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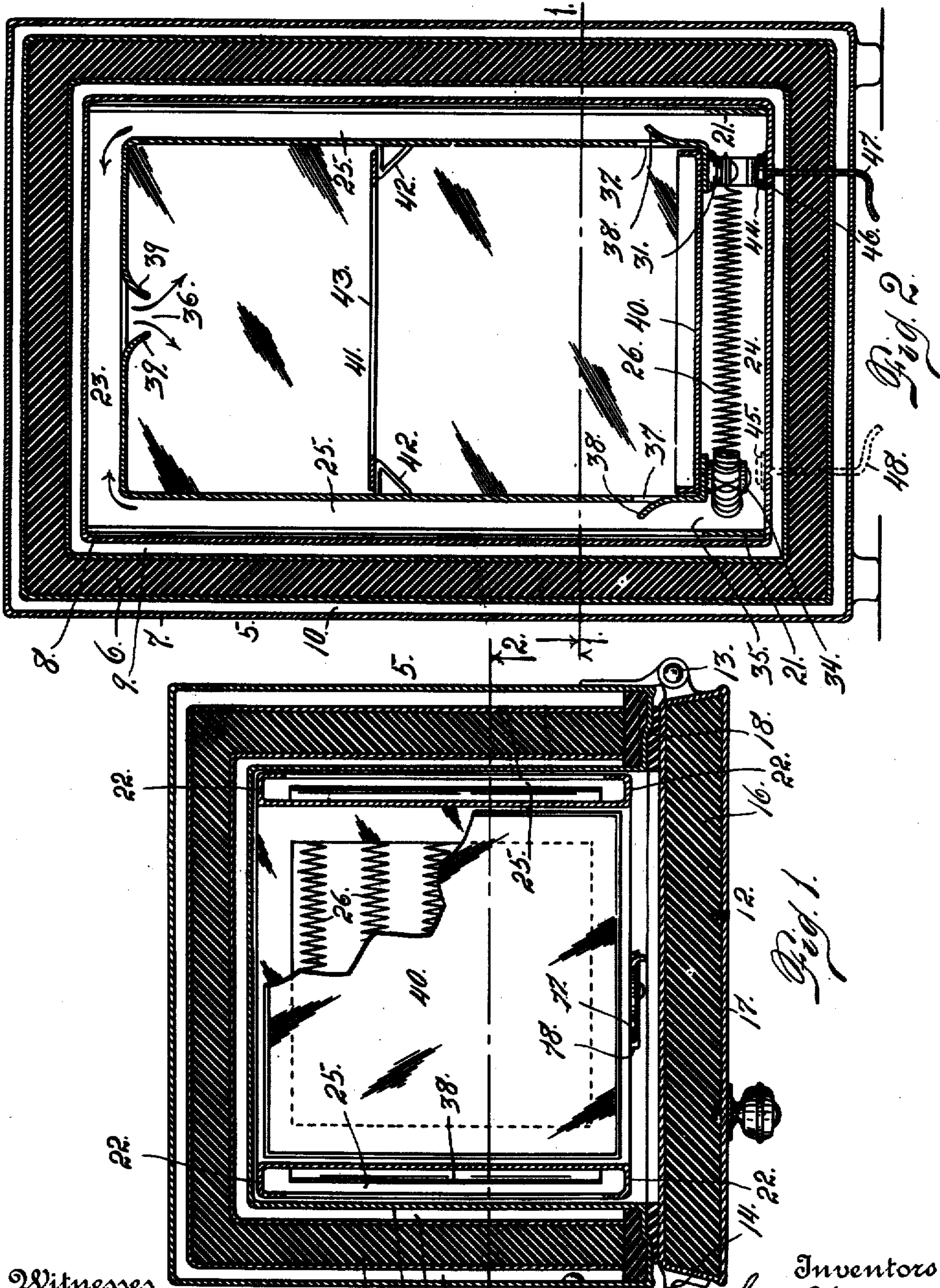
ELECTRIC COOKER.

APPLICATION FILED FEB. 21, 1911.

Patented Aug. 1, 1911.

3 SHEETS—SHEET 1.

999,618.



Witnesses

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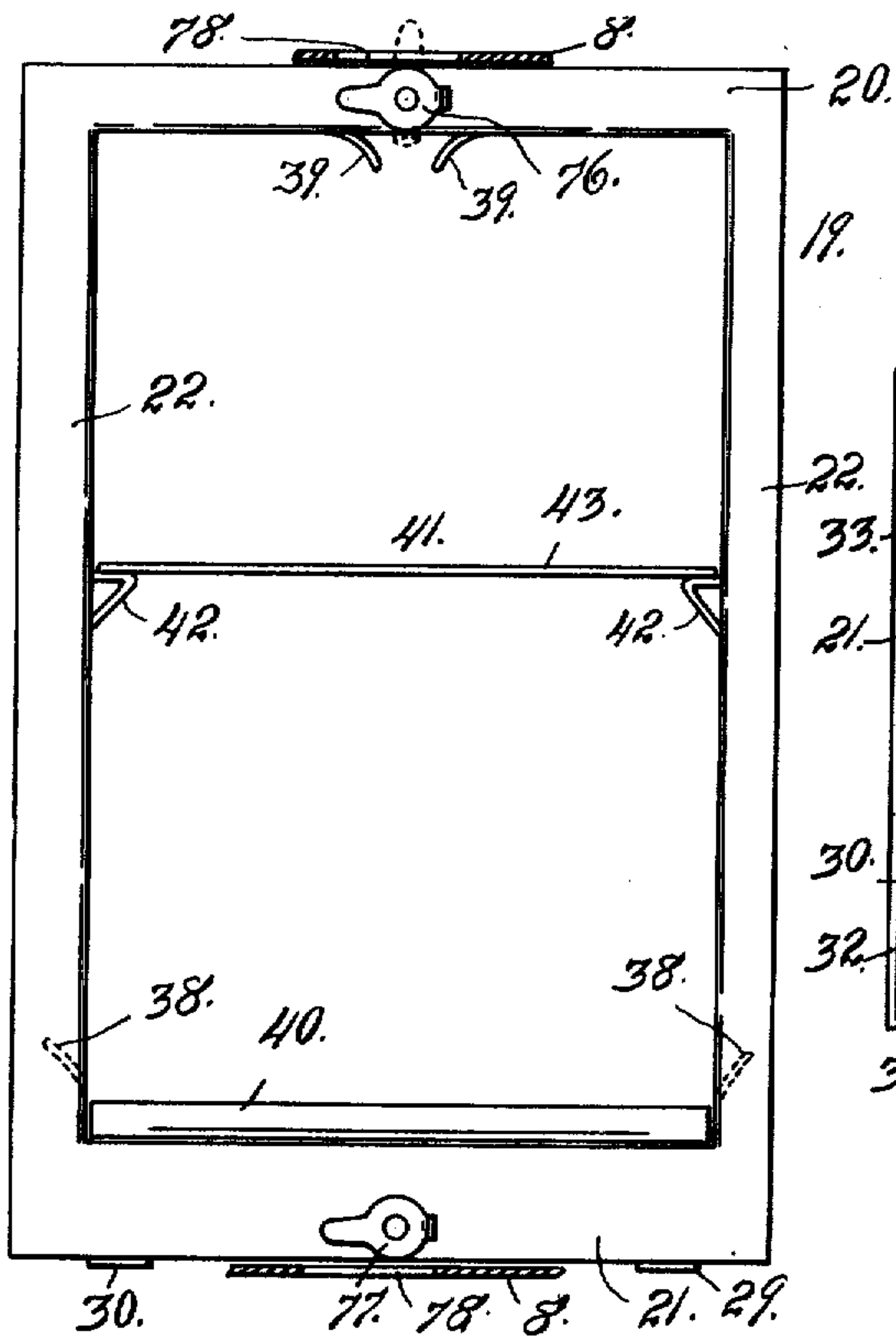


Fig. 3.

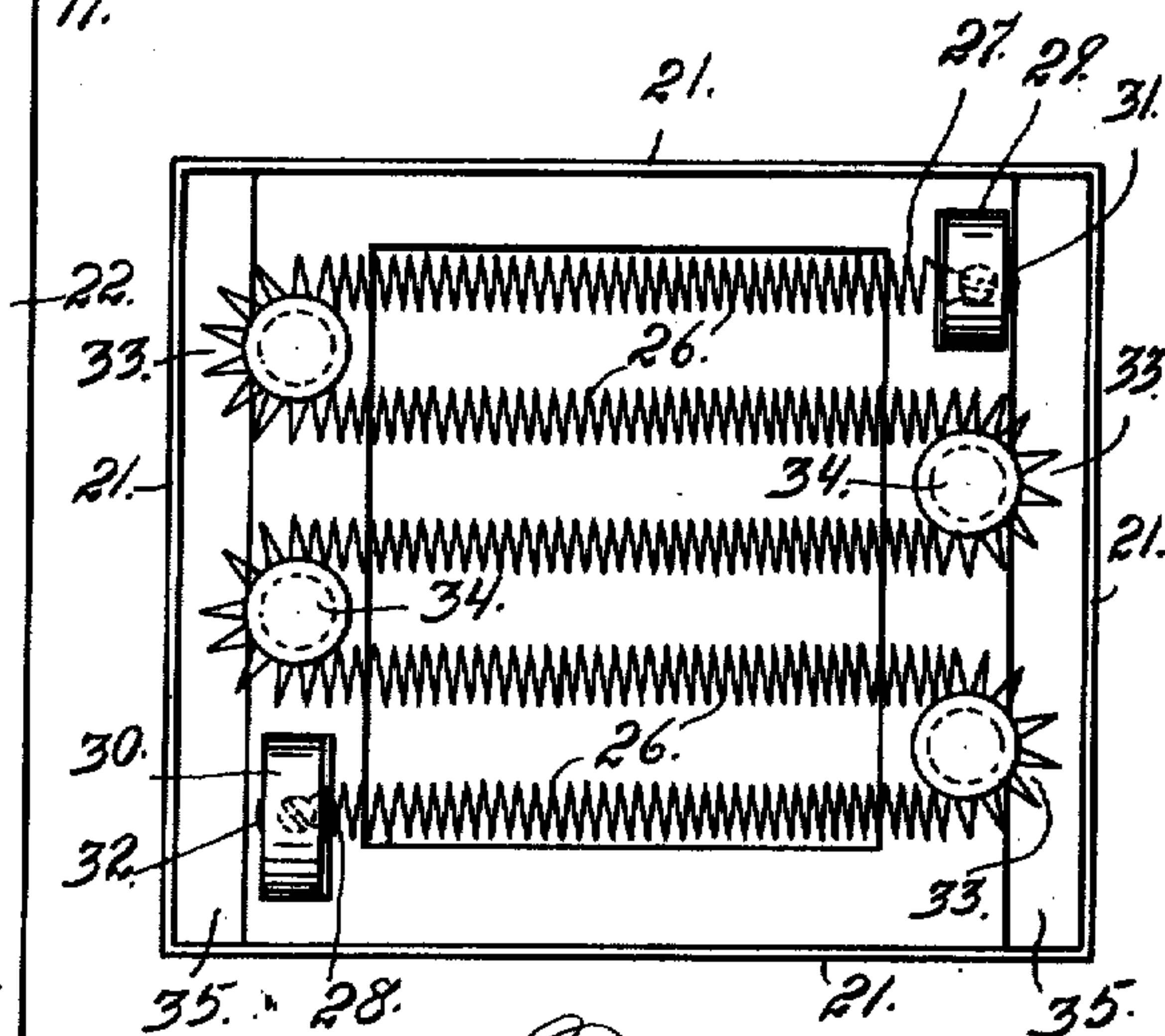


Fig. 4.

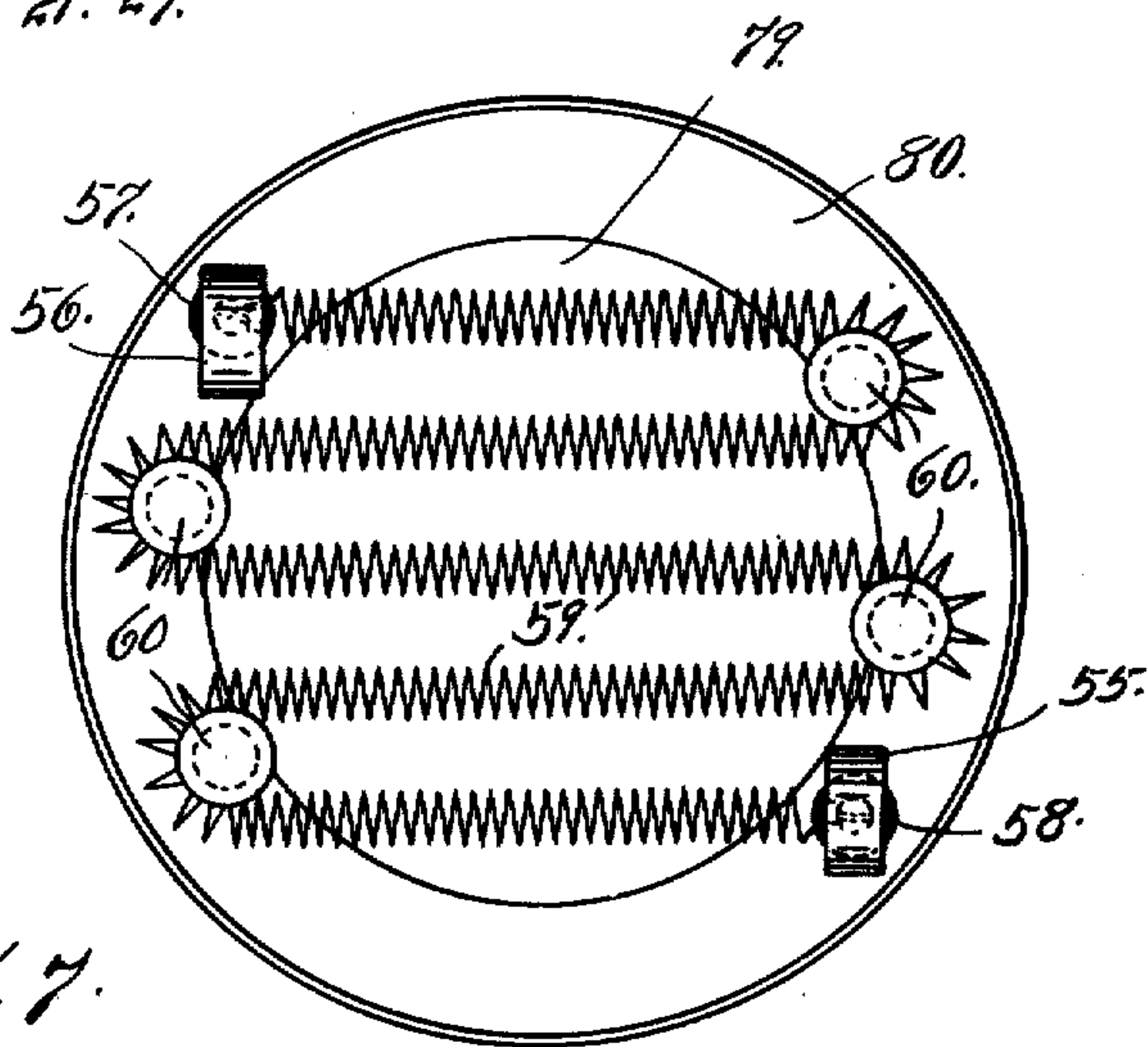


Fig. 7.

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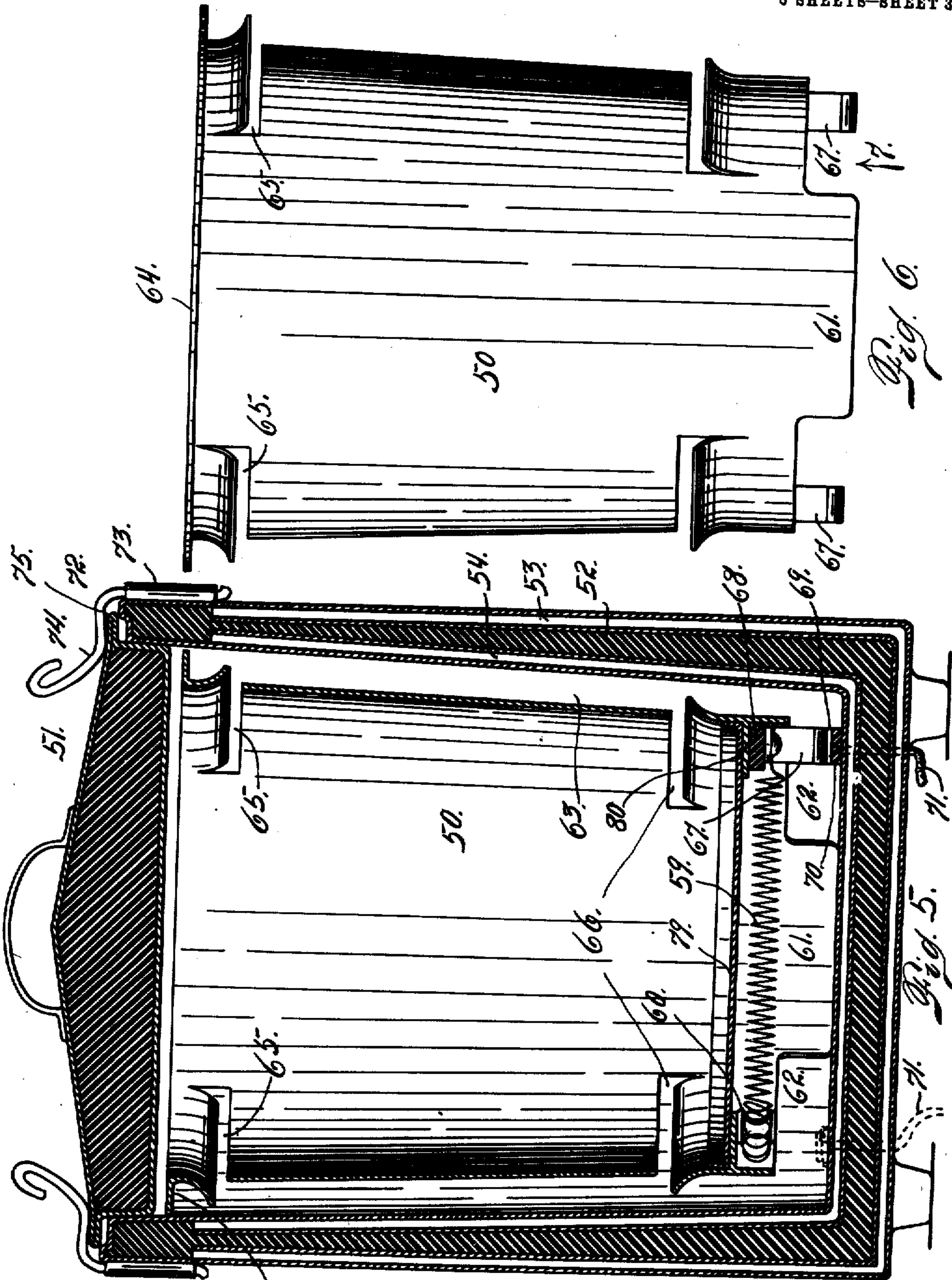
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# UNITED STATES PATENT OFFICE.

LEE YANCEY AND JACOB W. LUPPOLD, OF DENVER, COLORADO.

## ELECTRIC COOKER.

999,618.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that we, LEE YANCEY and JACOB W. LUPPOLD, citizens of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Electric Cookers; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in electric cookers, our object being to provide an exceedingly efficient construction of this class whereby the heat shall be confined within the oven, loss by conduction being practically eliminated.

In our improved construction we employ a body member composed of a relatively thick layer of non-heat-conducting material, the said member being also provided with inner and outer air chambers located on both sides of the non-heat-conducting member, the latter being formed of any suitable material constituting a filling confined by two walls and interposed between inner and outer walls in such a manner that air chambers as aforesaid shall be located on both sides of the said non-heat-conducting member.

Within the body member is placed a removable oven carrying heating coils which are located in a suitable circuit. This oven is so constructed that chambers are formed on both sides thereof, the chambers being located between the walls of the oven and the innermost wall of the body member. These last named air chambers provide for a circulation of heat, first upwardly to the top of the oven and then downwardly through an opening formed therein, and thence outwardly through openings formed in the opposite side walls of the bottom of the oven. By virtue of this circulation the temperature of the oven is made approximately the same in all parts. Were it not for the circulation feature, the lower part of the oven in the immediate vicinity of the resistance coils would naturally be much hotter than at points more remote from the said coils.

Having briefly outlined our improved con-

struction, we will proceed to describe the same in detail, reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In the drawing: Figure 1 is a horizontal section of our improved heater taken on the line 1—1, Fig. 2. Fig. 2 is a vertical section of the same taken on the line 2—2, Fig. 1. Fig. 3 is a detail elevation of the removable oven. Fig. 4 is an underneath view of the same or a view looking in the direction of arrow 4, Fig. 3. Fig. 5 is a vertical section taken through a modified form of construction, showing a cooker circular instead of rectangular in horizontal section. Fig. 6 is a detail elevation of the removable oven employed in connection with the construction shown in Fig. 5. Fig. 7 is an underneath view of Fig. 6 illustrating the heating coils.

The same reference characters indicate the same parts in all the views.

Referring first to Figs. 1, 2, 3 and 4, let the numeral 5 designate the body of our improved cooker, the same consisting of a relatively thick non-heat-conducting member 6 located between inner and outer walls 7 and 8 forming inner and outer air chambers 9 and 10 at the top, bottom, sides and rear of the structure. This body member is closed in front by a door 12 hinged at 13 and fastened at 14 by means of a pivoted locking arm 15 engaging a recessed lug with which the door is provided. This door consists of a relatively thick body of non-heat-conducting material 16 inclosed by walls 17.

Within the body of the device adjacent the door is located a layer of non-heat-conducting material 18 which the inner surface of the door engages near the outer edges of the latter, forming a tight joint and preventing the escape of heat around the door. Within this body member is located a removable oven 19 which is provided at the top, bottom and on two opposite sides with exteriorly projecting flanges 20, 21 and 22, both side flanges being designated by the last named reference character. These flanges are located at the outer edges of the surrounding walls of the oven and fit closely within the inner wall 8 of the body member and form air chambers at the top, bottom and sides of the structure, the upper air chamber being designated 23, the bottom chamber 24 and the side chambers 25. The lower flange con-



struction 21 extends entirely around the oven, that is to say, on four sides (see Fig. 4), and within the inclosure formed by these four flanges are located the coils 26 which are mounted upon the removable oven, their opposite terminals 27 and 28 being connected with metal contacts 29 and 30 which are insulated from the body of the oven as shown at 31 and 32. Between these two terminals the coils are arranged in parallel lengths, each two lengths being connected by a bend 33 extending around insulators 34, preferably formed of porcelain and connected with the bottom of the oven in any suitable manner. These coils are supported in such a manner that they do not come in contact at any point with the metal structure of the oven, and they are composed of such material that they afford the necessary resistance for heat generating purposes.

Between two opposite side flanges 21 formed on the lower part of the removable oven and extending below the bottom of said oven, are openings 35 which communicate with the lower extremities of the side chambers 25, allowing the heat generated by the coils to circulate freely, first upwardly through the chambers or conduits 25 into the top chamber or conduit 23, thence downwardly through an opening 36 formed in the top wall of the oven, thence down to the bottom of the oven and out through openings 37 formed in the side walls of the oven near the bottom. In forming the openings 37 the material of the walls is bent outwardly as shown at 38, whereby the heat as it passes upwardly from the bottom chamber 24, is deflected outwardly and caused to pass upwardly in the circuit heretofore described; while in forming the opening 36 at the top of the oven the material of the wall is bent downwardly as shown at 39, thus directing the heat downwardly at the center of the top of the oven and facilitating rapid circulation.

The bottom of the oven is normally closed by a removable pan 40. Above this bottom is located a detachable plate 41 forming a sort of shelf supported by side brackets 42. This shelf forms a support for articles to be cooked within the oven. The shelf is provided with openings 43 of such magnitude that the plate or shelf does not materially interfere with the circulation of the heat as heretofore explained.

The contacts 29 and 30 attached to the bottom of the oven as heretofore explained, engage other contacts 44 and 45 secured to the bottom of the innermost wall 9 of the body member, but insulated therefrom as shown at 46. Connected with these contacts 44 and 45 are circuit wires 47 and 48, which are connected with the opposite poles of any suitable source of elec-

tricity. In the form of construction shown in Figs. 7, 5 and 6, the apparatus is formed cylindrical in cross section, but in other respects is substantially the same as in the form of construction heretofore described in detail, and is composed of a body member 49; a removable oven 50; and a detachable cover 51. The body member has a relatively thick non-heat-conducting member 52 on opposite sides of which are air chambers 53 and 54 for non-heat-conducting purposes. This body member, as heretofore stated, is cylindrical in horizontal section, and therefore completely incloses except at the top, the chamber in which the removable oven 50 is located. This oven 50 is inserted and removed through the top opening of the body member after the cover 51 has been removed. The oven 50 is provided at its bottom with contacts 55 and 56 insulated from the bottom of the oven as shown at 57 and 58, and between these terminals are located the resistance coils 59 arranged in parallel lengths and supported upon insulating members 60 secured to the bottom of the oven and preferably composed of porcelain.

The lower part of the oven 50 is provided with depending supporting members 61 which engage the inner wall of the body member at the bottom. Between these depending parts are openings 62 through which the heat generated by the coils passes upwardly in the surrounding chamber 63 whose top is closed by an outwardly projecting flange 64, causing the heat to enter openings 65 formed in the wall of the oven near the top, resulting in a downward circulation from these openings, the heat passing out through openings 66 formed in the wall of the oven near the bottom, thus maintaining the same circulation as in the other form of construction. The oven 50 is also provided with depending contact members 67 which are insulated from the bottom of the oven as shown at 68 and engage contacts 69 secured to the inner wall of the body member at the bottom, but insulated therefrom as shown at 70. From these contacts 69 lead circuit wires 71 which are connected with the opposite poles of any suitable source of electricity.

The cover 51 of the circular structure is held in place by movable fastening devices 72, which have depending members journaled in bearings 73. The upper retaining portions 74 of these fasteners engage an outer flange 75 formed on the cover. Hence by means of these fastening devices the inclosure or chamber of the body member is made practically air-tight. The oven 50 is provided with a removable bottom 79 supported by a flange 80 projecting inwardly from the surrounding wall of the oven.



In order to secure the removable oven 19 within the body member, the top and bottom flanges 20 and 21 of the oven are provided with pivoted catches or fasteners 76 and 77, which when properly adjusted are caused to engage openings 78 formed in the top and bottom portions of the innermost wall 9 of the body member.

The air chambers 9 and 10 obstruct the passage of heat through the walls of the body of the cooker, or in other words, in connection with the relatively thick packed member 6, constitute a non-heat-conducting wall which not only enables us to confine all the heat within the oven, or within the inclosure where the oven is located, but is also advantageous from another standpoint, since it prevents the heating of the room in which the cooker is located.

The removability of the oven in either form of construction is an important feature from several standpoints. First, it greatly facilitates the making of repairs when required by the oven, and second, makes it practicable to employ the body member in the absence of the oven as a fireless cooker, since articles to be cooked when raised to the necessary degree of heat, may be confined within the body member, in which event the cooking will go on without appreciable loss of heat, until the cooking operation is completed, thus making our improved apparatus a combined electric and fireless cooker.

Attention is called to the fact that after the material to be cooked has been raised to the cooking temperature by the use of the heating coils, the electric current may be turned off, in which event the apparatus becomes a fireless cooker, the cooking operation going on until completed without the aid of additional heat, since the inclosure surrounded by the walls of the body member prevent any appreciable loss of heat as heretofore explained.

Having thus described our invention, what we claim is:

1. An electric cooker comprising a body member, and a removable oven located there-

in and consisting of two oppositely located side walls whose vertical edges are bent at right angles thereto to form an air space between the said side walls of the oven and the body member, heat generating coils mounted upon the oven below the bottom thereof and in a chamber formed for the purpose, the said chamber being in communication with the lower extremities of the air passages, the oven having openings at the top and bottom to facilitate heat circulation, and an electric circuit in which the heating coils are located, substantially as described.

2. An electric heater comprising a body member, a removable oven carried therein, and heating coils located in the bottom of the oven, an air space being left between the oven and the body member, the oven having openings in the top and bottom communicating with the air space to facilitate heat circulation, the openings in the bottom of the oven being formed by cutting out a portion of the material of the oven and flaring the same outwardly, substantially as described.

3. An electric cooker comprising a body member, a removable oven located therein, heat generating coils mounted on the oven below the bottom thereof and in a chamber formed for the purpose, an air passage being left between the side walls of the oven and the walls of the body member, the said air passages extending upwardly, the oven having openings at the top and at the bottom to facilitate heat circulation, the oven having outwardly flared members beneath the bottom openings, and inwardly flared members on opposite sides of the top opening, and an electric circuit within which the electric coils are located.

In testimony whereof we affix our signatures in presence of two witnesses.

LEE YANCEY.

JACOB W. LUPPOLD.

Witnesses:

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