

SPECIFICATION

Citrus juice attachment for food processor and processor having such attachment

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The present invention relates to an improved food processor and to an attachment for a food processor making it suitable for the extraction of juice from citrus fruit.

10 A variety of food processors are available and are very effective for various types of slicing, chopping and mixing of foodstuffs and the object of the present invention is to provide a device that may be incorporated into such a food processor whereby the

15 food processor can be used additionally for the extraction of juice from citrus fruit.

The invention provides a food processor having

a) a base with a drive shaft extending upwardly from it, an electric motor which drives the drive shaft and switch means which controls the operation of the electric motor,

b) a food processing container disposed above the base and open at the top, and having a walled aperture in its bottom into which the drive shaft extends,

c) an annular trough-like member disposed within an upper portion of the food processing container having a circumferential flange which rests on the top edge of the container and supports the trough-like member, having a central hole which overlies the walled aperture in the container, having apertures in its bottom which permit the passage of juice from a citrus fruit but which restrain the passage of citrus pulp and pips, and having switch actuating means arranged to effect actuating of said switch only when the trough-like member is resting by means of its flange on the container and is in a predetermined rotational position relative to the container, and

d) a domed citrus juice extracting member covering the central hole of the trough-like member and having a hollow stem extending through the central hole and making driving contact with the drive shaft.

20 The invention further provides a citrus fruit juice extractor attachment for a food processor, the attachment having an annular trough-like member having an external circumferential flange, a member extending downwardly from the flange and having a cam surface on its lower face, a central hole, and apertures in its bottom which permit the passage of juice from citrus fruit but which restrain the passage of citrus pulp and pips, the attachment further having a domed juice extracting member covering the central hole and having a hollow stem extending through the central hole for receiving drive from a drive shaft of a food processor.

An embodiment of the invention, given by way of example, will now be described with reference to the accompanying drawings in which:

Figure 1 is a sectional elevation showing a food processor embodying the invention,

Figure 2 is a view in elevation of the annular trough like member,

Figure 3 is a plan view thereof, and

Figure 4 is a side elevation thereof.

The food processor illustrated has a base 10 which contains an electric motor 11 the driving shaft 12 of which projects upwardly through a hole in the surface of the base. Processing of food is carried out within a cylindrical container 13 having a central sleeve 14 surrounding a hole in its bottom which defines an annular liquid containing well with the interior of the container. The container is supported on the base by means of the depending skirt 15 around the bottom of the container which fits over an upstanding boss on the upper surface of the base. Complementary connection means 17 are provided on the skirt 15 and the boss 16 so that when the container is in a particular relationship with the base it is held to the base against upward movement away from the base.

The container 13 has attached to it an external handle 18 which enables it not only to be lifted and manipulated but also enables it to be rotated about the driving shaft 12 of the motor 11 so as to engage the parts of the complementary connection means 17 on the container and on the base.

A hole 19 in the upper surface of the base gives access to an electric switch 20 which controls the operation of the motor. A spring loaded plunger 21 is arranged between the handle 18 and the external wall of the container 13 and is arranged so that when the container is locked to the base the plunger 21 overlies the hole 19 in the base and if pressed down against the spring 22 will actuate the switch 20 in the base and start the electric motor 11. Until the container 13 is in the correct position in relation to the base the plunger 21 cannot be pushed down and the motor 11 cannot be started.

All the parts described above are known and constitute parts of food processors sold under a variety of names one particular model being sold under the trade mark "KITCHEN WIZZ".

Attachments provided by the present invention consists of an annular trough like member 23 which fits within the container 13. This has a circumferential flange 24 that overlies the upper edge of the container 13 and a central sleeve 25 that overlies the sleeve 14 in the container 12. The depth of the annular trough like member 23 is less than the depth of the container 13 leaving a space 26 below the member 23 for the collection of citrus juice. The bottom of the trough like member 23 has apertures 27 in it of such a size and configuration as to allow citrus juice to pass readily through them while retaining pips and pulp associated with the juice.

The circumferential flange 24 on the trough like member 23 and the upper edge of the container 13 are provided with co-operating connection means 28 arranged so that when the member 23 has been placed in the container 13 it may be rotated relative to it to inter-engage the connecting means 28 and prevent the member from being removed from the container. The circumferential flange 24 is also provided at one point with a member 29 having on its under side a sloping cam face which is arranged to make contact with the upper end of the spring loaded plunger 21 and is arranged so that when the trough like member 23 is rotated to a position as

shown in Figure 1 in which the complementary engaging means 28 are engaged the plunger is depressed by the member 29 to make contact with the electric switch 20 and start the electric motor 11.

5 Operation of the electric motor 11 may thus be controlled by rotation of the trough like member 23 in relation to the container 13.

A domed ribbed citrus juice extracting member 31 of conventional form is provided at the upper end of
10 a hollow stem 30 the lower end of which fits over the motor drive shaft 12 and makes driving connection with it. The apparatus is used in a conventional manner in which citrus fruits are cut in half and pressed on to the domed citrus juice extracting
15 member 31.

The apparatus is made for the most part by moulding from plastics material of suitable characteristics and is constructed so as to be capable of being readily dismantled for washing and storage.

20 The invention may be regarded either as an improved food processor having a citrus fruit extracting facility or alternatively as a citrus juice extracting attachment for a food processor of a known kind.

25 The embodiment of the invention described above is given by way of example only as constituting a preferred form of the invention defined broadly above.

30 CLAIMS

1. A food processor having

a) a base with a drive shaft extending upwardly from it, an electric motor which drives the drive shaft
35 and switch means which controls the operation of the electric motor,

b) a food processor container disposed above the base and open at the top, and having a walled aperture in its bottom into which the drive shaft
40 extends,

c) an annular trough-like member disposed within an upper portion of the food processing container having a circumferential flange which rests on the top edge of the container and supports
45 the trough-like member, having a central hole which overlies the walled aperture in the container, having apertures in its bottom which permit the passage of juice from a citrus fruit but which restrain the passage of citrus pulp and pips, and having
50 switch-actuating means arranged to effect actuation of said switch only when the trough-like member is resting by means of its flange on the container and is in a predetermined rotational position relative to the container, and

d) a domed citrus juice extracting member covering the central hole of the trough like member and having a hollow stem extending through the central hole and making driving contact with the drive shaft.

60 2. A food processor according to claim 1 in which the food processing container includes switch-actuating means operable to actuate the switch means when the container is in a predetermined position relative to the base, and in
65 which movement of the trough-like member into its

said predetermined position when the container is in its said predetermined position operates the switch via the switch-actuating means of the container.

3. A food processor according to claim 2 in which
70 the said switch-actuating means of the container comprises a spring-loaded plunger which is depressible against its spring to actuate the switch when the container is in its said predetermined position, and in which the said switch-actuating
75 means of the trough-like member holds the plunger depressed when the trough-like member is in its said predetermined position.

4. A food processor according to claim 3 in which the said switch-actuating means of the trough-like
80 member comprises a member extending downwardly from the flange and having a cam surface on its lower face which depresses the plunger when the trough-like member is rotated within the container into its predetermined position.

5. A citrus fruit juice extractor attachment for a food processor, the attachment having an annular trough-like member having an external circumferential flange, a member extending downwardly from the flange and having a cam
90 surface on its lower face, a central hole and apertures in its bottom which permit the passage of juice from citrus fruit but which restrain the passage of citrus pulp and pips, the attachment further having a domed citrus juice extracting member
95 covering the central hole and having a hollow stem extending through the central hole for receiving drive from a drive shaft of a food processor.

6. A food processor substantially as described with reference to and as illustrated in the
100 accompanying drawings.

7. An attachment for a food processor substantially as described with reference to and as illustrated in the accompanying drawings.



shown in Figure 1 in which the complementary engaging means 28 are engaged the plunger is depressed by the member 29 to make contact with the electric switch 20 and start the electric motor 11.

- 5 Operation of the electric motor 11 may thus be controlled by rotation of the trough like member 23 in relation to the container 13.

- A domed ribbed citrus juice extracting member 31 of conventional form is provided at the upper end of
10 a hollow stem 30 the lower end of which fits over the motor drive shaft 12 and makes driving connection with it. The apparatus is used in a conventional manner in which citrus fruits are cut in half and pressed on to the domed citrus juice extracting
15 member 31.

The apparatus is made for the most part by moulding from plastics material of suitable characteristics and is constructed so as to be capable of being readily dismantled for washing and storage.

- 20 The invention may be regarded either as an improved food processor having a citrus fruit extracting facility or alternatively as a citrus juice extracting attachment for a food processor of a known kind.
25 The embodiment of the invention described above is given by way of example only as constituting a preferred form of the invention defined broadly above.

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 - a) a base with a drive shaft extending upwardly from it, an electric motor which drives the drive shaft
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45 the trough-like member, having a central hole which overlies the walled aperture in the container, having apertures in its bottom which permit the passage of juice from a citrus fruit but which restrain the passage of citrus pulp and pips, and having
50 switch-actuating means arranged to effect actuation of said switch only when the trough-like member is resting by means of its flange on the container and is in a predetermined rotational position relative to the container, and
55 d) a domed citrus juice extracting member covering the central hole of the trough like member and having a hollow stem extending through the central hole and making driving contact with the drive shaft.
2. A food processor according to claim 1 in which
60 the food processing container includes switch-actuating means operable to actuate the switch means when the container is in a predetermined position relative to the base, and in which movement of the trough-like member into its

said predetermined position when the container is in its said predetermined position operates the switch via the switch-actuating means of the container.

3. A food processor according to claim 2 in which
70 the said switch-actuating means of the container comprises a spring-loaded plunger which is depressible against its spring to actuate the switch when the container is in its said predetermined position, and in which the said switch-actuating
75 means of the trough-like member holds the plunger depressed when the trough-like member is in its said predetermined position.

4. A food processor according to claim 3 in which the said switch-actuating means of the trough-like
80 member comprises a member extending downwardly from the flange and having a cam surface on its lower face which depresses the plunger when the trough-like member is rotated within the container into its predetermined position.

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