

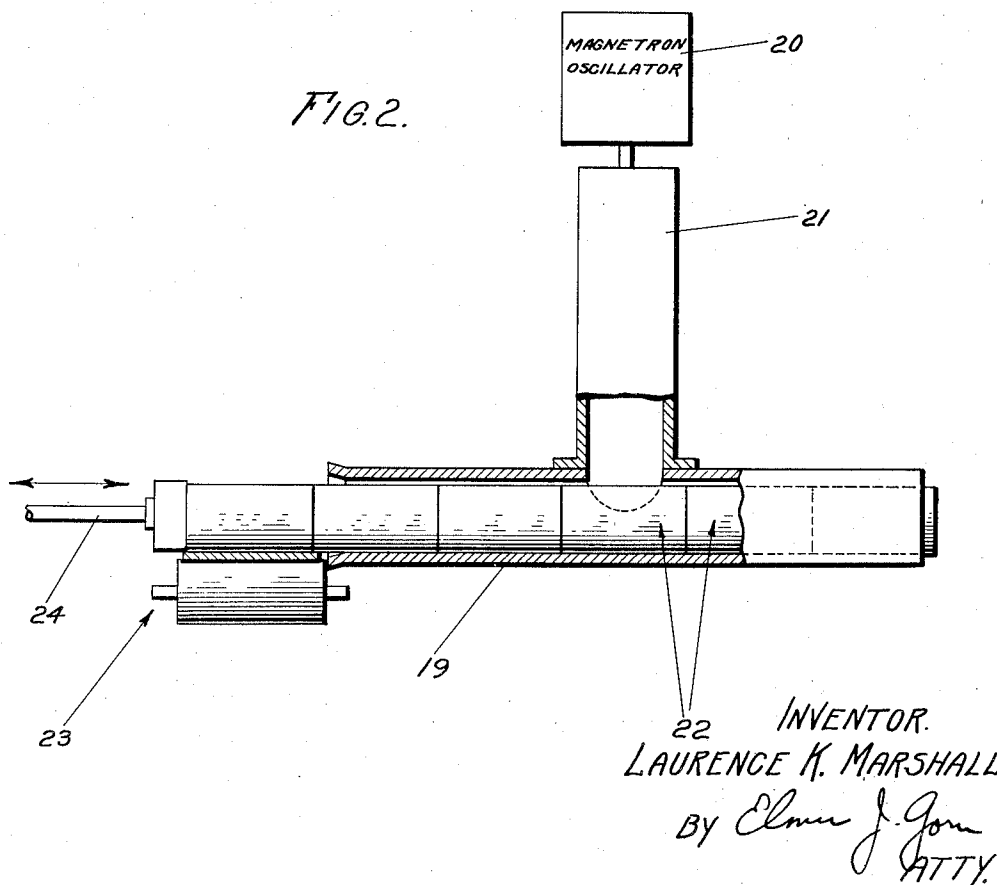
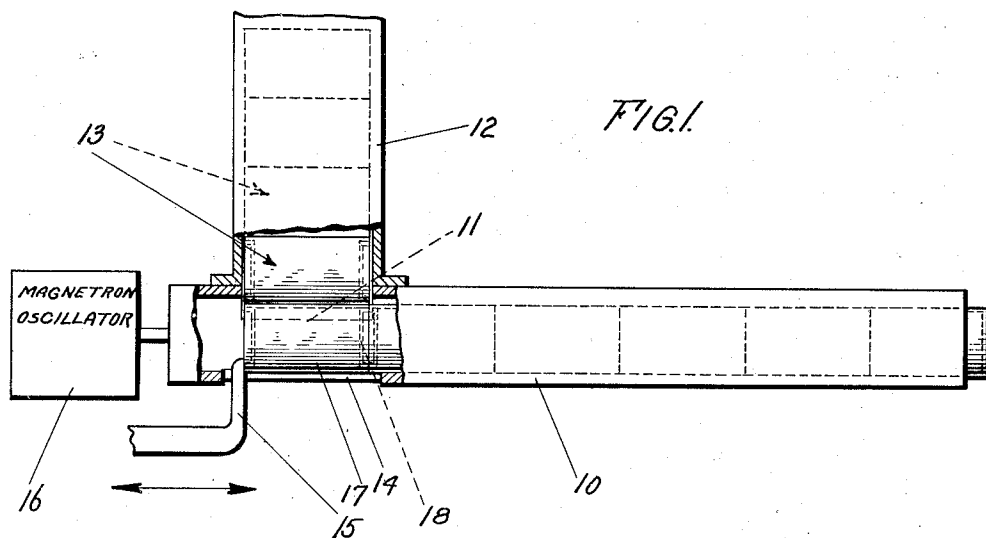
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HIGH-FREQUENCY ELECTROMAGNETIC COOKING APPARATUS

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HIGH-FREQUENCY ELECTROMAGNETIC
COOKING APPARATUS

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My present invention relates to the art of cooking, and more particularly to the art of cooking by means of electromagnetic energy.

While not limited thereto, my present invention is especially suitable for carrying out the cooking necessary in the canning of foodstuffs, such as fruits, vegetables, etc.

One of the objects of my present invention is to provide simple and inexpensive apparatus for performing the above-mentioned cooking by means of electromagnetic energy.

Another object of my present invention is to provide apparatus which enables the above-mentioned cooking to be more speedily and more efficiently carried out than has heretofore been the case.

These, and other objects of my present invention, which will become more apparent as the detailed description thereof progresses, are attained, briefly, in the following manner:

Instead of packing the foodstuff in a conventional, all-metal can, I provide a special container, which is, at least in part, permeable to electromagnetic energy. For example, while the container may have a conventional, cylindrical body portion made of metal, the end members thereof may be made of a dielectric material, such as a suitable plastic. Or, if desired, the entire container may be made of such a plastic, the idea being that the container be so constructed as to permit high-frequency energy to pass through the same to cook the foodstuff contained therein.

A plurality of such containers is successively fed through a wave guide which is excited from any desired source of high-frequency energy, for example, from a magnetron oscillator. It is preferred that the containers move through the wave guide in the same direction as the direction of propagation of the high-frequency energy.

In the accompanying specification I shall describe, and in the annexed drawing show, two illustrative embodiments of the cooking apparatus of my present invention. It is, however, to be clearly understood that I do not wish to be limited to the details herein shown and described for purposes of illustration only, inasmuch as changes therein may be made without the exercise of invention, and within the true spirit and scope of the claims hereto appended.

In said drawing,

Fig. 1 is a schematic arrangement of apparatus constituting one of the aforesaid illustrative embodiments of my present invention; and

Fig. 2 is a schematic arrangement of apparatus

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constituting the second of the aforesaid illustrative embodiments of my present invention.

Referring now more in detail to the aforesaid illustrative embodiments of my present invention, with particular reference to the form thereof shown in Fig. 1 of the drawing, the numeral 10 designates a hollow, cylindrical wave guide made of conductive material, said wave guide, preferably, being horizontally disposed. Adjacent one end thereof, said wave guide is cut away, as at 11, and connected with a vertically-disposed, container-feeding member 12 in which the containers 13 of the foodstuff being canned may be stacked as shown. Diametrically opposite the cutaway portion 11, the wave guide may be slotted, as at 14, to receive a cam member 15, the latter being reciprocable by any appropriate mechanism (not shown) to periodically move the lowermost container down the wave guide and permit the next container to drop into said wave guide through the action of gravity. High-frequency energy may be fed to the wave guide from any desired source 16, for example, from a magnetron oscillator.

In the form of my present invention under consideration, the containers may each comprise a conventional, cylindrical body portion 17 made of metal, closed at the ends thereof by disks 18 made of a suitable dielectric material. As the energy from the source 16 is propagated down the wave guide, the dielectric end members 18 of the containers permit said energy to enter said containers to cook the foodstuff contained therein.

In the form of my present invention shown in Fig. 2 of the drawing, the numeral 19 designates a horizontally-disposed wave guide, which is fed from a source 20 of high-frequency energy through a vertical branch 21. In this case, the containers 22 are, preferably, made entirely of dielectric material. Adjacent one end of the wave guide, there may, for example, be a conveyor system 23 for bringing the containers successively into alignment with the wave guide opening to enable a reciprocable member 24 to move said container into and through said wave guide.

This completes the description of the aforesaid illustrative embodiments of my present invention. It will be noted from all of the foregoing that the apparatus employed is simple and inexpensive, and enables the speedy and efficient carrying out of the cooking necessary in the canning of foodstuffs, such as fruits, vegetables, etc.

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Other objects and advantages of my present invention will readily occur to those skilled in the art to which the same relates.

What is claimed is:

1. Apparatus for cooking foodstuff comprising: 5
a source of high-frequency electromagnetic energy; a hollow wave guide, excited by said energy, for propagating the same through a confined region of space; and a container, at least a portion of which is permeable to said energy, receptive of said foodstuff; said container being movable through said wave guide, whereby said foodstuff is subjected to the heating effect of said energy.
2. Apparatus for cooking foodstuff comprising: 10
a source of high-frequency electromagnetic energy; a hollow wave guide, excited by said energy, for propagating the same through a confined region of space; a container, at least a portion of which is permeable to said energy, receptive of said foodstuff; and means for feeding 15
said container through said wave guide in a direction parallel to the direction of propagation of said energy, whereby said foodstuff is subjected to the heating effect of said energy.

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