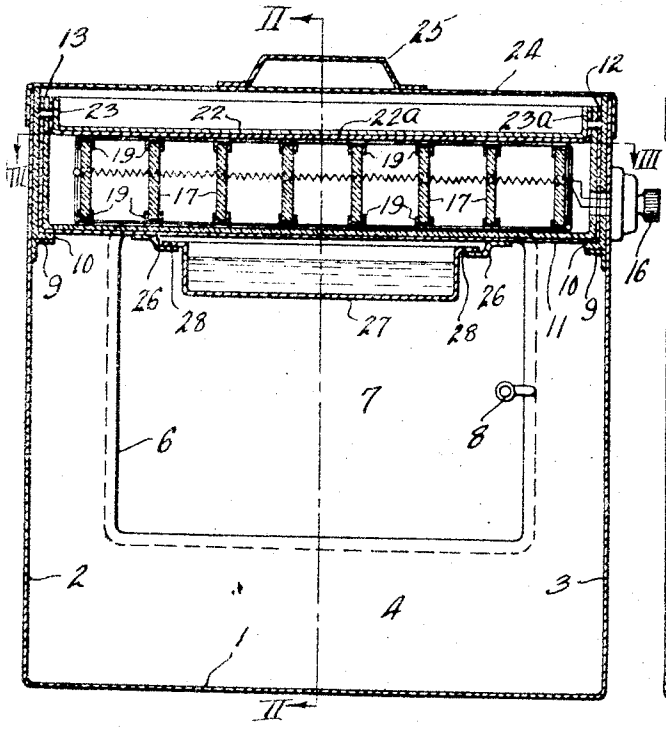


Fig. -1

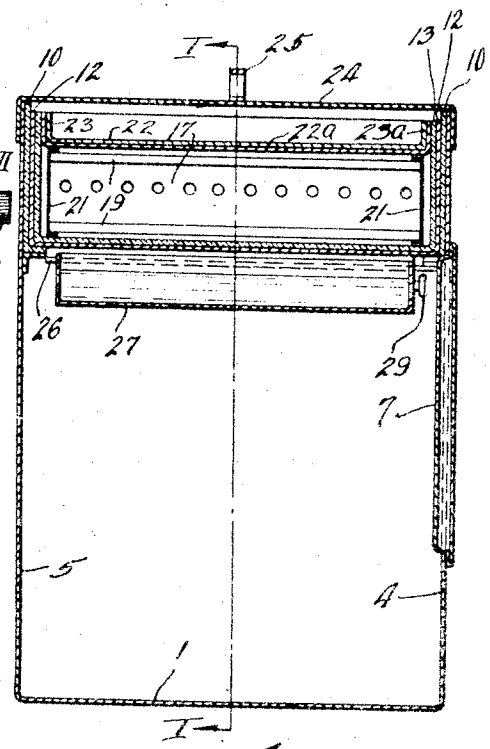


Fig. -2

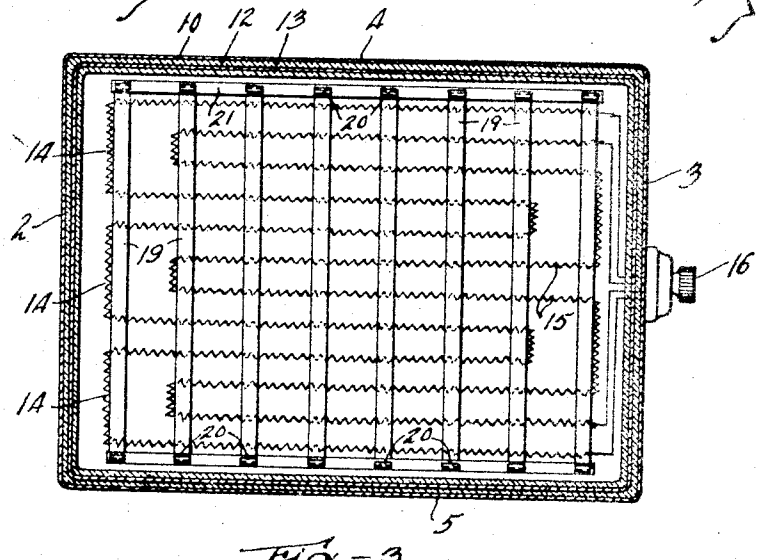


Fig. -3

INVENTOR

Samuel A. Harrington

BY

Harvey R. Haugood

ATTORNEY

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UNITED STATES PATENT OFFICE

SAMUEL A. HARRINGTON, OF EUCLID, OHIO

COOKING STOVE

Application filed February 7, 1929. Serial No. 338,163.

This invention relates to cooking stoves and more particularly to portable stoves adapted to be set on tables, counters, or the like and to be heated by electricity.

An object of the invention is to provide an improved stove which is neat in appearance and compact in structure.

Another object is to provide an improved stove which will conserve heat and be economical in operation.

Other objects will hereinafter appear.

The invention will be better understood from the description of one practical embodiment thereof, illustrated in the accompanying drawings, in which:

Figure 1 is a cross sectional view of a stove designed for use in preparing sandwiches;

Figure 2 is a cross sectional view of the same taken on line II—II of Figure 1; and

Figure 3 is a plan section of the same taken on line III—III of Figure 1.

The stove is contained in a casing shown as a rectangular metal box, conveniently made of sheet steel, having a bottom 1, sides 2 and 3, a front 4, and a back 5.

An opening 6 is provided in the front of the casing to permit access to the interior, this opening being provided with a door 7 hinged to the casing at one side and fitted with a latch 8 or the like to retain the door in closed position.

Secured to the interior of the sides of the casing and extending horizontally substantially on a level with the top of the door are metal angles 9 which support the heating element and its associated parts. The casing, above these angles, is lined with a layer of heat insulating material 10, such as asbestos paper. Within the lining is a horizontal wall 11 which rests upon the angles and has an upturned marginal flange 12 which frictionally engages the lining to maintain the wall in place.

The inner surface of the wall, including its flange, is lined with a layer 13 of heat insulating material similar to that between the flange and casing, both layers being conveniently retained in place by a suitable heat withstanding adhesive.

Supported by the wall is the heating element. This consists of an insulating framework supporting two coils of resistance wire 14 and 15, which extend back and forth as best shown in Figure 3, forming a plurality of interpenetrating loops so that each coil extends throughout substantially the entire extent of the element so that the whole element will be uniformly heated by either or both coils. The ends of the coils are connected to a switch 16, to which is also connected a source of electric current such as an ordinary illuminating circuit, the connection to the source being conveniently made by flexible lamp cord including a plug and socket so that it may be easily effected or broken. The switch is of a type that may be operated to supply current to one or both coils, or to both in series or parallel, so that the resistance in the circuit and the heat generated may be easily controlled.

The framework supporting these coils consists of a plurality of transverse bars 17 of insulating material, asbestos being a material that has been found satisfactory, provided with perforations 18 through which the coils extend. These bars are capped on their upper and lower edges by metal channels 19, the ends of which are formed into lugs 20 which extend through slots in two longitudinally extending channels 21 and are bent over to lock the parts together.

Above the heating element is a cooking plate or griddle 22 having a marginal-flange 23 which frictionally engages a similar coil protecting plate 22*a* with a similar flange 23*a* which in turn engages lining 13. A removable cover 24, having a handle 25, fits over the top of the casing, enclosing the space above the griddle.

Two strips of metal 26 of substantially Z shaped cross section are secured to the underside of wall 11. A pan 27 is supported by a flange 28 engaging these strips, which form track like guides along which the pan may be moved into or out of the casing through the door, a handle 29 being provided to facilitate the handling of the pan.

The stove is particularly useful in the

preparation of sandwiches and the like. In operation it may be set upon or under a counter. Frankfurters, hamburger, or the like are placed upon the griddle, the pan is filled with water, and bread or rolls are put in the bottom compartment. The heat generated is controlled to cook the material upon the griddle rapidly or slowly or to merely keep it warm, depending on the demand for the same. Most of the heat, of course, goes into cooking the articles upon the griddle, as this receives all the convected heat and at least half of the radiated heat. However, sufficient heat travels down to the compartment below to keep the bread or rolls warm, and this heat, encountering the water in the pan first, vaporizes enough of the water to distribute the heat evenly through the compartment and to thoroughly warm all the bread and keep it moist so that it does not become dry and hard.

Substantially all the heat is expended on either the material on the griddle or that in the compartment so that the efficiency of the apparatus is high. Very little electricity is used in keeping the material warm during lulls in the demand therefor, while when the demand increases, the heat generated may be almost instantaneously increased to take care of the same.

While I have described the illustrated embodiment of my invention in some particularity, it is obvious that many others will readily occur to those skilled in the art to which it appertains and I do not, therefore, limit myself to the exact details shown and described, but claim as my invention all embodiments coming within the scope of the appended claims.

I claim:

1. A stove comprising a casing, a horizontal wall therein supporting a heating element, said element comprising a plurality of spaced parallel perforated bars of insulating material, two channel-shaped side members normal to said bars and extending along their edges and secured thereto to maintain the bars in spaced relation, two independent coils of wire passing back and forth through the perforations to form alternate loops, so that each coil extends in heating relation to substantially the entire surface of said horizontal wall, and means for supplying electricity selectively to either or both of said coils.

2. A stove comprising a casing, a horizontal wall therein for supporting a heating element, an electrical heating element resting on said wall and comprising a plurality of spaced parallel perforated bars of insulating material standing on edge, metal cap strips along the upper and lower edges of each bar, two horizontal bars extending normal to said insulating bars and secured to said cap strips, a plurality of coils of wire extending through the perforations in the bars to form a plurality of inter-digitating loops, and means for selectively supplying electricity to one or more of said coils.

3. A stove comprising a casing, a horizontal heating-element-supporting wall therein, a heating element resting upon said wall and comprising a plurality of spaced parallel perforated bars of insulating material standing on edge, metallic channel-shaped cap strips embracing the upper and lower edges of said bars and having projecting lugs formed on their ends, two channel-shaped side bars embracing the ends of said insulating bars and having perforations through which said lugs extend, the lugs being turned to secure the cap strips to the two side bars, and coils of wire extending back and forth through the perforations in said bars.

4. A stove comprising a casing, a horizontal heating-element-supporting wall therein, a heating element resting upon said wall and comprising a plurality of spaced parallel perforated bars of insulating material standing on edge, metallic channel-shaped cap strips embracing the upper and lower edges of said bars and having projecting lugs formed on their ends, two channel-shaped side bars embracing the ends of said insulating bars and having perforations through which said lugs extend, the lugs being turned to secure the cap strips to the two side bars, coils of wire extending back and forth through the perforations in said bars, and a horizontal cooking surface positioned immediately above said heating element.

5. A stove comprising a casing, a door in one side thereof, a horizontal wall extending across the casing adjacent the top of the door, heat insulating material between the casing and wall, a horizontal griddle supported by and above the wall, heat insulating material between the griddle and casing, a removable cover carried by the casing and extending over the griddle, a heating element between the wall and griddle, horizontal guides upon the underside of the wall, and a pan supported by and slidable in said guides.

In testimony whereof I hereunto affix my signature this 12th day of January, 1929.

S. A. HARRINGTON.